NSB POINT LAY KALI SCHOOL

SITE CHARACTERIZATION REPORT ADDENDUM

PHASE III

DRAFT

MARCH 29, 2017

Prepared for:

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ACRONYMS AND ABBREVIATIONS

AAC ..... Alaska Administrative Code
ADEC ..... Alaska Department of Environmental Conservation
Agviq ..... Agviq, LLC
AK ..... Alaska Method
AWQS ..... Alaska Water Quality Standards
bgs ..... below ground surface
°C ..... degrees Celsius
CoC ..... chain-of-custody record
COC ..... constituents-of-concern
DCDF ..... dichlorodifluoromethane
DMS ..... Department of Municipal Services
DQO ..... data quality objectives
DRO ..... diesel range organic compounds
DSA ..... Drum Storage Area
EDB ..... ethylene dibromide
GAC ..... granular activated carbon
GRO ..... gasoline range organic compounds
LCS ..... laboratory control sample
LCSD ..... laboratory control sample duplicate
LOD ..... Limit of Detection
LOQ ..... Limit of Quantitation
µg/L ..... micrograms per liter
mg/kg ..... milligrams per kilogram
mg/L ..... milligrams per liter
MS/MSD ..... matrix spike/matrix spike duplicate
NSB ..... North Slope Borough
PAH ..... polynuclear aromatic hydrocarbons
PPE ..... person protective equipment
QA/QC ..... quality assurance/quality control
RPD ..... relative percent difference
RRO ..... residual range organic compounds
SGS ..... SGS Environmental Services, Inc.
SIM ..... selective ion monitoring
TAH ..... total aromatic hydrocarbons
TAqH ..... total aqueous hydrocarbons
USEPA ..... United States Environmental Protection Agency
VOC ..... volatile organic compounds

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EXECUTIVE SUMMARY

This phase three addendum to the 2014 *NSB Point Lay Kali School Site Characterization Report* (Agviq. 2015a) describes the 2016 groundwater sampling activities performed at eight (8) of 10 Point Lay Kali School Site monitoring wells. Two (2) stick-up monitoring wells are believed to have been destroyed in high snow machine traffic areas: MW-SO-F2 and MW-SO-F8. The two (2) wells were unable to be located. The Site was added to the Alaska Department of Environmental Conservation (ADEC) Contaminated Sites Database in 1992 as file number 425.38.004. The Site is an area of diesel fuel releases to the environment related to former fuel tank farm. In 2004, an emergency spill response was performed. Site characterization (surface and subsurface soil, groundwater, and surface water sampling) occurred in 2014 with phase two site characterization in 2015 involving surface and subsurface soil sample collection to delineate the horizontal extents of contamination at two locations north and south of the Kali School playground. The Site is located at 1029 Qasiglalik Street, in Point Lay, Alaska.

Groundwater sampling was performed in 2014 at eight (8) of 10 monitoring wells indicating results exceeding 18 Alaska Administrative Code (AAC) 75 cleanup levels (ADEC. 2016a) and/or did not meet 18 AAC 70 Alaska Water Quality Standards (AWQS [ADEC. 2017a]) at six (6) locations: MW-01, MW-02, MW-05, MW-SO-F8, MW-SO-L4, and MW-SO-Q3. Two (2) monitoring wells did not have sufficient recharge to support sampling: MW-03 and MW-SO-J2. Groundwater was resampled on August 17-18, 2016. Groundwater sampling was performed in accordance with the *Point Lay Kali School 2016 Groundwater Sampling Work Plan Addendum* (Agviq. 2016a).

In 2014, groundwater samples were analyzed for gasoline range organic compounds (GRO) by Alaska Method (AK) 101, diesel range organic compounds (DRO) by AK 102, residual range organic compounds (RRO) by AK 103, benzene, toluene, ethylbenzne, and total xylenes (BTEX) by SW8260B, and polynuclear aromatic hydrocarbons (PAH) by SW8270D Selective Ion Monitoring (SIM). In 2016, groundwater samples were analyzed for the same constituents, but also for full list volatile organic compounds (VOC) by SW8260B. Detected analytes are comparable between 2014 and 2016, additional VOCs were detected in 2016. Constituents-of-concern (COC), identified by results above cleanup levels in 2016, include GRO, DRO, RRO, benzene, ethylbenzene, total xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, dichlorodifluoromethane (DCDF), 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene. Total aromatic hydrocarbons (TAH) and total aqueous hydrocarbons (TAqH) did not meet AWQS at MW-02, MW-05, MW-SO-L4, and MW-SO-Q3; and, at monitoring well MW-01,

TAH did not meet AWQS. The DCDF results above cleanup level at MW-02 and MW-SO-Q3 may indicate a refrigerant release.

Concentrations increased since 2014 at monitoring wells MW-01, MW-02, and MW-05. At MW-SO-Q3, concentrations of benzene, ethylbenzene, total xylenes, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, TAH, and TAqH increased; while, concentrations of GRO and RRO decreased since 2014. Also at MW-SO-Q3, the DRO concentration remains above the theoretical solubility limit – denoting free-phase DRO (American Petroleum Institute [API]. 2000). At MW-SO-L4, concentrations of TAH and TAqH decreased since 2014.

Free-product is not recoverable at MW-SO-Q3. Since the free-product thickness is not measureable, free-product is assumed to be present as globules, not migrating or recoverable.

Since groundwater is aerobic, of neutral pH, and very cold, it is a suitable environment for biodegradation, but the biodegradation rate may be very slow. Increases and decreases in contaminant concentrations across the Site (redistribution in contaminant concentrations) may be attributable to groundwater flushing (although slowly) through the Site. Supra-permafrost groundwater also appears discontinuous at the Site.

Site characterization is complete at the Kali School. MW-05 contamination appears related to another site (washeteria with fuel pipeline or the Department of Municipal Services Drum Storage Area [DMS DSA, ADEC file number 425.38.006]) and inconsistent with the Kali School diesel contamination at MW-SO-Q3. The benzene concentration at MW-05 is more similar to the DMS DSA benzene concentrations in groundwater (Agviq. 2015b) than to the MW-SO-Q3 groundwater results. Recommendations include closing site characterization at Kali School and continuing groundwater monitoring in 2017.

The Site COCs should be revised to include only those analytes exceeding cleanup levels and/or not meeting AWQS and analytes reasonable expected at the Site: GRO; DRO; RRO; specific VOCs: BTEX, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and DCDF; any fuel-related VOCs; and PAHs. Monitoring full list VOCs should be discontinued at the Site.

1. INTRODUCTION

This addendum to the 2014 *NSB Point Lay Kali School Site Characterization Report* (Agviq. 2015a) describes the 2016 groundwater sampling activities performed at eight (8) of 10 Point Lay Kali School Site monitoring wells. Two (2) stick-up monitoring wells are believed to have been destroyed in high snow machine traffic areas: MW-SO-F2 and MW-SO-F8. The two (2) wells were unable to be located.

Groundwater sampling was performed in 2014 at eight (8) of 10 monitoring wells indicating results exceeding 18 Alaska Administrative Code (AAC) 75 cleanup levels (ADEC. 2016a) and/or did not meeting 18 AAC 70 Alaska Water Quality Standards (AWQS [ADEC. 2017a]) at six (6) locations: MW-01, MW-02, MW-05, MW-SO-F8, MW-SO-L4, and MW-SO-Q3. Two (2) monitoring wells did not have sufficient recharge to support sampling: MW-03 and MW-SO-J2. Groundwater was resampled on August 17-18, 2016.

The Kali School playground is the location of a former tank farm. The Site is located at 1029 Qasiglalik Street, in Point Lay, Alaska. (**Figures 1** and **2**).

1.1. Project Objectives

The Alaska Department of Environmental Conservation (ADEC) requested resampling of monitoring wells to supplement the site characterization. The objective of this phase was to further the site characterization and determine if contamination levels are reducing through natural attenuation. This was accomplished through the collection of groundwater samples from Site monitoring wells.

1.2. Site History

The Site was added to the ADEC Contaminated Sites in 1992 as file number 425.38.004. The Site is an area of diesel fuel releases to the environment related to former fuel tank farm. In 2004, an emergency spill response was performed. Site characterization (surface and subsurface soil, groundwater, and surface water sampling) occurred in 2014 with phase two site characterization in 2015 involving surface and subsurface soil sample collection to delineate the horizontal extents of contamination at two locations north and south of the Kali School playground.

Site characterization and phase two indicated results exceeding 18 AAC 75 cleanup levels (ADEC. 2016a) and/or did not meeting AWQS (ADEC. 2017a).

1.3. Regulatory Framework

Work was performed in accordance with the ADEC-approved work plan (Agviq. 2016a) and the following regulations and guidance:

- *Monitoring Well Guidance* (ADEC. 2013)
- *Underground Storage Tank Procedures Manual* (ADEC. 2014)
- *18 AAC 75 Oil and Other Hazardous Substances Pollution Control* (ADEC. 2016a)
- *18 AAC 70 Water Quality Standards* (ADEC. 2017a)
- *Field Sampling Guidance* (ADEC. 2016b)
- *Laboratory Data Review Checklist* (ADEC. 2016c)
- *Guidance on Developing Conceptual Site Models (ADEC. 2017b)*
- *Site Characterization Work Plan and Reporting Guidance for Investigation of Contaminated Sites (ADEC. 2017c)*
- *Technical Memorandum: Data Quality Objectives, Checklists, Quality Assurance Requirements for Laboratory Data, and Sample Handling (ADEC. 2017d)*

Groundwater sample analytical results were evaluated against 18 AAC 75.345 Table C (ADEC. 2016a) and AWQS (18 AAC 70.020 [ADEC. 2017a]). These cleanup levels and standards for the Site are presented in **Table 1-1**.

Table 1-1: ADEC Cleanup Levels

Chemical Name		Groundwater	
		Table C (µg/L)	AWQS (µg/L)
GRO		2,200	
DRO		1,500	
RRO		1,100	
VOCs	Benzene	4.6	
	Toluene	1,100	
	Ethylbenzene	15	
	Xylenes	190	
	Other VOCs	Various	
TAH			10
PAHs	1-Methylnaphthalene	11	
	2-Methylnaphthalene	36	
	Acenaphthene	530	
	Acenaphthylene	260	
	Anthracene	43	
	Benzo(a)anthracene	0.12	
	Benzo(a)pyrene	0.034	
	Benzo(b)fluoranthene	0.34	
	Benzo(g,h,i)perylene	0.26	
	Benzo(k)fluoranthene	0.80	
	Chrysene	2.0	
	Dibenzo(a,h)anthracene	0.034	
	Fluoranthene	260	
	Flourene	290	
	Indeno(1,2,3-cd)pyrene	0.19	
	Naphthalene	1.7	
	Phenanthrene	170	
	Pyrene	120	
TAqH			15

1.4. Constituents of Concern

Constituents-of-concern (COC), identified by results above cleanup levels in 2016, include gasoline range organic compounds (GRO), diesel range organic compounds (DRO), residual range organic compounds (RRO), benzene, ethylbenzene, total xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, dichlorodifluoromethane (DCDF), 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene. Total aromatic hydrocarbons (TAH) and total aqueous hydrocarbons (TAqH) did not meet AWQS.

2. SITE CHARACTERIZATION ACTIVITIES

The initial site characterization was performed in 2014 (Agviq. 2015a). Site characterization activities included advancing 66 soil borings, installing 10 monitoring wells, collecting soil samples from all soil borings, and collecting groundwater samples from eight (8) of the 10 monitoring wells. Two (2) monitoring wells did not have sufficient recharge to support sampling. In addition, 10 co-located surface water and surface soil samples were collected from areas biased towards presumed contaminant migration pathways. Samples were analyzed for GRO by Alaska Method (AK) 101, DRO by AK 102, RRO by AK 103, benzene, toluene, ethylbenzne, and total xylenes (BTEX) by SW8260B, and polynuclear aromatic hydrocarbons (PAH) by SW8270D Selective Ion Monitoring (SIM). Soil results indicated GRO, DRO, RRO results above cleanup levels. The DRO exceedances in soil ranged from a concentration of 232 milligrams per kilogram (mg/kg) to 26,300 mg/kg. The highest levels were located at a depth of 4 to 5 feet below ground surface (bgs). Groundwater results indicated GRO, DRO, RRO, and benzene results above cleanup levels. Benzene was detected above cleanup level in the southern cross-gradient perimeter monitoring well MW-05. Impacts in this area did not appear to be associated with known contamination present at the Site. Surface water met AWQS. Surface soil samples co-located with surface water samples were below cleanup levels.

Soil removal was not recommended due to the limited extent and location of contamination exceeding cleanup levels and in close proximity to infrastructure. Inspection and maintenance of the fence surrounding the base of the school built on pilings was recommended to control access and eliminate potential future exposure.

Phase two site characterization was performed in 2015 (Agviq. 2016b) involving surface and subsurface soil sample collection to delineate the horizontal extents of contamination at two locations north and south of the Kali School playground. Phase two site characterization activities included advancement of eight (8) soil borings (four [4] at each location), and collection of soil samples from two intervals within each soil boring. Sample results confirmed that contamination was not present in soil outside the boundaries of the 2014 site characterization. No further action was recommended.

The ADEC requested resampling of monitoring wells to supplement the site characterization and potential further delineation near MW-05 if contamination continued to be present above cleanup levels. To determine if contamination levels were reducing through natural attenuation, groundwater sampling was performed at MW-01, MW-02, MW-03, MW-04, MW-05, MW-SO-

J2, MW-SO-L4, and MW-SO-Q3 on August 17-18, 2016 in accordance with the *Point Lay Kali School 2016 Groundwater Sampling Work Plan Addendum* (Agviq. 2016a).

Two (2) stick-up monitoring wells are believed to have been destroyed in high snow machine traffic areas: MW-SO-F2 and MW-SO-F8. The two (2) wells were unable to be located.

Appendix A presents the field notes and data sheets. **Appendix B** presents a photographic log.

2.1. Groundwater Sampling

Groundwater sampling was conducted on August 17-18, 2016 in accordance with the *Field Sampling Guidance* (ADEC. 2016c). Analytical sample collection was performed using a peristaltic pump in accordance with the *Point Lay Kali School 2016 Groundwater Sampling Work Plan Addendum* (Agviq. 2016a). This method involved purging at flow rates low enough (between 0.1 L/min and 0.5 L/min) to prevent well drawdown from exceeding 0.3 feet during purging and sampling, where feasible. Monitoring wells MW-SO-J2, MW-SO-L4, and MW-SO-Q3 were purged dry due to insufficient recharge. Samples were collected upon recharge. Water quality parameters were measured using an YSI® 556 multi-parameter meter and a flow-through cell. After either wells ran dry or water quality parameter stabilization in accordance with the following stabilization criteria, the flow-through cell was disconnected and samples were collected directly from the pump discharge hose.

Water quality parameters were measured using an YSI® 556 multi-parameter meter and a flow-through cell. The water quality parameters are considered stable when three successive readings or four if using temperature (3 to 5 minutes apart) are within the following criteria (ADEC. 2016b):

- ± for temperature (minimum of + 0.2° C)
- ± 0.1 for pH
- ± 3% for conductivity
- ± 10 mv for redox potential
- ± 10% for DO
- ± 10% for turbidity

The flow rate during sampling remained the same as the purging flow rate. Following sample collection, all pieces of reusable equipment were decontaminated with Alconox® and double rinsed with water.

Samples were submitted to ADEC-accredited laboratory SGS Environmental Services, Inc. (SGS) in Anchorage, Alaska for GRO by Alaska Method (AK) 101, DRO/ RRO by AK 102/3, VOCs by SW8260B, and PAHs by SW8270D SIM.

Sampling locations are shown in **Figure 3**.

2.2. Management of Investigation-Derived Waste

Investigation-derived waste (IDW) included personal protective equipment (PPE), disposable sampling materials, and purge and development water (approximately 7.75 gallons). Disposable sampling materials and PPE were placed in the dumpster which was transferred to the Point Lay Landfill. Purge and development water was filtered through granular activated carbon (GAC) and discharged to ground surface near the Public Safety Office approximately 100 feet from any water body or tundra.

3. SITE CHARACTERIZATION RESULTS

Groundwater analytical sample results from MW-01, MW-02, MW-03, MW-04, MW-05, MW-SO-J2, MW-SO-L4, and MW-SO-Q3 were evaluated against applicable 18 AAC 75.345 Table C (ADEC. 2016a) and AWQS (18 AAC 70.020 [ADEC. 2017a]) and are presented in **Table 1**. Laboratory analytical reports are presented as **Appendix C**. The exceedances of cleanup levels and AWQS not met for groundwater are presented on **Figure 3**.

3.1. Analytical Laboratory Results

Benzene, toluene, ethylbenzne, and total xylenes (BTEX) results were summed as TAH, which did not meet the AWQS of 10 micrograms per liter (µg/L) at MW-01 (10.02 µg/L), MW-02 (174.8 µg/L), MW-05 (497.64 µg/L), MW-SO-L4 (58.4 µg/L), and MW-SO-Q3 (1,262.5 µg/L). The TAH and PAH results were summed as TAqH, which did not meet the AWQS of 15 µg/L at MW-02 (175.72 µg/L), MW-05 (500.26 µg/L), MW-SO-L4 (58.86 µg/L), and MW-SO-Q3 (1,711.94 µg/L). The GRO and DRO results exceeded the 18 AAC 75 cleanup levels of 2.2 milligrams per liter (mg/L) and 1.5 mg/L respectively at MW-SO-Q3 with concentrations of 2.22 mg/L and 11.8 mg/L – denoting free-phase DRO (American Petroleum Institute [API]. 2000), respectively. The RRO results exceeded the 18 AAC 75 cleanup level of 1.1 mg/L at MW-01 (1.76 mg/L) and MW-SO-Q3 (1.80 mg/L). The benzene, ethylbenzene, and 1,2,4-trimethylbenzene results exceeded 18 AAC 75 cleanup levels of 4.6 µg/L, 15 µg/L, and 15 µg/L, respectively, at MW-05 (159 µg/L, 155 µg/L, and 72.2 µg/L, respectively) and MW-SO-Q3 (19.5 µg/L, 110 µg/L, and , 464 µg/L respectively). Common refrigerant, DCDF results exceeded the 18 AAC 75 cleanup level of 200 µg/L at MW-02 (536 µg/L) and MW-SO-Q3 (459 µg/L). At MW-SO-Q3, total xylenes, 1,3,5-trimethylbenzene, 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene results (806 µg/L, 128 µg/L, 113 µg/L, 136 µg/L, and 199 µg/L, respectively) exceed the 18 AAC 75 cleanup levels of 190 µg/L, 120 µg/L, 11 µg/L, 36 µg/L, and 1.7 µg/L, respectively.

Monitoring well MW-05 is located to the south of the Site, across Qualik Street as seen in **Figure 3**.

The limits of detection (LOD) for non-detect results by SW8260B analysis for 1,1,2-trichloroethane, 1,2,3-trichloropropane, 1,2-dibromoethane (EDB), naphthalene, and vinyl chloride exceeded the 18 AAC 75 cleanup levels. Naphthalene analysis by SW8270D SIM did provide adequate sensitivity. The chlorinated solvents and leaded fuel scavenger are not reasonably expected at the Site.

3.2. Groundwater Geochemistry

Using a YSI® water quality meter with flow through cell to monitor water quality parameters, groundwater was determined to be aerobic (dissolved oxygen greater than 1 mg/L), of near neutral pH (approximately 4.7-6.5), and cold (approximately 4 to 6.7 ºC). Conductivity ranged slightly indicating groundwater from the same hydrologic unit.

3.3. Hydrogeology

Groundwater is supra-permafrost and is present in the active layer seasonally at the Site. Soil borings advanced in 2014 indicated constructed gravel pad approximately 5-feet thick overlaying native mineral soil or tundra and permafrost depth ranges from 0.5 feet to 1.5 feet beneath peat.

Groundwater appears discontinuous, present as pools with limited connectivity. Monitoring wells MW-SO-J2, MW-SO-L4, and MW-SO-Q3 were purged dry due to insufficient recharge.

During 2016 groundwater was observed to flow towards the southeast in the area of the Kali School and towards the northeast in the southern area of the site (near MW-05), converging on the tundra area of low-centered polygons between the playground and Tuttunniagvik Street.

4. QUALITY ASSURANCE REVIEW

Laboratory quality assurance/quality control (QA/QC) data associated with the analysis of project samples have been reviewed to evaluate the usability of the analytical data generated during the August 2016 characterization of groundwater at the Site. **Appendix D** contains the quality assurance review and the ADEC checklists (ADEC. 2016c).

All data were reviewed in accordance with the *National Functional Guidelines for Superfund Organic Methods Data Review* (United States Environmental Protection Agency [USEPA]. 2016), analytical methodology and ADEC regulatory guidance documents (ADEC. 2016c, 2017c, and 2017d). This data review focused on the following QC parameters and impact on data quality objectives (DQO): usability: sample handling and chain-of-custody (CoC) documentation; holding time compliance; field QC (trip blanks and field duplicates); laboratory QC (method blanks, laboratory control samples [LCS], LCS duplicates [LCSD], surrogates, matrix spikes [MS], and MS duplicates [MSD]), method reporting limits; and completeness.

In general, the overall quality of the data is acceptable. The data quality was determined as acceptable or estimated. Acceptable data are associated with QC data that meet all QC criteria or with QC samples that did not meet QC criteria but DQOs were not affected. Estimated J results are considered inaccurate due to a bias created by matrix interference or QC acceptance criteria which were not met. No results were rejected (R). Data quality meets established DQOs established for this project.

5. CONCEPTUAL SITE MODEL

No changes are presented to the Conceptual Site Model (CSM) as presented in the 2014 *NSB Point Lay Kali School Site Characterization Report* (Agviq. 2015). The CSM graphical, scoping, and eco-scoping forms have been included as **Appendix E**.

6. CONCLUSIONS AND RECOMMENDATIONS

To further the site characterization and determine if contamination levels are reducing through natural attenuation, groundwater sampling was performed at MW-01, MW-02, MW-03, MW-04, MW-05, MW-SO-J2, MW-SO-L4, and MW-SO-Q3.

6.1. Conclusions

Kali School site characterization is complete. Extensive site characterization has occurred at Kali School in three phases to include (phase 1) surface and subsurface soil sampling (soil borings) in Areas A, B, and C and groundwater and surface water sampling in 2014 (Agviq. 2015a); (phase 2) surface and subsurface sampling (soil borings) north and south of the playground in 2015 (Agviq. 2016a), and (phase 3) groundwater sampling in 2016. The Site is an area of diesel fuel releases to the environment related to former fuel tank farm operations. Monitoring well MW-05 was installed as a sentinel well and currently appears to be part of another site. Benzene, ethylbenzene, 1,2,4-trimethylbenzene above cleanup levels and TAH and TAqH not meeting AWQS are inconsistent with Kali School diesel releases. The benzene concentration at MW-05 is higher than at MW-SO-Q3. Operations near MW-05 include the washeteria with fuel pipeline as well as the Department of Municipal Services Drum Storage Area (DMS DSA, ADEC file number 425.38.006). Site characterization at the DMS DSA includes surface and subsurface soil sampling (soil borings) and groundwater and surface water sampling in 2014 south of MW-05 (Agviq. 2015b). The DMS DSA was the site of fuel releases to the environment related to drum storage operations. Benzene concentrations in groundwater above cleanup level at the DMS DSA in 2014 ranged from 23.3 µg/L to 126 µg/L (Agivq. 2015b), comparable to the MW-05 2016 benzene concentration of 159 µg/L.

Groundwater sample analytical results in 2016 above cleanup levels (ADEC. 2016a) or not meeting AWQS (ADEC. 2017a) compared to 2014 groundwater sample analytical results are presented in **Table 6-1**. At MW-SO-Q3, the DRO concentration remains above the theoretical solubility limit – denoting free-phase DRO (API. 2000). Free-product is not recoverable at MW-SO-Q3. Since the free-product thickness is not measureable, free-product is assumed to be present as globules, not migrating or recoverable. The DCDF results above cleanup level at MW-02 and MW-SO-Q3 may indicate a refrigerant release.

Table 6-1: 2014 and 2016 Groundwater Sample Analytical Results

Monitoring Well	Analyte	Units	2014	2016	
MW-01	RRO	mg/L	1.26	1.76	
	TAH	µg/L	5.01	10.02	
MW-02	Dichlorodifluoromethane	µg/L	NS	536	
	TAH	µg/L	124.29	174.8	
	TAqH	µg/L	125.00	175.72	
MW-05	Benzene	µg/L	162	159	
	Ethylbenzene	µg/L	110	155	
	1,2,4-Trimethylbenzene	µg/L	NS	72.2	
	TAH	µg/L	423.9	497.64	
	TAqH	µg/L	425.58	500.26	
MW-SO-L4	TAH	µg/L	79.47	58.4	
	TAqH	µg/L	80.2	58.86	
MW-SO-Q3	GRO	mg/L	3.37	2.2	
	DRO	mg/L	12.8	11.8	*
	RRO	mg/L	2.57	1.80	
	Benzene	µg/L	17.1	19.5	
	Ethylbenzene	µg/L	98.1	110	
	Xylenes	µg/L	710	806	
	1,2,4-Trimethylbenzene	µg/L	NS	464	
	1,3,5-Trimethylbenzene	µg/L	NS	128	
	Dichlorodifluoromethane	µg/L	NS	459	
	1-Methylnaphthalene	µg/L	71.8	113	
	2-Methylnaphthalene	µg/L	86.4	136	
	Naphthalene	µg/L	156	199	
	TAH	µg/L	1,148.2	1,262.5	
	TAqH	µg/L	1,471.12	1,711.94	

Notes:
NS = Not Sampled
= Concentration Increased
= Concentration Decreased
* = Free-product

Concentrations increased since 2014 at monitoring wells MW-01, MW-02, and MW-05. At MW-SO-Q3, concentrations of benzene, ethylbenzene, total xylenes, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, TAH, and TAqH increased; while, concentrations of GRO and RRO decreased since 2014. At MW-SO-L4, concentrations of TAH and TAqH decreased since 2014.

Since groundwater is aerobic, of neutral pH, and very cold, it is a suitable environment for biodegradation, but the biodegradation rate may be very slow. Increases and decreases in contaminant concentrations across the Site (redistribution in contaminant concentrations) may be attributable to groundwater flushing (although slowly) through the Site. Supra-permafrost groundwater also appears discontinuous at the Site.

6.2. Recommendations

Recommendations include closing the site characterization phase at Kali School and conduct groundwater monitoring at eight (8) site monitoring wells in 2017.

6.2.1. Constituents of Concern

Groundwater results exceeding cleanup levels include GRO, DRO, RRO, benzene, ethylbenzene, total xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, DCDF, 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene. The AWQS for TAH and TAqH were not met in groundwater at the Site. The Site COCs have included GRO, DRO, RRO, VOCs, and PAHs. Analysis for full list VOCs as added in lieu of BTEX in 2016.

The Site COCs should be revised to include only those analytes exceeding cleanup levels and/or not meeting AWQS:

- GRO
- DRO
- RRO
- Specific VOCs: BTEX, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and DCDF
- Any fuel-related VOCs
- PAHs.

Monitoring full list VOCs should be discontinued at the Site.

7. REFERENCES

Alaska Department of Environmental Conservation (ADEC). 2013. *Monitoring Well Guidance*. September 2013.

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TABLES

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TABLE NOTES
NSB POINT LAY KALI SCHOOL
2016 SITE CHARACTERIZATION REPORT ADDENDUM

Notes:

Non-detect results are reported as ND (LOD).

Criteria:

Bolded highlighted grey text indicates concentration is above the ADEC Cleanup Level for Groundwater.
Bolded highlighted blue text indicates concentration does not meet Alaska Water Quality Standards.

Acronyms:

ADEC	Alaska Department of Environmental Conservation
AWQS	Alaska Water Quality Standards
CL	Cleanup Level
DL	Detection Limit
FD	Field Duplicate
IQ	Interpreted Qualifier
LOD	Limit of Detection
LOQ	Limit of Quantitation (two-times LOD)
µg/L	micogram per liter
mg/L	milligrams per liter
N	Normal / Primary
NSB	North Slope Borough
PAH	Polynuclear Aromatic Hydrocarbons
SIM	Selective Ion Monitoring
TB	Trip Blank
WG	Groundwater

Interpreted Qualifiers:

B	The analyte is detected in an associated blank and the sample result is greater than five-times the blank contamination.
J	The result is an estimation due to its quantitation level.
JD	The result is an estimation due to field duplicate imprecision.
JM	The result is an estimation due to due to demonstrated sample matrix interference.
JS	The result is an estimation due to surrogate inaccuracy.
UB	The result is considered not detected due to blank contamination.
U-J	The result was not detected and the quantitation level is considered an estimation.

TABLE 1 GROUNDWATER SAMPLE ANALYTICAL RESULTS
NSB POINT LAY KALI SCHOOL
2016 SITE CHARACTERIZATION REPORT ADDENDUM

				Location ID	MW-01		MW-01	
				Sample ID	16-PLK2-MW-01		16-PLK2-MWX-01	
				Sample Type	N		FD	
				Sample Date	8/17/2016		8/17/2016	
				Parent Sample ID			16-PLK2-MW-01	
				Matrix	WG		WG	
Method	Chemical Name	**ADEC CL WG**	**AWQS**	Unit	Result	Lab Quals	Result	Lab Quals
AK101	Gasoline Range Organics	**2.2**		mg/L	0.0399	J	ND (0.05)	
AK102/103 LV	Diesel Range Organics	**1.5**		mg/L	0.929		1.05	
AK102/103 LV	Residual Range Organics	**1.1**		mg/L	**ND (1.11)**	**UB, U-JD**	**1.76**	**B, JD**
SW8260B	1,1,1,2-Tetrachloroethane	5.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,1,1-Trichloroethane	8000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1,2,2-Tetrachloroethane	0.76		ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,1,2-Trichloroethane	**0.41**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,1-Dichloroethane	28		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1-Dichloroethene	280		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1-Dichloropropene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,3-Trichlorobenzene	7.0		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,3-Trichloropropane	**0.0075**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,2,4-Trichlorobenzene	4.0		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,4-Trimethylbenzene	**15**		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2-Dibromo-3-chloropropane			ug/L	ND (5.0)		ND (5.0)	
SW8260B	1,2-Dibromoethane	**0.075**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,2-Dichlorobenzene	300		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2-Dichloroethane	1.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,2-Dichloropropane	4.4		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,3,5-Trimethylbenzene	**120**		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,3-Dichlorobenzene	300		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,3-Dichloropropane			ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,4-Dichlorobenzene	4.8		ug/L	ND (0.25)		ND (0.25)	
SW8260B	2,2-Dichloropropane			ug/L	ND (0.5)		ND (0.5)	
SW8260B	2-Butanone (MEK)	5600		ug/L	ND (5.0)	U-JD	3.33	JD
SW8260B	2-Chlorotoluene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	2-Hexanone	38		ug/L	ND (5.0)		ND (5.0)	
SW8260B	4-Chlorotoluene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	4-Isopropyltoluene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	4-Methyl-2-pentanone (MIBK)	6300		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Benzene	**4.6**		ug/L	ND (0.2)		ND (0.2)	
SW8260B	Bromobenzene	62		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromochloromethane			ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromodichloromethane	1.3		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Bromoform	33		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromomethane	7.5		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Carbon disulfide	810		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Carbon tetrachloride	4.6		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Chlorobenzene	78		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Chloroethane	21000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Chloroform	2.2		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Chloromethane	190		ug/L	ND (0.5)		ND (0.5)	
SW8260B	cis-1,2-Dichloroethene	36		ug/L	ND (0.5)		ND (0.5)	
SW8260B	cis-1,3-Dichloropropene	4.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Dibromochloromethane	8.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Dibromomethane	8.3		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Dichlorodifluoromethane	**200**		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Ethylbenzene	**15**		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Freon-113			ug/L	ND (5.0)		ND (5.0)	
SW8260B	Hexachlorobutadiene	1.4		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Isopropylbenzene (Cumene)	450		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Methylene chloride	110		ug/L	ND (2.5)		ND (2.5)	
SW8260B	Methyl-t-butyl ether	140		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Naphthalene	**1.7**		ug/L	**ND (5.0)**		**ND (5.0)**	
SW8260B	n-Butylbenzene	1000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	n-Propylbenzene	660		ug/L	ND (0.5)		ND (0.5)	
SW8260B	o-Xylene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	P & M -Xylene			ug/L	ND (1.0)		ND (1.0)	
SW8260B	sec-Butylbenzene	2000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Styrene	1200		ug/L	ND (0.5)		ND (0.5)	
SW8260B	tert-Butylbenzene	690		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Tetrachloroethene	41		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Toluene	1100		ug/L	7.36		7.82	
SW8260B	trans-1,2-Dichloroethene	360		ug/L	ND (0.5)		ND (0.5)	
SW8260B	trans-1,3-Dichloropropene	4.7		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Trichloroethene	2.8		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Trichlorofluoromethane	5200		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Vinyl acetate	410		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Vinyl chloride	**0.19**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	Xylenes (total)	**190**		ug/L	ND (1.5)		ND (1.5)	
[calculated]	Total Aromatic Hydrocarbons		**10**	ug/L	9.56		**10.02**	
8270D SIM LV (PAH)	1-Methylnaphthalene	**11**		ug/L	0.0525	JS	0.0624	JS
8270D SIM LV (PAH)	2-Methylnaphthalene	**36**		ug/L	0.0352	JS,D	0.0222	JS,D
8270D SIM LV (PAH)	Acenaphthene	530		ug/L	ND (0.0274)	U-JS	ND (0.02605)	U-JS
8270D SIM LV (PAH)	Acenaphthylene	260		ug/L	ND (0.0274)	U-JS	ND (0.02605)	U-JS
8270D SIM LV (PAH)	Anthracene	43		ug/L	ND (0.0274)	U-JS	ND (0.02605)	U-JS
8270D SIM LV (PAH)	Benzo(a)Anthracene	0.12		ug/L	ND (0.0274)	U-JS	ND (0.02605)	U-JS
8270D SIM LV (PAH)	Benzo[a]pyrene	0.034		ug/L	ND (0.01095)	U-JM,S	ND (0.0104)	U-JM,S
8270D SIM LV (PAH)	Benzo[b]Fluoranthene	0.34		ug/L	ND (0.0274)	U-JM,S	ND (0.02605)	U-JM,S
8270D SIM LV (PAH)	Benzo[g,h,i]perylene	0.26		ug/L	ND (0.0274)	U-JM,S	ND (0.02605)	U-JM,S
8270D SIM LV (PAH)	Benzo[k]fluoranthene	0.80		ug/L	ND (0.0274)	U-JM,S	ND (0.02605)	U-JM,S
8270D SIM LV (PAH)	Chrysene	2.0		ug/L	ND (0.0274)	U-JS	ND (0.02605)	U-JS
8270D SIM LV (PAH)	Dibenzo[a,h]anthracene	0.034		ug/L	ND (0.01095)	U-JM,S	ND (0.0104)	U-JM,S
8270D SIM LV (PAH)	Fluoranthene	260		ug/L	ND (0.0274)	U-JS	ND (0.02605)	U-JS
8270D SIM LV (PAH)	Fluorene	290		ug/L	ND (0.0274)	U-JS	ND (0.02605)	U-JS
8270D SIM LV (PAH)	Indeno[1,2,3-c,d] pyrene	0.19		ug/L	ND (0.0274)	U-JM,S	ND (0.02605)	U-JM,S
8270D SIM LV (PAH)	Naphthalene	**1.7**		ug/L	ND (0.055)	U-JS	ND (0.052)	U-JS
8270D SIM LV (PAH)	Phenanthrene	170		ug/L	ND (0.0274)	U-JS	ND (0.02605)	U-JS
8270D SIM LV (PAH)	Pyrene	120		ug/L	ND (0.0274)	U-JS	ND (0.02605)	U-JS
[calculated]	Total Aqueous Hydrocarbons		15	ug/L	10.08		10.52	

TABLE 1 GROUNDWATER SAMPLE ANALYTICAL RESULTS
NSB POINT LAY KALI SCHOOL
2016 SITE CHARACTERIZATION REPORT ADDENDUM

				Location ID	MW-02		MW-02	
				Sample ID	16-PLK2-MW-02		16-PLK2-MWX-02	
				Sample Type	N		FD	
				Sample Date	8/18/2016		8/18/2016	
				Parent Sample ID			16-PLK2-MW-02	
				Matrix	WG		WG	
Method	Chemical Name	**ADEC CL WG**	**AWQS**	Unit	Result	Lab Quals	Result	Lab Quals
AK101	Gasoline Range Organics	**2.2**		mg/L	0.304		0.308	
AK102/103 LV	Diesel Range Organics	**1.5**		mg/L	0.893		1.16	
AK102/103 LV	Residual Range Organics	**1.1**		mg/L	0.294	J	0.340	J
SW8260B	1,1,1,2-Tetrachloroethane	5.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,1,1-Trichloroethane	8000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1,2,2-Tetrachloroethane	0.76		ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,1,2-Trichloroethane	**0.41**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,1-Dichloroethane	28		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1-Dichloroethene	280		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1-Dichloropropene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,3-Trichlorobenzene	7.0		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,3-Trichloropropane	**0.0075**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,2,4-Trichlorobenzene	4.0		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,4-Trimethylbenzene	**15**		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2-Dibromo-3-chloropropane			ug/L	ND (5.0)		ND (5.0)	
SW8260B	1,2-Dibromoethane	**0.075**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,2-Dichlorobenzene	300		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2-Dichloroethane	1.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,2-Dichloropropane	4.4		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,3,5-Trimethylbenzene	**120**		ug/L	0.420	J	0.390	J
SW8260B	1,3-Dichlorobenzene	300		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,3-Dichloropropane			ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,4-Dichlorobenzene	4.8		ug/L	ND (0.25)		ND (0.25)	
SW8260B	2,2-Dichloropropane			ug/L	ND (0.5)		ND (0.5)	
SW8260B	2-Butanone (MEK)	5600		ug/L	8.65	J	9.30	J
SW8260B	2-Chlorotoluene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	2-Hexanone	38		ug/L	ND (5.0)		ND (5.0)	
SW8260B	4-Chlorotoluene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	4-Isopropyltoluene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	4-Methyl-2-pentanone (MIBK)	6300		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Benzene	**4.6**		ug/L	0.190	J	0.180	J
SW8260B	Bromobenzene	62		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromochloromethane			ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromodichloromethane	1.3		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Bromoform	33		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromomethane	7.5		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Carbon disulfide	810		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Carbon tetrachloride	4.6		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Chlorobenzene	78		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Chloroethane	21000		ug/L	11.5		11.1	
SW8260B	Chloroform	2.2		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Chloromethane	190		ug/L	ND (0.5)		ND (0.5)	
SW8260B	cis-1,2-Dichloroethene	36		ug/L	ND (0.5)		ND (0.5)	
SW8260B	cis-1,3-Dichloropropene	4.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Dibromochloromethane	8.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Dibromomethane	8.3		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Dichlorodifluoromethane	**200**		ug/L	**533**		**536**	
SW8260B	Ethylbenzene	**15**		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Freon-113			ug/L	ND (5.0)		ND (5.0)	
SW8260B	Hexachlorobutadiene	1.4		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Isopropylbenzene (Cumene)	450		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Methylene chloride	110		ug/L	ND (2.5)		ND (2.5)	
SW8260B	Methyl-t-butyl ether	140		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Naphthalene	**1.7**		ug/L	**ND (5.0)**		**ND (5.0)**	
SW8260B	n-Butylbenzene	1000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	n-Propylbenzene	660		ug/L	ND (0.5)		ND (0.5)	
SW8260B	o-Xylene			ug/L	0.480	J	0.460	J
SW8260B	P & M -Xylene			ug/L	0.630	JD	ND (1.0)	JD
SW8260B	sec-Butylbenzene	2000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Styrene	1200		ug/L	ND (0.5)		ND (0.5)	
SW8260B	tert-Butylbenzene	690		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Tetrachloroethene	41		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Toluene	1100		ug/L	173		173	
SW8260B	trans-1,2-Dichloroethene	360		ug/L	ND (0.5)		ND (0.5)	
SW8260B	trans-1,3-Dichloropropene	4.7		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Trichloroethene	2.8		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Trichlorofluoromethane	5200		ug/L	12.3		11.4	
SW8260B	Vinyl acetate	410		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Vinyl chloride	**0.19**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	Xylenes (total)	**190**		ug/L	1.11	J	1.05	J
[calculated]	Total Aromatic Hydrocarbons		**10**	ug/L	**174.8**		**174.73**	
8270D SIM LV (PAH)	1-Methylnaphthalene	**11**		ug/L	0.131	JS,D	0.182	JS,D
8270D SIM LV (PAH)	2-Methylnaphthalene	**36**		ug/L	0.143	JS,D	0.223	B, JS,D
8270D SIM LV (PAH)	Acenaphthene	530		ug/L	ND (0.0265)	U-JS	ND (0.02895)	U-JS
8270D SIM LV (PAH)	Acenaphthylene	260		ug/L	ND (0.0265)	U-JS	ND (0.02895)	U-JS
8270D SIM LV (PAH)	Anthracene	43		ug/L	ND (0.0265)	U-JS	ND (0.02895)	U-JS
8270D SIM LV (PAH)	Benzo(a)Anthracene	0.12		ug/L	ND (0.0265)	U-JS	ND (0.02895)	U-JS
8270D SIM LV (PAH)	Benzo[a]pyrene	0.034		ug/L	ND (0.0106)	U-JM,S	ND (0.01155)	U-JM,S
8270D SIM LV (PAH)	Benzo[b]Fluoranthene	0.34		ug/L	ND (0.0265)	U-JM,S	ND (0.02895)	U-JM,S
8270D SIM LV (PAH)	Benzo[g,h,i]perylene	0.26		ug/L	ND (0.0265)	U-JM,S	ND (0.02895)	U-JM,S
8270D SIM LV (PAH)	Benzo[k]fluoranthene	0.80		ug/L	ND (0.0265)	U-JM,S	ND (0.02895)	U-JM,S
8270D SIM LV (PAH)	Chrysene	2.0		ug/L	ND (0.0265)	U-JS	ND (0.02895)	U-JS
8270D SIM LV (PAH)	Dibenzo[a,h]anthracene	0.034		ug/L	ND (0.0106)	U-JM,S	ND (0.01155)	U-JM,S
8270D SIM LV (PAH)	Fluoranthene	260		ug/L	ND (0.0265)	U-JS	ND (0.02895)	U-JS
8270D SIM LV (PAH)	Fluorene	290		ug/L	ND (0.0265)	U-JS	ND (0.02895)	U-JS
8270D SIM LV (PAH)	Indeno[1,2,3-c,d] pyrene	0.19		ug/L	ND (0.0265)	U-JM,S	ND (0.02895)	U-JM,S
8270D SIM LV (PAH)	Naphthalene	**1.7**		ug/L	0.0666	JS,D	0.189	JS,D
8270D SIM LV (PAH)	Phenanthrene	170		ug/L	ND (0.0265)	U-JS	0.0251	JS
8270D SIM LV (PAH)	Pyrene	120		ug/L	ND (0.0265)	U-JS	ND (0.02895)	U-JS
[calculated]	Total Aqueous Hydrocarbons		15	ug/L	**175.51**		**175.72**	

