Former Eyak Lake Power Plant

July 2019 Remediation System Monitoring Event Report

December, 2019

Prepared for:

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Revision	Description	Author		Quality Check		Independent Review	

Sign-off Sheet

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(signature)

Douglas Quist

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Abbreviations

µg/L	micrograms per liter
ADEC	Alaska Department of Environmental Conservation
CEC	Cordova Electric Cooperative
DRO	diesel range organics
GCL	groundwater cleanup level
GRO	gasoline range organics
MDL	minimum detection limit
mg/L	milligrams per liter
PAH	Polycyclic aromatic hydrocarbons
RL	reporting limit
RPD	relative percent difference
RRO	residual range organics
SGS	SGS North America Inc.
SIM	Selected Ion Monitoring
Stantec	Stantec Consulting Service Inc

1.0 BACKGROUND

Stantec Consulting Service Inc. (Stantec) completed groundwater monitoring activities at the former Eyak Lake Power Plant on behalf of Cordova Electric Cooperative (CEC). This report describes the activities and results for the following:

- July 1 and 2, 2019 – groundwater monitoring of well points WP-1, WP-2, WP-3R, WP-4, WP-5, monitoring wells MW-5R, MW-6, MW-7 and G-2R and the inlet and outlet of the 10,000-gallon treatment tank. Maintenance of the remediation system.

All activities were conducted on July 1 and 2, 2019 by Douglas Quist, Senior Chemist with Stantec. All sampling activities were completed in accordance with ADEC's Underground Storage Tanks Procedures Manual – Standard Sampling Procedures (November 7, 2002).

1.1 GROUNDWATER MONITORING EVENT

The groundwater monitoring event was conducted on July 1 and 2, 2019 and included sampling of well points: WP-1, WP-2, WP-3R, WP-4, WP-5, and monitoring wells MW-6, MW-7 and G-2R. Laboratory samples were not submitted for monitoring well MW5-R, as it had 0.01 feet of floating product present, and neither the inlet nor outlet of the 10,000-gallon treatment tank, as the system was undergoing maintenance and was not operational at the time of the groundwater monitoring event.

2.0 SAMPLING METHODOLOGY

Methods that were used for the groundwater monitoring events included:

- The static water levels in the monitoring wells were measured with a Solinst SMOil oil/water interface probe prior to purging the wells. The depth