TABLE 1 GROUNDWATER SAMPLE ANALYTICAL RESULTS
NSB POINT LAY KALI SCHOOL
2016 SITE CHARACTERIZATION REPORT ADDENDUM

				Location ID	MW-03		MW-04	
				Sample ID	16-PLK2-MW-03		16-PLK2-MW-04	
				Sample Type	N		N, MS/MSD	
				Sample Date	8/18/2016		8/17/2016	
				Parent Sample ID				
				Matrix	WG		WG	
Method	Chemical Name	**ADEC CL WG**	**AWQS**	Unit	Result	Lab Quals	Result	Lab Quals
AK101	Gasoline Range Organics	**2.2**		mg/L	ND (0.05)		ND (0.05)	
AK102/103 LV	Diesel Range Organics	**1.5**		mg/L	0.233	J	0.372	J
AK102/103 LV	Residual Range Organics	**1.1**		mg/L	0.309	J	ND (0.698)	UB
SW8260B	1,1,1,2-Tetrachloroethane	5.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,1,1-Trichloroethane	8000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1,2,2-Tetrachloroethane	0.76		ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,1,2-Trichloroethane	**0.41**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,1-Dichloroethane	28		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1-Dichloroethene	280		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1-Dichloropropene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,3-Trichlorobenzene	7.0		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,3-Trichloropropane	**0.0075**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,2,4-Trichlorobenzene	4.0		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,4-Trimethylbenzene	**15**		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2-Dibromo-3-chloropropane			ug/L	ND (5.0)		ND (5.0)	
SW8260B	1,2-Dibromoethane	**0.075**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,2-Dichlorobenzene	300		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2-Dichloroethane	1.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,2-Dichloropropane	4.4		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,3,5-Trimethylbenzene	**120**		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,3-Dichlorobenzene	300		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,3-Dichloropropane			ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,4-Dichlorobenzene	4.8		ug/L	ND (0.25)		ND (0.25)	
SW8260B	2,2-Dichloropropane			ug/L	ND (0.5)		ND (0.5)	
SW8260B	2-Butanone (MEK)	5600		ug/L	ND (5.0)		ND (5.0)	
SW8260B	2-Chlorotoluene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	2-Hexanone	38		ug/L	ND (5.0)		ND (5.0)	
SW8260B	4-Chlorotoluene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	4-Isopropyltoluene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	4-Methyl-2-pentanone (MIBK)	6300		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Benzene	**4.6**		ug/L	ND (0.2)		ND (0.2)	
SW8260B	Bromobenzene	62		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromochloromethane			ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromodichloromethane	1.3		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Bromoform	33		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromomethane	7.5		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Carbon disulfide	810		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Carbon tetrachloride	4.6		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Chlorobenzene	78		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Chloroethane	21000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Chloroform	2.2		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Chloromethane	190		ug/L	ND (0.5)	UB	ND (0.5)	UB
SW8260B	cis-1,2-Dichloroethene	36		ug/L	ND (0.5)		ND (0.5)	
SW8260B	cis-1,3-Dichloropropene	4.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Dibromochloromethane	8.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Dibromomethane	8.3		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Dichlorodifluoromethane	**200**		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Ethylbenzene	**15**		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Freon-113			ug/L	ND (5.0)		ND (5.0)	
SW8260B	Hexachlorobutadiene	1.4		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Isopropylbenzene (Cumene)	450		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Methylene chloride	110		ug/L	ND (2.5)		ND (2.5)	
SW8260B	Methyl-t-butyl ether	140		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Naphthalene	**1.7**		ug/L	**ND (5.0)**		**ND (5.0)**	
SW8260B	n-Butylbenzene	1000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	n-Propylbenzene	660		ug/L	ND (0.5)		ND (0.5)	
SW8260B	o-Xylene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	P & M -Xylene			ug/L	ND (1.0)		ND (1.0)	
SW8260B	sec-Butylbenzene	2000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Styrene	1200		ug/L	ND (0.5)		ND (0.5)	
SW8260B	tert-Butylbenzene	690		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Tetrachloroethene	41		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Toluene	1100		ug/L	ND (0.5)		2.11	
SW8260B	trans-1,2-Dichloroethene	360		ug/L	ND (0.5)		ND (0.5)	
SW8260B	trans-1,3-Dichloropropene	4.7		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Trichloroethene	2.8		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Trichlorofluoromethane	5200		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Vinyl acetate	410		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Vinyl chloride	**0.19**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	Xylenes (total)	**190**		ug/L	ND (1.5)		ND (1.5)	
[calculated]	Total Aromatic Hydrocarbons		**10**	ug/L	ND (2.7)		4.31	
8270D SIM LV (PAH)	1-Methylnaphthalene	**11**		ug/L	0.0302	JS	0.0485	J
8270D SIM LV (PAH)	2-Methylnaphthalene	**36**		ug/L	ND (0.0274)	UB, U-JS	0.0311	J
8270D SIM LV (PAH)	Acenaphthene	530		ug/L	ND (0.0274)	U-JS	ND (0.0265)	
8270D SIM LV (PAH)	Acenaphthylene	260		ug/L	ND (0.0274)	U-JS	ND (0.0265)	
8270D SIM LV (PAH)	Anthracene	43		ug/L	ND (0.0274)	U-JS	ND (0.0265)	
8270D SIM LV (PAH)	Benzo(a)Anthracene	0.12		ug/L	ND (0.0274)	U-JS	ND (0.0265)	
8270D SIM LV (PAH)	Benzo[a]pyrene	0.034		ug/L	ND (0.01095	U-JM,S	ND (0.0106)	U-JM
8270D SIM LV (PAH)	Benzo[b]Fluoranthene	0.34		ug/L	ND (0.0274)	U-JM,S	ND (0.0265)	U-JM
8270D SIM LV (PAH)	Benzo[g,h,i]perylene	0.26		ug/L	ND (0.0274)	U-JM,S	ND (0.0265)	U-JM
8270D SIM LV (PAH)	Benzo[k]fluoranthene	0.80		ug/L	ND (0.0274)	U-JM,S	ND (0.0265)	U-JM
8270D SIM LV (PAH)	Chrysene	2.0		ug/L	ND (0.0274)	U-JS	ND (0.0265)	
8270D SIM LV (PAH)	Dibenzo[a,h]anthracene	0.034		ug/L	ND (0.01095	U-JM,S	ND (0.0106)	U-JM
8270D SIM LV (PAH)	Fluoranthene	260		ug/L	ND (0.0274)	U-JS	ND (0.0265)	
8270D SIM LV (PAH)	Fluorene	290		ug/L	0.0389	JS	ND (0.0265)	
8270D SIM LV (PAH)	Indeno[1,2,3-c,d] pyrene	0.19		ug/L	ND (0.0274)	U-JM,S	ND (0.0265)	U-JM
8270D SIM LV (PAH)	Naphthalene	**1.7**		ug/L	0.0457	JS	ND (0.053)	
8270D SIM LV (PAH)	Phenanthrene	170		ug/L	0.0556	JS	ND (0.0265)	
8270D SIM LV (PAH)	Pyrene	120		ug/L	ND (0.0274)	U-JS	ND (0.0265)	
[calculated]	Total Aqueous Hydrocarbons		15	ug/L	3.24		4.81	

TABLE 1 GROUNDWATER SAMPLE ANALYTICAL RESULTS
NSB POINT LAY KALI SCHOOL
2016 SITE CHARACTERIZATION REPORT ADDENDUM

				Location ID	MW-05		MW-SO-J2	
				Sample ID	16-PLK2-MW-05		16-PLK2-MW-SO-J2	
				Sample Type	N		N	
				Sample Date	8/17/2016		8/17/2016	
				Parent Sample ID				
				Matrix	WG		WG	
Method	Chemical Name	**ADEC CL WG**	**AWQS**	Unit	Result	Lab Quals	Result	Lab Quals
AK101	Gasoline Range Organics	**2.2**		mg/L	0.977		ND (0.05)	
AK102/103 LV	Diesel Range Organics	**1.5**		mg/L	0.305	J	0.583	J
AK102/103 LV	Residual Range Organics	**1.1**		mg/L	ND (0.533)	UB	ND (0.827)	UB
SW8260B	1,1,1,2-Tetrachloroethane	5.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,1,1-Trichloroethane	8000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1,2,2-Tetrachloroethane	0.76		ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,1,2-Trichloroethane	**0.41**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,1-Dichloroethane	28		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1-Dichloroethene	280		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1-Dichloropropene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,3-Trichlorobenzene	7.0		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,3-Trichloropropane	**0.0075**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,2,4-Trichlorobenzene	4.0		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,4-Trimethylbenzene	**15**		ug/L	**72.2**		ND (0.5)	
SW8260B	1,2-Dibromo-3-chloropropane			ug/L	ND (5.0)		ND (5.0)	
SW8260B	1,2-Dibromoethane	**0.075**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,2-Dichlorobenzene	300		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2-Dichloroethane	1.7		ug/L	0.180	J	ND (0.25)	
SW8260B	1,2-Dichloropropane	4.4		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,3,5-Trimethylbenzene	**120**		ug/L	33.4		ND (0.5)	
SW8260B	1,3-Dichlorobenzene	300		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,3-Dichloropropane			ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,4-Dichlorobenzene	4.8		ug/L	ND (0.25)		ND (0.25)	
SW8260B	2,2-Dichloropropane			ug/L	ND (0.5)		ND (0.5)	
SW8260B	2-Butanone (MEK)	5600		ug/L	ND (5.0)		ND (5.0)	
SW8260B	2-Chlorotoluene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	2-Hexanone	38		ug/L	ND (5.0)		ND (5.0)	
SW8260B	4-Chlorotoluene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	4-Isopropyltoluene			ug/L	0.450	J	ND (0.5)	
SW8260B	4-Methyl-2-pentanone (MIBK)	6300		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Benzene	**4.6**		ug/L	**159**		ND (0.2)	
SW8260B	Bromobenzene	62		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromochloromethane			ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromodichloromethane	1.3		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Bromoform	33		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromomethane	7.5		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Carbon disulfide	810		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Carbon tetrachloride	4.6		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Chlorobenzene	78		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Chloroethane	21000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Chloroform	2.2		ug/L	0.700	J	ND (0.5)	
SW8260B	Chloromethane	190		ug/L	ND (0.5)		ND (0.5)	UB
SW8260B	cis-1,2-Dichloroethene	36		ug/L	ND (0.5)		ND (0.5)	
SW8260B	cis-1,3-Dichloropropene	4.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Dibromochloromethane	8.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Dibromomethane	8.3		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Dichlorodifluoromethane	**200**		ug/L	0.460	J	ND (0.5)	
SW8260B	Ethylbenzene	**15**		ug/L	**155**		ND (0.5)	
SW8260B	Freon-113			ug/L	ND (5.0)		ND (5.0)	
SW8260B	Hexachlorobutadiene	1.4		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Isopropylbenzene (Cumene)	450		ug/L	7.05		ND (0.5)	
SW8260B	Methylene chloride	110		ug/L	ND (2.5)		ND (2.5)	
SW8260B	Methyl-t-butyl ether	140		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Naphthalene	**1.7**		ug/L	**ND (5.0)**		**ND (5.0)**	
SW8260B	n-Butylbenzene	1000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	n-Propylbenzene	660		ug/L	12.2		ND (0.5)	
SW8260B	o-Xylene			ug/L	2.69		ND (0.5)	
SW8260B	P & M -Xylene			ug/L	180		ND (1.0)	
SW8260B	sec-Butylbenzene	2000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Styrene	1200		ug/L	ND (0.5)		ND (0.5)	
SW8260B	tert-Butylbenzene	690		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Tetrachloroethene	41		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Toluene	1100		ug/L	1.64		ND (0.5)	
SW8260B	trans-1,2-Dichloroethene	360		ug/L	ND (0.5)		ND (0.5)	
SW8260B	trans-1,3-Dichloropropene	4.7		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Trichloroethene	2.8		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Trichlorofluoromethane	5200		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Vinyl acetate	410		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Vinyl chloride	**0.19**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	Xylenes (total)	**190**		ug/L	182		ND (1.5)	
[calculated]	Total Aromatic Hydrocarbons		**10**	ug/L	**497.64**		ND (2.7)	
8270D SIM LV (PAH)	1-Methylnaphthalene	**11**		ug/L	0.619		0.0629	
8270D SIM LV (PAH)	2-Methylnaphthalene	**36**		ug/L	0.565		0.0589	
8270D SIM LV (PAH)	Acenaphthene	530		ug/L	ND (0.0254)		ND (0.02695)	
8270D SIM LV (PAH)	Acenaphthylene	260		ug/L	ND (0.0254)		ND (0.02695)	
8270D SIM LV (PAH)	Anthracene	43		ug/L	ND (0.0254)		ND (0.02695)	
8270D SIM LV (PAH)	Benzo(a)Anthracene	0.12		ug/L	ND (0.0254)		ND (0.02695)	
8270D SIM LV (PAH)	Benzo[a]pyrene	0.034		ug/L	ND (0.01015)	U-JM	ND (0.0108)	U-JM
8270D SIM LV (PAH)	Benzo[b]Fluoranthene	0.34		ug/L	ND (0.0254)	U-JM	ND (0.02695)	U-JM
8270D SIM LV (PAH)	Benzo[g,h,i]perylene	0.26		ug/L	ND (0.0254)	U-JM	ND (0.02695)	U-JM
8270D SIM LV (PAH)	Benzo[k]fluoranthene	0.80		ug/L	ND (0.0254)	U-JM	ND (0.02695)	U-JM
8270D SIM LV (PAH)	Chrysene	2.0		ug/L	ND (0.0254)		ND (0.02695)	
8270D SIM LV (PAH)	Dibenzo[a,h]anthracene	0.034		ug/L	ND (0.01015)	U-JM	ND (0.0108)	U-JM
8270D SIM LV (PAH)	Fluoranthene	260		ug/L	ND (0.0254)		ND (0.02695)	
8270D SIM LV (PAH)	Fluorene	290		ug/L	ND (0.0254)		ND (0.02695)	
8270D SIM LV (PAH)	Indeno[1,2,3-c,d] pyrene	0.19		ug/L	ND (0.0254)	U-JM	ND (0.02695)	U-JM
8270D SIM LV (PAH)	Naphthalene	**1.7**		ug/L	1.09		ND (0.054)	
8270D SIM LV (PAH)	Phenanthrene	170		ug/L	ND (0.0254)		ND (0.02695)	
8270D SIM LV (PAH)	Pyrene	120		ug/L	ND (0.0254)		ND (0.02695)	
[calculated]	Total Aqueous Hydrocarbons		15	ug/L	**500.26**		3.25	

TABLE 1 GROUNDWATER SAMPLE ANALYTICAL RESULTS
NSB POINT LAY KALI SCHOOL
2016 SITE CHARACTERIZATION REPORT ADDENDUM

				Location ID	MW-SO-L4		MW-SO-Q3	
				Sample ID	16-PLK2-MW-SO-L4		16-PLK2-MW-SO-Q3	
				Sample Type	N		N	
				Sample Date	8/18/2016		8/17/2016	
				Parent Sample ID				
				Matrix	WG		WG	
Method	Chemical Name	**ADEC CL WG**	**AWQS**	Unit	Result	Lab Quals	Result	Lab Quals
AK101	Gasoline Range Organics	**2.2**		mg/L	0.0833	J	**2.22**	**JS**
AK102/103 LV	Diesel Range Organics	**1.5**		mg/L	1.17		**11.8**	
AK102/103 LV	Residual Range Organics	**1.1**		mg/L	0.544	J	**1.80**	**B**
SW8260B	1,1,1,2-Tetrachloroethane	5.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,1,1-Trichloroethane	8000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1,2,2-Tetrachloroethane	0.76		ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,1,2-Trichloroethane	**0.41**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,1-Dichloroethane	28		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1-Dichloroethene	280		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,1-Dichloropropene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,3-Trichlorobenzene	7.0		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,3-Trichloropropane	**0.0075**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,2,4-Trichlorobenzene	4.0		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2,4-Trimethylbenzene	**15**		ug/L	ND (0.5)		**464**	
SW8260B	1,2-Dibromo-3-chloropropane			ug/L	ND (5.0)		ND (5.0)	
SW8260B	1,2-Dibromoethane	**0.075**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	1,2-Dichlorobenzene	300		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,2-Dichloroethane	1.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,2-Dichloropropane	4.4		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,3,5-Trimethylbenzene	**120**		ug/L	ND (0.5)		**128**	
SW8260B	1,3-Dichlorobenzene	300		ug/L	ND (0.5)		ND (0.5)	
SW8260B	1,3-Dichloropropane			ug/L	ND (0.25)		ND (0.25)	
SW8260B	1,4-Dichlorobenzene	4.8		ug/L	ND (0.25)		ND (0.25)	
SW8260B	2,2-Dichloropropane			ug/L	ND (0.5)		ND (0.5)	
SW8260B	2-Butanone (MEK)	5600		ug/L	26.3		97.1	
SW8260B	2-Chlorotoluene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	2-Hexanone	38		ug/L	ND (5.0)		7.44	J
SW8260B	4-Chlorotoluene			ug/L	ND (0.5)		ND (0.5)	
SW8260B	4-Isopropyltoluene			ug/L	ND (0.5)		21.6	
SW8260B	4-Methyl-2-pentanone (MIBK)	6300		ug/L	ND (5.0)		4.49	J
SW8260B	Benzene	**4.6**		ug/L	ND (0.2)		**19.5**	
SW8260B	Bromobenzene	62		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromochloromethane			ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromodichloromethane	1.3		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Bromoform	33		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Bromomethane	7.5		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Carbon disulfide	810		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Carbon tetrachloride	4.6		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Chlorobenzene	78		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Chloroethane	21000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Chloroform	2.2		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Chloromethane	190		ug/L	ND (0.5)		ND (0.5)	
SW8260B	cis-1,2-Dichloroethene	36		ug/L	ND (0.5)		ND (0.5)	
SW8260B	cis-1,3-Dichloropropene	4.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Dibromochloromethane	8.7		ug/L	ND (0.25)		ND (0.25)	
SW8260B	Dibromomethane	8.3		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Dichlorodifluoromethane	**200**		ug/L	ND (0.5)		**459**	
SW8260B	Ethylbenzene	**15**		ug/L	ND (0.5)		**110**	
SW8260B	Freon-113			ug/L	ND (5.0)		ND (5.0)	
SW8260B	Hexachlorobutadiene	1.4		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Isopropylbenzene (Cumene)	450		ug/L	ND (0.5)		35.1	
SW8260B	Methylene chloride	110		ug/L	ND (2.5)		ND (2.5)	
SW8260B	Methyl-t-butyl ether	140		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Naphthalene	**1.7**		ug/L	**ND (5.0)**		**515**	
SW8260B	n-Butylbenzene	1000		ug/L	ND (0.5)		ND (0.5)	
SW8260B	n-Propylbenzene	660		ug/L	ND (0.5)		69.9	
SW8260B	o-Xylene			ug/L	ND (0.5)		304	
SW8260B	P & M -Xylene			ug/L	ND (1.0)		502	
SW8260B	sec-Butylbenzene	2000		ug/L	ND (0.5)		25.2	
SW8260B	Styrene	1200		ug/L	ND (0.5)		ND (0.5)	
SW8260B	tert-Butylbenzene	690		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Tetrachloroethene	41		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Toluene	1100		ug/L	56.2		327	
SW8260B	trans-1,2-Dichloroethene	360		ug/L	ND (0.5)		ND (0.5)	
SW8260B	trans-1,3-Dichloropropene	4.7		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Trichloroethene	2.8		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Trichlorofluoromethane	5200		ug/L	ND (0.5)		ND (0.5)	
SW8260B	Vinyl acetate	410		ug/L	ND (5.0)		ND (5.0)	
SW8260B	Vinyl chloride	**0.19**		ug/L	**ND (0.5)**		**ND (0.5)**	
SW8260B	Xylenes (total)	**190**		ug/L	ND (1.5)		**806**	
[calculated]	Total Aromatic Hydrocarbons		**10**	ug/L	**58.4**		**1262.5**	
8270D SIM LV (PAH)	1-Methylnaphthalene	**11**		ug/L	ND (0.02605)	U-JS	**113**	**JS**
8270D SIM LV (PAH)	2-Methylnaphthalene	**36**		ug/L	ND (0.02605)	U-JS	**136**	**JS**
8270D SIM LV (PAH)	Acenaphthene	530		ug/L	ND (0.02605)	U-JS	0.383	JS
8270D SIM LV (PAH)	Acenaphthylene	260		ug/L	ND (0.02605)	U-JS	0.258	JS
8270D SIM LV (PAH)	Anthracene	43		ug/L	ND (0.02605)	U-JS	ND (0.02715)	U-JS
8270D SIM LV (PAH)	Benzo(a)Anthracene	0.12		ug/L	ND (0.02605)	U-JS	ND (0.02715)	U-JS
8270D SIM LV (PAH)	Benzo[a]pyrene	0.034		ug/L	ND (0.0104)	U-JM,S	ND (0.01085)	U-JM,S
8270D SIM LV (PAH)	Benzo[b]Fluoranthene	0.34		ug/L	ND (0.02605)	U-JM,S	ND (0.02715)	U-JM,S
8270D SIM LV (PAH)	Benzo[g,h,i]perylene	0.26		ug/L	ND (0.02605)	U-JM,S	ND (0.02715)	U-JM,S
8270D SIM LV (PAH)	Benzo[k]fluoranthene	0.80		ug/L	ND (0.02605)	U-JM,S	ND (0.02715)	U-JM,S
8270D SIM LV (PAH)	Chrysene	2.0		ug/L	ND (0.02605)	U-JS	ND (0.02715)	U-JS
8270D SIM LV (PAH)	Dibenzo[a,h]anthracene	0.034		ug/L	ND (0.0104)	U-JM,S	ND (0.01085)	U-JM,S
8270D SIM LV (PAH)	Fluoranthene	260		ug/L	ND (0.02605)	U-JS	ND (0.02715)	U-JS
8270D SIM LV (PAH)	Fluorene	290		ug/L	ND (0.02605)	U-JS	0.456	JS
8270D SIM LV (PAH)	Indeno[1,2,3-c,d] pyrene	0.19		ug/L	ND (0.02605)	U-JM,S	ND (0.02715)	U-JM,S
8270D SIM LV (PAH)	Naphthalene	**1.7**		ug/L	ND (0.052)	U-JS	**199**	**JS**
8270D SIM LV (PAH)	Phenanthrene	170		ug/L	ND (0.02605)	U-JS	0.0721	JS
8270D SIM LV (PAH)	Pyrene	120		ug/L	ND (0.02605)	U-JS	ND (0.02715)	U-JS
[calculated]	Total Aqueous Hydrocarbons		15	ug/L	**58.86**		**1711.94**	

TABLE 1 GROUNDWATER SAMPLE ANALYTICAL RESULTS
NSB POINT LAY KALI SCHOOL
2016 SITE CHARACTERIZATION REPORT ADDENDUM

				Location ID		
				Sample ID	TRIPBLANK-06	
				Sample Type	TB	
				Sample Date	8/17/2016	
				Parent Sample ID		
				Matrix	WG	
Method	Chemical Name	**ADEC CL WG**	**AWQS**	Unit	Result	Lab Quals
AK101	Gasoline Range Organics	**2.2**		mg/L	ND (0.05)	
AK102/103 LV	Diesel Range Organics	**1.5**		mg/L		
AK102/103 LV	Residual Range Organics	**1.1**		mg/L		
SW8260B	1,1,1,2-Tetrachloroethane	5.7		ug/L	ND (0.25)	
SW8260B	1,1,1-Trichloroethane	8000		ug/L	ND (0.5)	
SW8260B	1,1,2,2-Tetrachloroethane	0.76		ug/L	ND (0.25)	
SW8260B	1,1,2-Trichloroethane	**0.41**		ug/L	**ND (0.5)**	
SW8260B	1,1-Dichloroethane	28		ug/L	ND (0.5)	
SW8260B	1,1-Dichloroethene	280		ug/L	ND (0.5)	
SW8260B	1,1-Dichloropropene			ug/L	ND (0.5)	
SW8260B	1,2,3-Trichlorobenzene	7.0		ug/L	ND (0.5)	
SW8260B	1,2,3-Trichloropropane	**0.0075**		ug/L	**ND (0.5)**	
SW8260B	1,2,4-Trichlorobenzene	4.0		ug/L	ND (0.5)	
SW8260B	1,2,4-Trimethylbenzene	**15**		ug/L	ND (0.5)	
SW8260B	1,2-Dibromo-3-chloropropane			ug/L	ND (5.0)	
SW8260B	1,2-Dibromoethane	**0.075**		ug/L	**ND (0.5)**	
SW8260B	1,2-Dichlorobenzene	300		ug/L	ND (0.5)	
SW8260B	1,2-Dichloroethane	1.7		ug/L	ND (0.25)	
SW8260B	1,2-Dichloropropane	4.4		ug/L	ND (0.5)	
SW8260B	1,3,5-Trimethylbenzene	**120**		ug/L	ND (0.5)	
SW8260B	1,3-Dichlorobenzene	300		ug/L	ND (0.5)	
SW8260B	1,3-Dichloropropane			ug/L	ND (0.25)	
SW8260B	1,4-Dichlorobenzene	4.8		ug/L	ND (0.25)	
SW8260B	2,2-Dichloropropane			ug/L	ND (0.5)	
SW8260B	2-Butanone (MEK)	5600		ug/L	ND (5.0)	
SW8260B	2-Chlorotoluene			ug/L	ND (0.5)	
SW8260B	2-Hexanone	38		ug/L	ND (5.0)	
SW8260B	4-Chlorotoluene			ug/L	ND (0.5)	
SW8260B	4-Isopropyltoluene			ug/L	ND (0.5)	
SW8260B	4-Methyl-2-pentanone (MIBK)	6300		ug/L	ND (5.0)	
SW8260B	Benzene	**4.6**		ug/L	ND (0.2)	
SW8260B	Bromobenzene	62		ug/L	ND (0.5)	
SW8260B	Bromochloromethane			ug/L	ND (0.5)	
SW8260B	Bromodichloromethane	1.3		ug/L	ND (0.25)	
SW8260B	Bromoform	33		ug/L	ND (0.5)	
SW8260B	Bromomethane	7.5		ug/L	ND (5.0)	
SW8260B	Carbon disulfide	810		ug/L	ND (5.0)	
SW8260B	Carbon tetrachloride	4.6		ug/L	ND (0.5)	
SW8260B	Chlorobenzene	78		ug/L	ND (0.25)	
SW8260B	Chloroethane	21000		ug/L	ND (0.5)	
SW8260B	Chloroform	2.2		ug/L	ND (0.5)	
SW8260B	Chloromethane	190		ug/L	0.500	J
SW8260B	cis-1,2-Dichloroethene	36		ug/L	ND (0.5)	
SW8260B	cis-1,3-Dichloropropene	4.7		ug/L	ND (0.25)	
SW8260B	Dibromochloromethane	8.7		ug/L	ND (0.25)	
SW8260B	Dibromomethane	8.3		ug/L	ND (0.5)	
SW8260B	Dichlorodifluoromethane	**200**		ug/L	ND (0.5)	
SW8260B	Ethylbenzene	**15**		ug/L	ND (0.5)	
SW8260B	Freon-113			ug/L	ND (5.0)	
SW8260B	Hexachlorobutadiene	1.4		ug/L	ND (0.5)	
SW8260B	Isopropylbenzene (Cumene)	450		ug/L	ND (0.5)	
SW8260B	Methylene chloride	110		ug/L	ND (2.5)	
SW8260B	Methyl-t-butyl ether	140		ug/L	ND (5.0)	
SW8260B	Naphthalene	**1.7**		ug/L	**ND (5.0)**	
SW8260B	n-Butylbenzene	1000		ug/L	ND (0.5)	
SW8260B	n-Propylbenzene	660		ug/L	ND (0.5)	
SW8260B	o-Xylene			ug/L	ND (0.5)	
SW8260B	P & M -Xylene			ug/L	ND (1.0)	
SW8260B	sec-Butylbenzene	2000		ug/L	ND (0.5)	
SW8260B	Styrene	1200		ug/L	ND (0.5)	
SW8260B	tert-Butylbenzene	690		ug/L	ND (0.5)	
SW8260B	Tetrachloroethene	41		ug/L	ND (0.5)	
SW8260B	Toluene	1100		ug/L	ND (0.5)	
SW8260B	trans-1,2-Dichloroethene	360		ug/L	ND (0.5)	
SW8260B	trans-1,3-Dichloropropene	4.7		ug/L	ND (0.5)	
SW8260B	Trichloroethene	2.8		ug/L	ND (0.5)	
SW8260B	Trichlorofluoromethane	5200		ug/L	ND (0.5)	
SW8260B	Vinyl acetate	410		ug/L	ND (5.0)	
SW8260B	Vinyl chloride	**0.19**		ug/L	**ND (0.5)**	
SW8260B	Xylenes (total)	**190**		ug/L	ND (1.5)	
[calculated]	Total Aromatic Hydrocarbons		**10**	ug/L		
8270D SIM LV (PAH)	1-Methylnaphthalene	**11**		ug/L		
8270D SIM LV (PAH)	2-Methylnaphthalene	**36**		ug/L		
8270D SIM LV (PAH)	Acenaphthene	530		ug/L		
8270D SIM LV (PAH)	Acenaphthylene	260		ug/L		
8270D SIM LV (PAH)	Anthracene	43		ug/L		
8270D SIM LV (PAH)	Benzo(a)Anthracene	0.12		ug/L		
8270D SIM LV (PAH)	Benzo[a]pyrene	0.034		ug/L		
8270D SIM LV (PAH)	Benzo[b]Fluoranthene	0.34		ug/L		
8270D SIM LV (PAH)	Benzo[g,h,i]perylene	0.26		ug/L		
8270D SIM LV (PAH)	Benzo[k]fluoranthene	0.80		ug/L		
8270D SIM LV (PAH)	Chrysene	2.0		ug/L		
8270D SIM LV (PAH)	Dibenzo[a,h]anthracene	0.034		ug/L		
8270D SIM LV (PAH)	Fluoranthene	260		ug/L		
8270D SIM LV (PAH)	Fluorene	290		ug/L		
8270D SIM LV (PAH)	Indeno[1,2,3-c,d] pyrene	0.19		ug/L		
8270D SIM LV (PAH)	Naphthalene	**1.7**		ug/L		
8270D SIM LV (PAH)	Phenanthrene	170		ug/L		
8270D SIM LV (PAH)	Pyrene	120		ug/L		
[calculated]	Total Aqueous Hydrocarbons		15	ug/L		

FIGURES

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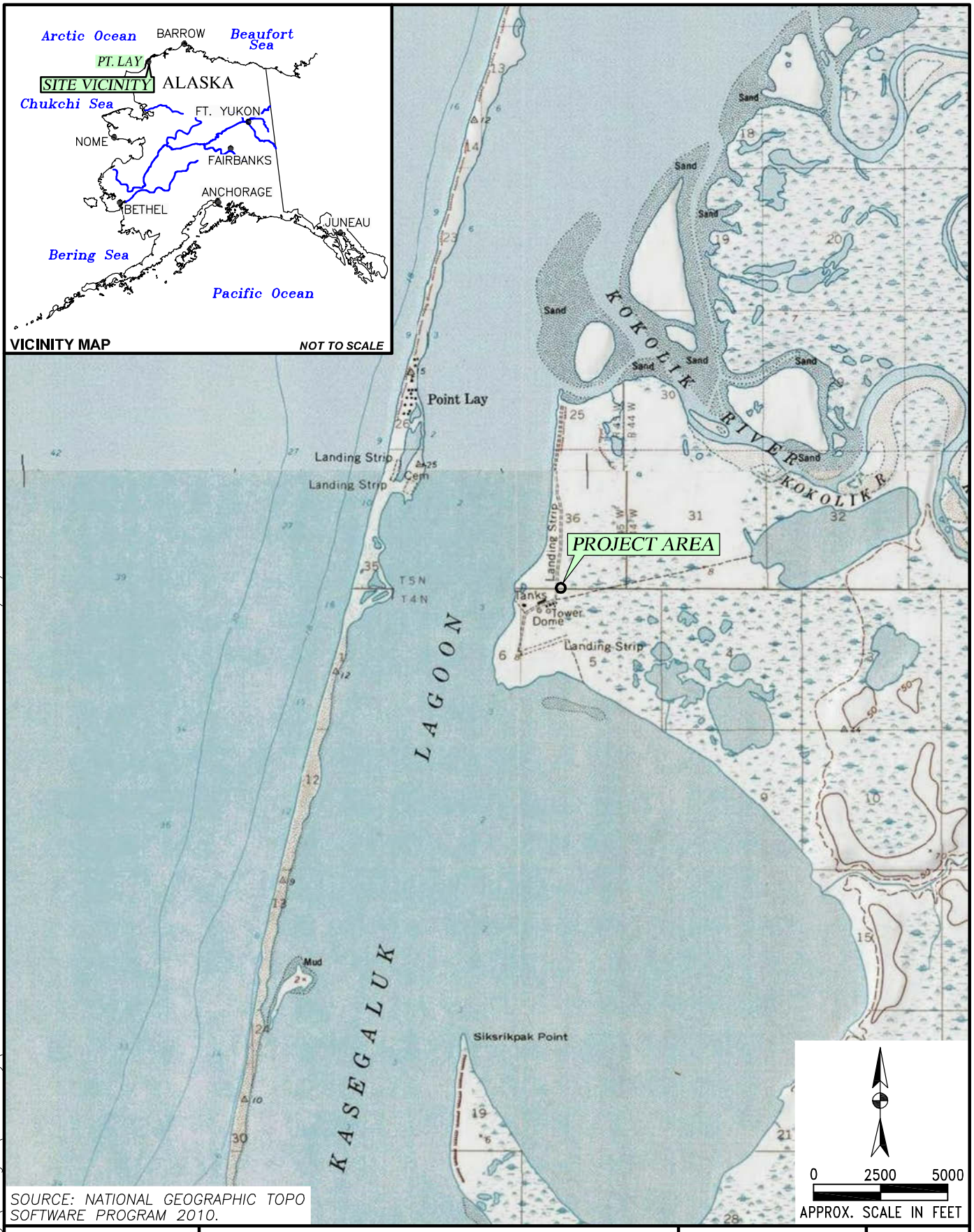

PATH: 2017 Dwgs\17 Agvik\17 Pt Lay\4422 KALI SCRA FILE: 4422-KALI-SCRA-F1.DWG PLOTTED: 1/23/17.

DATE: JANUARY 2017
CHKD: G.M.B.
DRAWN: C.E.H.
PROJ. No.: 4422

SITE LOCATION MAP

NSB POINT LAY – KALI SCHOOL
SITE CHARACTERIZATION REPORT ADDENDUM
Point Lay, Alaska

AGVIO
AGVIO ENVIRONMENTAL SERVICES
301 W. Northern Lights Ave., Suite 660
Anchorage, Alaska 99503

FIGURE
1

SOURCE: GOOGLE EARTH PRO.
PHOTO DATED 8/2006.

PATH: 2017 Dwgs\17 Agvik\17 Pt Lay\4422 KALI SCRA FILE: 4422-KALI-SCRA-F2.DWG PLOTTED: 1/23/17.

DATE: JANUARY 2017
CHKD: G.M.B.
DRAWN: C.E.H.
PROJ. No.: 4422

SITE MAP

NSB POINT LAY – KALI SCHOOL
SITE CHARACTERIZATION REPORT ADDENDUM
Point Lay, Alaska

AGVIO
AGVIO ENVIRONMENTAL SERVICES
301 W. Northern Lights Ave., Suite 660
Anchorage, Alaska 99503

FIGURE
2

SUPRA-PERMAFROST GROUNDWATER ELEVATION (AUG.17, 2016)					
Well	Well Total Depth	Top of Casing (TOC) Elevation	Depth of Groundwater below TOC	Date Measured	Calculated Groundwater Elevation
MW-04	7.7	12.57	3.46	8/17/2016	9.11
MW-05	5.8	13.5	3.87	8/17/2016	9.63
MW-SO-Q3	3.55	13.08	2.51	8/17/2016	10.57

TUTTUNNIAGVIK STREET

QUIALIK AVENUE

MW-04 (9.11)

DMS AREA

PUBLIC SAFETY OFFICE

GRO 2.22
DRO 11.8
RRO 1.80
B 19.5
E 110
X 806
4TMB 464
5TMB 128
DCDF 459
1MNT 113
2MNT 136
NAP 199
TAH 1,262.5
TAqH 1,711.94

TAH 58.4
TAqH 58.86

MW-SO-L4

MW-01

MW-SO-F8

RRO 1.76
TAH 10.02

PLAYGROUND

MW-SO-Q3 (10.57)

MW-05 (9.63)

WASHETERIA

MW-SO-F2

B 159
E 155
4TMB 72.2
TAH 497.64
TAqH 500.26

MW-SO-J2

KALI SCHOOL

DCDF 536
TAH 174.8
TAqH 175.72

MW-02

MW-03

0 50 100
APPROX. SCALE IN FEET

LEGEND

MW-05	MONITORING WELL LOCATION
MW-XX	MONITORING WELL – SAMPLED
MW-XX	MONITORING WELL – COULD NOT BE LOCATED
(9.63)	GROUNDWATER ELEVATION IN FEET
→	GROUNDWATER FLOW DIRECTION (8/17/16)

ANALYTES AND CLEANUP LEVELS

GRO	GASOLINE RANGE ORGANICS [2.2] (mg/L)
DRO	DIESEL RANGE ORGANICS [1.5] (mg/L)
RRO	RESIDUAL RANGE ORGANICS [1.1] (mg/L)
B	BENZENE [4.6] (ug/L)
E	ETHYLBENZENE [15] (ug/L)
X	XYLENES [290] (ug/L)
4TMB	1,2,4–TRIMETHYLBENZENE [15] (ug/L)
5TMB	1,3,5–TRIMETHYLBENZENE [120] (ug/L)
DCDF	DICHLORODIFLUOROMETHANE [200] (ug/L)
1MNT	1–METHYLNAPHTHALENE [11] (ug/L)
2MNT	2–METHYLNAPHTHALENE [36] (ug/L)
NAP	NAPHTHLENE [1.7] (ug/L)
TAH	TOTAL AROMATIC HYDROCARBONS [10] (ug/L)
TAqH	TOTAL AQUEOUS HYDROCARBONS [15] (ug/L)
[#]	INDICATES ANALYTE CLEANUP LEVELS

NOTES:
1. SEE TABLE 1 IN THIS REPORT FOR ALL GROUNDWATER ANALYTICAL RESULTS.
2. MUST BE PRINTED IN COLOR.

SOURCE: AEROMETRIC PHOTO OF POINT LAY. ROLL #EXD171/ EXP#5–8 DATED 8/21/13.

FIGURE 3

AGVIQ ACVIQ ENVIRONMENTAL SERVICES
301 W. Northern Lights Ave, Suite 660
Anchorage, Alaska 99503

ADEC EXCEEDANCES FOR GROUNDWATER

NSB POINT LAY – KALI SCHOOL
SITE CHARACTERIZATION REPORT ADDENDUM
Point Lay, Alaska

DATE: MARCH 2017
CHKD: G.M.B.
DRAWN: C.E.H.
PROJ. No.: 4422

PATH: 2017 Dwgs\17 Agvik\17 Pt Lay\4422 KALI SCRA FILE: 4422–KALI–SCRA–F3.DWG PLOTTED: 3/21/17.

APPENDIX A: FIELD NOTES AND DATA SHEETS

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Location Point Lay, Ak Date 8-16-16

Project / Client 4421 / NSB WSA

1655 set up at SW-03
1700 collect sample 16-PLWSA2-SW-03
1710 set up at SW-02
1720 collect sample 16-PLWSA2-SW-02
1730 set up at SW-01
1740 collect sample 16-PLWSA2-SW-01
1800 offsite

Rena Klint

2 of 2

Location Point Lay, Ak Date 8-17-16

Project / Client 4431 / 4422 / NSB TTLA Kali School

0700 calibrate YSI. See Cal. log.
0715 conduct tailgate safety mtg. Topics: kids, teachers, workers safety at school. Timing at Kali School wells near playground and in areas needing traffic control.
Sign: Rena Klint Rena Klint
0830 set up at TTLA SW-01
0840 collect 16-PLTTLA2-SW-01
0850 set up at TTLA SW-02
0855 collect 16-PLTTLA2-SW-02
0900 collect 16-PLTTLA2-SWX-01
0915 set up at Kali MW-04
1005 collect 16-PLK2-MW-04 MS/MSD
1055 GAC 2 gals
1100 set up at Kali MW-05
1145 collect 16-PLK2-MW-05
1210 GAC 0.75 gals
1300 talk to Kali School maintenance office: Steve
1315 set up at MW-SO-J2
1345 collect sample 16-PLK2-MW-SO-J2

Rena Klint

1 of 2

Location Point Lay, AK Date 8-17-16

Project / Client 4422 / NSB
Kali School

1405 set up at kali MW-SO Q3
1730 collect 16-PLK2-MW-SO-Q3
MW-SO-J2 & MW-SO-Q3 slow to no recharge, leave & come back
1535 set up at kali MW-01
1635 collect 16-PLK2-MW-01
1645 collect duplicate 16-PLK2-MWX-01
1720 go back to dry wells. See above. collect full sample at Q3 & partial sample at J2
1830 GAC 4 gals, offsite

Remtech

2 of 2

Location Point Lay, AK Date 8-18-16

Project / Client 4422 / NSB
Kali School

0700 pack WSA & TTLA coolers for shipping to BRW, then Goldstreak to ANC
0830 calibrate YSI, conduct tailgate safety mtg
Topic: Weather. cold wind & rain take warmup & water breaks in truck to avoid frostnip & hypothermia
Sign: Rena Hint Remtech
SarahStone
0900 set up at MW-SO-L4 (kali)
1255 collect sample 16-PLK2-MW-SO-L4
1007 MW-SO-L4 drew down to dry
1015 set up at MW-02 (kali)
1115 collect sample 16-PLK2-MW-02
1130 collect duplicate sample 16-PLK2-MWX-02 @ MW-02
1215 GAC 1.5 gals
1330 set up at MW-03
1410 collect sample 16-PLK2-MW-03
1500 GAC 1.5 gals
1630 load 3 coolers on RAVN cargo ✍ Remtech ✍ it

Location Point Lay AK Date 8-9-16

Project / Client 4421 / 4422 / 4431 / NSB
WSA Kali TTLA

0830 pack Kali School coolers & demob equip
0930 Total gallons GAC'd in point Lay = 13 gals
Total Gallons = 49 gals
TRavel to BRW, YSI to Fairbanks, other equipment to BRW

Rental

1 of 1

Location _____ Date _____

Project / Client _____

Point Lay Kali School
GROUNDWATER SAMPLING FORM

AGVIQ

SAMPLER(S) NAME:	Flint / Stone	CLIENT:	NSB
WEATHER:	30's F sun	SITE NAME:	Kali School
SAMPLE ID ON COC:	16-PLK2-MW-01	DATE:	
PURGE METHOD:	peristaltic low flow	MONITORING WELL ID:	MW-01
SAMPLE METHOD:	peristaltic low flow	SHEET / OF	/
PRODUCT PRESENT:	No		
WATER LEVEL MEASURING DEVICE:	O/W interface	1 in = 0.083 ft; 2 in = 0.167 ft; 3 in = 0.25 ft; 4 in = 0.333 ft	
TYPE OF PUMP:	peristaltic	DIAMETER OF WELL:	0.167 (FT)
WELL INTEGRITY:	good, no monument	RADIUS OF WELL:	0.0835 (FT)
REQUIRED REPAIRS:	none	TOTAL DEPTH OF WELL BELOW MEASURING POINT:	6.77 (FT)
PUMP INTAKE DEPTH:	4	DEPTH TO GW BELOW MEASURING POINT	3.70 (FT)
Stick up, no monument		LENGTH OF WATER COLUMN (L): (D-d)=	(FT)
		VOLUME OF WATER COLUMN (V): (3.14XRxRxL)	(CUBIC FT)
		WELL VOLUME: (7.48xV)= (GAL) X3=	(GAL)
		Minimum Purge Volume	Maximum Purge Volume

Note: Groundwater volumes above were calculated in the field and used for appoximate purge volumes; rounded values are shown for informational purposes only.

TIME (1200)	VOL. (GAL)	WATER LEVEL (ft BTOC)	TEMP (deg C)	Conductivity (mS/cm)	DO (mg/L)	pH (pH)	ORP (Mv)	TURBIDITY (NTU)	VISUAL APPEARANCE OF WATER	STABILIZED (YES/NO) (1)
1556			7.13	0.741	6.24	6.25	36.2	Clear	Clear	N
1601			6.67	0.741	6.33	5.82	53.3	Clear	Clear	N
1606			6.54	0.793	5.71	6.88	33.0	Clear	Clear	N
1611		5.11	6.39	0.838	4.37	5.95	18.2	Clear	Clear	N
1616		5.13	6.65	0.862	3.38	6.08	3.7	Clear	Clear	N
1621			6.87	0.884	2.95	6.17	-6.3	Clear	Clear	N
1626			6.80	0.898	2.60	6.18	-10.9	Clear	Clear	N
1631			6.74	0.907	2.38	6.18	-13.3	Clear	Clear	Y

d = Depth to water D = Total depth

(1) STABILIZATION is achieved when three (3) consecutive readings of pH, conductivity, and either turbidity or DO collected in 3-5 minute intervals meet the following criteria

- ±0.1 standard units for pH
- ±10% for temperature
- ±3% for specific conductance (conductivity)
- ±10 mV for ORP or ±10% if between -100 mV and +100 mV
- ±10% for DO > 0.50 mg/L. Three DO readings < 0.50 mg/L can be considered stabile.
- ±10% for turbidity > 10 ntu. Three turbidity readings < 10 NTU can be considered stabile.

PURGE UNTIL PARAMETER STABILIZATION or UNTIL 3 WELL VOLUMES ARE REMOVED

TOTAL VOLUME PURGED:	(GAL)	FLOW RATE (desired range is 100 to 500 mL/min):	120
SAMPLE TIME:	8-17-16 1635		
QC SAMPLES COLLECTED:	duplicate 16-PLK2-MWX-01 1645		
FIELD TESTS:	Mn2+ = 0	Sulfide = 0	Fe2+ = 0

ANALYSIS FOR OFF-SITE LABORATORY (Fill in number of bottles collected)

VOCs (SW8260B) _____ GRO (AK101) _____

PAHs (SW8270D (SIM) _____ DRO/RRO (AK102/AK103) _____

COMMENTS:

8-17-16 set up 1525, purge low flow 120 mL/min, drawdown 100 mL/min, parameters stabilize, collect sample 16-PLK2-MW-01 @ 1635, collect duplicate 16-PLK2-MWX-01 @ 1645

Point Lay Kali School
GROUNDWATER SAMPLING FORM

AGVIQ

SAMPLER(S) NAME:	Clint / Stone	CLIENT:	NSB
WEATHER:	30s E, ~~SW~~ wind, overcast, rain	SITE NAME:	Kali school
SAMPLE ID ON COC:	16-PLK2-MW-02	DATE:	8-18-16
PURGE METHOD:	peristaltic low flow	MONITORING WELL ID:	MW-02
SAMPLE METHOD:	peristaltic low flow	SHEET	1 OF 1
PRODUCT PRESENT:	NO		
WATER LEVEL MEASURING DEVICE:	O/W interface	1 in = 0.083 ft; 2 in = 0.167 ft; 3 in = 0.25 ft; 4 in = 0.333 ft	
TYPE OF PUMP:	penstaltic	DIAMETER OF WELL:	0.167 (FT)
WELL INTEGRITY:	good	RADIUS OF WELL:	0.0835 (FT)
REQUIRED REPAIRS:	none	TOTAL DEPTH OF WELL BELOW MEASURING POINT:	3.5 (FT)
PUMP INTAKE DEPTH:	3	DEPTH TO GW BELOW MEASURING POINT	2.09 (FT)
		LENGTH OF WATER COLUMN (L): (D-d)=	(FT)
flush-mount		VOLUME OF WATER COLUMN (V): (3.14XRxRxL)	(CUBIC FT)
		WELL VOLUME: (7.48xV)= (GAL) X3=	(GAL)
		Minimum Purge Volume	Maximum Purge Volume

Note: Groundwater volumes above were calculated in the field and used for appoximate purge volumes; rounded values are shown for informational purposes only.

TIME (1200)	VOL. (GAL)	WATER LEVEL (ft BTOC)	TEMP (deg C)	Conductivity (mS/cm)	DO (mg/L)	pH pH	ORP (Mv)	TURBIDITY (NTU)	VISUAL APPEARANCE OF WATER	STABILIZED (YES/NO) (1)
1044	0.25	2.77	4.03	0.765	5.38	6.41	27.6	Clear	Clear	N
1049	0.25	2.80	3.97	0.867	4.11	5.93	43.4	Clear	Clear	N
1054	0.5	2.85	3.92	0.838	2.98	6.18	15.7	Clear	Clear	N
1059	0.5		3.94	0.869	2.40	6.26	0.8	Clear	Clear	N
1104	0.75	2.85	4.36	0.869	1.75	6.42	-19.5	Clear	Clear	N
1109	0.75	2.92	4.09	0.880	1.67	6.46	-24.9	Clear	Clear	N
1114	1		3.95	0.878	1.43	6.48	-28.7	Clear	Clear	N

d = Depth to water D = Total depth

(1) STABILIZATION is achieved when three (3) consecutive readings of pH, conductivity, and either turbidity or DO collected in 3-5 minute intervals meet the following criteria

- ±0.1 standard units for pH
- ±10% for temperature
- ±3% for specific conductance (conductivity)
- ±10 mV for ORP or ±10% if between -100 mV and +100 mV
- ±10% for DO > 0.50 mg/L. Three DO readings < 0.50 mg/L can be considered stabile.
- ±10% for turbidity > 10 ntu. Three turbidity readings < 10 NTU can be considered stabile.

PURGE UNTIL PARAMETER STABILIZATION or UNTIL 3 WELL VOLUMES ARE REMOVED

TOTAL VOLUME PURGED:	1 (GAL)	FLOW RATE (desired range is 100 to 500 mL/min):	120
SAMPLE TIME:	1115		
QC SAMPLES COLLECTED:	duplicate 16-PLK2-MWX-02 1130		
FIELD TESTS:	Mn2+ = 0	Sulfide = 0	Fe2+ = 0

ANALYSIS FOR OFF-SITE LABORATORY (Fill in number of bottles collected)

VOCs (SW8260B)	3/3	GRO (AK101)	3/3
PAHs (SW8270D (SIM)	2/2	DRO/RRO (AK102/AK103)	2/2

COMMENTS:

10 15 set up, purge low flow 120 mL/min, parameters stabilize, collect 16-PLK2-MW-02 @ 1115, collect duplicate 16-PLK2-MWX-02 @ 1130

Point Lay Kali School
GROUNDWATER SAMPLING FORM

AGVIQ

SAMPLER(S) NAME:	Flint/Stone	CLIENT:	NSB
WEATHER:	30sF, Sun windy overcast	SITE NAME:	Kali School
SAMPLE ID ON COC:	16-PLK2-MW-03	DATE:	8-18-16
PURGE METHOD:	peristaltic low flow	MONITORING WELL ID:	MW-03
SAMPLE METHOD:	peristaltic low flow	SHEET	1 OF 1
PRODUCT PRESENT:	NO		
WATER LEVEL MEASURING DEVICE:	O/W interface	1 in = 0.083 ft; 2 in = 0.167 ft; 3 in = 0.25 ft; 4 in = 0.333 ft	
TYPE OF PUMP:	penstaltic	DIAMETER OF WELL:	0.167 (FT)
WELL INTEGRITY:	good	RADIUS OF WELL:	0.0835 (FT)
REQUIRED REPAIRS:	none	TOTAL DEPTH OF WELL BELOW MEASURING POINT:	6.15 (FT)
PUMP INTAKE DEPTH:	5'	DEPTH TO GW BELOW MEASURING POINT	4.47 (FT)
flush-mount		LENGTH OF WATER COLUMN (L): (D-d)=	(FT)
		VOLUME OF WATER COLUMN (V): (3.14XRxRxL)	(CUBIC FT)
		WELL VOLUME: (7.48xV)= (GAL) X3=	(GAL)
		Minimum Purge Volume	Maximum Purge Volume

Note: Groundwater volumes above were calculated in the field and used for appoximate purge volumes; rounded values are shown for informational purposes only.

TIME (1200)	VOL. (GAL)	WATER LEVEL (ft BTOC)	TEMP (deg C)	Conductivity (mS/cm)	DO (mg/L)	pH pH	ORP (Mv)	TURBIDITY (NTU)	VISUAL APPEARANCE OF WATER	STABILIZED (YES/NO) (1)
1352	0.25	5.13	5.53	0.811	3.36	6.49	28.3	clear	clear	N
1358	0.5	6.26	6.43	0.805	2.84	6.51	16.4	clear	clear	N
1403	0.7		5.21	0.815	2.80	6.51	14.1	clear	clear	Y

d = Depth to water D = Total depth

(1) STABILIZATION is achieved when three (3) consecutive readings of pH, conductivity, and either turbidity or DO collected in 3-5 minute intervals meet the following criteria

- ±0.1 standard units for pH
- ±10% for temperature
- ±3% for specific conductance (conductivity)
- ±10 mV for ORP or ±10% if between -100 mV and +100 mV
- ±10% for DO > 0.50 mg/L. Three DO readings < 0.50 mg/L can be considered stabile.
- ±10% for turbidity > 10 ntu. Three turbidity readings < 10 NTU can be considered stabile.

PURGE UNTIL PARAMETER STABILIZATION or UNTIL 3 WELL VOLUMES ARE REMOVED

TOTAL VOLUME PURGED:	1 (GAL)	FLOW RATE (desired range is 100 to 500 mL/min):	100
SAMPLE TIME:	1410		
QC SAMPLES COLLECTED:	0		
FIELD TESTS:	Mn2+ = 0	Sulfide = 0	Fe2+ = 0

ANALYSIS FOR OFF-SITE LABORATORY (Fill in number of bottles collected)

VOCs (SW8260B)	3	GRO (AK101)	3
PAHs (SW8270D (SIM)	2	DRO/RRO (AK102/AK103)	1

COMMENTS:

1330 setup / Purge low flow 100 mL/min / parameters stabilize collect sample 16-PLK2-MW-03 @ 1410

Point Lay Kali School
GROUNDWATER SAMPLING FORM

AGVIQ

SAMPLER(S) NAME:	Flint/Stone	CLIENT:	NSB
WEATHER:	30s F, partly cloudy	SITE NAME:	Kali School
SAMPLE ID ON COC:	16-PLK2-MW-04	DATE:	8-17-16
PURGE METHOD:	peristaltic low flow	MONITORING WELL ID:	MW-04
SAMPLE METHOD:	peristaltic low flow	SHEET	1 OF 1
PRODUCT PRESENT:	NO		
WATER LEVEL MEASURING DEVICE:	o/w interface	1 in = 0.083 ft; 2 in = 0.167 ft; 3 in = 0.25 ft; 4 in = 0.333 ft	
TYPE OF PUMP:	peristaltic	DIAMETER OF WELL:	0.167 (FT)
WELL INTEGRITY:	good, no monument	RADIUS OF WELL:	0.0835 (FT)
REQUIRED REPAIRS:	none	TOTAL DEPTH OF WELL BELOW MEASURING POINT:	7.7 (FT)
PUMP INTAKE DEPTH:	4	DEPTH TO GW BELOW MEASURING POINT	3.46 (FT)
Stick up, no monument		LENGTH OF WATER COLUMN (L): (D-d)=	(FT)
		VOLUME OF WATER COLUMN (V): (3.14XRxRxL)	(CUBIC FT)
		WELL VOLUME: (7.48xV)= (GAL) X3=	(GAL)
		Minimum Purge Volume	Maximum Purge Volume

Note: Groundwater volumes above were calculated in the field and used for appoximate purge volumes; rounded values are shown for informational purposes only.

TIME (1200)	VOL. (GAL)	WATER LEVEL (ft BTOC)	TEMP (deg C)	Conductivity (mS/cm)	DO (mg/L)	pH pH	ORP (Mv)	TURBIDITY (NTU)	VISUAL APPEARANCE OF WATER	STABILIZED (YES/NO) (1)
0933	0.25	3.67	5.31	0.734	2.88	5.66	2.3	Clear	Clear	N
0939	0.5	3.72	4.39	0.741	1.78	5.41	10.6	Clear	Clear	N
0944	0.75	3.72	4.20	0.744	1.46	5.51	7.4	Clear	Clear	N
0949	1		4.18	0.750	1.79	5.78	-9.9	Clear	Clear	N
0954	1.25	3.75	4.27	0.753	2.13	6.05	-22.2	Clear	Clear	N
0959			4.12	0.754	2.16	6.09	-25.7	Clear	Clear	N
1004	2		4.20	0.754	2.04	6.13	-29.6	Clear	Clear	Y

d = Depth to water D = Total depth

(1) STABILIZATION is achieved when three (3) consecutive readings of pH, conductivity, and either turbidity or DO collected in 3-5 minute intervals meet the following criteria

- ±0.1 standard units for pH
- ±10% for temperature
- ±3% for specific conductance (conductivity)
- ±10 mV for ORP or ±10% if between -100 mV and +100 mV
- ±10% for DO > 0.50 mg/L. Three DO readings < 0.50 mg/L can be considered stabile.
- ±10% for turbidity > 10 ntu. Three turbidity readings < 10 NTU can be considered stabile.

PURGE UNTIL PARAMETER STABILIZATION or UNTIL 3 WELL VOLUMES ARE REMOVED

TOTAL VOLUME PURGED:	2 (GAL)	FLOW RATE (desired range is 100 to 500 mL/min):	110
SAMPLE TIME:	8/17-16 1005		
QC SAMPLES COLLECTED:	MS/MSD		
FIELD TESTS: Mn2+ =	0	Sulfide = 0	Fe2+ = 0

ANALYSIS FOR OFF-SITE LABORATORY (Fill in number of bottles collected)

VOCs (SW8260B)	9	GRO (AK101)	7 (dropped 2)
PAHs (SW8270D (SIM)	6	DRO/RRO (AK102/AK103)	2 ← no MS/MSD

COMMENTS:

8-17-16 set up 0915, purge flow flow 110 mL/min, parameters stabilize, collect 16-PLK2-MW-04 MS/MSD

Pamtlay Kali School

GROUNDWATER SAMPLING FORM

AGVIQ

SAMPLER(S) NAME:	Flint/Stone	CLIENT:	NSB
WEATHER:	30s F, partly cloudy	SITE NAME:	Kali School
SAMPLE ID ON COC:	16-PLK2-MW-05	DATE:	8-17-16
PURGE METHOD:	peristaltic low flow	MONITORING WELL ID:	MW-05
SAMPLE METHOD:	peristaltic low flow	SHEET	1 OF 1
PRODUCT PRESENT:	No		
WATER LEVEL MEASURING DEVICE:	O/W interface	1 in = 0.083 ft; 2 in = 0.167 ft; 3 in = 0.25 ft; 4 in = 0.333 ft	
TYPE OF PUMP:	peristaltic	DIAMETER OF WELL:	0.167 (FT)
WELL INTEGRITY:	good	RADIUS OF WELL:	0.0835 (FT)
REQUIRED REPAIRS:	none	TOTAL DEPTH OF WELL BELOW MEASURING POINT:	5.8 (FT)
PUMP INTAKE DEPTH:	4	DEPTH TO GW BELOW MEASURING POINT	3.87 (FT)
	flush mount	LENGTH OF WATER COLUMN (L): (D-d)=	(FT)
		VOLUME OF WATER COLUMN (V): (3.14XRxRxL)	(CUBIC FT)
		WELL VOLUME: (7.48xV)= (GAL) X3=	(GAL)
		Minimum Purge Volume	Maximum Purge Volume

Note: Groundwater volumes above were calculated in the field and used for appoximate purge volumes; rounded values are shown for informational purposes only.

TIME (1200)	VOL. (GAL)	WATER LEVEL (ft BTOC)	TEMP (deg C)	Conductivity (mS/cm)	DO (mg/L)	pH pH	ORP (Mv)	TURBIDITY (NTU)	VISUAL APPEARANCE OF WATER	STABILIZED (YES/NO) (1)
1132	0.25	3.91	4.97	0.777	3.60	6.47	15.6	Clear	Clear	N
1137	0.5		4.97	0.776	2.27	6.53	8.4	Clear	Clear	N
1142	0.75		5.01	0.777	1.94	6.44	10.1	Clear	Clear	

d = Depth to water D = Total depth

(1) STABILIZATION is achieved when three (3) consecutive readings of pH, conductivity, and either turbidity or DO collected in 3-5 minute intervals meet the following criteria

- ±0.1 standard units for pH
- ±10% for temperature
- ±3% for specific conductance (conductivity)
- ±10 mV for ORP or ±10% if between -100 mV and +100 mV
- ±10% for DO > 0.50 mg/L. Three DO readings < 0.50 mg/L can be considered stabile.
- ±10% for turbidity > 10 ntu. Three turbidity readings < 10 NTU can be considered stabile.

PURGE UNTIL PARAMETER STABILIZATION or UNTIL 3 WELL VOLUMES ARE REMOVED

TOTAL VOLUME PURGED:	0.75 (GAL)	FLOW RATE (desired range is 100 to 500 mL/min):	135
SAMPLE TIME:	8-17-16 1145		
QC SAMPLES COLLECTED:	0		
FIELD TESTS:	Mn2+ = 0	Sulfide = 0	Fe2+ = 0

ANALYSIS FOR OFF-SITE LABORATORY (Fill in number of bottles collected)

VOCs (SW8260B)	3	GRO (AK101)	3
PAHs (SW8270D (SIM)	2	DRO/RRO (AK102/AK103)	2

COMMENTS:

8-17-17 Set up 1100, purge low flow 135 mL/min, parameters stabilize, collect sample 16-PLK2-MW-05@ 1145

Point Lay Kali School
GROUNDWATER SAMPLING FORM

AGVIQ

SAMPLER(S) NAME:	Flint / Stone	CLIENT:	NSB
WEATHER:	30s F, sun	SITE NAME:	Kali School
SAMPLE ID ON COC:	16-PLK2-MW-50-J2	DATE:	8-17-16
PURGE METHOD:	peristaltic low flow	MONITORING WELL ID:	MW-50-J2
SAMPLE METHOD:	peristaltic low flow	SHEET	1 OF 1
PRODUCT PRESENT:	No		
WATER LEVEL MEASURING DEVICE:	O/W interface	1 in = 0.083 ft; 2 in = 0.167 ft; 3 in = 0.25 ft; 4 in = 0.333 ft	
TYPE OF PUMP:	peristaltic	DIAMETER OF WELL:	0.167 (FT)
WELL INTEGRITY:	good	RADIUS OF WELL:	0.0835 (FT)
REQUIRED REPAIRS:	none	TOTAL DEPTH OF WELL BELOW MEASURING POINT:	6.45 (FT)
PUMP INTAKE DEPTH:	5	DEPTH TO GW BELOW MEASURING POINT	4.50 (FT)
flush mount		LENGTH OF WATER COLUMN (L): (D-d)=	(FT)
		VOLUME OF WATER COLUMN (V): (3.14XRxRxL)	(CUBIC FT)
		WELL VOLUME: (7.48xV)= (GAL) X3=	(GAL)
		Minimum Purge Volume	Maximum Purge Volume

Note: Groundwater volumes above were calculated in the field and used for appoximate purge volumes; rounded values are shown for informational purposes only.

TIME (1200)	VOL. (GAL)	WATER LEVEL (ft BTOC)	TEMP (deg C)	Conductivity (mS/cm)	DO (mg/L)	pH pH	ORP (Mv)	TURBIDITY (NTU)	VISUAL APPEARANCE OF WATER	STABILIZED (YES/NO) (1)
1320			6.30	0.762	3.46	6.47	54.6	Clear	Clear	N
1325		5.61	5.25	0.772	4.14	6.44	51.4	Clear	Clear	N
1331	0.25	6.06	5.47	0.769	3.95	6.29	47.2	Clear	Clear	Running dry - pump on/off
1338			5.53	0.767	2.44	6.42	43.8	Clear	Clear	Y
1343	0.5	6.44	6.36	0.784	~	ran dry	~			
		dried up during sampling, leave & come back								
1505		6.2	slow to no recharge							
1810		5.95								

d = Depth to water D = Total depth

(1) STABILIZATION is achieved when three (3) consecutive readings of pH, conductivity, and either turbidity or DO collected in 3-5 minute intervals meet the following criteria

- ±0.1 standard units for pH
- ±10% for temperature
- ±3% for specific conductance (conductivity)
- ±10 mV for ORP or ±10% if between -100 mV and +100 mV
- ±10% for DO > 0.50 mg/L. Three DO readings < 0.50 mg/L can be considered stabile.
- ±10% for turbidity > 10 ntu. Three turbidity readings < 10 NTU can be considered stabile.

PURGE UNTIL PARAMETER STABILIZATION or UNTIL 3 WELL VOLUMES ARE REMOVED

TOTAL VOLUME PURGED:	0.5 (GAL)	FLOW RATE (desired range is 100 to 500 mL/min):	100
SAMPLE TIME:	8-17-16 1345		
QC SAMPLES COLLECTED:	0		
FIELD TESTS:	Mn2+ = 0	Sulfide = 0	Fe2+ = 0

ANALYSIS FOR OFF-SITE LABORATORY (Fill in number of bottles collected)

VOCs (SW8260B)	2	GRO (AK101)	2
PAHs (SW8270D (SIM)	1	DRO/RRO (AK102/AK103)	1

COMMENTS:

8-17-17 set up 1315, purge low flow 100 ml/mm, drawn down to dry, but parameters stabilize, collect sample 16-PLK2-MW-50-J2 @ 1345, slow to no recharge, return 1505 & 1810 to collect water for sample

Point Lay Kali school
GROUNDWATER SAMPLING FORM

AGVIQ

SAMPLER(S) NAME:	Flint/Stone	CLIENT:	NSB
WEATHER:	30sF, SunA wind overcast	SITE NAME:	Kali school
SAMPLE ID ON COC:	16-PLK2-MW-50-L4	DATE:	8-18-16
PURGE METHOD:	peristaltic low flow	MONITORING WELL ID:	MW-50-L4
SAMPLE METHOD:	peristaltic low flow	SHEET 1 OF 1	
PRODUCT PRESENT:	no		
WATER LEVEL MEASURING DEVICE:	OIW interface	1 in = 0.083 ft; 2 in = 0.167 ft; 3 in = 0.25 ft; 4 in = 0.333 ft	
TYPE OF PUMP:	penstaltic	DIAMETER OF WELL:	0.167 (FT)
WELL INTEGRITY:	good	RADIUS OF WELL:	0.0835 (FT)
REQUIRED REPAIRS:	none	TOTAL DEPTH OF WELL BELOW MEASURING POINT:	6.28 (FT)
PUMP INTAKE DEPTH:	4-6	DEPTH TO GW BELOW MEASURING POINT	3.47 (FT)
		LENGTH OF WATER COLUMN (L): (D-d)=	(FT)
flush-mount		VOLUME OF WATER COLUMN (V): (3.14XRxRxL)	(CUBIC FT)
		WELL VOLUME: (7.48xV)= (GAL) X3=	(GAL)
		Minimum Purge Volume	Maximum Purge Volume

Note: Groundwater volumes above were calculated in the field and used for appoximate purge volumes; rounded values are shown for informational purposes only.

TIME (1200)	VOL. (GAL)	WATER LEVEL (ft BTOC)	TEMP (deg C)	Conductivity (mS/cm)	DO (mg/L)	pH (pH)	ORP (Mv)	TURBIDITY (NTU)	VISUAL APPEARANCE OF WATER	STABILIZED (YES/NO) (1)
0952	0.25	4.80	3.96	0.599	3.14	4.09	159.7	Clear	Clear	N
0957	0.25	5.25	3.65	0.585	3.18	4.12	141.5	Clear	Clear	N
1002	0.5	5.50	4.35	0.561	2.09	4.67	113.3	Clear	Clear	N
1007			ran	dry						
1254		4.64								

d = Depth to water D = Total depth

(1) STABILIZATION is achieved when three (3) consecutive readings of pH, conductivity, and either turbidity or DO collected in 3-5 minute intervals meet the following criteria

- ±0.1 standard units for pH
- ±10% for temperature
- ±3% for specific conductance (conductivity)
- ±10 mV for ORP or ±10% if between -100 mV and +100 mV
- ±10% for DO > 0.50 mg/L. Three DO readings < 0.50 mg/L can be considered stabile.
- ±10% for turbidity > 10 ntu. Three turbidity readings < 10 NTU can be considered stabile.

PURGE UNTIL PARAMETER STABILIZATION or UNTIL 3 WELL VOLUMES ARE REMOVED

TOTAL VOLUME PURGED: 0.5 (GAL) FLOW RATE (desired range is 100 to 500 mL/min): 100

SAMPLE TIME: 1255

QC SAMPLES COLLECTED: 0

FIELD TESTS: Mn2+ = 0 Sulfide = 0 Fe2+ = 0

ANALYSIS FOR OFF-SITE LABORATORY (Fill in number of bottles collected)

VOCs (SW8260B)	3	GRO (AK101)	3
PAHs (SW8270D (SIM)	1	DRO/RRO (AK102/AK103)	2

COMMENTS:

0906 setup, purge low flow 100 mL/min. drawdown to dry, return after MW-02 & lunch, collect sample 16-PLK2-MW-50-L4 @ 1255, ran dry - did not collect 2nd PAH

Point Lay Kali School
GROUNDWATER SAMPLING FORM

AGVIQ

SAMPLER(S) NAME:	Flint/Stone	CLIENT:	NSB
WEATHER:	30sF, sun	SITE NAME:	Kali School
SAMPLE ID ON COC:	16-PLK2-MW-SO-Q3	DATE:	8-17-16
PURGE METHOD:	peristaltic low flow	MONITORING WELL ID:	MW-SO-Q3
SAMPLE METHOD:	Peristaltic low flow	SHEET	1 OF
PRODUCT PRESENT:	No		
WATER LEVEL MEASURING DEVICE:	O/W interface	1 in = 0.083 ft; 2 in = 0.167 ft; 3 in = 0.25 ft; 4 in = 0.333 ft	
TYPE OF PUMP:	peristaltic	DIAMETER OF WELL:	0.167 (FT)
WELL INTEGRITY:	good	RADIUS OF WELL:	0.0835 (FT)
REQUIRED REPAIRS:	none	TOTAL DEPTH OF WELL BELOW MEASURING POINT:	3.55 (FT)
PUMP INTAKE DEPTH:	3.5	DEPTH TO GW BELOW MEASURING POINT	2.51 (FT)
"flush-mount" installed 1.5' below grade		LENGTH OF WATER COLUMN (L): (D-d)=	(FT)
		VOLUME OF WATER COLUMN (V): (3.14XRxRxL)	(CUBIC FT)
		WELL VOLUME: (7.48xV)= (GAL) X3=	(GAL)
		Minimum Purge Volume	Maximum Purge Volume

Note: Groundwater volumes above were calculated in the field and used for appoximate purge volumes; rounded values are shown for informational purposes only.

TIME (1200)	VOL. (GAL)	WATER LEVEL (ft BTOC)	TEMP (deg C)	Conductivity (mS/cm)	DO (mg/L)	pH	ORP (Mv)	TURBIDITY (NTU)	VISUAL APPEARANCE OF WATER	STABILIZED (YES/NO) (1)	
1430			3.90	0.989	2.25	5.77	36.5	Clear	Clear	N	
1435		3.1	6.71	1.020	2.40	5.89	24.0	Clear	Clear	N	fuel odor
1440	0.5		ran	dry							
1725		2.52									

d = Depth to water D = Total depth

(1) STABILIZATION is achieved when three (3) consecutive readings of pH, conductivity, and either turbidity or DO collected in 3-5 minute intervals meet the following criteria

- ±0.1 standard units for pH
- ±10% for temperature
- ±3% for specific conductance (conductivity)
- ±10 mV for ORP or ±10% if between -100 mV and +100 mV
- ±10% for DO > 0.50 mg/L. Three DO readings < 0.50 mg/L can be considered stabile.
- ±10% for turbidity > 10 ntu. Three turbidity readings < 10 NTU can be considered stabile.

PURGE UNTIL PARAMETER STABILIZATION or UNTIL 3 WELL VOLUMES ARE REMOVED

TOTAL VOLUME PURGED:	0.5 (GAL)	FLOW RATE (desired range is 100 to 500 mL/min):	100
SAMPLE TIME:	8-17-16 1730		
QC SAMPLES COLLECTED:			
FIELD TESTS:	Mn2+ = 0	Sulfide = 0	Fe2+ = 0

ANALYSIS FOR OFF-SITE LABORATORY (Fill in number of bottles collected)

VOCs (SW8260B)	3	GRO (AK101)	3
PAHs (SW8270D (SIM)	2	DRO/RRO (AK102/AK103)	2

COMMENTS:

8-17-17 set up 1405, purge low flow 100 mL/min, well ran dry, slow to recharge, 1730 collect sample 16-PLK2-MW-SO-Q3

APPENDIX B: PHOTOGRAPHIC LOG

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Photo 1: Kali School Overview

Photo 2: Groundwater Sampling MW-01

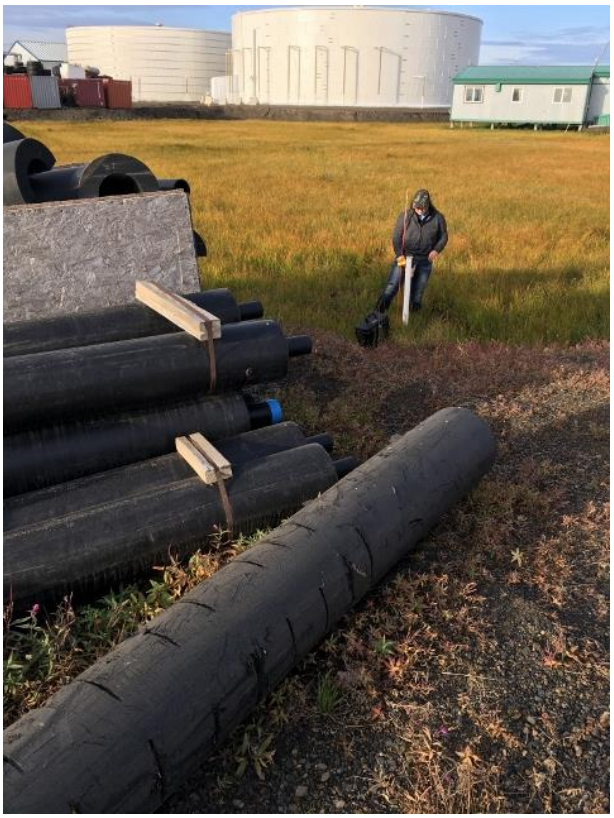

Photo 3: MW-04

Photo 4: MW-05

APPENDIX C: LABORATORY ANALYTICAL REPORTS

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Laboratory Report of Analysis

To: AGVIQ LLC
301 W. Northern Lights Blvd Ste. 660
Anchorage, AK 99507
(907)365-6230

Report Number: **1164889**

Client Project: **4422 Point Lay Kali School**

Dear Gloria Beckman,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Forest at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

Alaska Division Technical Director

Stephen Ede
2016.09.16
15:21:36 -08'00'

Forest Taylor
Project Manager
Forest.Taylor@sgs.com

Date

Print Date: 09/15/2016 1:16:49PM

Case Narrative

SGS Client: **AGVIQ LLC**
SGS Project: **1164889**
Project Name/Site: **4422 Point Lay Kali School**
Project Contact: **Gloria Beckman**

Refer to sample receipt form for information on sample condition.

16-PLK2-MW-SO-Q3 (1164889007) PS

AK101 - Surrogate recovery for 4-bromofluorobenzene (232%) does not meet QC criteria due to matrix interference.
8270D SIM - PAH surrogate recovery for terphenyl-d14 (19.3%) and 2-fluorobiphenyl (31.8%) do not meet QC criteria.

16-PLK2-MW-01 (1164889008) PS

8270D SIM - PAH surrogate recovery for terphenyl-d14 (57%) does not meet DOD recovery limits but is within in house control limits.

16-PLK2-MWX-01 (1164889009) PS

8270D SIM - PAH surrogate recovery for terphenyl-d14 (42.8%) and 2-fluorobiphenyl (49.9%) do not meet DOD recovery limits but is within in house control limits.

16-PLK2-MW-SO-L4 (1164889010) PS

8270D SIM - PAH surrogate recovery for terphenyl-d14 (39.3%) and 2-fluorobiphenyl (49.8%) do not meet DOD recovery limits but is within in house control limits.

16-PLK2-MW-02 (1164889011) PS

8270D SIM - PAH surrogate recovery for terphenyl-d14 (50.5%) does not meet DOD recovery limits but is within in house control limits.

16-PLK2-MWX-02 (1164889012) PS

8270D SIM - PAH surrogate recovery for terphenyl-d14 (56.1%) does not meet DOD recovery limits but is within in house control limits.

16-PLK2-MW-03 (1164889013) PS

8270D SIM - PAH surrogate recovery for terphenyl-d14 (43%) and 2-fluorobiphenyl (49.9%) do not meet DOD recovery limits but is iwthin in house control limits.

16-PLK2-MW-04 MS (1164889003) BMS

8260B - BMS recovery for chloromethane (144%) and Hexachlorobutadiene (140%) does not meet QC criteria. See LCS for accuracy reporting requirments.
8270D SIM - PAH BMS recovery for several analytes does not meet QC criteria. Refer to the LCS for accuracy requirements.

16-PLK2-MW-04 MSD (1164889004) BMSD

8270D SIM - PAH BMSD recovery for several analytes does not meet QC criteria. Refer to the LCS for accuracy requirements.

LCSD for HBN 1742032 [VXX/2940 (1347080) LCSD

8260B - MS/MSD RPD recovery for chloromethane does not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.

LCSD for HBN 1742201 [VXX/2942 (1347926) LCSD

8260B - LCSD recovery for chloromethane (141%) was outside of QC criteria. This analyte was not detected above the LOQ in the associated samples.
8260B - MS/MSD LCSD RPD was outside of QC criteria for chloromethane. This analyte was not detected above the LOQ in the associated samples.

LCSD for HBN 1742355 [VXX/2945 (1348651) LCSD

8260B - MS/MSD RPD does not meet QC criteria for chloromethane does not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.

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Case Narrative

SGS Client: **AGVIQ LLC**
SGS Project: **1164889**
Project Name/Site: **4422 Point Lay Kali School**
Project Contact: **Gloria Beckman**

MB for HBN 1742414 [XXX/36176] (1348886) MB

AK102/103 - RRO is detect in the MB greater than one half the LOQ, but less than the LOQ.

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

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Report of Manual Integrations

Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason
8270D SIM LV (PAH)				
1164889013	16-PLK2-MW-03	XMS9571	Phenanthrene	BLC
1351501	CCV for HBN 1743002 [XMS/9608]	XMS9608	Benzo[k]fluoranthene	PNF
1351927	CVC for HBN 1743002 [XMS/9608]	XMS9608	Benzo[k]fluoranthene	PNF
SW8260B				
1164889005	16-PLK2-MW-05	VMS16116	4-Isopropyltoluene	SP
1164889007	16-PLK2-MW-SO-Q3	VMS16116	4-Isopropyltoluene	SP

Manual Integration Reason Code Descriptions

Code	Description
O	Original Chromatogram
M	Modified Chromatogram
SS	Skimmed surrogate
BLG	Closed baseline gap
RP	Reassign peak name
PIR	Pattern integration required
IT	Included tail
SP	Split peak
RSP	Removed split peak
FPS	Forced peak start/stop
BLC	Baseline correction
PNF	Peak not found by software

All DRO/RRO analysis are integrated per SOP.

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Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & UST-005 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8021B, 8082A, 8260B, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
D	The analyte concentration is the result of a dilution.
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
F	Indicates value that is greater than or equal to the DL
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
JL	The analyte was positively identified, but the quantitation is a low estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
M	A matrix effect was present.
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
Q	QC parameter out of acceptance range.
R	Rejected
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

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Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
TRIPBLANK-06	1164889001	08/17/2016	08/20/2016	Water (Surface, Eff., Ground)
16-PLK2-MW-04	1164889002	08/17/2016	08/20/2016	Water (Surface, Eff., Ground)
16-PLK2-MW-04 MS	1164889003	08/17/2016	08/20/2016	Water (Surface, Eff., Ground)
16-PLK2-MW-04 MSD	1164889004	08/17/2016	08/20/2016	Water (Surface, Eff., Ground)
16-PLK2-MW-05	1164889005	08/17/2016	08/20/2016	Water (Surface, Eff., Ground)
16-PLK2-MW-SO-J2	1164889006	08/17/2016	08/20/2016	Water (Surface, Eff., Ground)
16-PLK2-MW-SO-Q3	1164889007	08/17/2016	08/20/2016	Water (Surface, Eff., Ground)
16-PLK2-MW-01	1164889008	08/17/2016	08/20/2016	Water (Surface, Eff., Ground)
16-PLK2-MWX-01	1164889009	08/17/2016	08/20/2016	Water (Surface, Eff., Ground)
16-PLK2-MW-SO-L4	1164889010	08/18/2016	08/20/2016	Water (Surface, Eff., Ground)
16-PLK2-MW-02	1164889011	08/18/2016	08/20/2016	Water (Surface, Eff., Ground)
16-PLK2-MWX-02	1164889012	08/18/2016	08/20/2016	Water (Surface, Eff., Ground)
16-PLK2-MW-03	1164889013	08/18/2016	08/20/2016	Water (Surface, Eff., Ground)

Method	Method Description
8270D SIM LV (PAH)	8270 PAH SIM GC/MS Liq/Liq ext. LV
AK102	DRO/RRO Low Volume Water
AK103	DRO/RRO Low Volume Water
AK101	Gasoline Range Organics (W)
SW8260B	Volatile Organic Compounds (W) FULL

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Detectable Results Summary

Client Sample ID: **TRIPBLANK-06**
Lab Sample ID: 1164889001

	Parameter	Result	Units
Volatile GC/MS	Chloromethane	0.500J	ug/L

Client Sample ID: **16-PLK2-MW-04**
Lab Sample ID: 1164889002

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.0485J	ug/L
	2-Methylnaphthalene	0.0311J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.372J	mg/L
	Residual Range Organics	0.698	mg/L
Volatile GC/MS	Chloromethane	0.590J	ug/L
	Toluene	2.11	ug/L

Client Sample ID: **16-PLK2-MW-05**
Lab Sample ID: 1164889005

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.619	ug/L
	2-Methylnaphthalene	0.565	ug/L
	Naphthalene	1.09	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.305J	mg/L
	Residual Range Organics	0.533	mg/L
Volatile Fuels	Gasoline Range Organics	0.977	mg/L
Volatile GC/MS	1,2,4-Trimethylbenzene	72.2	ug/L
	1,2-Dichloroethane	0.180J	ug/L
	1,3,5-Trimethylbenzene	33.4	ug/L
	4-Isopropyltoluene	0.450J	ug/L
	Benzene	159	ug/L
	Chloroform	0.700J	ug/L
	Dichlorodifluoromethane	0.460J	ug/L
	Ethylbenzene	155	ug/L
	Isopropylbenzene (Cumene)	7.05	ug/L
	n-Propylbenzene	12.2	ug/L
	o-Xylene	2.69	ug/L
	P & M -Xylene	180	ug/L
	Toluene	1.64	ug/L
	Xylenes (total)	182	ug/L

Client Sample ID: **16-PLK2-MW-SO-J2**
Lab Sample ID: 1164889006

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.0629	ug/L
	2-Methylnaphthalene	0.0589	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.583J	mg/L
	Residual Range Organics	0.827	mg/L
Volatile GC/MS	Chloromethane	0.980J	ug/L

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Detectable Results Summary

Client Sample ID: **16-PLK2-MW-SO-Q3**
Lab Sample ID: 1164889007

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	113	ug/L
	2-Methylnaphthalene	136	ug/L
	Acenaphthene	0.383	ug/L
	Acenaphthylene	0.258	ug/L
	Fluorene	0.456	ug/L
	Naphthalene	199	ug/L
	Phenanthrene	0.0721	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	11.8	mg/L
	Residual Range Organics	1.80	mg/L
Volatile Fuels	Gasoline Range Organics	2.22	mg/L
Volatile GC/MS	1,2,4-Trimethylbenzene	464	ug/L
	1,3,5-Trimethylbenzene	128	ug/L
	2-Butanone (MEK)	97.1	ug/L
	2-Hexanone	7.44J	ug/L
	4-Isopropyltoluene	21.6	ug/L
	4-Methyl-2-pentanone (MIBK)	4.49J	ug/L
	Benzene	19.5	ug/L
	Dichlorodifluoromethane	459	ug/L
	Ethylbenzene	110	ug/L
	Isopropylbenzene (Cumene)	35.1	ug/L
	Naphthalene	515	ug/L
	n-Propylbenzene	69.9	ug/L
	o-Xylene	304	ug/L
	P & M -Xylene	502	ug/L
	sec-Butylbenzene	25.2	ug/L
	Toluene	327	ug/L
	Xylenes (total)	806	ug/L

Client Sample ID: **16-PLK2-MW-01**
Lab Sample ID: 1164889008

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.0525J	ug/L
	2-Methylnaphthalene	0.0352J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.929	mg/L
	Residual Range Organics	1.11	mg/L
Volatile Fuels	Gasoline Range Organics	0.0399J	mg/L
Volatile GC/MS	Toluene	7.36	ug/L

Client Sample ID: **16-PLK2-MWX-01**
Lab Sample ID: 1164889009

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.0624	ug/L
	2-Methylnaphthalene	0.0222J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	1.05	mg/L
	Residual Range Organics	1.76	mg/L
Volatile GC/MS	2-Butanone (MEK)	3.33J	ug/L
	Toluene	7.82	ug/L

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Detectable Results Summary

Client Sample ID: **16-PLK2-MW-SO-L4**
Lab Sample ID: 1164889010

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	1.17	mg/L
	Residual Range Organics	0.544J	mg/L
Volatile Fuels	Gasoline Range Organics	0.0833J	mg/L
Volatile GC/MS	2-Butanone (MEK)	26.3	ug/L
	Toluene	56.2	ug/L

Client Sample ID: **16-PLK2-MW-02**
Lab Sample ID: 1164889011

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.131	ug/L
	2-Methylnaphthalene	0.143	ug/L
	Naphthalene	0.0666J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.893	mg/L
	Residual Range Organics	0.294J	mg/L
Volatile Fuels	Gasoline Range Organics	0.304	mg/L
Volatile GC/MS	1,3,5-Trimethylbenzene	0.420J	ug/L
	2-Butanone (MEK)	8.65J	ug/L
	Benzene	0.190J	ug/L
	Chloroethane	11.5	ug/L
	Dichlorodifluoromethane	533	ug/L
	o-Xylene	0.480J	ug/L
	P & M -Xylene	0.630J	ug/L
	Toluene	173	ug/L
	Trichlorofluoromethane	12.3	ug/L
	Xylenes (total)	1.11J	ug/L

Client Sample ID: **16-PLK2-MWX-02**
Lab Sample ID: 1164889012

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.182	ug/L
	2-Methylnaphthalene	0.223	ug/L
	Naphthalene	0.189	ug/L
	Phenanthrene	0.0251J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	1.16	mg/L
	Residual Range Organics	0.340J	mg/L
Volatile Fuels	Gasoline Range Organics	0.308	mg/L
Volatile GC/MS	1,3,5-Trimethylbenzene	0.390J	ug/L
	2-Butanone (MEK)	9.30J	ug/L
	Benzene	0.180J	ug/L
	Chloroethane	11.1	ug/L
	Dichlorodifluoromethane	536	ug/L
	o-Xylene	0.460J	ug/L
	Toluene	173	ug/L
	Trichlorofluoromethane	11.4	ug/L
	Xylenes (total)	1.05J	ug/L

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Detectable Results Summary

Client Sample ID: **16-PLK2-MW-03**
Lab Sample ID: 1164889013

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.0302J	ug/L
	2-Methylnaphthalene	0.0435J	ug/L
	Fluorene	0.0389J	ug/L
	Naphthalene	0.0457J	ug/L
	Phenanthrene	0.0556	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.233J	mg/L
	Residual Range Organics	0.309J	mg/L
Volatile GC/MS	Chloromethane	0.860J	ug/L

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Results of **TRIPBLANK-06**

Client Sample ID: **TRIPBLANK-06**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889001
Lab Project ID: 1164889

Collection Date: 08/17/16 10:00
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0310	mg/L	1		08/28/16 23:37
Surrogates								
4-Bromofluorobenzene (surr)	81.4		50-150		%	1		08/28/16 23:37

Batch Information

Analytical Batch: VFC13262
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/28/16 23:37
Container ID: 1164889001-D

Prep Batch: VXX29449
Prep Method: SW5030B
Prep Date/Time: 08/28/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **TRIPBLANK-06**

Client Sample ID: **TRIPBLANK-06**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889001
Lab Project ID: 1164889

Collection Date: 08/17/16 10:00
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 17:22
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 17:22
1,1,2-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/21/16 17:22
1,2-Dibromoethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 17:22
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/21/16 17:22
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/21/16 17:22
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/21/16 17:22
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/21/16 17:22
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/21/16 17:22
Benzene	0.200	U	0.400	0.120	ug/L	1		08/21/16 17:22
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 17:22
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Bromomethane	5.00	U	10.0	3.10	ug/L	1		08/21/16 17:22
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/21/16 17:22
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/21/16 17:22
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **TRIPBLANK-06**

Client Sample ID: **TRIPBLANK-06**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889001
Lab Project ID: 1164889

Collection Date: 08/17/16 10:00
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.300	ug/L	1		08/21/16 17:22
Chloromethane	0.500	J	1.00	0.310	ug/L	1		08/21/16 17:22
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		08/21/16 17:22
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 17:22
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Freon-113	5.00	U	10.0	3.10	ug/L	1		08/21/16 17:22
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		08/21/16 17:22
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		08/21/16 17:22
Naphthalene	5.00	U	10.0	3.10	ug/L	1		08/21/16 17:22
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
o-Xylene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		08/21/16 17:22
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Styrene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Toluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		08/21/16 17:22
Vinyl chloride	0.500	U	1.00	0.310	ug/L	1		08/21/16 17:22
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		08/21/16 17:22
Surrogates								
1,2-Dichloroethane-D4 (surr)	102		81-118		%	1		08/21/16 17:22
4-Bromofluorobenzene (surr)	100		85-114		%	1		08/21/16 17:22
Toluene-d8 (surr)	104		89-112		%	1		08/21/16 17:22

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J flagging is activated

Results of **TRIPBLANK-06**

Client Sample ID: **TRIPBLANK-06**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889001
Lab Project ID: 1164889

Collection Date: 08/17/16 10:00
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS16116
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/21/16 17:22
Container ID: 1164889001-A

Prep Batch: VXX29437
Prep Method: SW5030B
Prep Date/Time: 08/21/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **16-PLK2-MW-04**

Client Sample ID: **16-PLK2-MW-04**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889002
Lab Project ID: 1164889

Collection Date: 08/17/16 10:05
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0485	J	0.0530	0.0159	ug/L	1		09/13/16 05:58
2-Methylnaphthalene	0.0311	J	0.0530	0.0159	ug/L	1		09/13/16 05:58
Acenaphthene	0.0265	U	0.0530	0.0159	ug/L	1		09/13/16 05:58
Acenaphthylene	0.0265	U	0.0530	0.0159	ug/L	1		09/13/16 05:58
Anthracene	0.0265	U	0.0530	0.0159	ug/L	1		09/13/16 05:58
Benzo(a)Anthracene	0.0265	U	0.0530	0.0159	ug/L	1		09/13/16 05:58
Benzo[a]pyrene	0.0106	U	0.0212	0.00657	ug/L	1		09/13/16 05:58
Benzo[b]Fluoranthene	0.0265	U	0.0530	0.0159	ug/L	1		09/13/16 05:58
Benzo[g,h,i]perylene	0.0265	U	0.0530	0.0159	ug/L	1		09/13/16 05:58
Benzo[k]fluoranthene	0.0265	U	0.0530	0.0159	ug/L	1		09/13/16 05:58
Chrysene	0.0265	U	0.0530	0.0159	ug/L	1		09/13/16 05:58
Dibenzo[a,h]anthracene	0.0106	U	0.0212	0.00657	ug/L	1		09/13/16 05:58
Fluoranthene	0.0265	U	0.0530	0.0159	ug/L	1		09/13/16 05:58
Fluorene	0.0265	U	0.0530	0.0159	ug/L	1		09/13/16 05:58
Indeno[1,2,3-c,d] pyrene	0.0265	U	0.0530	0.0159	ug/L	1		09/13/16 05:58
Naphthalene	0.0530	U	0.106	0.0328	ug/L	1		09/13/16 05:58
Phenanthrene	0.0265	U	0.0530	0.0159	ug/L	1		09/13/16 05:58
Pyrene	0.0265	U	0.0530	0.0159	ug/L	1		09/13/16 05:58
Surrogates								
2-Fluorobiphenyl (surr)	65.6		53-106		%	1		09/13/16 05:58
Terphenyl-d14 (surr)	66		58-132		%	1		09/13/16 05:58

Batch Information

Analytical Batch: XMS9612
Analytical Method: 8270D SIM LV (PAH)
Analyst: BRV
Analytical Date/Time: 09/13/16 05:58
Container ID: 1164889002-I

Prep Batch: XXX36104
Prep Method: SW3520C
Prep Date/Time: 08/21/16 10:34
Prep Initial Wt./Vol.: 236 mL
Prep Extract Vol: 1 mL

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MW-04**

Client Sample ID: **16-PLK2-MW-04**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889002
Lab Project ID: 1164889

Collection Date: 08/17/16 10:05
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.372	J	0.612	0.184	mg/L	1		08/31/16 12:38
Surrogates								
5a Androstane (surr)	75.5		50-150		%	1		08/31/16 12:38

Batch Information

Analytical Batch: XFC12769
Analytical Method: AK102
Analyst: CRA
Analytical Date/Time: 08/31/16 12:38
Container ID: 1164889002-G

Prep Batch: XXX36176
Prep Method: SW3520C
Prep Date/Time: 08/30/16 16:27
Prep Initial Wt./Vol.: 245 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.698		0.510	0.153	mg/L	1		08/31/16 12:38
Surrogates								
n-Triacontane-d62 (surr)	80.2		50-150		%	1		08/31/16 12:38

Batch Information

Analytical Batch: XFC12769
Analytical Method: AK103
Analyst: CRA
Analytical Date/Time: 08/31/16 12:38
Container ID: 1164889002-G

Prep Batch: XXX36176
Prep Method: SW3520C
Prep Date/Time: 08/30/16 16:27
Prep Initial Wt./Vol.: 245 mL
Prep Extract Vol: 1 mL

Results of **16-PLK2-MW-04**

Client Sample ID: **16-PLK2-MW-04**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889002
Lab Project ID: 1164889

Collection Date: 08/17/16 10:05
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0310	mg/L	1		08/29/16 02:09
Surrogates								
4-Bromofluorobenzene (surr)	82.1		50-150		%	1		08/29/16 02:09

Batch Information

Analytical Batch: VFC13262
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/29/16 02:09
Container ID: 1164889002-D

Prep Batch: VXX29449
Prep Method: SW5030B
Prep Date/Time: 08/28/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **16-PLK2-MW-04**

Client Sample ID: **16-PLK2-MW-04**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889002
Lab Project ID: 1164889

Collection Date: 08/17/16 10:05
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:29
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:29
1,1,2-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:29
1,2-Dibromoethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:29
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:29
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:29
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:29
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:29
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:29
Benzene	0.200	U	0.400	0.120	ug/L	1		08/21/16 21:29
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:29
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Bromomethane	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:29
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:29
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:29
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MW-04**

Client Sample ID: **16-PLK2-MW-04**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889002
Lab Project ID: 1164889

Collection Date: 08/17/16 10:05
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.300	ug/L	1		08/21/16 21:29
Chloromethane	0.590	J	1.00	0.310	ug/L	1		08/21/16 21:29
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:29
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:29
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Freon-113	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:29
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		08/21/16 21:29
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:29
Naphthalene	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:29
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
o-Xylene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		08/21/16 21:29
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Styrene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Toluene	2.11		1.00	0.310	ug/L	1		08/21/16 21:29
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:29
Vinyl chloride	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:29
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		08/21/16 21:29
Surrogates								
1,2-Dichloroethane-D4 (surr)	103		81-118		%	1		08/21/16 21:29
4-Bromofluorobenzene (surr)	101		85-114		%	1		08/21/16 21:29
Toluene-d8 (surr)	103		89-112		%	1		08/21/16 21:29

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J flagging is activated

Results of **16-PLK2-MW-04**

Client Sample ID: **16-PLK2-MW-04**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889002
Lab Project ID: 1164889

Collection Date: 08/17/16 10:05
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS16116
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/21/16 21:29
Container ID: 1164889002-A

Prep Batch: VXX29437
Prep Method: SW5030B
Prep Date/Time: 08/21/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **16-PLK2-MW-05**

Client Sample ID: **16-PLK2-MW-05**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889005
Lab Project ID: 1164889

Collection Date: 08/17/16 11:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.619		0.0508	0.0152	ug/L	1		09/11/16 00:28
2-Methylnaphthalene	0.565		0.0508	0.0152	ug/L	1		09/11/16 00:28
Acenaphthene	0.0254	U	0.0508	0.0152	ug/L	1		09/11/16 00:28
Acenaphthylene	0.0254	U	0.0508	0.0152	ug/L	1		09/11/16 00:28
Anthracene	0.0254	U	0.0508	0.0152	ug/L	1		09/11/16 00:28
Benzo(a)Anthracene	0.0254	U	0.0508	0.0152	ug/L	1		09/11/16 00:28
Benzo[a]pyrene	0.0101	U	0.0203	0.00630	ug/L	1		09/11/16 00:28
Benzo[b]Fluoranthene	0.0254	U	0.0508	0.0152	ug/L	1		09/11/16 00:28
Benzo[g,h,i]perylene	0.0254	U	0.0508	0.0152	ug/L	1		09/11/16 00:28
Benzo[k]fluoranthene	0.0254	U	0.0508	0.0152	ug/L	1		09/11/16 00:28
Chrysene	0.0254	U	0.0508	0.0152	ug/L	1		09/11/16 00:28
Dibenzo[a,h]anthracene	0.0101	U	0.0203	0.00630	ug/L	1		09/11/16 00:28
Fluoranthene	0.0254	U	0.0508	0.0152	ug/L	1		09/11/16 00:28
Fluorene	0.0254	U	0.0508	0.0152	ug/L	1		09/11/16 00:28
Indeno[1,2,3-c,d] pyrene	0.0254	U	0.0508	0.0152	ug/L	1		09/11/16 00:28
Naphthalene	1.09		0.102	0.0315	ug/L	1		09/11/16 00:28
Phenanthrene	0.0254	U	0.0508	0.0152	ug/L	1		09/11/16 00:28
Pyrene	0.0254	U	0.0508	0.0152	ug/L	1		09/11/16 00:28
Surrogates								
2-Fluorobiphenyl (surr)	69.6		53-106		%	1		09/11/16 00:28
Terphenyl-d14 (surr)	68.5		58-132		%	1		09/11/16 00:28

Batch Information

Analytical Batch: XMS9608
Analytical Method: 8270D SIM LV (PAH)
Analyst: S.G
Analytical Date/Time: 09/11/16 00:28
Container ID: 1164889005-I

Prep Batch: XXX36104
Prep Method: SW3520C
Prep Date/Time: 08/21/16 10:34
Prep Initial Wt./Vol.: 246 mL
Prep Extract Vol: 1 mL

Results of **16-PLK2-MW-05**

Client Sample ID: **16-PLK2-MW-05**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889005
Lab Project ID: 1164889

Collection Date: 08/17/16 11:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.305	J	0.612	0.184	mg/L	1		08/31/16 12:48
Surrogates								
5a Androstane (surr)	75		50-150		%	1		08/31/16 12:48

Batch Information

Analytical Batch: XFC12769
Analytical Method: AK102
Analyst: CRA
Analytical Date/Time: 08/31/16 12:48
Container ID: 1164889005-G

Prep Batch: XXX36176
Prep Method: SW3520C
Prep Date/Time: 08/30/16 16:27
Prep Initial Wt./Vol.: 245 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.533		0.510	0.153	mg/L	1		08/31/16 12:48
Surrogates								
n-Triacontane-d62 (surr)	78.5		50-150		%	1		08/31/16 12:48

Batch Information

Analytical Batch: XFC12769
Analytical Method: AK103
Analyst: CRA
Analytical Date/Time: 08/31/16 12:48
Container ID: 1164889005-G

Prep Batch: XXX36176
Prep Method: SW3520C
Prep Date/Time: 08/30/16 16:27
Prep Initial Wt./Vol.: 245 mL
Prep Extract Vol: 1 mL

Results of **16-PLK2-MW-05**

Client Sample ID: **16-PLK2-MW-05**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889005
Lab Project ID: 1164889

Collection Date: 08/17/16 11:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.977		0.100	0.0310	mg/L	1		08/29/16 02:28
Surrogates								
4-Bromofluorobenzene (surr)	111		50-150		%	1		08/29/16 02:28

Batch Information

Analytical Batch: VFC13262
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/29/16 02:28
Container ID: 1164889005-D

Prep Batch: VXX29449
Prep Method: SW5030B
Prep Date/Time: 08/28/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **16-PLK2-MW-05**

Client Sample ID: **16-PLK2-MW-05**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889005
Lab Project ID: 1164889

Collection Date: 08/17/16 11:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:45
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:45
1,1,2-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
1,2,4-Trimethylbenzene	72.2		10.0	3.10	ug/L	10		08/30/16 22:53
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:45
1,2-Dibromoethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
1,2-Dichloroethane	0.180	J	0.500	0.150	ug/L	1		08/21/16 21:45
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
1,3,5-Trimethylbenzene	33.4		1.00	0.310	ug/L	1		08/21/16 21:45
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:45
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:45
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:45
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:45
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
4-Isopropyltoluene	0.450	J	1.00	0.310	ug/L	1		08/21/16 21:45
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:45
Benzene	159		4.00	1.20	ug/L	10		08/30/16 22:53
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:45
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
Bromomethane	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:45
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:45
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:45
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45

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J flagging is activated

Results of **16-PLK2-MW-05**

Client Sample ID: **16-PLK2-MW-05**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889005
Lab Project ID: 1164889

Collection Date: 08/17/16 11:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.700	J	1.00	0.300	ug/L	1		08/21/16 21:45
Chloromethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:45
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 21:45
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
Dichlorodifluoromethane	0.460	J	1.00	0.310	ug/L	1		08/21/16 21:45
Ethylbenzene	155		10.0	3.10	ug/L	10		08/30/16 22:53
Freon-113	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:45
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
Isopropylbenzene (Cumene)	7.05		1.00	0.310	ug/L	1		08/21/16 21:45
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		08/21/16 21:45
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:45
Naphthalene	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:45
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
n-Propylbenzene	12.2		1.00	0.310	ug/L	1		08/21/16 21:45
o-Xylene	2.69		1.00	0.310	ug/L	1		08/21/16 21:45
P & M -Xylene	180		20.0	6.20	ug/L	10		08/30/16 22:53
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
Styrene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
Toluene	1.64		1.00	0.310	ug/L	1		08/21/16 21:45
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		08/21/16 21:45
Vinyl chloride	0.500	U	1.00	0.310	ug/L	1		08/21/16 21:45
Xylenes (total)	182		30.0	10.0	ug/L	10		08/30/16 22:53
Surrogates								
1,2-Dichloroethane-D4 (surr)	103		81-118		%	1		08/21/16 21:45
4-Bromofluorobenzene (surr)	98.8		85-114		%	1		08/21/16 21:45
Toluene-d8 (surr)	95.7		89-112		%	1		08/21/16 21:45

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Results of **16-PLK2-MW-05**

Client Sample ID: **16-PLK2-MW-05**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889005
Lab Project ID: 1164889

Collection Date: 08/17/16 11:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS16116
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/21/16 21:45
Container ID: 1164889005-A

Prep Batch: VXX29437
Prep Method: SW5030B
Prep Date/Time: 08/21/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS16131
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/30/16 22:53
Container ID: 1164889005-E

Prep Batch: VXX29467
Prep Method: SW5030B
Prep Date/Time: 08/30/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **16-PLK2-MW-SO-J2**

Client Sample ID: **16-PLK2-MW-SO-J2**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889006
Lab Project ID: 1164889

Collection Date: 08/17/16 13:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0629		0.0539	0.0162	ug/L	1		09/11/16 00:48
2-Methylnaphthalene	0.0589		0.0539	0.0162	ug/L	1		09/11/16 00:48
Acenaphthene	0.0270	U	0.0539	0.0162	ug/L	1		09/11/16 00:48
Acenaphthylene	0.0270	U	0.0539	0.0162	ug/L	1		09/11/16 00:48
Anthracene	0.0270	U	0.0539	0.0162	ug/L	1		09/11/16 00:48
Benzo(a)Anthracene	0.0270	U	0.0539	0.0162	ug/L	1		09/11/16 00:48
Benzo[a]pyrene	0.0108	U	0.0216	0.00668	ug/L	1		09/11/16 00:48
Benzo[b]Fluoranthene	0.0270	U	0.0539	0.0162	ug/L	1		09/11/16 00:48
Benzo[g,h,i]perylene	0.0270	U	0.0539	0.0162	ug/L	1		09/11/16 00:48
Benzo[k]fluoranthene	0.0270	U	0.0539	0.0162	ug/L	1		09/11/16 00:48
Chrysene	0.0270	U	0.0539	0.0162	ug/L	1		09/11/16 00:48
Dibenzo[a,h]anthracene	0.0108	U	0.0216	0.00668	ug/L	1		09/11/16 00:48
Fluoranthene	0.0270	U	0.0539	0.0162	ug/L	1		09/11/16 00:48
Fluorene	0.0270	U	0.0539	0.0162	ug/L	1		09/11/16 00:48
Indeno[1,2,3-c,d] pyrene	0.0270	U	0.0539	0.0162	ug/L	1		09/11/16 00:48
Naphthalene	0.0540	U	0.108	0.0334	ug/L	1		09/11/16 00:48
Phenanthrene	0.0270	U	0.0539	0.0162	ug/L	1		09/11/16 00:48
Pyrene	0.0270	U	0.0539	0.0162	ug/L	1		09/11/16 00:48
Surrogates								
2-Fluorobiphenyl (surr)	68.1		53-106		%	1		09/11/16 00:48
Terphenyl-d14 (surr)	58.4		58-132		%	1		09/11/16 00:48

Batch Information

Analytical Batch: XMS9608
Analytical Method: 8270D SIM LV (PAH)
Analyst: S.G
Analytical Date/Time: 09/11/16 00:48
Container ID: 1164889006-F

Prep Batch: XXX36104
Prep Method: SW3520C
Prep Date/Time: 08/21/16 10:34
Prep Initial Wt./Vol.: 232 mL
Prep Extract Vol: 1 mL

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MW-SO-J2**

Client Sample ID: **16-PLK2-MW-SO-J2**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889006
Lab Project ID: 1164889

Collection Date: 08/17/16 13:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.583	J	0.652	0.196	mg/L	1		08/31/16 12:58
Surrogates								
5a Androstane (surr)	67.2		50-150		%	1		08/31/16 12:58

Batch Information

Analytical Batch: XFC12769
Analytical Method: AK102
Analyst: CRA
Analytical Date/Time: 08/31/16 12:58
Container ID: 1164889006-E

Prep Batch: XXX36176
Prep Method: SW3520C
Prep Date/Time: 08/30/16 16:27
Prep Initial Wt./Vol.: 230 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.827		0.543	0.163	mg/L	1		08/31/16 12:58
Surrogates								
n-Triacontane-d62 (surr)	71.9		50-150		%	1		08/31/16 12:58

Batch Information

Analytical Batch: XFC12769
Analytical Method: AK103
Analyst: CRA
Analytical Date/Time: 08/31/16 12:58
Container ID: 1164889006-E

Prep Batch: XXX36176
Prep Method: SW3520C
Prep Date/Time: 08/30/16 16:27
Prep Initial Wt./Vol.: 230 mL
Prep Extract Vol: 1 mL

Results of **16-PLK2-MW-SO-J2**

Client Sample ID: **16-PLK2-MW-SO-J2**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889006
Lab Project ID: 1164889

Collection Date: 08/17/16 13:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0310	mg/L	1		08/29/16 02:47
Surrogates								
4-Bromofluorobenzene (surr)	83.4		50-150		%	1		08/29/16 02:47

Batch Information

Analytical Batch: VFC13262
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/29/16 02:47
Container ID: 1164889006-C

Prep Batch: VXX29449
Prep Method: SW5030B
Prep Date/Time: 08/28/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **16-PLK2-MW-SO-J2**

Client Sample ID: **16-PLK2-MW-SO-J2**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889006
Lab Project ID: 1164889

Collection Date: 08/17/16 13:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:01
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:01
1,1,2-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/26/16 20:40
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/21/16 22:01
1,2-Dibromoethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:01
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:01
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:01
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/21/16 22:01
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/21/16 22:01
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/21/16 22:01
Benzene	0.200	U	0.400	0.120	ug/L	1		08/21/16 22:01
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:01
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Bromomethane	5.00	U	10.0	3.10	ug/L	1		08/21/16 22:01
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/21/16 22:01
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:01
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01

Results of **16-PLK2-MW-SO-J2**

Client Sample ID: **16-PLK2-MW-SO-J2**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889006
Lab Project ID: 1164889

Collection Date: 08/17/16 13:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.300	ug/L	1		08/21/16 22:01
Chloromethane	0.980	J	1.00	0.310	ug/L	1		08/21/16 22:01
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:01
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:01
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Freon-113	5.00	U	10.0	3.10	ug/L	1		08/21/16 22:01
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		08/21/16 22:01
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		08/21/16 22:01
Naphthalene	5.00	U	10.0	3.10	ug/L	1		08/21/16 22:01
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
o-Xylene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		08/21/16 22:01
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Styrene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Toluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		08/21/16 22:01
Vinyl chloride	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:01
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		08/21/16 22:01
Surrogates								
1,2-Dichloroethane-D4 (surr)	99.2		81-118		%	1		08/21/16 22:01
4-Bromofluorobenzene (surr)	102		85-114		%	1		08/21/16 22:01
Toluene-d8 (surr)	105		89-112		%	1		08/21/16 22:01

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MW-SO-J2**

Client Sample ID: **16-PLK2-MW-SO-J2**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889006
Lab Project ID: 1164889

Collection Date: 08/17/16 13:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS16116
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/21/16 22:01
Container ID: 1164889006-A

Prep Batch: VXX29437
Prep Method: SW5030B
Prep Date/Time: 08/21/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS16119
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/26/16 20:40
Container ID: 1164889006-B

Prep Batch: VXX29452
Prep Method: SW5030B
Prep Date/Time: 08/26/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **16-PLK2-MW-SO-Q3**

Client Sample ID: **16-PLK2-MW-SO-Q3**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889007
Lab Project ID: 1164889

Collection Date: 08/17/16 17:30
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	113		1.09	0.326	ug/L	20		09/13/16 05:37
2-Methylnaphthalene	136		1.09	0.326	ug/L	20		09/13/16 05:37
Acenaphthene	0.383		0.0543	0.0163	ug/L	1		09/11/16 01:09
Acenaphthylene	0.258		0.0543	0.0163	ug/L	1		09/11/16 01:09
Anthracene	0.0272 U		0.0543	0.0163	ug/L	1		09/11/16 01:09
Benzo(a)Anthracene	0.0272 U		0.0543	0.0163	ug/L	1		09/11/16 01:09
Benzo[a]pyrene	0.0109 U		0.0217	0.00674	ug/L	1		09/11/16 01:09
Benzo[b]Fluoranthene	0.0272 U		0.0543	0.0163	ug/L	1		09/11/16 01:09
Benzo[g,h,i]perylene	0.0272 U		0.0543	0.0163	ug/L	1		09/11/16 01:09
Benzo[k]fluoranthene	0.0272 U		0.0543	0.0163	ug/L	1		09/11/16 01:09
Chrysene	0.0272 U		0.0543	0.0163	ug/L	1		09/11/16 01:09
Dibenzo[a,h]anthracene	0.0109 U		0.0217	0.00674	ug/L	1		09/11/16 01:09
Fluoranthene	0.0272 U		0.0543	0.0163	ug/L	1		09/11/16 01:09
Fluorene	0.456		0.0543	0.0163	ug/L	1		09/11/16 01:09
Indeno[1,2,3-c,d] pyrene	0.0272 U		0.0543	0.0163	ug/L	1		09/11/16 01:09
Naphthalene	199		10.9	3.37	ug/L	100		09/14/16 00:50
Phenanthrene	0.0721		0.0543	0.0163	ug/L	1		09/11/16 01:09
Pyrene	0.0272 U		0.0543	0.0163	ug/L	1		09/11/16 01:09
Surrogates								
2-Fluorobiphenyl (surr)	31.8	*	53-106		%	1		09/11/16 01:09
Terphenyl-d14 (surr)	19.3	*	58-132		%	1		09/11/16 01:09

Results of **16-PLK2-MW-SO-Q3**

Client Sample ID: **16-PLK2-MW-SO-Q3**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889007
Lab Project ID: 1164889

Collection Date: 08/17/16 17:30
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Batch Information

Analytical Batch: XMS9608
Analytical Method: 8270D SIM LV (PAH)
Analyst: S.G
Analytical Date/Time: 09/11/16 01:09
Container ID: 1164889007-I

Prep Batch: XXX36104
Prep Method: SW3520C
Prep Date/Time: 08/21/16 10:34
Prep Initial Wt./Vol.: 230 mL
Prep Extract Vol: 1 mL

Analytical Batch: XMS9612
Analytical Method: 8270D SIM LV (PAH)
Analyst: BRV
Analytical Date/Time: 09/13/16 05:37
Container ID: 1164889007-I

Prep Batch: XXX36104
Prep Method: SW3520C
Prep Date/Time: 08/21/16 10:34
Prep Initial Wt./Vol.: 230 mL
Prep Extract Vol: 1 mL

Analytical Batch: XMS9614
Analytical Method: 8270D SIM LV (PAH)
Analyst: BRV
Analytical Date/Time: 09/14/16 00:50
Container ID: 1164889007-I

Prep Batch: XXX36104
Prep Method: SW3520C
Prep Date/Time: 08/21/16 10:34
Prep Initial Wt./Vol.: 230 mL
Prep Extract Vol: 1 mL

Results of **16-PLK2-MW-SO-Q3**

Client Sample ID: **16-PLK2-MW-SO-Q3**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889007
Lab Project ID: 1164889

Collection Date: 08/17/16 17:30
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	11.8		0.652	0.196	mg/L	1		08/31/16 13:09
Surrogates								
5a Androstane (surr)	69.7		50-150		%	1		08/31/16 13:09

Batch Information

Analytical Batch: XFC12769
Analytical Method: AK102
Analyst: CRA
Analytical Date/Time: 08/31/16 13:09
Container ID: 1164889007-G

Prep Batch: XXX36176
Prep Method: SW3520C
Prep Date/Time: 08/30/16 16:27
Prep Initial Wt./Vol.: 230 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	1.80		0.543	0.163	mg/L	1		08/31/16 13:09
Surrogates								
n-Triacontane-d62 (surr)	77.8		50-150		%	1		08/31/16 13:09

Batch Information

Analytical Batch: XFC12769
Analytical Method: AK103
Analyst: CRA
Analytical Date/Time: 08/31/16 13:09
Container ID: 1164889007-G

Prep Batch: XXX36176
Prep Method: SW3520C
Prep Date/Time: 08/30/16 16:27
Prep Initial Wt./Vol.: 230 mL
Prep Extract Vol: 1 mL

Results of **16-PLK2-MW-SO-Q3**

Client Sample ID: **16-PLK2-MW-SO-Q3**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889007
Lab Project ID: 1164889

Collection Date: 08/17/16 17:30
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	2.22		0.100	0.0310	mg/L	1		08/29/16 03:06
Surrogates								
4-Bromofluorobenzene (surr)	232	*	50-150		%	1		08/29/16 03:06

Batch Information

Analytical Batch: VFC13262
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/29/16 03:06
Container ID: 1164889007-D

Prep Batch: VXX29449
Prep Method: SW5030B
Prep Date/Time: 08/28/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **16-PLK2-MW-SO-Q3**

Client Sample ID: **16-PLK2-MW-SO-Q3**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889007
Lab Project ID: 1164889

Collection Date: 08/17/16 17:30
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:18
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:18
1,1,2-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
1,2,4-Trimethylbenzene	464		10.0	3.10	ug/L	10		08/26/16 22:35
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/21/16 22:18
1,2-Dibromoethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:18
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
1,3,5-Trimethylbenzene	128		10.0	3.10	ug/L	10		08/26/16 22:35
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:18
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:18
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
2-Butanone (MEK)	97.1		10.0	3.10	ug/L	1		08/21/16 22:18
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
2-Hexanone	7.44	J	10.0	3.10	ug/L	1		08/21/16 22:18
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
4-Isopropyltoluene	21.6		1.00	0.310	ug/L	1		08/21/16 22:18
4-Methyl-2-pentanone (MIBK)	4.49	J	10.0	3.10	ug/L	1		08/21/16 22:18
Benzene	19.5		0.400	0.120	ug/L	1		08/21/16 22:18
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:18
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
Bromomethane	5.00	U	10.0	3.10	ug/L	1		08/21/16 22:18
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/21/16 22:18
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/21/16 22:18
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/21/16 22:18

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MW-SO-Q3**

Client Sample ID: **16-PLK2-MW-SO-Q3**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889007
Lab Project ID: 1164889

Collection Date: 08/17/16 17:30
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.300	ug/L	1		08/21/16 22:18
Chloromethane	0.500 U		1.00	0.310	ug/L	1		08/21/16 22:18
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/21/16 22:18
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		08/21/16 22:18
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		08/21/16 22:18
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		08/21/16 22:18
Dichlorodifluoromethane	459		10.0	3.10	ug/L	10		08/26/16 22:35
Ethylbenzene	110		10.0	3.10	ug/L	10		08/26/16 22:35
Freon-113	5.00 U		10.0	3.10	ug/L	1		08/21/16 22:18
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		08/21/16 22:18
Isopropylbenzene (Cumene)	35.1		1.00	0.310	ug/L	1		08/21/16 22:18
Methylene chloride	2.50 U		5.00	1.00	ug/L	1		08/21/16 22:18
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		08/21/16 22:18
Naphthalene	515		100	31.0	ug/L	10		08/26/16 22:35
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/21/16 22:18
n-Propylbenzene	69.9		1.00	0.310	ug/L	1		08/21/16 22:18
o-Xylene	304		10.0	3.10	ug/L	10		08/26/16 22:35
P & M -Xylene	502		20.0	6.20	ug/L	10		08/26/16 22:35
sec-Butylbenzene	25.2		1.00	0.310	ug/L	1		08/21/16 22:18
Styrene	0.500 U		1.00	0.310	ug/L	1		08/21/16 22:18
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/21/16 22:18
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		08/21/16 22:18
Toluene	327		10.0	3.10	ug/L	10		08/26/16 22:35
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/21/16 22:18
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		08/21/16 22:18
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		08/21/16 22:18
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		08/21/16 22:18
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		08/21/16 22:18
Vinyl chloride	0.500 U		1.00	0.310	ug/L	1		08/21/16 22:18
Xylenes (total)	806		30.0	10.0	ug/L	10		08/26/16 22:35
Surrogates								
1,2-Dichloroethane-D4 (surr)	91		81-118		%	1		08/21/16 22:18
4-Bromofluorobenzene (surr)	95.6		85-114		%	1		08/21/16 22:18
Toluene-d8 (surr)	100		89-112		%	1		08/21/16 22:18

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MW-SO-Q3**

Client Sample ID: **16-PLK2-MW-SO-Q3**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889007
Lab Project ID: 1164889

Collection Date: 08/17/16 17:30
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS16116
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/21/16 22:18
Container ID: 1164889007-A

Prep Batch: VXX29437
Prep Method: SW5030B
Prep Date/Time: 08/21/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS16119
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/26/16 22:35
Container ID: 1164889007-C

Prep Batch: VXX29452
Prep Method: SW5030B
Prep Date/Time: 08/26/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **16-PLK2-MW-01**

Client Sample ID: **16-PLK2-MW-01**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889008
Lab Project ID: 1164889

Collection Date: 08/17/16 16:35
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0525	J	0.0548	0.0164	ug/L	1		09/11/16 01:30
2-Methylnaphthalene	0.0352	J	0.0548	0.0164	ug/L	1		09/11/16 01:30
Acenaphthene	0.0274	U	0.0548	0.0164	ug/L	1		09/11/16 01:30
Acenaphthylene	0.0274	U	0.0548	0.0164	ug/L	1		09/11/16 01:30
Anthracene	0.0274	U	0.0548	0.0164	ug/L	1		09/11/16 01:30
Benzo(a)Anthracene	0.0274	U	0.0548	0.0164	ug/L	1		09/11/16 01:30
Benzo[a]pyrene	0.0110	U	0.0219	0.00680	ug/L	1		09/11/16 01:30
Benzo[b]Fluoranthene	0.0274	U	0.0548	0.0164	ug/L	1		09/11/16 01:30
Benzo[g,h,i]perylene	0.0274	U	0.0548	0.0164	ug/L	1		09/11/16 01:30
Benzo[k]fluoranthene	0.0274	U	0.0548	0.0164	ug/L	1		09/11/16 01:30
Chrysene	0.0274	U	0.0548	0.0164	ug/L	1		09/11/16 01:30
Dibenzo[a,h]anthracene	0.0110	U	0.0219	0.00680	ug/L	1		09/11/16 01:30
Fluoranthene	0.0274	U	0.0548	0.0164	ug/L	1		09/11/16 01:30
Fluorene	0.0274	U	0.0548	0.0164	ug/L	1		09/11/16 01:30
Indeno[1,2,3-c,d] pyrene	0.0274	U	0.0548	0.0164	ug/L	1		09/11/16 01:30
Naphthalene	0.0550	U	0.110	0.0340	ug/L	1		09/11/16 01:30
Phenanthrene	0.0274	U	0.0548	0.0164	ug/L	1		09/11/16 01:30
Pyrene	0.0274	U	0.0548	0.0164	ug/L	1		09/11/16 01:30
Surrogates								
2-Fluorobiphenyl (surr)	64.6		53-106		%	1		09/11/16 01:30
Terphenyl-d14 (surr)	57	*	58-132		%	1		09/11/16 01:30

Batch Information

Analytical Batch: XMS9608
Analytical Method: 8270D SIM LV (PAH)
Analyst: S.G
Analytical Date/Time: 09/11/16 01:30
Container ID: 1164889008-I

Prep Batch: XXX36104
Prep Method: SW3520C
Prep Date/Time: 08/21/16 10:34
Prep Initial Wt./Vol.: 228 mL
Prep Extract Vol: 1 mL

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MW-01**

Client Sample ID: **16-PLK2-MW-01**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889008
Lab Project ID: 1164889

Collection Date: 08/17/16 16:35
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.929		0.638	0.191	mg/L	1		08/31/16 13:19
Surrogates								
5a Androstane (surr)	75.9		50-150		%	1		08/31/16 13:19

Batch Information

Analytical Batch: XFC12769
Analytical Method: AK102
Analyst: CRA
Analytical Date/Time: 08/31/16 13:19
Container ID: 1164889008-G

Prep Batch: XXX36176
Prep Method: SW3520C
Prep Date/Time: 08/30/16 16:27
Prep Initial Wt./Vol.: 235 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	1.11		0.532	0.160	mg/L	1		08/31/16 13:19
Surrogates								
n-Triacontane-d62 (surr)	82.9		50-150		%	1		08/31/16 13:19

Batch Information

Analytical Batch: XFC12769
Analytical Method: AK103
Analyst: CRA
Analytical Date/Time: 08/31/16 13:19
Container ID: 1164889008-G

Prep Batch: XXX36176
Prep Method: SW3520C
Prep Date/Time: 08/30/16 16:27
Prep Initial Wt./Vol.: 235 mL
Prep Extract Vol: 1 mL

Results of **16-PLK2-MW-01**

Client Sample ID: **16-PLK2-MW-01**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889008
Lab Project ID: 1164889

Collection Date: 08/17/16 16:35
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0399	J	0.100	0.0310	mg/L	1		08/29/16 03:25
Surrogates								
4-Bromofluorobenzene (surr)	83.7		50-150		%	1		08/29/16 03:25

Batch Information

Analytical Batch: VFC13262
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/29/16 03:25
Container ID: 1164889008-D

Prep Batch: VXX29449
Prep Method: SW5030B
Prep Date/Time: 08/28/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **16-PLK2-MW-01**

Client Sample ID: **16-PLK2-MW-01**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889008
Lab Project ID: 1164889

Collection Date: 08/17/16 16:35
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:25
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:25
1,1,2-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:25
1,2-Dibromoethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:25
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:25
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:25
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:25
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:25
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:25
Benzene	0.200	U	0.400	0.120	ug/L	1		08/23/16 00:25
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:25
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
Bromomethane	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:25
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:25
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:25
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:25

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Results of **16-PLK2-MW-01**

Client Sample ID: **16-PLK2-MW-01**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889008
Lab Project ID: 1164889

Collection Date: 08/17/16 16:35
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.300	ug/L	1		08/23/16 00:25
Chloromethane	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		08/23/16 00:25
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		08/23/16 00:25
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
Freon-113	5.00 U		10.0	3.10	ug/L	1		08/23/16 00:25
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
Methylene chloride	2.50 U		5.00	1.00	ug/L	1		08/23/16 00:25
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		08/23/16 00:25
Naphthalene	5.00 U		10.0	3.10	ug/L	1		08/23/16 00:25
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
o-Xylene	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		08/23/16 00:25
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
Styrene	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
Toluene	7.36		1.00	0.310	ug/L	1		08/23/16 00:25
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		08/23/16 00:25
Vinyl chloride	0.500 U		1.00	0.310	ug/L	1		08/23/16 00:25
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		08/23/16 00:25
Surrogates								
1,2-Dichloroethane-D4 (surr)	105		81-118		%	1		08/23/16 00:25
4-Bromofluorobenzene (surr)	102		85-114		%	1		08/23/16 00:25
Toluene-d8 (surr)	103		89-112		%	1		08/23/16 00:25

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J flagging is activated

Results of **16-PLK2-MW-01**

Client Sample ID: **16-PLK2-MW-01**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889008
Lab Project ID: 1164889

Collection Date: 08/17/16 16:35
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS16094
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/23/16 00:25
Container ID: 1164889008-A

Prep Batch: VXX29404
Prep Method: SW5030B
Prep Date/Time: 08/22/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **16-PLK2-MWX-01**

Client Sample ID: **16-PLK2-MWX-01**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889009
Lab Project ID: 1164889

Collection Date: 08/17/16 16:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0624		0.0521	0.0156	ug/L	1		09/11/16 01:50
2-Methylnaphthalene	0.0222	J	0.0521	0.0156	ug/L	1		09/11/16 01:50
Acenaphthene	0.0261	U	0.0521	0.0156	ug/L	1		09/11/16 01:50
Acenaphthylene	0.0261	U	0.0521	0.0156	ug/L	1		09/11/16 01:50
Anthracene	0.0261	U	0.0521	0.0156	ug/L	1		09/11/16 01:50
Benzo(a)Anthracene	0.0261	U	0.0521	0.0156	ug/L	1		09/11/16 01:50
Benzo[a]pyrene	0.0104	U	0.0208	0.00646	ug/L	1		09/11/16 01:50
Benzo[b]Fluoranthene	0.0261	U	0.0521	0.0156	ug/L	1		09/11/16 01:50
Benzo[g,h,i]perylene	0.0261	U	0.0521	0.0156	ug/L	1		09/11/16 01:50
Benzo[k]fluoranthene	0.0261	U	0.0521	0.0156	ug/L	1		09/11/16 01:50
Chrysene	0.0261	U	0.0521	0.0156	ug/L	1		09/11/16 01:50
Dibenzo[a,h]anthracene	0.0104	U	0.0208	0.00646	ug/L	1		09/11/16 01:50
Fluoranthene	0.0261	U	0.0521	0.0156	ug/L	1		09/11/16 01:50
Fluorene	0.0261	U	0.0521	0.0156	ug/L	1		09/11/16 01:50
Indeno[1,2,3-c,d] pyrene	0.0261	U	0.0521	0.0156	ug/L	1		09/11/16 01:50
Naphthalene	0.0520	U	0.104	0.0323	ug/L	1		09/11/16 01:50
Phenanthrene	0.0261	U	0.0521	0.0156	ug/L	1		09/11/16 01:50
Pyrene	0.0261	U	0.0521	0.0156	ug/L	1		09/11/16 01:50
Surrogates								
2-Fluorobiphenyl (surr)	49.9	*	53-106		%	1		09/11/16 01:50
Terphenyl-d14 (surr)	42.8	*	58-132		%	1		09/11/16 01:50

Batch Information

Analytical Batch: XMS9608
Analytical Method: 8270D SIM LV (PAH)
Analyst: S.G
Analytical Date/Time: 09/11/16 01:50
Container ID: 1164889009-I

Prep Batch: XXX36104
Prep Method: SW3520C
Prep Date/Time: 08/21/16 10:34
Prep Initial Wt./Vol.: 240 mL
Prep Extract Vol: 1 mL

Results of **16-PLK2-MWX-01**

Client Sample ID: **16-PLK2-MWX-01**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889009
Lab Project ID: 1164889

Collection Date: 08/17/16 16:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	1.05		0.638	0.191	mg/L	1		09/01/16 00:43
Surrogates								
5a Androstane (surr)	67.4		50-150		%	1		09/01/16 00:43

Batch Information

Analytical Batch: XFC12775
Analytical Method: AK102
Analyst: CRA
Analytical Date/Time: 09/01/16 00:43
Container ID: 1164889009-G

Prep Batch: XXX36176
Prep Method: SW3520C
Prep Date/Time: 08/30/16 16:27
Prep Initial Wt./Vol.: 235 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	1.76		0.532	0.160	mg/L	1		09/01/16 00:43
Surrogates								
n-Triacontane-d62 (surr)	73.6		50-150		%	1		09/01/16 00:43

Batch Information

Analytical Batch: XFC12775
Analytical Method: AK103
Analyst: CRA
Analytical Date/Time: 09/01/16 00:43
Container ID: 1164889009-G

Prep Batch: XXX36176
Prep Method: SW3520C
Prep Date/Time: 08/30/16 16:27
Prep Initial Wt./Vol.: 235 mL
Prep Extract Vol: 1 mL

Results of **16-PLK2-MWX-01**

Client Sample ID: **16-PLK2-MWX-01**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889009
Lab Project ID: 1164889

Collection Date: 08/17/16 16:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0310	mg/L	1		08/29/16 03:45
Surrogates								
4-Bromofluorobenzene (surr)	82		50-150		%	1		08/29/16 03:45

Batch Information

Analytical Batch: VFC13262
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/29/16 03:45
Container ID: 1164889009-D

Prep Batch: VXX29449
Prep Method: SW5030B
Prep Date/Time: 08/28/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **16-PLK2-MWX-01**

Client Sample ID: **16-PLK2-MWX-01**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889009
Lab Project ID: 1164889

Collection Date: 08/17/16 16:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:08
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:08
1,1,2-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:08
1,2-Dibromoethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:08
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:08
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:08
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
2-Butanone (MEK)	3.33	J	10.0	3.10	ug/L	1		08/23/16 00:08
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:08
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:08
Benzene	0.200	U	0.400	0.120	ug/L	1		08/23/16 00:08
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:08
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Bromomethane	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:08
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:08
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:08
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08

Results of **16-PLK2-MWX-01**

Client Sample ID: **16-PLK2-MWX-01**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889009
Lab Project ID: 1164889

Collection Date: 08/17/16 16:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.300	ug/L	1		08/23/16 00:08
Chloromethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:08
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 00:08
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Freon-113	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:08
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		08/23/16 00:08
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:08
Naphthalene	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:08
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
o-Xylene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		08/23/16 00:08
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Styrene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Toluene	7.82		1.00	0.310	ug/L	1		08/23/16 00:08
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		08/23/16 00:08
Vinyl chloride	0.500	U	1.00	0.310	ug/L	1		08/23/16 00:08
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		08/23/16 00:08
Surrogates								
1,2-Dichloroethane-D4 (surr)	101		81-118		%	1		08/23/16 00:08
4-Bromofluorobenzene (surr)	97.5		85-114		%	1		08/23/16 00:08
Toluene-d8 (surr)	101		89-112		%	1		08/23/16 00:08

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MWX-01**

Client Sample ID: **16-PLK2-MWX-01**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889009
Lab Project ID: 1164889

Collection Date: 08/17/16 16:45
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS16094
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/23/16 00:08
Container ID: 1164889009-A

Prep Batch: VXX29404
Prep Method: SW5030B
Prep Date/Time: 08/22/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **16-PLK2-MW-SO-L4**

Client Sample ID: **16-PLK2-MW-SO-L4**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889010
Lab Project ID: 1164889

Collection Date: 08/18/16 12:55
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
2-Methylnaphthalene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
Acenaphthene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
Acenaphthylene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
Anthracene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
Benzo(a)Anthracene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
Benzo[a]pyrene	0.0104 U		0.0208	0.00646	ug/L	1		09/11/16 02:11
Benzo[b]Fluoranthene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
Benzo[g,h,i]perylene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
Benzo[k]fluoranthene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
Chrysene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
Dibenzo[a,h]anthracene	0.0104 U		0.0208	0.00646	ug/L	1		09/11/16 02:11
Fluoranthene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
Fluorene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
Indeno[1,2,3-c,d] pyrene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
Naphthalene	0.0520 U		0.104	0.0323	ug/L	1		09/11/16 02:11
Phenanthrene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
Pyrene	0.0261 U		0.0521	0.0156	ug/L	1		09/11/16 02:11
Surrogates								
2-Fluorobiphenyl (surr)	49.8	*	53-106		%	1		09/11/16 02:11
Terphenyl-d14 (surr)	39.3	*	58-132		%	1		09/11/16 02:11

Batch Information

Analytical Batch: XMS9608
Analytical Method: 8270D SIM LV (PAH)
Analyst: S.G
Analytical Date/Time: 09/11/16 02:11
Container ID: 1164889010-I

Prep Batch: XXX36104
Prep Method: SW3520C
Prep Date/Time: 08/21/16 10:34
Prep Initial Wt./Vol.: 240 mL
Prep Extract Vol: 1 mL

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MW-SO-L4**

Client Sample ID: **16-PLK2-MW-SO-L4**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889010
Lab Project ID: 1164889

Collection Date: 08/18/16 12:55
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	1.17		0.658	0.197	mg/L	1		08/31/16 23:09
Surrogates								
5a Androstane (surr)	80.6		50-150		%	1		08/31/16 23:09

Batch Information

Analytical Batch: XFC12770
Analytical Method: AK102
Analyst: NRO
Analytical Date/Time: 08/31/16 23:09
Container ID: 1164889010-G

Prep Batch: XXX36183
Prep Method: SW3520C
Prep Date/Time: 08/31/16 10:07
Prep Initial Wt./Vol.: 228 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.544	J	0.548	0.164	mg/L	1		08/31/16 23:09
Surrogates								
n-Triacontane-d62 (surr)	95.1		50-150		%	1		08/31/16 23:09

Batch Information

Analytical Batch: XFC12770
Analytical Method: AK103
Analyst: NRO
Analytical Date/Time: 08/31/16 23:09
Container ID: 1164889010-G

Prep Batch: XXX36183
Prep Method: SW3520C
Prep Date/Time: 08/31/16 10:07
Prep Initial Wt./Vol.: 228 mL
Prep Extract Vol: 1 mL

Results of **16-PLK2-MW-SO-L4**

Client Sample ID: **16-PLK2-MW-SO-L4**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889010
Lab Project ID: 1164889

Collection Date: 08/18/16 12:55
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0833	J	0.100	0.0310	mg/L	1		08/28/16 14:55
Surrogates								
4-Bromofluorobenzene (surr)	106		50-150		%	1		08/28/16 14:55

Batch Information

Analytical Batch: VFC13254
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/28/16 14:55
Container ID: 1164889010-D

Prep Batch: VXX29450
Prep Method: SW5030B
Prep Date/Time: 08/28/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **16-PLK2-MW-SO-L4**

Client Sample ID: **16-PLK2-MW-SO-L4**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889010
Lab Project ID: 1164889

Collection Date: 08/18/16 12:55
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/22/16 23:52
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/22/16 23:52
1,1,2-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/22/16 23:52
1,2-Dibromoethane	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		08/22/16 23:52
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/22/16 23:52
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/22/16 23:52
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
2-Butanone (MEK)	26.3		10.0	3.10	ug/L	1		08/22/16 23:52
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/22/16 23:52
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/22/16 23:52
Benzene	0.200	U	0.400	0.120	ug/L	1		08/22/16 23:52
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/22/16 23:52
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
Bromomethane	5.00	U	10.0	3.10	ug/L	1		08/22/16 23:52
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/22/16 23:52
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/22/16 23:52
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/22/16 23:52

Results of **16-PLK2-MW-SO-L4**

Client Sample ID: **16-PLK2-MW-SO-L4**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889010
Lab Project ID: 1164889

Collection Date: 08/18/16 12:55
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.300	ug/L	1		08/22/16 23:52
Chloromethane	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		08/22/16 23:52
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		08/22/16 23:52
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
Dichlorodifluoromethane	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
Freon-113	5.00 U		10.0	3.10	ug/L	1		08/22/16 23:52
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
Methylene chloride	2.50 U		5.00	1.00	ug/L	1		08/22/16 23:52
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		08/22/16 23:52
Naphthalene	5.00 U		10.0	3.10	ug/L	1		08/22/16 23:52
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
o-Xylene	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		08/22/16 23:52
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
Styrene	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
Toluene	56.2		1.00	0.310	ug/L	1		08/22/16 23:52
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
Trichlorofluoromethane	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		08/22/16 23:52
Vinyl chloride	0.500 U		1.00	0.310	ug/L	1		08/22/16 23:52
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		08/22/16 23:52
Surrogates								
1,2-Dichloroethane-D4 (surr)	94.8		81-118		%	1		08/22/16 23:52
4-Bromofluorobenzene (surr)	101		85-114		%	1		08/22/16 23:52
Toluene-d8 (surr)	102		89-112		%	1		08/22/16 23:52

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MW-SO-L4**

Client Sample ID: **16-PLK2-MW-SO-L4**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889010
Lab Project ID: 1164889

Collection Date: 08/18/16 12:55
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS16094
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/22/16 23:52
Container ID: 1164889010-A

Prep Batch: VXX29404
Prep Method: SW5030B
Prep Date/Time: 08/22/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **16-PLK2-MW-02**

Client Sample ID: **16-PLK2-MW-02**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889011
Lab Project ID: 1164889

Collection Date: 08/18/16 11:15
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.131		0.0530	0.0159	ug/L	1		09/11/16 02:32
2-Methylnaphthalene	0.143		0.0530	0.0159	ug/L	1		09/11/16 02:32
Acenaphthene	0.0265 U		0.0530	0.0159	ug/L	1		09/11/16 02:32
Acenaphthylene	0.0265 U		0.0530	0.0159	ug/L	1		09/11/16 02:32
Anthracene	0.0265 U		0.0530	0.0159	ug/L	1		09/11/16 02:32
Benzo(a)Anthracene	0.0265 U		0.0530	0.0159	ug/L	1		09/11/16 02:32
Benzo[a]pyrene	0.0106 U		0.0212	0.00657	ug/L	1		09/11/16 02:32
Benzo[b]Fluoranthene	0.0265 U		0.0530	0.0159	ug/L	1		09/11/16 02:32
Benzo[g,h,i]perylene	0.0265 U		0.0530	0.0159	ug/L	1		09/11/16 02:32
Benzo[k]fluoranthene	0.0265 U		0.0530	0.0159	ug/L	1		09/11/16 02:32
Chrysene	0.0265 U		0.0530	0.0159	ug/L	1		09/11/16 02:32
Dibenzo[a,h]anthracene	0.0106 U		0.0212	0.00657	ug/L	1		09/11/16 02:32
Fluoranthene	0.0265 U		0.0530	0.0159	ug/L	1		09/11/16 02:32
Fluorene	0.0265 U		0.0530	0.0159	ug/L	1		09/11/16 02:32
Indeno[1,2,3-c,d] pyrene	0.0265 U		0.0530	0.0159	ug/L	1		09/11/16 02:32
Naphthalene	0.0666 J		0.106	0.0328	ug/L	1		09/11/16 02:32
Phenanthrene	0.0265 U		0.0530	0.0159	ug/L	1		09/11/16 02:32
Pyrene	0.0265 U		0.0530	0.0159	ug/L	1		09/11/16 02:32
Surrogates								
2-Fluorobiphenyl (surr)	57.8		53-106		%	1		09/11/16 02:32
Terphenyl-d14 (surr)	50.5	*	58-132		%	1		09/11/16 02:32

Batch Information

Analytical Batch: XMS9608
Analytical Method: 8270D SIM LV (PAH)
Analyst: S.G
Analytical Date/Time: 09/11/16 02:32
Container ID: 1164889011-I

Prep Batch: XXX36104
Prep Method: SW3520C
Prep Date/Time: 08/21/16 10:34
Prep Initial Wt./Vol.: 236 mL
Prep Extract Vol: 1 mL

Results of **16-PLK2-MW-02**

Client Sample ID: **16-PLK2-MW-02**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889011
Lab Project ID: 1164889

Collection Date: 08/18/16 11:15
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.893		0.625	0.188	mg/L	1		08/31/16 23:20
Surrogates								
5a Androstane (surr)	83.5		50-150		%	1		08/31/16 23:20

Batch Information

Analytical Batch: XFC12770
Analytical Method: AK102
Analyst: NRO
Analytical Date/Time: 08/31/16 23:20
Container ID: 1164889011-G

Prep Batch: XXX36183
Prep Method: SW3520C
Prep Date/Time: 08/31/16 10:07
Prep Initial Wt./Vol.: 240 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.294	J	0.521	0.156	mg/L	1		08/31/16 23:20
Surrogates								
n-Triacontane-d62 (surr)	94.4		50-150		%	1		08/31/16 23:20

Batch Information

Analytical Batch: XFC12770
Analytical Method: AK103
Analyst: NRO
Analytical Date/Time: 08/31/16 23:20
Container ID: 1164889011-G

Prep Batch: XXX36183
Prep Method: SW3520C
Prep Date/Time: 08/31/16 10:07
Prep Initial Wt./Vol.: 240 mL
Prep Extract Vol: 1 mL

Results of **16-PLK2-MW-02**

Client Sample ID: **16-PLK2-MW-02**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889011
Lab Project ID: 1164889

Collection Date: 08/18/16 11:15
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.304		0.100	0.0310	mg/L	1		08/28/16 14:36
Surrogates								
4-Bromofluorobenzene (surr)	112		50-150		%	1		08/28/16 14:36

Batch Information

Analytical Batch: VFC13254
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/28/16 14:36
Container ID: 1164889011-D

Prep Batch: VXX29450
Prep Method: SW5030B
Prep Date/Time: 08/28/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **16-PLK2-MW-02**

Client Sample ID: **16-PLK2-MW-02**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889011
Lab Project ID: 1164889

Collection Date: 08/18/16 11:15
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:26
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:26
1,1,2-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:26
1,2-Dibromoethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:26
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
1,3,5-Trimethylbenzene	0.420	J	1.00	0.310	ug/L	1		08/23/16 22:26
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:26
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:26
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
2-Butanone (MEK)	8.65	J	10.0	3.10	ug/L	1		08/23/16 22:26
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:26
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:26
Benzene	0.190	J	0.400	0.120	ug/L	1		08/23/16 22:26
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:26
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
Bromomethane	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:26
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:26
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:26
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:26
Chloroethane	11.5		1.00	0.310	ug/L	1		08/23/16 22:26

Results of **16-PLK2-MW-02**

Client Sample ID: **16-PLK2-MW-02**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889011
Lab Project ID: 1164889

Collection Date: 08/18/16 11:15
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.300	ug/L	1		08/23/16 22:26
Chloromethane	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		08/23/16 22:26
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		08/23/16 22:26
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
Dichlorodifluoromethane	533		10.0	3.10	ug/L	10		09/01/16 01:16
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
Freon-113	5.00 U		10.0	3.10	ug/L	1		08/23/16 22:26
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
Methylene chloride	2.50 U		5.00	1.00	ug/L	1		08/23/16 22:26
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		08/23/16 22:26
Naphthalene	5.00 U		10.0	3.10	ug/L	1		08/23/16 22:26
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
o-Xylene	0.480 J		1.00	0.310	ug/L	1		08/23/16 22:26
P & M -Xylene	0.630 J		2.00	0.620	ug/L	1		08/23/16 22:26
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
Styrene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
Toluene	173		10.0	3.10	ug/L	10		09/01/16 01:16
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
Trichlorofluoromethane	12.3		1.00	0.310	ug/L	1		08/23/16 22:26
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		08/23/16 22:26
Vinyl chloride	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:26
Xylenes (total)	1.11 J		3.00	1.00	ug/L	1		08/23/16 22:26
Surrogates								
1,2-Dichloroethane-D4 (surr)	102		81-118		%	10		09/01/16 01:16
1,2-Dichloroethane-D4 (surr)	106		81-118		%	1		08/23/16 22:26
4-Bromofluorobenzene (surr)	101		85-114		%	1		08/23/16 22:26
4-Bromofluorobenzene (surr)	104		85-114		%	10		09/01/16 01:16
Toluene-d8 (surr)	101		89-112		%	10		09/01/16 01:16
Toluene-d8 (surr)	100		89-112		%	1		08/23/16 22:26

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MW-02**

Client Sample ID: **16-PLK2-MW-02**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889011
Lab Project ID: 1164889

Collection Date: 08/18/16 11:15
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed

Batch Information

Analytical Batch: VMS16101
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/23/16 22:26
Container ID: 1164889011-A

Prep Batch: VXX29415
Prep Method: SW5030B
Prep Date/Time: 08/23/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS16133
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 09/01/16 01:16
Container ID: 1164889011-E

Prep Batch: VXX29473
Prep Method: SW5030B
Prep Date/Time: 08/31/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **16-PLK2-MWX-02**

Client Sample ID: **16-PLK2-MWX-02**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889012
Lab Project ID: 1164889

Collection Date: 08/18/16 11:30
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.182		0.0579	0.0174	ug/L	1		08/25/16 22:45
2-Methylnaphthalene	0.223		0.0579	0.0174	ug/L	1		08/25/16 22:45
Acenaphthene	0.0290 U		0.0579	0.0174	ug/L	1		08/25/16 22:45
Acenaphthylene	0.0290 U		0.0579	0.0174	ug/L	1		08/25/16 22:45
Anthracene	0.0290 U		0.0579	0.0174	ug/L	1		08/25/16 22:45
Benzo(a)Anthracene	0.0290 U		0.0579	0.0174	ug/L	1		08/25/16 22:45
Benzo[a]pyrene	0.0116 U		0.0231	0.00718	ug/L	1		08/25/16 22:45
Benzo[b]Fluoranthene	0.0290 U		0.0579	0.0174	ug/L	1		08/25/16 22:45
Benzo[g,h,i]perylene	0.0290 U		0.0579	0.0174	ug/L	1		08/25/16 22:45
Benzo[k]fluoranthene	0.0290 U		0.0579	0.0174	ug/L	1		08/25/16 22:45
Chrysene	0.0290 U		0.0579	0.0174	ug/L	1		08/25/16 22:45
Dibenzo[a,h]anthracene	0.0116 U		0.0231	0.00718	ug/L	1		08/25/16 22:45
Fluoranthene	0.0290 U		0.0579	0.0174	ug/L	1		08/25/16 22:45
Fluorene	0.0290 U		0.0579	0.0174	ug/L	1		08/25/16 22:45
Indeno[1,2,3-c,d] pyrene	0.0290 U		0.0579	0.0174	ug/L	1		08/25/16 22:45
Naphthalene	0.189		0.116	0.0359	ug/L	1		08/25/16 22:45
Phenanthrene	0.0251 J		0.0579	0.0174	ug/L	1		08/25/16 22:45
Pyrene	0.0290 U		0.0579	0.0174	ug/L	1		08/25/16 22:45
Surrogates								
2-Fluorobiphenyl (surr)	69.4		53-106		%	1		08/25/16 22:45
Terphenyl-d14 (surr)	56.1	*	58-132		%	1		08/25/16 22:45

Batch Information

Analytical Batch: XMS9571
Analytical Method: 8270D SIM LV (PAH)
Analyst: S.G
Analytical Date/Time: 08/25/16 22:45
Container ID: 1164889012-I

Prep Batch: XXX36116
Prep Method: SW3520C
Prep Date/Time: 08/22/16 10:00
Prep Initial Wt./Vol.: 216 mL
Prep Extract Vol: 1 mL

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MWX-02**

Client Sample ID: **16-PLK2-MWX-02**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889012
Lab Project ID: 1164889

Collection Date: 08/18/16 11:30
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	1.16		0.694	0.208	mg/L	1		08/31/16 23:30
Surrogates								
5a Androstane (surr)	82.3		50-150		%	1		08/31/16 23:30

Batch Information

Analytical Batch: XFC12770
Analytical Method: AK102
Analyst: NRO
Analytical Date/Time: 08/31/16 23:30
Container ID: 1164889012-G

Prep Batch: XXX36183
Prep Method: SW3520C
Prep Date/Time: 08/31/16 10:07
Prep Initial Wt./Vol.: 216 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.340	J	0.579	0.174	mg/L	1		08/31/16 23:30
Surrogates								
n-Triacontane-d62 (surr)	92.8		50-150		%	1		08/31/16 23:30

Batch Information

Analytical Batch: XFC12770
Analytical Method: AK103
Analyst: NRO
Analytical Date/Time: 08/31/16 23:30
Container ID: 1164889012-G

Prep Batch: XXX36183
Prep Method: SW3520C
Prep Date/Time: 08/31/16 10:07
Prep Initial Wt./Vol.: 216 mL
Prep Extract Vol: 1 mL

Results of **16-PLK2-MWX-02**

Client Sample ID: **16-PLK2-MWX-02**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889012
Lab Project ID: 1164889

Collection Date: 08/18/16 11:30
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.308		0.100	0.0310	mg/L	1		08/28/16 14:18
Surrogates								
4-Bromofluorobenzene (surr)	110		50-150		%	1		08/28/16 14:18

Batch Information

Analytical Batch: VFC13254
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/28/16 14:18
Container ID: 1164889012-D

Prep Batch: VXX29450
Prep Method: SW5030B
Prep Date/Time: 08/28/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **16-PLK2-MWX-02**

Client Sample ID: **16-PLK2-MWX-02**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889012
Lab Project ID: 1164889

Collection Date: 08/18/16 11:30
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:42
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:42
1,1,2-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:42
1,2-Dibromoethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:42
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
1,3,5-Trimethylbenzene	0.390	J	1.00	0.310	ug/L	1		08/23/16 22:42
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:42
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:42
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
2-Butanone (MEK)	9.30	J	10.0	3.10	ug/L	1		08/23/16 22:42
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:42
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:42
Benzene	0.180	J	0.400	0.120	ug/L	1		08/23/16 22:42
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:42
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
Bromomethane	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:42
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:42
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:42
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:42
Chloroethane	11.1		1.00	0.310	ug/L	1		08/23/16 22:42

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MWX-02**

Client Sample ID: **16-PLK2-MWX-02**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889012
Lab Project ID: 1164889

Collection Date: 08/18/16 11:30
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500 U		1.00	0.300	ug/L	1		08/23/16 22:42
Chloromethane	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
cis-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
cis-1,3-Dichloropropene	0.250 U		0.500	0.150	ug/L	1		08/23/16 22:42
Dibromochloromethane	0.250 U		0.500	0.150	ug/L	1		08/23/16 22:42
Dibromomethane	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
Dichlorodifluoromethane	536		10.0	3.10	ug/L	10		09/01/16 01:32
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
Freon-113	5.00 U		10.0	3.10	ug/L	1		08/23/16 22:42
Hexachlorobutadiene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
Methylene chloride	2.50 U		5.00	1.00	ug/L	1		08/23/16 22:42
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		08/23/16 22:42
Naphthalene	5.00 U		10.0	3.10	ug/L	1		08/23/16 22:42
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
n-Propylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
o-Xylene	0.460 J		1.00	0.310	ug/L	1		08/23/16 22:42
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		08/23/16 22:42
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
Styrene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
Tetrachloroethene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
Toluene	173		10.0	3.10	ug/L	10		09/01/16 01:32
trans-1,2-Dichloroethene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
trans-1,3-Dichloropropene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
Trichloroethene	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
Trichlorofluoromethane	11.4		1.00	0.310	ug/L	1		08/23/16 22:42
Vinyl acetate	5.00 U		10.0	3.10	ug/L	1		08/23/16 22:42
Vinyl chloride	0.500 U		1.00	0.310	ug/L	1		08/23/16 22:42
Xylenes (total)	1.05 J		3.00	1.00	ug/L	1		08/23/16 22:42
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		08/23/16 22:42
1,2-Dichloroethane-D4 (surr)	102		81-118		%	10		09/01/16 01:32
4-Bromofluorobenzene (surr)	103		85-114		%	10		09/01/16 01:32
4-Bromofluorobenzene (surr)	101		85-114		%	1		08/23/16 22:42
Toluene-d8 (surr)	99.8		89-112		%	1		08/23/16 22:42
Toluene-d8 (surr)	99.2		89-112		%	10		09/01/16 01:32

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MWX-02**

Client Sample ID: **16-PLK2-MWX-02**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889012
Lab Project ID: 1164889

Collection Date: 08/18/16 11:30
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed

Batch Information

Analytical Batch: VMS16101
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/23/16 22:42
Container ID: 1164889012-A

Prep Batch: VXX29415
Prep Method: SW5030B
Prep Date/Time: 08/23/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS16133
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 09/01/16 01:32
Container ID: 1164889012-C

Prep Batch: VXX29473
Prep Method: SW5030B
Prep Date/Time: 08/31/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Results of **16-PLK2-MW-03**

Client Sample ID: **16-PLK2-MW-03**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889013
Lab Project ID: 1164889

Collection Date: 08/18/16 14:10
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0302	J	0.0548	0.0164	ug/L	1		08/25/16 23:07
2-Methylnaphthalene	0.0435	J	0.0548	0.0164	ug/L	1		08/25/16 23:07
Acenaphthene	0.0274	U	0.0548	0.0164	ug/L	1		08/25/16 23:07
Acenaphthylene	0.0274	U	0.0548	0.0164	ug/L	1		08/25/16 23:07
Anthracene	0.0274	U	0.0548	0.0164	ug/L	1		08/25/16 23:07
Benzo(a)Anthracene	0.0274	U	0.0548	0.0164	ug/L	1		08/25/16 23:07
Benzo[a]pyrene	0.0110	U	0.0219	0.00680	ug/L	1		08/25/16 23:07
Benzo[b]Fluoranthene	0.0274	U	0.0548	0.0164	ug/L	1		08/25/16 23:07
Benzo[g,h,i]perylene	0.0274	U	0.0548	0.0164	ug/L	1		08/25/16 23:07
Benzo[k]fluoranthene	0.0274	U	0.0548	0.0164	ug/L	1		08/25/16 23:07
Chrysene	0.0274	U	0.0548	0.0164	ug/L	1		08/25/16 23:07
Dibenzo[a,h]anthracene	0.0110	U	0.0219	0.00680	ug/L	1		08/25/16 23:07
Fluoranthene	0.0274	U	0.0548	0.0164	ug/L	1		08/25/16 23:07
Fluorene	0.0389	J	0.0548	0.0164	ug/L	1		08/25/16 23:07
Indeno[1,2,3-c,d] pyrene	0.0274	U	0.0548	0.0164	ug/L	1		08/25/16 23:07
Naphthalene	0.0457	J	0.110	0.0340	ug/L	1		08/25/16 23:07
Phenanthrene	0.0556		0.0548	0.0164	ug/L	1		08/25/16 23:07
Pyrene	0.0274	U	0.0548	0.0164	ug/L	1		08/25/16 23:07
Surrogates								
2-Fluorobiphenyl (surr)	49.9	*	53-106		%	1		08/25/16 23:07
Terphenyl-d14 (surr)	43	*	58-132		%	1		08/25/16 23:07

Batch Information

Analytical Batch: XMS9571
Analytical Method: 8270D SIM LV (PAH)
Analyst: S.G
Analytical Date/Time: 08/25/16 23:07
Container ID: 1164889013-H

Prep Batch: XXX36116
Prep Method: SW3520C
Prep Date/Time: 08/22/16 10:00
Prep Initial Wt./Vol.: 228 mL
Prep Extract Vol: 1 mL

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MW-03**

Client Sample ID: **16-PLK2-MW-03**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889013
Lab Project ID: 1164889

Collection Date: 08/18/16 14:10
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.233	J	0.636	0.191	mg/L	1		08/31/16 23:40
Surrogates								
5a Androstane (surr)	76.4		50-150		%	1		08/31/16 23:40

Batch Information

Analytical Batch: XFC12770
Analytical Method: AK102
Analyst: NRO
Analytical Date/Time: 08/31/16 23:40
Container ID: 1164889013-G

Prep Batch: XXX36183
Prep Method: SW3520C
Prep Date/Time: 08/31/16 10:07
Prep Initial Wt./Vol.: 236 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.309	J	0.530	0.159	mg/L	1		08/31/16 23:40
Surrogates								
n-Triacontane-d62 (surr)	91.7		50-150		%	1		08/31/16 23:40

Batch Information

Analytical Batch: XFC12770
Analytical Method: AK103
Analyst: NRO
Analytical Date/Time: 08/31/16 23:40
Container ID: 1164889013-G

Prep Batch: XXX36183
Prep Method: SW3520C
Prep Date/Time: 08/31/16 10:07
Prep Initial Wt./Vol.: 236 mL
Prep Extract Vol: 1 mL

Results of **16-PLK2-MW-03**

Client Sample ID: **16-PLK2-MW-03**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889013
Lab Project ID: 1164889

Collection Date: 08/18/16 14:10
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0310	mg/L	1		08/28/16 13:59
Surrogates								
4-Bromofluorobenzene (surr)	105		50-150		%	1		08/28/16 13:59

Batch Information

Analytical Batch: VFC13254
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/28/16 13:59
Container ID: 1164889013-D

Prep Batch: VXX29450
Prep Method: SW5030B
Prep Date/Time: 08/28/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
t 907.562.2343 **f** 907.561.5301 www.us.sgs.com

Results of **16-PLK2-MW-03**

Client Sample ID: **16-PLK2-MW-03**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889013
Lab Project ID: 1164889

Collection Date: 08/18/16 14:10
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:59
1,1,1-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
1,1,2,2-Tetrachloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:59
1,1,2-Trichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
1,1-Dichloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
1,1-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
1,1-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
1,2,3-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
1,2,3-Trichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
1,2,4-Trichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
1,2,4-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
1,2-Dibromo-3-chloropropane	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:59
1,2-Dibromoethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
1,2-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
1,2-Dichloroethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:59
1,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
1,3-Dichlorobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
1,3-Dichloropropane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:59
1,4-Dichlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:59
2,2-Dichloropropane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
2-Butanone (MEK)	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:59
2-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
2-Hexanone	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:59
4-Chlorotoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
4-Isopropyltoluene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
4-Methyl-2-pentanone (MIBK)	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:59
Benzene	0.200	U	0.400	0.120	ug/L	1		08/23/16 22:59
Bromobenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Bromochloromethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Bromodichloromethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:59
Bromoform	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Bromomethane	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:59
Carbon disulfide	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:59
Carbon tetrachloride	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Chlorobenzene	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:59
Chloroethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59

Results of **16-PLK2-MW-03**

Client Sample ID: **16-PLK2-MW-03**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889013
Lab Project ID: 1164889

Collection Date: 08/18/16 14:10
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	0.500	U	1.00	0.300	ug/L	1		08/23/16 22:59
Chloromethane	0.860	J	1.00	0.310	ug/L	1		08/23/16 22:59
cis-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
cis-1,3-Dichloropropene	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:59
Dibromochloromethane	0.250	U	0.500	0.150	ug/L	1		08/23/16 22:59
Dibromomethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Dichlorodifluoromethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Freon-113	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:59
Hexachlorobutadiene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Isopropylbenzene (Cumene)	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Methylene chloride	2.50	U	5.00	1.00	ug/L	1		08/23/16 22:59
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:59
Naphthalene	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:59
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
n-Propylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
o-Xylene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		08/23/16 22:59
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Styrene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Tetrachloroethene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Toluene	0.500	U	1.00	0.310	ug/L	1		08/24/16 20:48
trans-1,2-Dichloroethene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
trans-1,3-Dichloropropene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Trichloroethene	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Trichlorofluoromethane	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Vinyl acetate	5.00	U	10.0	3.10	ug/L	1		08/23/16 22:59
Vinyl chloride	0.500	U	1.00	0.310	ug/L	1		08/23/16 22:59
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		08/23/16 22:59
Surrogates								
1,2-Dichloroethane-D4 (surr)	106		81-118		%	1		08/23/16 22:59
4-Bromofluorobenzene (surr)	99.9		85-114		%	1		08/23/16 22:59
Toluene-d8 (surr)	103		89-112		%	1		08/23/16 22:59

Print Date: 09/15/2016 1:16:56PM

J flagging is activated

Results of **16-PLK2-MW-03**

Client Sample ID: **16-PLK2-MW-03**
Client Project ID: **4422 Point Lay Kali School**
Lab Sample ID: 1164889013
Lab Project ID: 1164889

Collection Date: 08/18/16 14:10
Received Date: 08/20/16 09:46
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS16101
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/23/16 22:59
Container ID: 1164889013-A

Prep Batch: VXX29415
Prep Method: SW5030B
Prep Date/Time: 08/23/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS16107
Analytical Method: SW8260B
Analyst: TJT
Analytical Date/Time: 08/24/16 20:48
Container ID: 1164889013-B

Prep Batch: VXX29422
Prep Method: SW5030B
Prep Date/Time: 08/24/16 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1742032 [VXX/29404]
Blank Lab ID: 1347078

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889008, 1164889009, 1164889010

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	ug/L
1,2-Dibromoethane	0.500U	1.00	0.310	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,2-Dichloroethane	0.250U	0.500	0.150	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	ug/L
2-Hexanone	5.00U	10.0	3.10	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Bromobenzene	0.500U	1.00	0.310	ug/L
Bromochloromethane	0.500U	1.00	0.310	ug/L
Bromodichloromethane	0.250U	0.500	0.150	ug/L
Bromoform	0.500U	1.00	0.310	ug/L
Bromomethane	5.00U	10.0	3.10	ug/L
Carbon disulfide	5.00U	10.0	3.10	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	ug/L
Chlorobenzene	0.250U	0.500	0.150	ug/L
Chloroethane	0.500U	1.00	0.310	ug/L
Chloroform	0.500U	1.00	0.300	ug/L

Method Blank

Blank ID: MB for HBN 1742032 [VXX/29404]
Blank Lab ID: 1347078

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889008, 1164889009, 1164889010

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units
Chloromethane	0.500U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Freon-113	5.00U	10.0	3.10	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	2.50U	5.00	1.00	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	ug/L
Naphthalene	5.00U	10.0	3.10	ug/L
n-Butylbenzene	0.500U	1.00	0.310	ug/L
n-Propylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
Styrene	0.500U	1.00	0.310	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	ug/L
Tetrachloroethene	0.500U	1.00	0.310	ug/L
Toluene	0.500U	1.00	0.310	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	ug/L
Trichloroethene	0.500U	1.00	0.310	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	ug/L
Vinyl acetate	5.00U	10.0	3.10	ug/L
Vinyl chloride	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	102	81-118		%
4-Bromofluorobenzene (surr)	100	85-114		%
Toluene-d8 (surr)	104	89-112		%

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t 907.562.2343 f 907.561.5301 www.us.sgs.com

Method Blank

Blank ID: MB for HBN 1742032 [VXX/29404]
Blank Lab ID: 1347078

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889008, 1164889009, 1164889010

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS16094
Analytical Method: SW8260B
Instrument: VPA 780/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 8/22/2016 5:00:00PM

Prep Batch: VXX29404
Prep Method: SW5030B
Prep Date/Time: 8/22/2016 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29404]
Blank Spike Lab ID: 1347079
Date Analyzed: 08/22/2016 17:16

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29404]
Spike Duplicate Lab ID: 1347080
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889008, 1164889009, 1164889010

Results by **SW8260B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	31.6	105	30	35.6	119	(78-124)	11.80	(< 20)
1,1,1-Trichloroethane	30	32.8	109	30	32.2	107	(74-131)	1.90	(< 20)
1,1,2,2-Tetrachloroethane	30	30.0	100	30	30.1	100	(71-121)	0.27	(< 20)
1,1,2-Trichloroethane	30	31.5	105	30	32.3	108	(80-119)	2.60	(< 20)
1,1-Dichloroethane	30	30.5	102	30	29.9	100	(77-125)	2.10	(< 20)
1,1-Dichloroethene	30	30.4	101	30	30.3	101	(71-131)	0.20	(< 20)
1,1-Dichloropropene	30	30.6	102	30	30.4	101	(79-125)	0.89	(< 20)
1,2,3-Trichlorobenzene	30	34.4	115	30	34.9	116	(69-129)	1.30	(< 20)
1,2,3-Trichloropropane	30	30.1	100	30	30.4	101	(73-122)	1.20	(< 20)
1,2,4-Trichlorobenzene	30	34.4	115	30	35.1	117	(69-130)	2.00	(< 20)
1,2,4-Trimethylbenzene	30	32.5	108	30	34.1	114	(79-124)	4.80	(< 20)
1,2-Dibromo-3-chloropropane	30	33.8	113	30	33.2	111	(62-128)	1.80	(< 20)
1,2-Dibromoethane	30	34.0	113	30	34.9	116	(77-121)	2.80	(< 20)
1,2-Dichlorobenzene	30	30.9	103	30	31.6	105	(80-119)	2.40	(< 20)
1,2-Dichloroethane	30	28.9	96	30	27.7	92	(73-128)	4.10	(< 20)
1,2-Dichloropropane	30	33.5	112	30	32.8	109	(78-122)	2.20	(< 20)
1,3,5-Trimethylbenzene	30	32.4	108	30	34.1	114	(75-124)	5.00	(< 20)
1,3-Dichlorobenzene	30	31.1	104	30	32.1	107	(80-119)	3.10	(< 20)
1,3-Dichloropropane	30	31.3	104	30	32.0	107	(80-119)	2.20	(< 20)
1,4-Dichlorobenzene	30	31.8	106	30	32.7	109	(79-118)	2.90	(< 20)
2,2-Dichloropropane	30	30.4	101	30	29.8	99	(60-139)	2.00	(< 20)
2-Butanone (MEK)	90	99.6	111	90	85.8	95	(56-143)	14.90	(< 20)
2-Chlorotoluene	30	31.3	104	30	33.0	110	(79-122)	5.40	(< 20)
2-Hexanone	90	95.7	106	90	86.5	96	(57-139)	10.10	(< 20)
4-Chlorotoluene	30	32.2	107	30	33.3	111	(78-122)	3.40	(< 20)
4-Isopropyltoluene	30	30.5	102	30	31.4	105	(77-127)	2.90	(< 20)
4-Methyl-2-pentanone (MIBK)	90	88.5	98	90	83.3	93	(67-130)	6.10	(< 20)
Benzene	30	33.2	111	30	33.0	110	(79-120)	0.63	(< 20)
Bromobenzene	30	31.4	105	30	32.4	108	(80-120)	3.20	(< 20)
Bromochloromethane	30	31.4	105	30	30.7	102	(78-123)	2.10	(< 20)
Bromodichloromethane	30	32.9	110	30	32.0	107	(79-125)	2.70	(< 20)
Bromoform	30	32.1	107	30	33.8	113	(66-130)	5.10	(< 20)
Bromomethane	30	30.4	101	30	34.2	114	(53-141)	11.90	(< 20)
Carbon disulfide	45	45.2	100	45	44.9	100	(64-133)	0.71	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29404]
Blank Spike Lab ID: 1347079
Date Analyzed: 08/22/2016 17:16

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29404]
Spike Duplicate Lab ID: 1347080
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889008, 1164889009, 1164889010

Results by **SW8260B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon tetrachloride	30	30.0	100	30	29.6	99	(72-136)	1.30	(< 20)
Chlorobenzene	30	31.2	104	30	32.5	108	(82-118)	4.10	(< 20)
Chloroethane	30	27.1	90	30	27.0	90	(60-138)	0.30	(< 20)
Chloroform	30	28.4	95	30	27.8	93	(79-124)	2.40	(< 20)
Chloromethane	30	27.9	93	30	34.7	116	(50-139)	22.00 *	(< 20)
cis-1,2-Dichloroethene	30	31.4	105	30	30.7	102	(78-123)	2.10	(< 20)
cis-1,3-Dichloropropene	30	31.7	106	30	30.9	103	(75-124)	2.70	(< 20)
Dibromochloromethane	30	32.2	107	30	32.8	109	(74-126)	2.00	(< 20)
Dibromomethane	30	31.1	104	30	30.0	100	(79-123)	3.60	(< 20)
Dichlorodifluoromethane	30	30.8	103	30	30.9	103	(32-152)	0.19	(< 20)
Ethylbenzene	30	33.2	111	30	33.2	111	(79-121)	0.06	(< 20)
Freon-113	45	47.9	106	45	47.5	106	(70-136)	0.78	(< 20)
Hexachlorobutadiene	30	36.1	120	30	36.4	121	(66-134)	0.72	(< 20)
Isopropylbenzene (Cumene)	30	31.2	104	30	31.2	104	(72-131)	0.16	(< 20)
Methylene chloride	30	30.1	100	30	29.3	98	(74-124)	2.70	(< 20)
Methyl-t-butyl ether	45	46.8	104	45	44.7	99	(71-124)	4.70	(< 20)
Naphthalene	30	32.2	107	30	31.3	104	(61-128)	2.80	(< 20)
n-Butylbenzene	30	30.8	103	30	32.5	108	(75-128)	5.30	(< 20)
n-Propylbenzene	30	31.9	106	30	33.2	111	(76-126)	3.70	(< 20)
o-Xylene	30	33.6	112	30	33.9	113	(78-122)	1.10	(< 20)
P & M -Xylene	60	67.0	112	60	67.5	112	(80-121)	0.70	(< 20)
sec-Butylbenzene	30	33.8	113	30	35.0	117	(77-126)	3.50	(< 20)
Styrene	30	30.7	102	30	31.2	104	(78-123)	1.70	(< 20)
tert-Butylbenzene	30	33.3	111	30	34.6	115	(78-124)	3.60	(< 20)
Tetrachloroethene	30	31.2	104	30	34.7	116	(74-129)	10.60	(< 20)
Toluene	30	29.2	97	30	31.3	104	(80-121)	6.90	(< 20)
trans-1,2-Dichloroethene	30	30.9	103	30	30.5	102	(75-124)	1.40	(< 20)
trans-1,3-Dichloropropene	30	31.8	106	30	33.2	111	(73-127)	4.40	(< 20)
Trichloroethene	30	33.5	112	30	33.2	111	(79-123)	0.99	(< 20)
Trichlorofluoromethane	30	31.3	104	30	31.0	103	(65-141)	1.00	(< 20)
Vinyl acetate	30	32.6	109	30	30.5	102	(54-146)	6.50	(< 20)
Vinyl chloride	30	33.0	110	30	33.8	113	(58-137)	2.50	(< 20)
Xylenes (total)	90	101	112	90	101	113	(79-121)	0.82	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29404]
Blank Spike Lab ID: 1347079
Date Analyzed: 08/22/2016 17:16

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29404]
Spike Duplicate Lab ID: 1347080
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889008, 1164889009, 1164889010

Results by **SW8260B**

	Blank Spike (%)			Spike Duplicate (%)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	94.1	94	30	90	90	(81-118)	4.50	
4-Bromofluorobenzene (surr)	30	97.9	98	30	99.9	100	(85-114)	2.00	
Toluene-d8 (surr)	30	94.4	94	30	99.6	100	(89-112)	5.40	

Batch Information

Analytical Batch: **VMS16094**
Analytical Method: **SW8260B**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **TJT**

Prep Batch: **VXX29404**
Prep Method: **SW5030B**
Prep Date/Time: **08/22/2016 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

SGS North America Inc.
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Method Blank

Blank ID: MB for HBN 1742111 [VXX/29415]
Blank Lab ID: 1347503

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889011, 1164889012, 1164889013

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	ug/L
1,2-Dibromoethane	0.500U	1.00	0.310	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,2-Dichloroethane	0.250U	0.500	0.150	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	ug/L
2-Hexanone	5.00U	10.0	3.10	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Bromobenzene	0.500U	1.00	0.310	ug/L
Bromochloromethane	0.500U	1.00	0.310	ug/L
Bromodichloromethane	0.250U	0.500	0.150	ug/L
Bromoform	0.500U	1.00	0.310	ug/L
Bromomethane	5.00U	10.0	3.10	ug/L
Carbon disulfide	5.00U	10.0	3.10	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	ug/L
Chlorobenzene	0.250U	0.500	0.150	ug/L
Chloroethane	0.500U	1.00	0.310	ug/L
Chloroform	0.500U	1.00	0.300	ug/L

Method Blank

Blank ID: MB for HBN 1742111 [VXX/29415]
Blank Lab ID: 1347503

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889011, 1164889012, 1164889013

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units
Chloromethane	0.320J	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Freon-113	5.00U	10.0	3.10	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	2.50U	5.00	1.00	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	ug/L
Naphthalene	5.00U	10.0	3.10	ug/L
n-Butylbenzene	0.500U	1.00	0.310	ug/L
n-Propylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
Styrene	0.500U	1.00	0.310	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	ug/L
Tetrachloroethene	0.500U	1.00	0.310	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	ug/L
Trichloroethene	0.500U	1.00	0.310	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	ug/L
Vinyl acetate	5.00U	10.0	3.10	ug/L
Vinyl chloride	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	96.3	81-118		%
4-Bromofluorobenzene (surr)	100	85-114		%
Toluene-d8 (surr)	99.9	89-112		%

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Method Blank

Blank ID: MB for HBN 1742111 [VXX/29415]
Blank Lab ID: 1347503

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889011, 1164889012, 1164889013

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS16101
Analytical Method: SW8260B
Instrument: VPA 780/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 8/23/2016 4:59:00PM

Prep Batch: VXX29415
Prep Method: SW5030B
Prep Date/Time: 8/23/2016 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29415]
Blank Spike Lab ID: 1347504
Date Analyzed: 08/23/2016 17:16

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29415]
Spike Duplicate Lab ID: 1347505
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889011, 1164889012, 1164889013

Results by **SW8260B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	32.6	109	30	32.6	109	(78-124)	0.06	(< 20)
1,1,1-Trichloroethane	30	32.6	109	30	32.7	109	(74-131)	0.55	(< 20)
1,1,2,2-Tetrachloroethane	30	31.0	103	30	30.5	102	(71-121)	1.50	(< 20)
1,1,2-Trichloroethane	30	31.8	106	30	32.0	107	(80-119)	0.63	(< 20)
1,1-Dichloroethane	30	30.3	101	30	30.4	101	(77-125)	0.20	(< 20)
1,1-Dichloroethene	30	27.7	92	30	28.5	95	(71-131)	3.00	(< 20)
1,1-Dichloropropene	30	30.4	101	30	31.0	103	(79-125)	1.70	(< 20)
1,2,3-Trichlorobenzene	30	33.5	112	30	33.3	111	(69-129)	0.63	(< 20)
1,2,3-Trichloropropane	30	30.8	103	30	30.2	101	(73-122)	2.10	(< 20)
1,2,4-Trichlorobenzene	30	33.3	111	30	33.1	110	(69-130)	0.72	(< 20)
1,2,4-Trimethylbenzene	30	33.2	111	30	32.9	110	(79-124)	0.76	(< 20)
1,2-Dibromo-3-chloropropane	30	34.5	115	30	34.2	114	(62-128)	0.70	(< 20)
1,2-Dibromoethane	30	33.7	112	30	34.2	114	(77-121)	1.50	(< 20)
1,2-Dichlorobenzene	30	31.0	103	30	30.3	101	(80-119)	2.30	(< 20)
1,2-Dichloroethane	30	29.0	97	30	28.8	96	(73-128)	0.76	(< 20)
1,2-Dichloropropane	30	33.5	112	30	33.6	112	(78-122)	0.27	(< 20)
1,3,5-Trimethylbenzene	30	33.0	110	30	32.9	110	(75-124)	0.15	(< 20)
1,3-Dichlorobenzene	30	31.1	104	30	31.0	103	(80-119)	0.42	(< 20)
1,3-Dichloropropane	30	31.6	105	30	31.8	106	(80-119)	0.66	(< 20)
1,4-Dichlorobenzene	30	32.2	107	30	31.3	104	(79-118)	2.80	(< 20)
2,2-Dichloropropane	30	29.4	98	30	29.6	99	(60-139)	0.71	(< 20)
2-Butanone (MEK)	90	103	115	90	100	112	(56-143)	2.60	(< 20)
2-Chlorotoluene	30	32.2	107	30	31.4	105	(79-122)	2.60	(< 20)
2-Hexanone	90	99.3	110	90	99.1	110	(57-139)	0.24	(< 20)
4-Chlorotoluene	30	32.7	109	30	32.4	108	(78-122)	0.95	(< 20)
4-Isopropyltoluene	30	30.9	103	30	30.8	103	(77-127)	0.23	(< 20)
4-Methyl-2-pentanone (MIBK)	90	90.0	100	90	89.8	100	(67-130)	0.19	(< 20)
Benzene	30	32.9	110	30	33.2	111	(79-120)	0.79	(< 20)
Bromobenzene	30	31.0	103	30	31.1	104	(80-120)	0.19	(< 20)
Bromochloromethane	30	30.7	102	30	30.5	102	(78-123)	0.69	(< 20)
Bromodichloromethane	30	33.2	111	30	33.0	110	(79-125)	0.57	(< 20)
Bromoform	30	32.4	108	30	32.0	107	(66-130)	1.30	(< 20)
Bromomethane	30	30.6	102	30	32.5	108	(53-141)	6.00	(< 20)
Carbon disulfide	45	41.8	93	45	42.2	94	(64-133)	1.10	(< 20)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29415]
Blank Spike Lab ID: 1347504
Date Analyzed: 08/23/2016 17:16

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29415]
Spike Duplicate Lab ID: 1347505
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889011, 1164889012, 1164889013

Results by **SW8260B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon tetrachloride	30	29.7	99	30	30.2	101	(72-136)	1.60	(< 20)
Chlorobenzene	30	30.7	102	30	31.2	104	(82-118)	1.80	(< 20)
Chloroethane	30	24.9	83	30	25.1	84	(60-138)	0.60	(< 20)
Chloroform	30	28.5	95	30	28.4	95	(79-124)	0.18	(< 20)
Chloromethane	30	31.1	104	30	34.1	114	(50-139)	9.10	(< 20)
cis-1,2-Dichloroethene	30	30.3	101	30	30.6	102	(78-123)	0.85	(< 20)
cis-1,3-Dichloropropene	30	31.4	105	30	31.4	105	(75-124)	0.19	(< 20)
Dibromochloromethane	30	32.2	107	30	32.3	108	(74-126)	0.28	(< 20)
Dibromomethane	30	31.1	104	30	30.5	102	(79-123)	1.90	(< 20)
Dichlorodifluoromethane	30	29.9	100	30	31.6	105	(32-152)	5.40	(< 20)
Ethylbenzene	30	33.0	110	30	33.0	110	(79-121)	0.03	(< 20)
Freon-113	45	44.1	98	45	45.4	101	(70-136)	3.10	(< 20)
Hexachlorobutadiene	30	33.7	112	30	34.2	114	(66-134)	1.30	(< 20)
Isopropylbenzene (Cumene)	30	30.8	103	30	31.3	104	(72-131)	1.60	(< 20)
Methylene chloride	30	29.5	98	30	28.9	97	(74-124)	1.80	(< 20)
Methyl-t-butyl ether	45	45.4	101	45	45.6	101	(71-124)	0.46	(< 20)
Naphthalene	30	31.0	103	30	31.1	104	(61-128)	0.32	(< 20)
n-Butylbenzene	30	31.1	104	30	31.2	104	(75-128)	0.39	(< 20)
n-Propylbenzene	30	33.0	110	30	32.5	108	(76-126)	1.60	(< 20)
o-Xylene	30	33.7	112	30	33.8	113	(78-122)	0.24	(< 20)
P & M -Xylene	60	66.9	112	60	67.2	112	(80-121)	0.42	(< 20)
sec-Butylbenzene	30	34.2	114	30	34.1	114	(77-126)	0.35	(< 20)
Styrene	30	30.8	103	30	31.1	104	(78-123)	0.68	(< 20)
tert-Butylbenzene	30	33.1	110	30	33.5	112	(78-124)	1.20	(< 20)
Tetrachloroethene	30	31.2	104	30	31.4	105	(74-129)	0.64	(< 20)
trans-1,2-Dichloroethene	30	30.4	101	30	30.5	102	(75-124)	0.33	(< 20)
trans-1,3-Dichloropropene	30	32.2	107	30	31.8	106	(73-127)	1.30	(< 20)
Trichloroethene	30	33.5	112	30	33.7	112	(79-123)	0.54	(< 20)
Trichlorofluoromethane	30	30.2	101	30	31.3	104	(65-141)	3.70	(< 20)
Vinyl acetate	30	32.8	109	30	32.6	109	(54-146)	0.58	(< 20)
Vinyl chloride	30	32.2	107	30	33.9	113	(58-137)	5.10	(< 20)
Xylenes (total)	90	101	112	90	101	112	(79-121)	0.36	(< 20)

Surrogates

Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29415]
Blank Spike Lab ID: 1347504
Date Analyzed: 08/23/2016 17:16

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29415]
Spike Duplicate Lab ID: 1347505
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889011, 1164889012, 1164889013

Results by **SW8260B**

	Blank Spike (%)			Spike Duplicate (%)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2-Dichloroethane-D4 (surr)	30	94.6	95	30	93.9	94	(81-118)	0.71	
4-Bromofluorobenzene (surr)	30	100	100	30	98.8	99	(85-114)	1.40	
Toluene-d8 (surr)	30	95.5	96	30	95.5	96	(89-112)	0.04	

Batch Information

Analytical Batch: **VMS16101**
Analytical Method: **SW8260B**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **TJT**

Prep Batch: **VXX29415**
Prep Method: **SW5030B**
Prep Date/Time: **08/23/2016 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1742201 [VXX/29422]
Blank Lab ID: 1347924

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889013

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units
Toluene	0.500U	1.00	0.310	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	104	81-118		%
4-Bromofluorobenzene (surr)	102	85-114		%
Toluene-d8 (surr)	101	89-112		%

Batch Information

Analytical Batch: VMS16107
Analytical Method: SW8260B
Instrument: VPA 780/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 8/24/2016 1:46:00PM

Prep Batch: VXX29422
Prep Method: SW5030B
Prep Date/Time: 8/24/2016 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29422]
Blank Spike Lab ID: 1347925
Date Analyzed: 08/24/2016 14:02

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29422]
Spike Duplicate Lab ID: 1347926
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889013

Results by **SW8260B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Toluene	30	28.7	96	30	29.4	98	(80-121)	2.50	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	101	101	30	102	102	(81-118)	1.10	
4-Bromofluorobenzene (surr)	30	98.4	98	30	100	100	(85-114)	2.00	
Toluene-d8 (surr)	30	92.9	93	30	93.4	93	(89-112)	0.57	

Batch Information

Analytical Batch: **VMS16107**
Analytical Method: **SW8260B**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **TJT**

Prep Batch: **VXX29422**
Prep Method: **SW5030B**
Prep Date/Time: **08/24/2016 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1742280 [VXX/29437]
Blank Lab ID: 1348304

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889001, 1164889002, 1164889005, 1164889006, 1164889007

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	ug/L
1,2-Dibromoethane	0.500U	1.00	0.310	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,2-Dichloroethane	0.250U	0.500	0.150	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	ug/L
2-Hexanone	5.00U	10.0	3.10	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Bromobenzene	0.500U	1.00	0.310	ug/L
Bromochloromethane	0.500U	1.00	0.310	ug/L
Bromodichloromethane	0.250U	0.500	0.150	ug/L
Bromoform	0.500U	1.00	0.310	ug/L
Bromomethane	5.00U	10.0	3.10	ug/L
Carbon disulfide	5.00U	10.0	3.10	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	ug/L
Chlorobenzene	0.250U	0.500	0.150	ug/L
Chloroethane	0.500U	1.00	0.310	ug/L
Chloroform	0.500U	1.00	0.300	ug/L

Method Blank

Blank ID: MB for HBN 1742280 [VXX/29437]
Blank Lab ID: 1348304

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889001, 1164889002, 1164889005, 1164889006, 1164889007

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units
Chloromethane	0.500U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Freon-113	5.00U	10.0	3.10	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	2.50U	5.00	1.00	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	ug/L
Naphthalene	5.00U	10.0	3.10	ug/L
n-Butylbenzene	0.500U	1.00	0.310	ug/L
n-Propylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
Styrene	0.500U	1.00	0.310	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	ug/L
Tetrachloroethene	0.500U	1.00	0.310	ug/L
Toluene	0.500U	1.00	0.310	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	ug/L
Trichloroethene	0.500U	1.00	0.310	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	ug/L
Vinyl acetate	5.00U	10.0	3.10	ug/L
Vinyl chloride	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	100	81-118		%
4-Bromofluorobenzene (surr)	101	85-114		%
Toluene-d8 (surr)	101	89-112		%

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Method Blank

Blank ID: MB for HBN 1742280 [VXX/29437]
Blank Lab ID: 1348304

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889001, 1164889002, 1164889005, 1164889006, 1164889007

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units

Batch Information

Analytical Batch: VMS16116
Analytical Method: SW8260B
Instrument: VPA 780/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 8/21/2016 1:09:00PM

Prep Batch: VXX29437
Prep Method: SW5030B
Prep Date/Time: 8/21/2016 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29437]
Blank Spike Lab ID: 1348305
Date Analyzed: 08/21/2016 13:42

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29437]
Spike Duplicate Lab ID: 1348306
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889001, 1164889002, 1164889005, 1164889006, 1164889007

Results by **SW8260B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	30	33.8	113	30	33.8	113	(78-124)	0.00	(< 20)
1,1,1-Trichloroethane	30	33.6	112	30	33.6	112	(74-131)	0.00	(< 20)
1,1,2,2-Tetrachloroethane	30	30.6	102	30	30.6	102	(71-121)	0.00	(< 20)
1,1,2-Trichloroethane	30	32.0	107	30	32.0	107	(80-119)	0.00	(< 20)
1,1-Dichloroethane	30	31.7	106	30	31.7	106	(77-125)	0.00	(< 20)
1,1-Dichloroethene	30	29.5	98	30	29.5	98	(71-131)	0.00	(< 20)
1,1-Dichloropropene	30	31.1	104	30	31.1	104	(79-125)	0.00	(< 20)
1,2,3-Trichlorobenzene	30	33.9	113	30	33.9	113	(69-129)	0.00	(< 20)
1,2,3-Trichloropropane	30	30.1	100	30	30.1	100	(73-122)	0.00	(< 20)
1,2,4-Trichlorobenzene	30	34.2	114	30	34.2	114	(69-130)	0.00	(< 20)
1,2,4-Trimethylbenzene	30	34.7	116	30	34.7	116	(79-124)	0.00	(< 20)
1,2-Dibromo-3-chloropropane	30	33.4	111	30	33.4	111	(62-128)	0.00	(< 20)
1,2-Dibromoethane	30	34.0	113	30	34.0	113	(77-121)	0.00	(< 20)
1,2-Dichlorobenzene	30	31.3	104	30	31.3	104	(80-119)	0.00	(< 20)
1,2-Dichloroethane	30	29.3	98	30	29.3	98	(73-128)	0.00	(< 20)
1,2-Dichloropropane	30	34.1	114	30	34.1	114	(78-122)	0.00	(< 20)
1,3,5-Trimethylbenzene	30	33.9	113	30	33.9	113	(75-124)	0.00	(< 20)
1,3-Dichlorobenzene	30	31.9	106	30	31.9	106	(80-119)	0.00	(< 20)
1,3-Dichloropropane	30	31.7	106	30	31.7	106	(80-119)	0.00	(< 20)
1,4-Dichlorobenzene	30	32.8	109	30	32.8	109	(79-118)	0.00	(< 20)
2,2-Dichloropropane	30	31.0	103	30	31.0	103	(60-139)	0.00	(< 20)
2-Butanone (MEK)	90	92.0	102	90	92.0	102	(56-143)	0.00	(< 20)
2-Chlorotoluene	30	33.1	110	30	33.1	110	(79-122)	0.00	(< 20)
2-Hexanone	90	94.3	105	90	94.3	105	(57-139)	0.00	(< 20)
4-Chlorotoluene	30	33.5	112	30	33.5	112	(78-122)	0.00	(< 20)
4-Isopropyltoluene	30	31.5	105	30	31.5	105	(77-127)	0.00	(< 20)
4-Methyl-2-pentanone (MIBK)	90	85.5	95	90	85.5	95	(67-130)	0.00	(< 20)
Benzene	30	33.6	112	30	33.6	112	(79-120)	0.00	(< 20)
Bromobenzene	30	32.2	107	30	32.2	107	(80-120)	0.00	(< 20)
Bromochloromethane	30	31.1	104	30	31.1	104	(78-123)	0.00	(< 20)
Bromodichloromethane	30	33.7	112	30	33.7	112	(79-125)	0.00	(< 20)
Bromoform	30	32.6	109	30	32.6	109	(66-130)	0.00	(< 20)
Bromomethane	30	35.6	119	30	35.6	119	(53-141)	0.00	(< 20)
Carbon disulfide	45	45.2	100	45	45.2	100	(64-133)	0.00	(< 20)

Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29437]
Blank Spike Lab ID: 1348305
Date Analyzed: 08/21/2016 13:42

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29437]
Spike Duplicate Lab ID: 1348306
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889001, 1164889002, 1164889005, 1164889006, 1164889007

Results by **SW8260B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Carbon tetrachloride	30	30.9	103	30	30.9	103	(72-136)	0.00	(< 20)
Chlorobenzene	30	31.9	106	30	31.9	106	(82-118)	0.00	(< 20)
Chloroethane	30	27.8	93	30	27.8	93	(60-138)	0.00	(< 20)
Chloroform	30	29.1	97	30	29.1	97	(79-124)	0.00	(< 20)
Chloromethane	30	38.2	127	30	38.2	127	(50-139)	0.00	(< 20)
cis-1,2-Dichloroethene	30	31.5	105	30	31.5	105	(78-123)	0.00	(< 20)
cis-1,3-Dichloropropene	30	31.7	106	30	31.7	106	(75-124)	0.00	(< 20)
Dibromochloromethane	30	32.3	108	30	32.3	108	(74-126)	0.00	(< 20)
Dibromomethane	30	31.6	105	30	31.6	105	(79-123)	0.00	(< 20)
Dichlorodifluoromethane	30	34.2	114	30	34.2	114	(32-152)	0.00	(< 20)
Ethylbenzene	30	34.0	113	30	34.0	113	(79-121)	0.00	(< 20)
Freon-113	45	47.1	105	45	47.1	105	(70-136)	0.00	(< 20)
Hexachlorobutadiene	30	35.4	118	30	35.4	118	(66-134)	0.00	(< 20)
Isopropylbenzene (Cumene)	30	31.8	106	30	31.8	106	(72-131)	0.00	(< 20)
Methylene chloride	30	30.2	101	30	30.2	101	(74-124)	0.00	(< 20)
Methyl-t-butyl ether	45	45.4	101	45	45.4	101	(71-124)	0.00	(< 20)
Naphthalene	30	30.9	103	30	30.9	103	(61-128)	0.00	(< 20)
n-Butylbenzene	30	32.5	108	30	32.5	108	(75-128)	0.00	(< 20)
n-Propylbenzene	30	33.6	112	30	33.6	112	(76-126)	0.00	(< 20)
o-Xylene	30	34.1	114	30	34.1	114	(78-122)	0.00	(< 20)
P & M -Xylene	60	68.2	114	60	68.2	114	(80-121)	0.00	(< 20)
sec-Butylbenzene	30	35.3	118	30	35.3	118	(77-126)	0.00	(< 20)
Styrene	30	31.2	104	30	31.2	104	(78-123)	0.00	(< 20)
tert-Butylbenzene	30	34.6	115	30	34.6	115	(78-124)	0.00	(< 20)
Tetrachloroethene	30	32.7	109	30	32.7	109	(74-129)	0.00	(< 20)
Toluene	30	30.7	102	30	30.7	102	(80-121)	0.00	(< 20)
trans-1,2-Dichloroethene	30	31.7	106	30	31.7	106	(75-124)	0.00	(< 20)
trans-1,3-Dichloropropene	30	32.8	109	30	32.8	109	(73-127)	0.00	(< 20)
Trichloroethene	30	33.8	113	30	33.8	113	(79-123)	0.00	(< 20)
Trichlorofluoromethane	30	32.2	107	30	32.2	107	(65-141)	0.00	(< 20)
Vinyl acetate	30	32.5	108	30	32.5	108	(54-146)	0.00	(< 20)
Vinyl chloride	30	35.7	119	30	35.7	119	(58-137)	0.00	(< 20)
Xylenes (total)	90	102	114	90	102	114	(79-121)	0.00	(< 20)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29437]
Blank Spike Lab ID: 1348305
Date Analyzed: 08/21/2016 13:42

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29437]
Spike Duplicate Lab ID: 1348306
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889001, 1164889002, 1164889005, 1164889006, 1164889007

Results by **SW8260B**

	Blank Spike (%)			Spike Duplicate (%)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	95.7	96	30	95.7	96	(81-118)	0.00	
4-Bromofluorobenzene (surr)	30	99.6	100	30	99.6	100	(85-114)	0.00	
Toluene-d8 (surr)	30	96.9	97	30	96.9	97	(89-112)	0.00	

Batch Information

Analytical Batch: **VMS16116**
Analytical Method: **SW8260B**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **TJT**

Prep Batch: **VXX29437**
Prep Method: **SW5030B**
Prep Date/Time: **08/21/2016 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Billable Matrix Spike Summary

Original Sample ID: 1164889002
MS Sample ID: 1164889003 BMS
MSD Sample ID: 1164889004 BMSD

Analysis Date: 08/21/2016 21:29
Analysis Date: 08/21/2016 16:00
Analysis Date: 08/21/2016 16:16
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

Results by **SW8260B**

		Matrix Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,1,2-Tetrachloroethane	0.250U	30.0	30	100	30.0	35.8	119	78-124	17.70	(< 20)
1,1,1-Trichloroethane	0.500U	30.0	37.4	125	30.0	32.7	109	74-131	13.40	(< 20)
1,1,2,2-Tetrachloroethane	0.250U	30.0	31.6	105	30.0	33.2	111	71-121	4.70	(< 20)
1,1,2-Trichloroethane	0.500U	30.0	30.4	101	30.0	33.8	113	80-119	10.30	(< 20)
1,1-Dichloroethane	0.500U	30.0	34.6	115	30.0	30.2	101	77-125	13.40	(< 20)
1,1-Dichloroethene	0.500U	30.0	33.3	111	30.0	28.7	96	71-131	14.80	(< 20)
1,1-Dichloropropene	0.500U	30.0	34.3	114	30.0	31.0	103	79-125	10.10	(< 20)
1,2,3-Trichlorobenzene	0.500U	30.0	35.1	117	30.0	36.8	123	69-129	4.90	(< 20)
1,2,3-Trichloropropane	0.500U	30.0	31.4	105	30.0	33.0	110	73-122	5.10	(< 20)
1,2,4-Trichlorobenzene	0.500U	30.0	36	120	30.0	36.1	120	69-130	0.28	(< 20)
1,2,4-Trimethylbenzene	0.500U	30.0	34.9	116	30.0	34.8	116	79-124	0.43	(< 20)
1,2-Dibromo-3-chloropropane	5.00U	30.0	34.1	114	30.0	37.7	126	62-128	10.00	(< 20)
1,2-Dibromoethane	0.500U	30.0	32.4	108	30.0	36.2	121	77-121	11.20	(< 20)
1,2-Dichlorobenzene	0.500U	30.0	32.2	107	30.0	32.1	107	80-119	0.40	(< 20)
1,2-Dichloroethane	0.250U	30.0	31.5	105	30.0	28.4	95	73-128	10.60	(< 20)
1,2-Dichloropropane	0.500U	30.0	36.2	121	30.0	33.2	111	78-122	8.60	(< 20)
1,3,5-Trimethylbenzene	0.500U	30.0	34.4	115	30.0	34.5	115	75-124	0.26	(< 20)
1,3-Dichlorobenzene	0.500U	30.0	33	110	30.0	32.8	109	80-119	0.64	(< 20)
1,3-Dichloropropane	0.250U	30.0	30.7	102	30.0	33.2	111	80-119	8.00	(< 20)
1,4-Dichlorobenzene	0.250U	30.0	34	113	30.0	33.5	112	79-118	1.60	(< 20)
2,2-Dichloropropane	0.500U	30.0	35	117	30.0	30.1	100	60-139	15.00	(< 20)
2-Butanone (MEK)	5.00U	90.0	92.9	103	90.0	97.2	108	56-143	4.50	(< 20)
2-Chlorotoluene	0.500U	30.0	33.2	111	30.0	33.2	111	79-122	0.18	(< 20)
2-Hexanone	5.00U	90.0	94.4	105	90.0	101	112	57-139	6.30	(< 20)
4-Chlorotoluene	0.500U	30.0	34.1	114	30.0	34.0	113	78-122	0.09	(< 20)
4-Isopropyltoluene	0.500U	30.0	33.1	110	30.0	32.5	108	77-127	1.80	(< 20)
4-Methyl-2-pentanone (MIBK)	5.00U	90.0	91.5	102	90.0	92.3	103	67-130	0.87	(< 20)
Benzene	0.200U	30.0	35.8	119	30.0	33.4	111	79-120	7.10	(< 20)
Bromobenzene	0.500U	30.0	32.9	110	30.0	32.4	108	80-120	1.50	(< 20)
Bromochloromethane	0.500U	30.0	34	113	30.0	29.9	100	78-123	12.70	(< 20)
Bromodichloromethane	0.250U	30.0	36.3	121	30.0	32.5	108	79-125	11.10	(< 20)
Bromoform	0.500U	30.0	30.6	102	30.0	35.1	117	66-130	13.70	(< 20)
Bromomethane	5.00U	30.0	42.4	141	30.0	35.5	118	53-141	17.70	(< 20)
Carbon disulfide	5.00U	45.0	52.3	116	45.0	44.0	98	64-133	17.20	(< 20)
Carbon tetrachloride	0.500U	30.0	34.7	116	30.0	30.1	100	72-136	14.30	(< 20)
Chlorobenzene	0.250U	30.0	31.8	106	30.0	32.7	109	82-118	2.60	(< 20)
Chloroethane	0.500U	30.0	32.3	108	30.0	27.1	90	60-138	17.50	(< 20)

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Billable Matrix Spike Summary

Original Sample ID: 1164889002
MS Sample ID: 1164889003 BMS
MSD Sample ID: 1164889004 BMSD

Analysis Date: 08/21/2016 21:29
Analysis Date: 08/21/2016 16:00
Analysis Date: 08/21/2016 16:16
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

Results by **SW8260B**

		Matrix Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Chloroform	0.500U	30.0	31.7	106	30.0	27.8	93	79-124	12.90	(< 20)
Chloromethane	0.590J	30.0	43.7	144 *	30.0	38.2	125	50-139	13.40	(< 20)
cis-1,2-Dichloroethene	0.500U	30.0	34.4	115	30.0	30.9	103	78-123	10.70	(< 20)
cis-1,3-Dichloropropene	0.250U	30.0	33.7	112	30.0	31.5	105	75-124	6.70	(< 20)
Dibromochloromethane	0.250U	30.0	31.7	106	30.0	33.9	113	74-126	6.60	(< 20)
Dibromomethane	0.500U	30.0	34	113	30.0	30.9	103	79-123	9.40	(< 20)
Dichlorodifluoromethane	0.500U	30.0	39.9	133	30.0	34.2	114	32-152	15.20	(< 20)
Ethylbenzene	0.500U	30.0	34.1	114	30.0	33.3	111	79-121	2.20	(< 20)
Freon-113	5.00U	45.0	53.1	118	45.0	45.9	102	70-136	14.50	(< 20)
Hexachlorobutadiene	0.500U	30.0	42.1	140 *	30.0	38.6	129	66-134	8.80	(< 20)
Isopropylbenzene (Cumene)	0.500U	30.0	31.5	105	30.0	31.4	105	72-131	0.38	(< 20)
Methylene chloride	2.50U	30.0	32.8	109	30.0	28.6	95	74-124	13.70	(< 20)
Methyl-t-butyl ether	5.00U	45.0	48.2	107	45.0	45.4	101	71-124	6.00	(< 20)
Naphthalene	5.00U	30.0	31.2	104	30.0	34.6	115	61-128	10.30	(< 20)
n-Butylbenzene	0.500U	30.0	34.2	114	30.0	33.4	111	75-128	2.50	(< 20)
n-Propylbenzene	0.500U	30.0	34.6	115	30.0	34.0	113	76-126	1.60	(< 20)
o-Xylene	0.500U	30.0	33.6	112	30.0	33.9	113	78-122	0.89	(< 20)
P & M -Xylene	1.00U	60.0	68	113	60.0	68.6	114	80-121	0.83	(< 20)
sec-Butylbenzene	0.500U	30.0	36.6	122	30.0	35.5	118	77-126	3.00	(< 20)
Styrene	0.500U	30.0	30.8	103	30.0	31.0	103	78-123	0.55	(< 20)
tert-Butylbenzene	0.500U	30.0	35.4	118	30.0	35.0	117	78-124	1.10	(< 20)
Tetrachloroethene	0.500U	30.0	30.8	103	30.0	34.4	115	74-129	11.10	(< 20)
Toluene	2.11	30.0	31.7	99	30.0	33.5	105	80-121	5.50	(< 20)
trans-1,2-Dichloroethene	0.500U	30.0	35.1	117	30.0	30.6	102	75-124	13.50	(< 20)
trans-1,3-Dichloropropene	0.500U	30.0	31.8	106	30.0	34.5	115	73-127	8.10	(< 20)
Trichloroethene	0.500U	30.0	36.4	121	30.0	33.6	112	79-123	8.10	(< 20)
Trichlorofluoromethane	0.500U	30.0	36	120	30.0	31.3	104	65-141	14.00	(< 20)
Vinyl acetate	5.00U	30.0	34.9	116	30.0	33.2	111	54-146	5.30	(< 20)
Vinyl chloride	0.500U	30.0	40.5	135	30.0	34.8	116	58-137	15.00	(< 20)
Xylenes (total)	1.50U	90.0	102	113	90.0	103	114	79-121	0.85	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		30.0	30.2	101	30.0	27.2	91	81-118	10.40	
4-Bromofluorobenzene (surr)		30.0	30.2	101	30.0	29.9	100	85-114	1.10	
Toluene-d8 (surr)		30.0	27.5	92	30.0	29.7	99	89-112	7.70	

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Billable Matrix Spike Summary

Original Sample ID: 1164889002
MS Sample ID: 1164889003 BMS
MSD Sample ID: 1164889004 BMSD

Analysis Date:
Analysis Date: 08/21/2016 16:00
Analysis Date: 08/21/2016 16:16
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

Results by **SW8260B**

		Matrix Spike (%)			Spike Duplicate (%)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL

Batch Information

Analytical Batch: VMS16116
Analytical Method: SW8260B
Instrument: VPA 780/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 8/21/2016 4:00:00PM

Prep Batch: VXX29437
Prep Method: Volatiles Extraction 8240/8260 FULL
Prep Date/Time: 8/21/2016 6:00:00AM
Prep Initial Wt./Vol.: 5.00mL
Prep Extract Vol: 5.00mL

Print Date: 09/15/2016 1:17:12PM

Method Blank

Blank ID: MB for HBN 1742334 [VXX/29449]
Blank Lab ID: 1348560

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889001, 1164889002, 1164889005, 1164889006, 1164889007, 1164889008, 1164889009

Results by **AK101**

Parameter	Results	LOQ/CL	DL	Units
Gasoline Range Organics	0.0500U	0.100	0.0310	mg/L
Surrogates				
4-Bromofluorobenzene (surr)	85.9	50-150		%

Batch Information

Analytical Batch: VFC13262
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: ST
Analytical Date/Time: 8/28/2016 10:39:00PM

Prep Batch: VXX29449
Prep Method: SW5030B
Prep Date/Time: 8/28/2016 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29449]
Blank Spike Lab ID: 1348561
Date Analyzed: 08/28/2016 22:20

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29449]
Spike Duplicate Lab ID: 1348562
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889001, 1164889002, 1164889005, 1164889006, 1164889007, 1164889008, 1164889009

Results by **AK101**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	1.00	0.826	83	1.00	0.781	78	(60-120)	5.60	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500	90.8	91	0.0500	88.2	88	(50-150)	2.90	

Batch Information

Analytical Batch: **VFC13262**
Analytical Method: **AK101**
Instrument: **Agilent 7890 PID/FID**
Analyst: **ST**

Prep Batch: **VXX29449**
Prep Method: **SW5030B**
Prep Date/Time: **08/28/2016 06:00**
Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

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Billable Matrix Spike Summary

Original Sample ID: 1164889002
MS Sample ID: 1164889003 BMS
MSD Sample ID: 1164889004 BMSD

Analysis Date: 08/29/2016 2:09
Analysis Date: 08/29/2016 5:39
Analysis Date: 08/29/2016 5:58
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

Results by **AK101**

		Matrix Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	0.0500U	1.00	0.802	80	1.00	0.775	78	60-120	3.40	(< 20)
Surrogates										
4-Bromofluorobenzene (surr)		0.0500	0.0470	94	0.0500	0.0430	86	50-150	8.80	

Batch Information

Analytical Batch: VFC13262
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: ST
Analytical Date/Time: 8/29/2016 5:39:00AM

Prep Batch: VXX29449
Prep Method: Volatile Fuels Extraction (W)
Prep Date/Time: 8/28/2016 6:00:00AM
Prep Initial Wt./Vol.: 5.00mL
Prep Extract Vol: 5.00mL

Print Date: 09/15/2016 1:17:17PM

Method Blank

Blank ID: MB for HBN 1742337 [VXX/29450]
Blank Lab ID: 1348566

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889010, 1164889011, 1164889012, 1164889013

Results by **AK101**

Parameter	Results	LOQ/CL	DL	Units
Gasoline Range Organics	0.0500U	0.100	0.0310	mg/L
Surrogates				
4-Bromofluorobenzene (surr)	103	50-150		%

Batch Information

Analytical Batch: VFC13254
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: ST
Analytical Date/Time: 8/28/2016 10:40:00AM

Prep Batch: VXX29450
Prep Method: SW5030B
Prep Date/Time: 8/28/2016 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29450]
Blank Spike Lab ID: 1348569
Date Analyzed: 08/28/2016 12:46

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29450]
Spike Duplicate Lab ID: 1348570
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889010, 1164889011, 1164889012, 1164889013

Results by **AK101**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	1.00	0.938	94	1.00	0.906	91	(60-120)	3.50	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500	113	113	0.0500	120	120	(50-150)	6.50	

Batch Information

Analytical Batch: **VFC13254**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **ST**

Prep Batch: **VXX29450**
Prep Method: **SW5030B**
Prep Date/Time: **08/28/2016 06:00**
Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1742345 [VXX/29452]
Blank Lab ID: 1348598

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889006, 1164889007

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Naphthalene	5.00U	10.0	3.10	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	102	81-118		%
4-Bromofluorobenzene (surr)	104	85-114		%
Toluene-d8 (surr)	101	89-112		%

Batch Information

Analytical Batch: VMS16119
Analytical Method: SW8260B
Instrument: VSA Agilent GC/MS 7890B/5977A
Analyst: TJT
Analytical Date/Time: 8/26/2016 2:07:00PM

Prep Batch: VXX29452
Prep Method: SW5030B
Prep Date/Time: 8/26/2016 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29452]
Blank Spike Lab ID: 1348599
Date Analyzed: 08/26/2016 14:23

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29452]
Spike Duplicate Lab ID: 1348600
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889006, 1164889007

Results by **SW8260B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2,4-Trimethylbenzene	30	31.7	106	30	32.6	109	(79-124)	3.00	(< 20)
1,3,5-Trimethylbenzene	30	32.5	108	30	33.4	111	(75-124)	2.70	(< 20)
Dichlorodifluoromethane	30	25.3	84	30	25.6	85	(32-152)	1.20	(< 20)
Ethylbenzene	30	31.9	106	30	32.5	108	(79-121)	1.80	(< 20)
Naphthalene	30	26.1	87	30	26.7	89	(61-128)	2.20	(< 20)
o-Xylene	30	31.9	106	30	33.0	110	(78-122)	3.50	(< 20)
P & M -Xylene	60	63.8	106	60	65.0	108	(80-121)	1.90	(< 20)
Toluene	30	30.6	102	30	31.0	103	(80-121)	1.40	(< 20)
Xylenes (total)	90	95.6	106	90	98.0	109	(79-121)	2.40	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	99	99	30	98.1	98	(81-118)	0.91	
4-Bromofluorobenzene (surr)	30	100	100	30	102	102	(85-114)	1.40	
Toluene-d8 (surr)	30	99.7	100	30	99.8	100	(89-112)	0.13	

Batch Information

Analytical Batch: **VMS16119**
Analytical Method: **SW8260B**
Instrument: **VSA Agilent GC/MS 7890B/5977A**
Analyst: **TJT**

Prep Batch: **VXX29452**
Prep Method: **SW5030B**
Prep Date/Time: **08/26/2016 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1742490 [VXX/29467]
Blank Lab ID: 1349244

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889005

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	99.4	81-118		%
4-Bromofluorobenzene (surr)	102	85-114		%
Toluene-d8 (surr)	101	89-112		%

Batch Information

Analytical Batch: VMS16131
Analytical Method: SW8260B
Instrument: VPA 780/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 8/30/2016 2:09:00PM

Prep Batch: VXX29467
Prep Method: SW5030B
Prep Date/Time: 8/30/2016 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Leaching Blank

Blank ID: LB for HBN 1742247 [TCLP/8498]
Blank Lab ID: 1348162

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889005

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units
Benzene	10.0U	20.0	6.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	103	81-118		%
4-Bromofluorobenzene (surr)	102	85-114		%
Toluene-d8 (surr)	105	89-112		%

Batch Information

Analytical Batch: VMS16131
Analytical Method: SW8260B
Instrument: VPA 780/5975 GC/MS
Analyst: TJT
Analytical Date/Time: 8/30/2016 6:29:00PM

Prep Batch: VXX29467
Prep Method: SW5030B
Prep Date/Time: 8/30/2016 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29467]
Blank Spike Lab ID: 1349245
Date Analyzed: 08/30/2016 14:25

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29467]
Spike Duplicate Lab ID: 1349246
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889005

Results by **SW8260B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2,4-Trimethylbenzene	30	33.7	112	30	35.5	118	(79-124)	5.30	(< 20)
Benzene	30	31.2	104	30	33.0	110	(79-120)	5.50	(< 20)
Ethylbenzene	30	32.5	108	30	33.8	113	(79-121)	3.80	(< 20)
P & M -Xylene	60	66.3	111	60	68.7	114	(80-121)	3.50	(< 20)
Xylenes (total)	90	99.7	111	90	104	115	(79-121)	4.20	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	92.8	93	30	94.2	94	(81-118)	1.50	
4-Bromofluorobenzene (surr)	30	95	95	30	97.2	97	(85-114)	2.30	
Toluene-d8 (surr)	30	99.7	100	30	97.5	98	(89-112)	2.20	

Batch Information

Analytical Batch: **VMS16131**
Analytical Method: **SW8260B**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **TJT**

Prep Batch: **VXX29467**
Prep Method: **SW5030B**
Prep Date/Time: **08/30/2016 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1742542 [VXX/29473]
Blank Lab ID: 1349499

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889011, 1164889012

Results by **SW8260B**

Parameter	Results	LOQ/CL	DL	Units
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	102	81-118		%
4-Bromofluorobenzene (surr)	102	85-114		%
Toluene-d8 (surr)	100	89-112		%

Batch Information

Analytical Batch: VMS16133
Analytical Method: SW8260B
Instrument: VSA Agilent GC/MS 7890B/5977A
Analyst: TJT
Analytical Date/Time: 8/31/2016 5:27:00PM

Prep Batch: VXX29473
Prep Method: SW5030B
Prep Date/Time: 8/31/2016 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [VXX29473]
Blank Spike Lab ID: 1349500
Date Analyzed: 08/31/2016 18:45

Spike Duplicate ID: LCSD for HBN 1164889 [VXX29473]
Spike Duplicate Lab ID: 1349501
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889011, 1164889012

Results by **SW8260B**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Dichlorodifluoromethane	30	33.2	111	30	33.5	112	(32-152)	0.81	(< 20)
Toluene	30	31.7	106	30	31.9	106	(80-121)	0.79	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	99	99	30	98.2	98	(81-118)	0.85	
4-Bromofluorobenzene (surr)	30	98.5	99	30	97.3	97	(85-114)	1.30	
Toluene-d8 (surr)	30	99.1	99	30	98.5	99	(89-112)	0.64	

Batch Information

Analytical Batch: **VMS16133**
Analytical Method: **SW8260B**
Instrument: **VSA Agilent GC/MS 7890B/5977A**
Analyst: **TJT**

Prep Batch: **VXX29473**
Prep Method: **SW5030B**
Prep Date/Time: **08/31/2016 06:00**
Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

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Method Blank

Blank ID: MB for HBN 1741936 [XXX/36104]
Blank Lab ID: 1346713

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889002, 1164889005, 1164889006, 1164889007, 1164889008, 1164889009, 1164889010, 1164889011

Results by **8270D SIM LV (PAH)**

Parameter	Results	LOQ/CL	DL	Units
1-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
2-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.00620	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.00620	ug/L
Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0250U	0.0500	0.0150	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
Surrogates				
2-Fluorobiphenyl (surr)	54.7	53-106		%
Terphenyl-d14 (surr)	59.3	58-132		%

Batch Information

Analytical Batch: XMS9608
Analytical Method: 8270D SIM LV (PAH)
Instrument: SVA Agilent 780/5975 GC/MS
Analyst: S.G
Analytical Date/Time: 9/10/2016 10:23:00PM

Prep Batch: XXX36104
Prep Method: SW3520C
Prep Date/Time: 8/21/2016 10:34:33AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [XXX36104]
Blank Spike Lab ID: 1346714
Date Analyzed: 09/10/2016 22:44

Spike Duplicate ID: LCSD for HBN 1164889 [XXX36104]
Spike Duplicate Lab ID: 1346715
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889002, 1164889005, 1164889006, 1164889007, 1164889008, 1164889009, 1164889010, 1164889011

Results by **8270D SIM LV (PAH)**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1-Methylnaphthalene	2	1.17	59	2	1.36	68	(41-115)	14.70	(< 20)
2-Methylnaphthalene	2	1.16	58	2	1.32	66	(39-114)	13.60	(< 20)
Acenaphthene	2	1.44	72	2	1.69	85	(48-114)	16.10	(< 20)
Acenaphthylene	2	1.31	65	2	1.50	75	(35-121)	13.90	(< 20)
Anthracene	2	1.74	87	2	2.00	100	(53-119)	13.50	(< 20)
Benzo(a)Anthracene	2	1.32	66	2	1.42	71	(59-120)	7.30	(< 20)
Benzo[a]pyrene	2	1.39	69	2	1.58	79	(53-120)	12.90	(< 20)
Benzo[b]Fluoranthene	2	1.23	62	2	1.39	70	(53-126)	12.10	(< 20)
Benzo[g,h,i]perylene	2	1.36	68	2	1.52	76	(44-128)	11.00	(< 20)
Benzo[k]fluoranthene	2	1.40	70	2	1.66	83	(54-125)	17.40	(< 20)
Chrysene	2	1.76	88	2	1.93	97	(57-120)	9.50	(< 20)
Dibenzo[a,h]anthracene	2	1.19	59	2	1.33	66	(44-131)	11.20	(< 20)
Fluoranthene	2	1.42	71	2	1.56	78	(58-120)	9.60	(< 20)
Fluorene	2	1.44	72	2	1.66	83	(50-118)	14.20	(< 20)
Indeno[1,2,3-c,d] pyrene	2	1.38	69	2	1.53	76	(48-130)	10.20	(< 20)
Naphthalene	2	1.26	63	2	1.43	71	(43-114)	12.80	(< 20)
Phenanthrene	2	1.16	58	2	1.35	68	(53-115)	14.90	(< 20)
Pyrene	2	1.47	74	2	1.64	82	(53-121)	11.00	(< 20)
Surrogates									
2-Fluorobiphenyl (surr)	2	59	59	2	68.3	68	(53-106)	14.70	
Terphenyl-d14 (surr)	2	64	64	2	69	69	(58-132)	7.50	

Batch Information

Analytical Batch: **XMS9608**
Analytical Method: **8270D SIM LV (PAH)**
Instrument: **SVA Agilent 780/5975 GC/MS**
Analyst: **S.G**

Prep Batch: **XXX36104**
Prep Method: **SW3520C**
Prep Date/Time: **08/21/2016 10:34**
Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

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Billable Matrix Spike Summary

Original Sample ID: 1164889002
MS Sample ID: 1164889003 BMS
MSD Sample ID: 1164889004 BMSD

Analysis Date: 09/13/2016 5:58
Analysis Date: 09/13/2016 6:19
Analysis Date: 09/13/2016 6:39
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

Results by **8270D SIM LV (PAH)**

		Matrix Spike (ug/L)				Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)		CL	RPD (%)	RPD CL
1-Methylnaphthalene	0.0485J	2.08	1.68	79		2.00	1.58	77		41-115	6.20	(< 20)
2-Methylnaphthalene	0.0311J	2.08	1.86	88		2.00	1.72	85		39-114	8.00	(< 20)
Acenaphthene	0.0265U	2.08	1.71	82		2.00	1.62	81		48-114	5.30	(< 20)
Acenaphthylene	0.0265U	2.08	1.65	79		2.00	1.48	74		35-121	10.80	(< 20)
Anthracene	0.0265U	2.08	1.52	73		2.00	1.41	71		53-119	7.40	(< 20)
Benzo(a)Anthracene	0.0265U	2.08	1.38	66		2.00	1.31	65		59-120	5.60	(< 20)
Benzo[a]pyrene	0.0106U	2.08	1.11	54		2.00	1.01	51	*	53-120	9.60	(< 20)
Benzo[b]Fluoranthene	0.0265U	2.08	.983	47	*	2.00	0.886	44	*	53-126	10.30	(< 20)
Benzo[g,h,i]perylene	0.0265U	2.08	.664	32	*	2.00	0.587	29	*	44-128	12.40	(< 20)
Benzo[k]fluoranthene	0.0265U	2.08	.98	47	*	2.00	0.903	45	*	54-125	8.20	(< 20)
Chrysene	0.0265U	2.08	1.41	68		2.00	1.33	67		57-120	5.60	(< 20)
Dibenzo[a,h]anthracene	0.0106U	2.08	.616	30	*	2.00	0.579	29	*	44-131	6.20	(< 20)
Fluoranthene	0.0265U	2.08	1.62	78		2.00	1.47	74		58-120	9.80	(< 20)
Fluorene	0.0265U	2.08	1.47	71		2.00	1.40	70		50-118	5.20	(< 20)
Indeno[1,2,3-c,d] pyrene	0.0265U	2.08	.628	30	*	2.00	0.570	29	*	48-130	9.70	(< 20)
Naphthalene	0.0530U	2.08	1.78	85		2.00	1.65	82		43-114	7.80	(< 20)
Phenanthrene	0.0265U	2.08	1.58	76		2.00	1.45	72		53-115	8.40	(< 20)
Pyrene	0.0265U	2.08	1.68	81		2.00	1.50	75		53-121	10.80	(< 20)
Surrogates												
2-Fluorobiphenyl (surr)		2.08	1.55	74		2.00	1.43	71		53-106	8.40	
Terphenyl-d14 (surr)		2.08	1.5	72		2.00	1.39	69		58-132	7.60	

Batch Information

Analytical Batch: XMS9612
Analytical Method: 8270D SIM LV (PAH)
Instrument: SVA Agilent 780/5975 GC/MS
Analyst: BRV
Analytical Date/Time: 9/13/2016 6:19:00AM

Prep Batch: XXX36104
Prep Method: 3520 Liq/Liq Ext for 8270 PAH SIM LV
Prep Date/Time: 8/21/2016 10:34:33AM
Prep Initial Wt./Vol.: 240.00mL
Prep Extract Vol: 1.00mL

Print Date: 09/15/2016 1:17:33PM

Method Blank

Blank ID: MB for HBN 1741959 [XXX/36116]
Blank Lab ID: 1346799

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889012, 1164889013

Results by **8270D SIM LV (PAH)**

Parameter	Results	LOQ/CL	DL	Units
1-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
2-Methylnaphthalene	0.0193J	0.0500	0.0150	ug/L
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.0150	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.0150	ug/L
Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0250U	0.0500	0.0150	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
Surrogates				
2-Fluorobiphenyl (surr)	68.4	53-106		%
Terphenyl-d14 (surr)	76.2	58-132		%

Batch Information

Analytical Batch: XMS9571
Analytical Method: 8270D SIM LV (PAH)
Instrument: Agilent GC 7890B/5977A SWA
Analyst: BRV
Analytical Date/Time: 8/25/2016 6:16:00PM

Prep Batch: XXX36116
Prep Method: SW3520C
Prep Date/Time: 8/22/2016 10:00:50AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [XXX36116]
Blank Spike Lab ID: 1346800
Date Analyzed: 08/25/2016 18:38

Spike Duplicate ID: LCSD for HBN 1164889 [XXX36116]
Spike Duplicate Lab ID: 1346801
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889012, 1164889013

Results by **8270D SIM LV (PAH)**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1-Methylnaphthalene	2	1.91	95	2	1.90	95	(41-115)	0.52	(< 20)
2-Methylnaphthalene	2	1.85	92	2	1.83	92	(39-114)	0.84	(< 20)
Acenaphthene	2	2.04	102	2	2.04	102	(48-114)	0.21	(< 20)
Acenaphthylene	2	1.88	94	2	1.86	93	(35-121)	1.00	(< 20)
Anthracene	2	1.91	96	2	1.94	97	(53-119)	1.80	(< 20)
Benzo(a)Anthracene	2	1.81	91	2	1.72	86	(59-120)	5.00	(< 20)
Benzo[a]pyrene	2	1.97	98	2	1.90	95	(53-120)	3.40	(< 20)
Benzo[b]Fluoranthene	2	1.72	86	2	1.68	84	(53-126)	2.80	(< 20)
Benzo[g,h,i]perylene	2	1.82	91	2	1.76	88	(44-128)	3.60	(< 20)
Benzo[k]fluoranthene	2	1.76	88	2	1.76	88	(54-125)	0.03	(< 20)
Chrysene	2	1.85	93	2	1.85	93	(57-120)	0.14	(< 20)
Dibenzo[a,h]anthracene	2	1.80	90	2	1.80	90	(44-131)	0.22	(< 20)
Fluoranthene	2	1.81	91	2	1.83	92	(58-120)	0.86	(< 20)
Fluorene	2	1.87	94	2	1.86	93	(50-118)	0.58	(< 20)
Indeno[1,2,3-c,d] pyrene	2	1.77	89	2	1.77	89	(48-130)	0.19	(< 20)
Naphthalene	2	1.82	91	2	1.81	91	(43-114)	0.07	(< 20)
Phenanthrene	2	1.77	88	2	1.71	85	(53-115)	3.40	(< 20)
Pyrene	2	2.00	100	2	1.98	99	(53-121)	0.79	(< 20)
Surrogates									
2-Fluorobiphenyl (surr)	2	78.9	79	2	71.5	72	(53-106)	9.80	
Terphenyl-d14 (surr)	2	79.8	80	2	73.7	74	(58-132)	7.90	

Batch Information

Analytical Batch: **XMS9571**
Analytical Method: **8270D SIM LV (PAH)**
Instrument: **Agilent GC 7890B/5977A SWA**
Analyst: **BRV**

Prep Batch: **XXX36116**
Prep Method: **SW3520C**
Prep Date/Time: **08/22/2016 10:00**
Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

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Method Blank

Blank ID: MB for HBN 1742414 [XXX/36176]
Blank Lab ID: 1348886

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889002, 1164889005, 1164889006, 1164889007, 1164889008, 1164889009

Results by **AK102**

Parameter	Results	LOQ/CL	DL	Units
Diesel Range Organics	0.300U	0.600	0.180	mg/L
Surrogates				
5a Androstane (surr)	64.9	60-120		%

Batch Information

Analytical Batch: XFC12769
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: CRA
Analytical Date/Time: 8/31/2016 10:02:00AM

Prep Batch: XXX36176
Prep Method: SW3520C
Prep Date/Time: 8/30/2016 4:27:44PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [XXX36176]
Blank Spike Lab ID: 1348887
Date Analyzed: 08/31/2016 10:12

Spike Duplicate ID: LCSD for HBN 1164889 [XXX36176]
Spike Duplicate Lab ID: 1348888
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889002, 1164889005, 1164889006, 1164889007, 1164889008, 1164889009

Results by **AK102**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	20	16.5	82	20	15.9	80	(75-125)	3.20	(< 20)
Surrogates									
5a Androstane (surr)	0.4	79.3	79	0.4	80.8	81	(60-120)	1.90	

Batch Information

Analytical Batch: **XFC12769**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **CRA**

Prep Batch: **XXX36176**
Prep Method: **SW3520C**
Prep Date/Time: **08/30/2016 16:27**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

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Method Blank

Blank ID: MB for HBN 1742414 [XXX/36176]
Blank Lab ID: 1348886

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889002, 1164889005, 1164889006, 1164889007, 1164889008, 1164889009

Results by **AK103**

Parameter	Results	LOQ/CL	DL	Units
Residual Range Organics	0.317J	0.500	0.150	mg/L
Surrogates				
n-Triacontane-d62 (surr)	65.3	60-120		%

Batch Information

Analytical Batch: XFC12769
Analytical Method: AK103
Instrument: Agilent 7890B R
Analyst: CRA
Analytical Date/Time: 8/31/2016 10:02:00AM

Prep Batch: XXX36176
Prep Method: SW3520C
Prep Date/Time: 8/30/2016 4:27:44PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [XXX36176]
Blank Spike Lab ID: 1348887
Date Analyzed: 08/31/2016 10:12

Spike Duplicate ID: LCSD for HBN 1164889 [XXX36176]
Spike Duplicate Lab ID: 1348888
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889002, 1164889005, 1164889006, 1164889007, 1164889008, 1164889009

Results by **AK103**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Residual Range Organics	20	17.1	86	20	17.5	87	(60-120)	2.10	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	0.4	85.7	86	0.4	86.5	87	(60-120)	0.89	

Batch Information

Analytical Batch: **XFC12769**
Analytical Method: **AK103**
Instrument: **Agilent 7890B R**
Analyst: **CRA**

Prep Batch: **XXX36176**
Prep Method: **SW3520C**
Prep Date/Time: **08/30/2016 16:27**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

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Method Blank

Blank ID: MB for HBN 1742448 [XXX/36183]
Blank Lab ID: 1349043

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889010, 1164889011, 1164889012, 1164889013

Results by **AK102**

Parameter	Results	LOQ/CL	DL	Units
Diesel Range Organics	0.300U	0.600	0.180	mg/L
Surrogates				
5a Androstane (surr)	84.2	60-120		%

Batch Information

Analytical Batch: XFC12770
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: NRO
Analytical Date/Time: 8/31/2016 10:38:00PM

Prep Batch: XXX36183
Prep Method: SW3520C
Prep Date/Time: 8/31/2016 10:07:36AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [XXX36183]
Blank Spike Lab ID: 1349044
Date Analyzed: 08/31/2016 22:48

Spike Duplicate ID: LCSD for HBN 1164889 [XXX36183]
Spike Duplicate Lab ID: 1349045
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889010, 1164889011, 1164889012, 1164889013

Results by **AK102**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	20	18.7	93	20	18.8	94	(75-125)	0.68	(< 20)
Surrogates									
5a Androstane (surr)	0.4	99.7	100	0.4	99	99	(60-120)	0.70	

Batch Information

Analytical Batch: **XFC12770**
Analytical Method: **AK102**
Instrument: **Agilent 7890B F**
Analyst: **NRO**

Prep Batch: **XXX36183**
Prep Method: **SW3520C**
Prep Date/Time: **08/31/2016 10:07**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

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Method Blank

Blank ID: MB for HBN 1742448 [XXX/36183]
Blank Lab ID: 1349043

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1164889010, 1164889011, 1164889012, 1164889013

Results by **AK103**

Parameter	Results	LOQ/CL	DL	Units
Residual Range Organics	0.250U	0.500	0.150	mg/L
Surrogates				
n-Triacontane-d62 (surr)	98.9	60-120		%

Batch Information

Analytical Batch: XFC12770
Analytical Method: AK103
Instrument: Agilent 7890B F
Analyst: NRO
Analytical Date/Time: 8/31/2016 10:38:00PM

Prep Batch: XXX36183
Prep Method: SW3520C
Prep Date/Time: 8/31/2016 10:07:36AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1164889 [XXX36183]
Blank Spike Lab ID: 1349044
Date Analyzed: 08/31/2016 22:48

Spike Duplicate ID: LCSD for HBN 1164889 [XXX36183]
Spike Duplicate Lab ID: 1349045
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1164889010, 1164889011, 1164889012, 1164889013

Results by **AK103**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Residual Range Organics	20	18.7	94	20	18.6	93	(60-120)	0.74	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	0.4	106	106	0.4	104	104	(60-120)	2.00	

Batch Information

Analytical Batch: **XFC12770**
Analytical Method: **AK103**
Instrument: **Agilent 7890B F**
Analyst: **NRO**

Prep Batch: **XXX36183**
Prep Method: **SW3520C**
Prep Date/Time: **08/31/2016 10:07**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

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CHAIN OF CUSTODY RECORD

1164889

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New Jersey New York
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Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Page 1 of 2

Section 1

CLIENT: Agviq, LLC

CONTACT: Gloria Beckman PHONE NO: 907-365-6230

PROJECT NAME: Point Lay Kali School PROJECT/ PWSID/ PERMIT#: 4422

REPORTS TO: Gloria Beckman E-MAIL: gbeckman@tikigaq.com

INVOICE TO: Diane Kinka QUOTE #: P.O. #:

Section 3

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Type C = COMP G = GRAB MI = Multi Incremental Soils	Preservative: HCl	HCl	HCl							REMARKS/ LOC ID
							VOCs 8260	GRO AK101	DRO/RRO AK102/3	PAH 8270-SIM						
1 A-F	TRIPBLANK-06	8-17-16	1000	W		G	X	X								
2 A-J	16-PLK2-MW-04	8-17-16	1005	WG	24	G	9	7	2	6				3 4 A-G		MS/MSD
5 A-J	16-PLK2-MW-05	8-17-16	1145	WG	10	G	3	3	2	2						
6 A-F	16-PLK2-MW-SO-02	8-17-16	1345	WG	6	G	2	2	1	1						
7 A-J	16-PLK2-MW-SO-03	8-17-16	1730	WG	10	G	3	3	2	2						
8 A-J	16-PLK2-MW-01	8-17-16	1635	WG	10	G	3	3	2	2						
9 A-J	16-PLK2-MWX-01	8-17-16	1645	WG	10	G	3	3	2	2						
10 A-I	16-PLK2-MW-SO-04	8-18-16	1255	WG	9	G	3	3	2	1						
11 A-J	16-PLK2-MW-02	8-18-16	1115	WG	10	G	3	3	2	2						
12 A-J	16-PLK2-MWX-02	8-18-16	1130	WG	10	G	3	3	2	2						

Section 5

	Date	Time	
Relinquished By: (1) Rem Tkint	8-19-16	1000	Received By:
Relinquished By: (2)			Received By:
Relinquished By: (3)			Received By:
Relinquished By: (4)	8/20/16	09:46	Received For Laboratory By:

Section 4

DOD Project? Yes No

Cooler ID:

Data Deliverable Requirements:

Requested Turnaround Time and/or Special Instructions:

Temp Blank °C: 1:0.6 #07 2:0.4 #71 3:0.7 #011

or Ambient [ ]

(See attached Sample Receipt Form)

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Fill on all

(See attached Sample Receipt Form)

[ ] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

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CHAIN OF CUSTODY RECORD

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Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Section 1

CLIENT: Agvig, LLC

CONTACT: Gloria Beckman PHONE NO: 907-365-6230

PROJECT NAME: Point Lay Kali School PROJECT/ PWSID/ PERMIT#: 4422

REPORTS TO: Gloria Beckman E-MAIL: gbeckman@tikigaq.com

INVOICE TO: Diane Kinka QUOTE #: P.O. #:

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Type C = COMP G = GRAB MI = Multi Incre-mental Soils	Preservative: HU	HU	HU							REMARKS/ LOC ID
							UVS 8260	GRO AK101	DRO/IRRO AK102/3	PAHs 8270-SIM						
(13) A-I	16-PLK2-MW-03	8-18-16	1410	WG	9	G	3'	3'	1'	2'						

Section 3

Section 4

DOD Project? Yes No

Cooler ID:

Data Deliverable Requirements:

Requested Turnaround Time and/or Special Instructions:

Section 5

	Date	Time	
Relinquished By: (1) Rumy Klint	8-19-16	1000	Received By:
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	8/20/16	09:46	Received For Laboratory By:

Temp Blank °C: _____

or Ambient [ ]

(See attached Sample Receipt Form)

Chain of Custody Seal: (Circle)

INTACT BROKEN ABSENT

(See attached Sample Receipt Form)

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C

027 BRW 4612 1390

027-4612 1390

50

8/2

Shipper's Name and Address Agviq LLC 301 W Northern Lights Blvd Suite 660 Anchorage, AK 99503 USA Tel: 9073656299	**Shipper's Account Number** 27442481828 **Customer's ID Number** 16966
Not Negotiable **Air Waybill** Issued By Alaska AIR CARGO P.O. BOX 68900 SEATTLE, WA 98168 800-225-2752 ALASKACARGO.COM	
Consignee's Name and Address SGS North America Inc 200 W Potter Drive Anchorage, AK 99518 USA Tel: 9075622343	**Consignee's Account Number** 27400215947
Also notify Tel:	
Issuing Carrier's Agent and City	**Accounting Information** 16966 Agviq LLC 301 W Northern Lights Blvd Suite 660 Anchorage, AK 99503 USA GoldStreak **1164889**
Agent's IATA Code / **Account No.**	
Airport of Departure (Addr. of First Carrier) and Requested Routing Barrow	

To	By First Carrier	To / By	To / By	Currency	WT/VAL	Other	Declared Value For Carriage	Declared Value For Customs
ANC	Alaska Airlines			USD	PX X	X	NVD	NCV

Airport of Destination	Flight/Date	Flight/Date	Amount of Insurance
Anchorage	AS 050/19		XXX

Handling Information

SCI

No of Pieces	Gross Weight	kg lb	Commodity Item No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (Incl. Dimensions or Volume)
3	112.0	L	Q	112.0		AS AGREED	WATER SAMPLES Dims: 24 x 12 x12 x 1 24 x 12 x12 x 1 24 x 12 x12 x 1 GSX
3	112.0					AS AGREED	Volume: 6.000

Prepaid	Weight Charge	Collect
	AS AGREED	

Valuation Charge

Tax

Other Charges: XBC 0.00

Total Other Charges Due Agent

Total Other Charges Due Carrier

Shipper certifies that the particulars on the face hereof are correct and that **insofar as any part of the consignment contains dangerous goods, such part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations. I consent to the inspection of this cargo.**

For: Agviq LLC

Signature of Shipper or his Agent

RF THIS SHIPMENT DOES NOT CONTAIN DANGEROUS GOODS

☐ THIS SHIPMENT DOES CONTAIN DANGEROUS GOODS

Total Prepaid	Total Collect
AS AGREED	

Executed On (Date)	at (Place)	Signature of Issuing Carrier or its Agent
19 Aug 2016 13:23	Barrow	Alaska Airlines

027-4612 1390

SGS North America Inc
Courier Slip

Date/Time: 8/20/16 0930

Signature: Trust Taylor

Deliver To/Pick UP From:
GLADSTEIN

Description:
3 COOLERS

1164889

Bill Back To:
AGVIQ

FW-0083_Courier_Slip

e-SAMPLE RECEIPT FORM

1164889

Review Criteria	Y/N (yes/no)	Exceptions Noted below
		exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	Y	1-F, 1-B on all
COC accompanied samples?	Y	
**exemption permitted if chilled & collected <8hrs ago or chlling not required (i.e., waste, oil)		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Y	Cooler ID: 1 @ 0.6 °C Therm ID: D7
	Y	Cooler ID: 2 @ 0.4 °C Therm ID: 71
	Y	Cooler ID: 3 @ 0.7 °C Therm ID: D11
		Cooler ID: @ °C Therm ID:
		Cooler ID: @ °C Therm ID:
*If >6°C, were samples collected <8 hours ago?		
If <0°C, were sample containers ice free?		
If samples received without a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "**COOLER TEMP**" will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note "ambient" or "chilled".		
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
		Note: Refer to form F-083 "Sample Guide" for hold times.
Were samples received within hold time?	Y	
Do samples **match COC**** (i.e.,sample IDs,dates/times collected)?	Y	
**Note: If times differ <1hr, record details & login per COC.		
Were analyses requested unambiguous?	Y	
		***Exemption permitted for metals (e.g,200.8/6020A).
Were proper containers (type/mass/volume/preservative***)used?	Y	
IF APPLICABLE		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Y	
Were all VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	N	
Were all soil VOAs field extracted with MeOH+BFB?		

Note to Client: Any "no" answer above indicates non-compliance with standard procedures and may impact data quality.

Additional notes (if applicable):

Samples 7C and 9C had bubbles greater than 6 mm.

All containers listed on the COC were received, as they are listed on the COC. Multiple samples came with limited volume for all analyses. Samples 3 & 4 have limited volume GROs. Sample 6 has limited volume for all analyses. Sample 10 has limited volume PAHs. Sample 13 has limited volume DRO/RRO.

Samples 3 & 4 did not come with any DRO/RRO containers. Therefore, there is only DRO/RRO for the parent sample, and not for the MS or the MSD. The client has asked that it be logged in as is.

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1164889001-A	HCL to pH < 2	OK	1164889006-C	HCL to pH < 2	OK
1164889001-B	HCL to pH < 2	OK	1164889006-D	HCL to pH < 2	OK
1164889001-C	HCL to pH < 2	OK	1164889006-E	HCL to pH < 2	OK
1164889001-D	HCL to pH < 2	OK	1164889006-F	No Preservative Required	OK
1164889001-E	HCL to pH < 2	OK	1164889007-A	HCL to pH < 2	OK
1164889001-F	HCL to pH < 2	OK	1164889007-B	HCL to pH < 2	OK
1164889002-A	HCL to pH < 2	OK	1164889007-C	HCL to pH < 2	BU
1164889002-B	HCL to pH < 2	OK	1164889007-D	HCL to pH < 2	OK
1164889002-C	HCL to pH < 2	OK	1164889007-E	HCL to pH < 2	OK
1164889002-D	HCL to pH < 2	OK	1164889007-F	HCL to pH < 2	OK
1164889002-E	HCL to pH < 2	OK	1164889007-G	HCL to pH < 2	OK
1164889002-F	HCL to pH < 2	OK	1164889007-H	HCL to pH < 2	OK
1164889002-G	HCL to pH < 2	OK	1164889007-I	No Preservative Required	OK
1164889002-H	HCL to pH < 2	OK	1164889007-J	No Preservative Required	OK
1164889002-I	No Preservative Required	OK	1164889008-A	HCL to pH < 2	OK
1164889002-J	No Preservative Required	OK	1164889008-B	HCL to pH < 2	OK
1164889003-A	HCL to pH < 2	OK	1164889008-C	HCL to pH < 2	OK
1164889003-B	HCL to pH < 2	OK	1164889008-D	HCL to pH < 2	OK
1164889003-C	HCL to pH < 2	OK	1164889008-E	HCL to pH < 2	OK
1164889003-D	HCL to pH < 2	OK	1164889008-F	HCL to pH < 2	OK
1164889003-E	HCL to pH < 2	OK	1164889008-G	HCL to pH < 2	OK
1164889003-F	No Preservative Required	OK	1164889008-H	HCL to pH < 2	OK
1164889003-G	No Preservative Required	OK	1164889008-I	No Preservative Required	OK
1164889004-A	HCL to pH < 2	OK	1164889008-J	No Preservative Required	OK
1164889004-B	HCL to pH < 2	OK	1164889009-A	HCL to pH < 2	OK
1164889004-C	HCL to pH < 2	OK	1164889009-B	HCL to pH < 2	OK
1164889004-D	HCL to pH < 2	OK	1164889009-C	HCL to pH < 2	BU
1164889004-E	HCL to pH < 2	OK	1164889009-D	HCL to pH < 2	OK
1164889004-F	No Preservative Required	OK	1164889009-E	HCL to pH < 2	OK
1164889004-G	No Preservative Required	OK	1164889009-F	HCL to pH < 2	OK
1164889005-A	HCL to pH < 2	OK	1164889009-G	HCL to pH < 2	OK
1164889005-B	HCL to pH < 2	OK	1164889009-H	HCL to pH < 2	OK
1164889005-C	HCL to pH < 2	OK	1164889009-I	No Preservative Required	OK
1164889005-D	HCL to pH < 2	OK	1164889009-J	No Preservative Required	OK
1164889005-E	HCL to pH < 2	OK	1164889010-A	HCL to pH < 2	OK
1164889005-F	HCL to pH < 2	OK	1164889010-B	HCL to pH < 2	OK
1164889005-G	HCL to pH < 2	OK	1164889010-C	HCL to pH < 2	OK
1164889005-H	HCL to pH < 2	OK	1164889010-D	HCL to pH < 2	OK
1164889005-I	No Preservative Required	OK	1164889010-E	HCL to pH < 2	OK
1164889005-J	No Preservative Required	OK	1164889010-F	HCL to pH < 2	OK
1164889006-A	HCL to pH < 2	OK	1164889010-G	HCL to pH < 2	OK
1164889006-B	HCL to pH < 2	OK	1164889010-H	HCL to pH < 2	OK

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1164889010-I	No Preservative Required	OK			
1164889011-A	HCL to pH < 2	OK			
1164889011-B	HCL to pH < 2	OK			
1164889011-C	HCL to pH < 2	OK			
1164889011-D	HCL to pH < 2	OK			
1164889011-E	HCL to pH < 2	OK			
1164889011-F	HCL to pH < 2	OK			
1164889011-G	HCL to pH < 2	OK			
1164889011-H	HCL to pH < 2	OK			
1164889011-I	No Preservative Required	OK			
1164889011-J	No Preservative Required	OK			
1164889012-A	HCL to pH < 2	OK			
1164889012-B	HCL to pH < 2	OK			
1164889012-C	HCL to pH < 2	OK			
1164889012-D	HCL to pH < 2	OK			
1164889012-E	HCL to pH < 2	OK			
1164889012-F	HCL to pH < 2	OK			
1164889012-G	HCL to pH < 2	OK			
1164889012-H	HCL to pH < 2	OK			
1164889012-I	No Preservative Required	OK			
1164889012-J	No Preservative Required	OK			
1164889013-A	HCL to pH < 2	OK			
1164889013-B	HCL to pH < 2	OK			
1164889013-C	HCL to pH < 2	OK			
1164889013-D	HCL to pH < 2	OK			
1164889013-E	HCL to pH < 2	OK			
1164889013-F	HCL to pH < 2	OK			
1164889013-G	HCL to pH < 2	OK			
1164889013-H	No Preservative Required	OK			
1164889013-I	No Preservative Required	OK			

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM- The container was received damaged.
FR- The container was received frozen and not usable for Bacteria or BOD analyses.
PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

APPENDIX D: QUALITY ASSURANCE REVIEW AND ADEC CHECKLISTS

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QUALITY ASSURANCE SUMMARY

SGS LABORATORY REPORT 1164889

NSB POINT LAY KALI SCHOOL
POINT LAY, ALASKA

SITE CHARACTERIZATION REPORT ADDENDUM
PHASE III

FEBRUARY 3, 2017

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1. INTRODUCTION

This Quality Assurance (QA) Summary outlines the technical review of analytical results generated during August 2016 groundwater sampling activities at the Point Lay Kali School site. Project samples and laboratory quality assurance/quality control (QA/QC) data were reviewed to assess whether the data met the designated data quality objectives (DQO) and were acceptable for project use. The analytical data were reviewed to determine if data quality objectives established for the project were met as presented in the *Work Plan* (Agviq, LLC [Agviq]. 2016) and for any effects on data usability due to field sampling and laboratory quality control discrepancies.

1.1 Data Quality Objectives

The six DQOs used for this review were precision, accuracy, representativeness, comparability, completeness, and sensitivity.

- Precision measures the reproducibility of repetitive measurements. It is measured by calculating the relative percent difference (RPD) between duplicate samples. Field duplicate samples, matrix spike (MS) and matrix spike duplicate (MSD) sample pairs, and laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) pairs were used to measure precision for this project.
- Accuracy measures the correctness, or the closeness, between the true value and the quantity detected. It is measured by calculating the percent recovery of known concentrations of spiked compounds that were introduced into the appropriate sample matrix. Surrogate, LCS, and MS sample recoveries were used to measure accuracy for this project.
- Representativeness describes the degree to which data accurately and precisely represents site characteristics. Representativeness was demonstrated by choosing the number of samples, sample locations, and sampling procedures in order to produce results showing as accurately as possible the matrix and site conditions.
- Comparability describes whether two data sets can be considered equivalent with respect to the project goal. Comparability is achieved by keeping the analytical laboratory the same throughout the project. Analytical methods, laboratory procedures, and reporting limits are therefore consistent and comparable between laboratory reports.
- Completeness describes the amount of valid data obtained from the sampling event(s). It is calculated as the percentage of valid measurements compared to the total number of measurements.
- Sensitivity describes the lowest concentration that the analytical method can reliably quantitate, and is evaluated by verifying that the detected results and/or limits of quantitation (LOQ) meet the project specific cleanup levels and/or screening levels. Sensitivity is also assessed by comparison of method blank and trip blank results to the LOQ.

In addition to these criteria for the six DQOs described above, sample collection and handling procedures and blank samples were reviewed to ensure overall data quality. Sample collection forms were reviewed to verify that representative samples were collected and samples were without headspace (if applicable). Sample handling was reviewed to assess parameters such as chain-of-custody (CoC) documentation, the use of appropriate sample containers and preservatives, shipment

cooler temperature, and method-specified sample holding times. Blank samples were analyzed to detect potential field or laboratory cross-contamination. Each of these parameters contributes to the general representativeness and comparability of the project data. The combination of evaluations of the above-mentioned parameters will lead to a determination of the overall project data completeness. The following data qualifiers are used to indicate a potential bias in an analytical result or a deviation from method or project QC procedures.

U	The analyte was analyzed for, but not detected.
U-J	The analyte was analyzed for, but not detected. The reported quantitation level is approximate and may be inaccurate or imprecise.
UB	The analyte is detected in an associated blank and the sample result is less than five-times or ten-times (for the common lab contaminants) the blank contamination. If the sample result is less than the LOQ, the result is considered not detected at the limit of detection (LOD). If the sample result is greater than the LOQ, the result is considered not detected and the sample result is considered the new LOD.
B	The analyte is detected in an associated blank and the sample result is greater than five-times the blank contamination.
J	The analyte is considered an estimated value due to its quantitation level.
JC	The analyte is considered an estimated value due to a calibration QC deviation.
JD	The analyte is considered an estimated value due to demonstrated field duplicate imprecision.
JH	The analyte is considered an estimated value due to exceedance of the technical holding time
JI	The analyte is considered an estimated value due to an internal standard QC deviation.
JL	The analyte is considered an estimated value due to demonstrated laboratory control sample imprecision or inaccuracy.
JM	The analyte is considered an estimated value due to demonstrated sample matrix interference.
JP	The analyte is considered an estimated value due to insufficient preservation.
JS	The analyte is considered an estimated value due to a surrogate QC deviation.
JT	The analyte is considered an estimated value due to exceedance of the recommended sample receipt temperature.
R	The result is rejected because of deficiencies in meeting QC criteria and may not be used for decision making.

1.2 Summary

A total of 10 groundwater samples consisting of eight (8) primary samples and two (2) field duplicate samples were collected in support of the Point Lay Kali School project in August 2016. Extra volume was collected for MS/MSD analysis for one (1) sample. In addition, one (1) trip blank sample accompanied the cooler containing the samples for volatile analyses. Each sample was analyzed by one or more of the following analytical methods:

- Gasoline range organic compounds (GRO) by Alaska (AK) method AK 101
- Diesel range organic compounds (DRO) by AK 102
- Residual range organic compounds (RRO) by AK 103
- Volatile organic compounds (VOC) by SW8260B

- Polynuclear aromatic hydrocarbons (PAH) by 8270D PAH SIM LV

Project and quality control samples for all analyses were analyzed by SGS North America, Inc. of Anchorage, Alaska (SGS). The SGS Anchorage laboratory is accredited by the State of Alaska through the Contaminated Sites Program and is certified through the Environmental Laboratory Accreditation Program (ELAP) for the applicable methods employed for this project. The samples were organized into one (1) sample delivery group (SDG) at the laboratory: 1164889.

2. DATA QUALITY REVIEW

2.1 Sample Handling

The evaluation of proper sample handling procedures included verification of the following: correct CoC documentation, appropriate sample containers and preservatives, cooler temperatures maintained 0-6 degrees Celsius (°C), and sample analyses performed within method-specified holding times. The following sample handling discrepancies were noted upon receipt at the laboratory:

- Samples 16-PLK2-MW-SO-Q3 and 16-PLK2-MWX-01 (field duplicate at MW-01) were received with one VOC container with bubbles greater than 6 millimeters (mm).
    - The laboratory used the other supplied containers. No data quality or usability was affected by the sample receipt.
- All containers listed on the COC were received, as they are listed on the COC. Multiple samples came with limited volume for all analyses.
    - The GRO samples for 16-PLK2-MW-04-MS and 16-PLK2-MW-04-MSD were received with limited volumes. Samples 16-PLK2-MW-04-MS and 16-PLK2-MW-04-MSD were received without DRO/RRO containers. Therefore, there is only DRO/RRO for the 16-PLK2-MW-04 parent sample, and not for the MS or the MSD.
    - Sample 16-PLK2-MW-SO-J2 was received with limited volume for all analyses.
    - The PAH samples for 16-PLK2-MW-SO-L4 were received with limited volumes.
    - The DRO/ RRO samples for 16-PLK2-MW-03 were received with limited volumes.
        - The laboratory used the supplied containers. No data quality or usability was affected by the sample receipt.

2.2 Blanks

Method blanks and trip blanks were utilized to detect potential cross-contamination of project samples. The blank samples were reviewed for detections of target analytes and the effect (if any) on project samples is addressed.

2.2.1 Method Blanks

Method blanks were utilized to detect potential cross-contamination of project samples occurring in the laboratory. Method blanks are analyzed at the frequency of one per matrix, analysis, and 20 samples.

- Chloromethane was detected in the method blank sample 1347503 in prep batch VXX/29415 at a concentration below the LOQ. Associated sample 16-PLK2-MW-03 was detected at a concentration less than five-times that of the method blank sample and less than the LOQ. The result is considered not detected at the limit of detection (LOD), and qualified (UB) to reflect the bias introduced by the method blank contamination.

Analyte	Method Blank	Laboratory Result	LOQ	
Chloromethane	1347503	0.320 J	1.00	
Analyte	**Associated Sample**	**Laboratory Result**	**LOQ**	**Interpreted Result**
Chloromethane	16-PLK2-MW-03	0.860 J	1.00	ND (0.5) UB

- 2-methylnaphthalene was detected in the method blank sample 1346799 in prep batch XXX/36116 at a concentration below the LOQ.
  Associated samples 16-PLK2-MWX-02 (field duplicate at MW-02) were detected greater than five-times the blank contamination. The result is qualified (B) to reflect the bias introduced by the method blank contamination.
  Associated sample 16-PLK2-MW-03 was detected at a concentration less than five-times that of the method blank sample and less than the LOQ. The result is considered not detected at the LOD, and qualified (UB) to reflect the bias introduced by the method blank contamination.

Analyte	Method Blank	Laboratory Result	LOQ	
2-methylnaphthalene	1346799	0.0193 J	0.0500	
Analyte	**Associated Sample**	**Laboratory Result**	**LOQ**	**Interpreted Result**
2-methylnaphthalene	16-PLK2-MWX-02	0.223	0.0579	0.223 B
2-methylnaphthalene	16-PLK2-MW-03	0.0302 J	0.0548	ND (0.0274) UB

RRO was detected in the method blank sample 1348886 in prep batch XXX/36176 at a concentration below the LOQ. Associated samples are 16-PLK2-MW-04, 16-PLK2-MW-05, 16-PLK2-MW-SO-J2, 16-PLK2-MW-SO-Q3, 16-PLK2-MW-01, and 16-PLK2-MWX-01 (field duplicate at MW-01).
Results less than five-times that of the method blank sample, but greater than the LOQ are considered not detected at the result value, and qualified (UB) to reflect the bias introduced by the method blank contamination.
Results greater than five-times the blank contamination are qualified (B) to reflect the bias introduced by the method blank contamination.

Analyte	Method Blank	Laboratory Result	LOQ	
RRO	1348886	0.317 J	0.500	
Analyte	**Associated Sample**	**Laboratory Result**	**LOQ**	**Interpreted Result**
RRO	16-PLK2-MW-04	0.698	0.510	ND (0.698) UB
RRO	16-PLK2-MW-05	0.533	0.510	ND (0.533) UB
RRO	16-PLK2-MW-SO-J2	0.827	0.543	ND (0.827) UB
RRO	16-PLK2-MW-SO-Q3	1.80	0.543	1.80 B
RRO	16-PLK2-MW-01	1.11	0.532	ND (1.11) UB
RRO	16-PLK2-MWX-01	1.76	0.532	1.76 B

2.2.2 Trip Blanks

Trip blanks are utilized to detect potential cross-contamination of project samples occurring during shipment and storage. A trip blank accompanied the cooler containing samples for volatiles analyses.

- Trip blank sample TRIPBLANK-06 accompanied all volatile samples. Target analyte Chloromethane was detected in TRIPBLANK-06 at a concentration below the LOQ.
- Associated samples 16-PLK2-MW-04 and 16-PLK2-MW-SO-J2 were detected at a concentration less than five-times that of the method blank sample and less than the LOQ. The result is considered not detected at the LOD, and qualified (UB) to reflect the bias introduced by the method blank contamination.

Analyte	Method Blank	Laboratory Result	LOQ	
Chloromethane	TRIPBLANK-06	0.500 J	1.00	
Analyte	**Associated Sample**	**Laboratory Result**	**LOQ**	**Interpreted Result**
Chloromethane	16-PLK2-MW-04	0.590 J	1.00	ND (0.5) UB
Chloromethane	16-PLK2-MW-SO-J2	0.980 J	1.00	ND (0.5) UB

2.3 Laboratory Control Samples

LCS/LCSD samples were prepared by adding spike compounds to blank samples in order to assess laboratory extraction and instrumentation performance. LCS samples are analyzed at the frequency of one per matrix, analysis, and 20 samples for all methods. Additionally, LCSD samples are analyzed at the frequency of one per matrix, analysis, and 20 samples for Alaska fuel methods. LCS/LCSD samples were analyzed at the correct frequency and all results met laboratory accuracy and precision limits with the following exceptions.

- Chloromethane relative percent difference (22%) in LCS/LCSD sample 1347079 did not meet laboratory criteria (<20%).
    - Chloromethane was not detected in associated samples 16-PLK2-MW-01, 16-PLK2-MWX-01 (field duplicate at MW-01), or 16-PLK2-MW-SO-L4; therefore, results were not qualified.

No data quality or usability was affected by the laboratory control samples.

2.4 Matrix Spike Samples

MS/MSD samples are prepared by adding spike compounds to project samples in order to assess potential matrix interference, recovery accuracy, and precision. MS/MSD samples are analyzed for each method and matrix at the frequency of one per 20 project samples (5%) and frequency is assessed on a per project basis (rather than per laboratory report basis). Only MS/MSD samples prepared from project samples are reviewed as only their results apply to samples from this project. MS/MSD samples were analyzed at the correct frequency and all results met laboratory accuracy and precision limits with the following exceptions.

- MS/MSD samples for DRO/ RRO we not collected/ submitted to the laboratory.
- MS sample chloromethane percent recovery (144%) did not meet laboratory criteria (50-139%). Chloromethane was not detected in associated samples or associated samples were interpreted as non-detect due to blank contamination; therefore, results were not qualified.
- MS sample hexachlorobutadiene percent recovery (140%) did not meet laboratory criteria (66-134%). Hexachlorobutadiene was not detected in associated samples; therefore, results were not qualified.
- MS/MSD benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-c,d)pyrene percent recoveries were below laboratory criteria. These analytes were not detected in associated samples; therefore, results were qualified U-JM due to demonstrated sample matrix interference.

2.5 Surrogate Recovery

Surrogate compounds were added to project samples by the laboratory prior to analysis, in accordance with method requirements. Surrogate recoveries were then calculated as percentages and reported by the laboratory as a measure of analytical extraction efficiency. Recoveries for surrogates were with laboratory

limits with the exceptions below, which were qualified JS and U-JS in associated samples as estimated due to surrogate QC deviation.

- PAH surrogates 2-fluorobiphenyl and terphenyl-d14 were recovered below laboratory limits in samples 16-PLK2-MW-SO-Q3, 16-PLK2-MWX-01 (field duplicate at MW-01), 16-PLK2-MW-SO-L4, and 16-PLK2-MW-03.
- GRO surrogate 4-bromofluorobenzene was recovered above laboratory limits in sample 16-PLK2-MW-SO-Q3.
- PAH surrogate terphenyl-d14 was recovered below the laboratory limits in samples 16-PLK2-MW-01, 16-PLK2-MW-02, and 16-PLK2-MWX-02 (field duplicate at MW-02).

2.6 Field Duplicates

Comparison of field sample duplicate results to the associated parent sample results provides precision information for the overall sample collection and analytical process. Field duplicate samples are submitted to the laboratory as blind samples. Field duplicates are analyzed for each method and matrix daily and at the frequency of one per 10 project samples (10%) and frequency is assessed on a per project basis (rather than per laboratory report basis). Results between field duplicates and parent samples are considered comparable when RPDs are with ADEC criterion of ≤ 30% for a water matrix. In the case where a target analyte was not detected, the LOD was used for RPD calculation purposes.

- Two (2) field duplicates were submitted for the monitoring well samples for GRO, DRO/RRO, VOC, and PAH analysis.
  - All results for the field duplicate/parent sample pair 16-PLK2-MWX-01/16-PLK2-MW-01 were comparable (RPD≤30%), with the exceptions of RRO (45.3%), 2-butanone (MEK [40.1%]), and 2-methylnapthalne (45.3%). Sample results were qualified JD and U-JD.
  - All results for the field duplicate/parent sample pair 16-PLK2-MWX-02/16-PLK2-MW-02 were comparable (RPD≤30%), with the exceptions of p&m-xylenes (45.4%), 1-methylnaphthalene (32.59%), 2-methylnapthalne (43.72%), and naphthalene by 8270D PAH SIM LV (95.77%). Sample results were qualified JD.

2.7 Analytical Sensitivity

Analytical sensitivity was evaluated to verify that LOQs met the applicable cleanup levels for non-detect results.

- Many LOQs for non-detect results did not meet applicable cleanup levels or minimum required detection level for the project. Non-detect results were reported to the LOD. The LODs were less than the cleanup levels or minimum required detection level for the project, with the following exceptions:
  - 1,1,2-trichloroethane, 1,2,3-trichloropropane, 1,2-dibromoethane (EDB), naphthalene, vinyl chloride by SW8260B
- Naphthalene by 8270D PAH SIM LV met established DQOs for the project.

2.8 Additional Quality Control Discrepancies

No data quality or usability was affected by the case narrative that is not discussed elsewhere in this report.

2.9 Summary of Qualified Results

The overall quality of the data is acceptable. The data quality was determined as acceptable or estimated. Acceptable data are associated with QC data that meet all QC criteria or with QC samples that did not meet QC criteria but DQOs were not affected. Estimated J results are considered inaccurate due to a bias created by matrix interference or QC acceptance criteria which were not met. No results were rejected (R). Data quality meets established DQOs established for this project.

2.10 Completeness

Completeness was calculated at 100% for this data set, which exceeds the 85% goal per UST Procedures Manual.

Laboratory Data Review Checklist

Completed by:

Lilian Merrill/ Rena Flint

Title:

Program Assistant/ Field Team Lead

Date:

February 03, 2017

CS Report Name:

NSB Point Lay Kali School Site Characterization Report Addendum, Phase III

Report Date:

February 03, 2017

Consultant Firm:

Agviq, LLC

Laboratory Name:

SGS - Anchorage, AK

Laboratory Report Number:

1164889

ADEC File Number:

425.38.004

Hazard Identification Number:

1629

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      (•) Yes ( ) No Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      ( ) Yes ( ) No Comments:

   N/A - Samples were not subcontracted.

2. Chain of Custody (COC)

   a. COC information completed, signed, and dated (including released/received by)?
      (•) Yes ( ) No Comments:

   b. Correct analyses requested?
      (•) Yes ( ) No Comments:

3. Laboratory Sample Receipt Documentation

   a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?
      (•) Yes ( ) No Comments:

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      (•) Yes ( ) No Comments:

   c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
      (•) Yes ( ) No Comments:

   Samples received in good condition.

   d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?
      (•) Yes ( ) No Comments:

   Bubbles > 6mm and limited volume were noted.

e. Data quality or usability affected?

Comments:

No data quality or usability was affected by the Laboratory sample reciept documentation.

4. Case Narrative

a. Present and understandable?

(•) Yes ( ) No Comments:

b. Discrepancies, errors or QC failures identified by the lab?

(•) Yes ( ) No Comments:

c. Were all corrective actions documented?

(•) Yes ( ) No Comments:

d. What is the effect on data quality/usability according to the case narrative?

Comments:

No data quality or usability was affected by the Case narrative.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

(•) Yes ( ) No Comments:

b. All applicable holding times met?

(•) Yes ( ) No Comments:

c. All soils reported on a dry weight basis?

( ) Yes ( ) No Comments:

N/A - water samples.

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

( ) Yes (•) No Comments:

e. Data quality or usability affected?

Comments:

QAR discusses data quality/ usability based on review of data package.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

(•) Yes ( ) No Comments:

ii. All method blank results less than limit of quantitation (LOQ)?

(•) Yes ( ) No Comments:

iii. If above LOQ, what samples are affected?

Comments:

N/A - less than LOQ.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

(•) Yes ( ) No Comments:

N/A - Samples were affected by Method blank analyte detections less than the LOQ.

v. Data quality or usability affected?

Comments:

QAR discusses the data quality/ usability based on review of data package.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

(•) Yes ( ) No Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

( ) Yes (•) No Comments:

N/A - no metals/ inorganic samples.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

(•) Yes ( ) No Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

( ) Yes (•) No Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

No samples were affected. The analyte was not detected in associated samples; therefore, results were not qualified.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

( ) Yes ( ) No Comments:

N/A

vii. Data quality or usability affected?

Comments:

No data quality or usability was affected by the LCS/ LCSD.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

(•) Yes ( ) No Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

( ) Yes (•) No Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

(•) Yes ( ) No Comments:

iv. Data quality or usability affected?

Comments:

QAR discusses the data quality/ usability based on review of data package.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and cooler?

(•) Yes ( ) No Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

( ) Yes ( ) No Comments:

Yes

iii. All results less than LOQ?

(•) Yes ( ) No Comments:

iv. If above LOQ, what samples are affected?

Comments:

N/A - Samples were affected by Trip blank analyte detection, Chloromethane less than the LOQ.

v. Data quality or usability affected?

Comments:

QAR discusses data quality/ usability based on review of data package.

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

(•) Yes ( ) No Comments:

ii. Submitted blind to lab?

(•) Yes ( ) No Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

○ Yes ◉ No Comments:

iv. Data quality or usability affected?

Comments:

QAR discusses data quality/ usability based on review of data package.

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

○ Yes ○ No ◉ Not Applicable

i. All results less than LOQ?

○ Yes ◉ No Comments:

N/A - only dedicated quipment was used to collect samples.

ii. If above LOQ, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected?

Comments:

N/A

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

○ Yes ○ No Comments:

N/A

APPENDIX E: CONCEPTUAL SITE MODEL

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Print Form

Human Health Conceptual Site Model Scoping Form

Site Name: NSB Point lay Kali School Site

File Number: 425.38.004

Completed by: ERM Alaska, Inc.

Introduction

The form should be used to reach agreement with the Alaska Department of Environmental Conservation (DEC) about which exposure pathways should be further investigated during site characterization. From this information, summary text about the CSM and a graphic depicting exposure pathways should be submitted with the site characterization work plan and updated as needed in later reports.

General Instructions: Follow the italicized instructions in each section below.

1. General Information:

Sources *(check potential sources at the site)*

- ☐ USTs
- ☒ ASTs
- ☐ Dispensers/fuel loading racks
- ☐ Drums
- ☐ Vehicles
- ☐ Landfills
- ☐ Transformers
- ☐ Other:

Release Mechanisms *(check potential release mechanisms at the site)*

- ☒ Spills
- ☒ Leaks
- ☐ Direct discharge
- ☐ Burning
- ☐ Other: Multiple leaks and spills occurred over time due to improper fueling practices and a valve left open.

Impacted Media *(check potentially-impacted media at the site)*

- ☒ Surface soil (0-2 feet bgs*)
- ☒ Subsurface soil (>2 feet bgs)
- ☒ Air
- ☐ Sediment
- ☒ Groundwater
- ☒ Surface water
- ☐ Biota
- ☐ Other: DRO/GRO/RRO above Method 1 CL level throughout site. DRO/RRO above Method 2 CL in some areas.

Receptors *(check receptors that could be affected by contamination at the site)*

- ☒ Residents (adult or child)
- ☒ Commercial or industrial worker
- ☒ Construction worker
- ☒ Subsistence harvester (i.e. gathers wild foods)
- ☒ Subsistence consumer (i.e. eats wild foods)
- ☒ Site visitor
- ☒ Trespasser
- ☐ Recreational user
- ☐ Farmer
- ☐ Other:

* bgs - below ground surface

2. Exposure Pathways: *(The answers to the following questions will identify complete exposure pathways at the site. Check each box where the answer to the question is "yes".)*

a) Direct Contact -

1. Incidental Soil Ingestion

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site-specific basis.) ☒

If the box is checked, label this pathway complete: Complete

Comments:

In 2014 investigation, DRO/GRO/RRO above Method 1 CL level throughout site. DRO/RRO were above Method 2 CL in some areas. DRO exceedances were in primarily native material, but was found in some gravel pad material. RRO exceedances were in primarily native material.

2. Dermal Absorption of Contaminants from Soil

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.) ☒

Can the soil contaminants permeate the skin (see Appendix B in the guidance document)? ☐

If both boxes are checked, label this pathway complete: Incomplete

Comments:

In 2014 investigation, DRO/GRO/RRO above Method 1 CL level throughout site. DRO/RRO were above Method 2 CL in some areas. DRO exceedances were in primarily native material, but was found in some gravel pad material. RRO exceedances were in primarily native material. No contaminates listed in Appendix B were a found above applicable cleanup levels during the 2014 investigation.

b) Ingestion -

1. Ingestion of Groundwater

Have contaminants been detected or are they expected to be detected in the groundwater, or are contaminants expected to migrate to groundwater in the future? ☒

Could the potentially affected groundwater be used as a current or future drinking water source? Please note, only leave the box unchecked if DEC has determined the ground-water is not a currently or reasonably expected future source of drinking water according to 18 AAC 75.350. ☐

If both boxes are checked, label this pathway complete: Incomplete

Comments:

Exceedances to ADEC Groundwater Cleanup levels limits were detected for GRO, DRO, RRO, and benzene at various locations across the site during the 2014 investigation. DEC has made a determination that active-layer water is not currently or reasonably expected to be a source of groundwater in the Arctic.

2. Ingestion of Surface Water

Have contaminants been detected or are they expected to be detected in surface water, or are contaminants expected to migrate to surface water in the future? ☐

Could potentially affected surface water bodies be used, currently or in the future, as a drinking water source? Consider both public water systems and private use (i.e., during residential, recreational or subsistence activities). ☐

If both boxes are checked, label this pathway complete: Incomplete

Comments:

Analytical results from the 2014 site investigation were below applicable clean-up levels in all samples for BTEX and PAHs, with the majority of the results ND.

3. Ingestion of Wild and Farmed Foods

Is the site in an area that is used or reasonably could be used for hunting, fishing, or harvesting of wild or farmed foods? ☒

Do the site contaminants have the potential to bioaccumulate (see Appendix C in the guidance document)? ☐

Are site contaminants located where they would have the potential to be taken up into biota? (i.e. soil within the root zone for plants or burrowing depth for animals, in groundwater that could be connected to surface water, etc.) ☐

If all of the boxes are checked, label this pathway complete: Incomplete

Comments:

This site is not located in an area that is or could reasonably be used for hunting or fishing , wild foods could be harvests. No contaminates listed in Appendix C were a found above applicable cleanup levels during the 2014 investigation.

c) Inhalation-

1. Inhalation of Outdoor Air

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.) ☒

Are the contaminants in soil volatile (see Appendix D in the guidance document)? ☐

If both boxes are checked, label this pathway complete: Incomplete

Comments:

2014 analytical results for DRO/GRO/RRO are above Method 1 CL level throughout site. DRO/RRO were above Method 2 CL in some areas. DRO exceedances were in primarily native material, but was found in some gravel pad material. RRO exceedances were in primarily native material. No contaminates listed in Appendix D were a detected above applicable cleanup levels.

2. Inhalation of Indoor Air

Are occupied buildings on the site or reasonably expected to be occupied or placed on the site in an area that could be affected by contaminant vapors? (within 30 horizontal or vertical feet of petroleum contaminated soil or groundwater; within 100 feet of non-petroleum contaminted soil or groundwater; or subject to "preferential pathways," which promote easy airflow like utility conduits or rock fractures) ☒

Are volatile compounds present in soil or groundwater (see Appendix D in the guidance document)? ☐

If both boxes are checked, label this pathway complete: Incomplete

Comments:

2014 analytical results for DRO/GRO/RRO are above Method 1 CL level throughout site. DRO/RRO were above Method 2 CL in some areas. DRO exceedances were in primarily native material, but was found in some gravel pad material. RRO exceedances were in primarily native material. No contaminates listed in Appendix D were a detected above applicable cleanup levels.

3. **Additional Exposure Pathways:** *(Although there are no definitive questions provided in this section, these exposure pathways should also be considered at each site. Use the guidelines provided below to determine if further evaluation of each pathway is warranted.)*

Dermal Exposure to Contaminants in Groundwater and Surface Water

Dermal exposure to contaminants in groundwater and surface water may be a complete pathway if:

- Climate permits recreational use of waters for swimming.
- Climate permits exposure to groundwater during activities, such as construction.
- Groundwater or surface water is used for household purposes, such as bathing or cleaning.

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are assumed to be protective of this pathway.

Check the box if further evaluation of this pathway is needed: ☒

Comments:

2014 site investigation analytical results indicated exceedances to ADEC Groundwater Cleanup levels limits for GRO, DRO, RRO, and benzene at various locations across the site. Surface water analytical results were reported below applicable clean-up levels in all samples for BTEX and PAHs, with the majority of the results ND. Ground and surface water from this area is not used for household purposes or recreation. Groundwater may be exposed during construction activities.

Inhalation of Volatile Compounds in Tap Water

Inhalation of volatile compounds in tap water may be a complete pathway if:

- The contaminated water is used for indoor household purposes such as showering, laundering, and dish washing.
- The contaminants of concern are volatile (common volatile contaminants are listed in Appendix D in the guidance document.)

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are assumed to be protective of this pathway.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Groundwater is not used for indoor household purposes. No contaminates listed in Appendix D were a detected above applicable cleanup levels.

Inhalation of Fugitive Dust

Inhalation of fugitive dust may be a complete pathway if:

- Nonvolatile compounds are found in the top 2 centimeters of soil. The top 2 centimeters of soil are likely to be dispersed in the wind as dust particles.
- Dust particles are less than 10 micrometers (Particulate Matter - PM_{10}). Particles of this size are called respirable particles and can reach the pulmonary parts of the lungs when inhaled.
- Chromium is present in soil that can be dispersed as dust particles of any size.

Generally, DEC direct contact soil cleanup levels in Table B1 of 18 AAC 75 are protective of this pathway because it is assumed most dust particles are incidentally ingested instead of inhaled to the lower lungs. The inhalation pathway only needs to be evaluated when very small dust particles are present (e.g., along a dirt roadway or where dusts are a nuisance). This is not true in the case of chromium. Site specific cleanup levels will need to be calculated in the event that inhalation of dust containing chromium is a complete pathway at a site.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Analytical result from the 2014 site investigation were below applicable clean-up levels in all surface soil samples for BTEX and PAHs, with the majority of the results ND. The area is near a wetlands and it is unlikely dust particles would be dispersed into the air.

Direct Contact with Sediment

This pathway involves people's hands being exposed to sediment, such as during some recreational, subsistence, or industrial activity. People then incidentally ingest sediment from normal hand-to-mouth activities. In addition, dermal absorption of contaminants may be of concern if the the contaminants are able to permeate the skin (see Appendix B in the guidance document). This type of exposure should be investigated if:

- Climate permits recreational activities around sediment.
- The community has identified subsistence or recreational activities that would result in exposure to the sediment, such as clam digging.

Generally, DEC direct contact soil cleanup levels in 18 AAC 75, Table B1, are assumed to be protective of direct contact with sediment.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Analytical result from the 2014 site investigation were below applicable clean-up levels in all surface soil samples, which were colocated with surface water samples, for BTEX and PAHs, with the majority of the results ND. In addition, no recreational or subsistence activities that would include exposure to sediment occur in this area.

4. Other Comments *(Provide other comments as necessary to support the information provided in this form.)*

HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: NSB Point Lay Kali School

Completed By: Lisa Maserjian

Date Completed: 2/23/15

***Instructions*: Follow the numbered directions below. Do not consider contaminant concentrations or engineering/land use controls when describing pathways.**

(1)

Check the media that could be directly affected by the release.

(2)

For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Check additional media under (1) if the media acts as a secondary source.

(3)

Check all exposure media identified in (2).

(4)

*Check all pathways that could be complete. The pathways identified in this column **must** agree with Sections 2 and 3 of the Human Health CSM Scoping Form.*

(5)

Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, "C/F" for both current and future receptors, or "I" for insignificant exposure.

Current & Future Receptors

Media	Transport Mechanisms	Exposure Media	Exposure Pathway/Route	Residents (adults or children)	Commercial or industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other
☑ Surface Soil (0-2 ft bgs)	☑ Direct release to surface soil — check soil	☑ soil	☑ Incidental Soil Ingestion	C/F	C/F	C/F	C/F	I	I	
	☑ Migration to subsurface — check soil		☑ Dermal Absorption of Contaminants from Soil	C/F	C/F	C/F	C/F	I	I	
	☑ Migration to groundwater — check groundwater		☑ Inhalation of Fugitive Dust	C/F	C/F	C/F	C/F	I	I	
	☑ Volatilization — check air									
	☑ Runoff or erosion — check surface water									
	☐ Uptake by plants or animals — check biota									
	☐ Other (list):									
☐ Subsurface Soil (2-15 ft bgs)	☐ Direct release to subsurface soil — check soil	☑ groundwater	☐ Ingestion of Groundwater							
	☐ Migration to groundwater — check groundwater		☑ Dermal Absorption of Contaminants in Groundwater	C/F	C/F	C/F	C/F	I	I	
	☐ Volatilization — check air		☐ Inhalation of Volatile Compounds in Tap Water							
	☐ Uptake by plants or animals — check biota									
	☐ Other (list):									
☐ Ground-water	☐ Direct release to groundwater — check groundwater	☑ air	☑ Inhalation of Outdoor Air	I	I	I	I	I	I	
	☐ Volatilization — check air		☑ Inhalation of Indoor Air	I	I	I	I	I	I	
	☐ Flow to surface water body — check surface water		☐ Inhalation of Fugitive Dust							
	☐ Flow to sediment — check sediment									
	☐ Uptake by plants or animals — check biota									
	☐ Other (list):									
☐ Surface Water	☐ Direct release to surface water — check surface water	☑ surface water	☐ Ingestion of Surface Water							
	☐ Volatilization — check air		☑ Dermal Absorption of Contaminants in Surface Water	C/F	C/F	C/F	C/F	C/F	C/F	
	☐ Sedimentation — check sediment		☐ Inhalation of Volatile Compounds in Tap Water							
	☐ Uptake by plants or animals — check biota									
	☐ Other (list):									
☐ Sediment	☐ Direct release to sediment — check sediment	☐ sediment	☐ Direct Contact with Sediment							
	☐ Resuspension, runoff, or erosion — check surface water									
	☐ Uptake by plants or animals — check biota	☐ biota	☐ Ingestion of Wild or Farmed Foods							
	☐ Other (list):									

Appendix C: Blank Ecoscoping Form

Site Name: Point Lay, Kali School
Completed by: Lisa Maserjian
Date: December 23, 2014

Instructions: Follow the italicized instructions in each section below. "Off-ramps," where the evaluation ends before completing all of the sections, can be taken when indicated by the instructions. Comment boxes should be used to help support your answers.

1. Direct Visual Impacts and Acute Toxicity

Are direct impacts that may result from the site contaminants evident, or is acute toxicity from high contaminant concentrations suspected? C*heck the appropriate box.*

☐ Yes – D*escribe observations below and evaluate all of the remaining sections without taking any off-ramps.*
☒ No – *Go to next section.*

Comments:

2. Terrestrial and Aquatic Exposure Routes

Check each terrestrial and aquatic route that could occur at the site.

Terrestrial Exposure Routes

☐ Exposure to water-borne contaminants as a result of wading or swimming in contaminated waters or ingesting contaminated water.
☐ Contaminant uptake in terrestrial plants whose roots are in contact with contaminated surface water.
☐ Contaminant migration via saturated or unsaturated groundwater zones and discharge at upland "seep" locations (not associated with a wetland or waterbody).
☐ Contaminant uptake by terrestrial plants whose roots are in contact with soil moisture or groundwater present within the root zone (generally no more than 4 feet below ground surface.
☐ Particulates deposited on plants directly or from rain splash.
☐ Incidental ingestion and/or exposure while animals grub for food, burrow (up to 2 feet for small animals or 6 feet for large animals), or groom.

☐ Inhalation of fugitive dust or vapors disturbed by foraging or burrowing activities.

☐ Bioaccumulatives (other than PAHs, which bioaccumulate more readily in aquatic environments) taken up by soil invertebrates, which are in turn eaten by higher food chain organisms (see the *Policy Guidance on Developing Conceptual Site Models*).

☐ Other site-specific exposure pathways.

Aquatic Exposure Routes

☐ Contaminated surface runoff migration to water bodies through swales, drainage ditches, or overland flow.

☐ Aquatic receptors exposed through osmotic exchange, respiration, or ventilation of surface waters.

☐ Contaminant migration via saturated or unsaturated groundwater zones and discharge at "seep" locations along banks or directly to surface water.

☐ Deposition into sediments from upwelling of contaminated groundwater.

☐ Aquatic receptors may be exposed directly to contaminated sediments through foraging or burrowing, or indirectly exposed due to osmotic exchange, respiration, or ventilation of sediment pore water.

☐ Aquatic plants rooted in contaminated sediments.

☐ Bioaccumulatives (see the *Policy Guidance on Developing Conceptual Site Models*) taken up by sediment invertebrates, which are in turn eaten by higher food chain organisms.

☐ Other site-specific exposure pathways.

If any of the above boxes are checked, go on to the next section. If none are checked, end the evaluation and check the box below.

☒ OFF-RAMP: NO FURTHER ECOLOGICAL EVALUATION NECESSARY

Comments:

3. Habitat

Check all that may apply. See Ecoscoping Guidance for additional help.

☐ Habitat that could be affected by the contamination supports valued species (i.e., species that are regulated, used for subsistence, have ceremonial importance, have commercial value, or provide recreational opportunity).

☐ Critical habitat or anadromous stream in an area that could be affected by the contamination.

☐ Habitat that is important to the region that could be affected by the contamination.

☐ Contamination is in a park, preserve, or wildlife refuge.

If any of the above boxes are checked, go on to the next scoping factor. If none are checked, end the evaluation and check the box below.

☒ OFF-RAMP: NO FURTHER ECOLOGICAL EVALUATION NECESSARY

Comments:

4. Contaminant Quantity

Check all that may apply. See Ecoscoping Guidance for additional help.

☐ Endangered or threatened species are present.

☐ The aquatic environment is or could be affected.

☐ Non-petroleum contaminants may be present, or the total area of petroleum-contaminated surface soil exceeds one-half acre.

If any of the above boxes are checked, go on to the next scoping factor. If none are checked, end the evaluation and check the box below.

☒ OFF-RAMP: NO FURTHER ECOLOGICAL EVALUATION NECESSARY

Comments:

5. Toxicity Determination

Check all that apply.

☐ Bioaccumulative chemicals are present (see *Policy Guidance on Developing Conceptual Site Models*).

☐ Contaminants exceed benchmark levels (see the Ecological Benchmark Tool in RAIS, available at: http://rais.ornl.gov/tools/eco_search.php).

If either box is checked, complete a detailed Ecological Conceptual Site Model (see DEC's Policy Guidance on Developing Conceptual Site Models*) and submit it with the form to your DEC project manager.*

If neither box is checked, check the box below and submit this form to your DEC project manager.

☒ OFF-RAMP: NO FURTHER ECOLOGICAL EVALUATION NECESSARY

Comments:

LAST PAGE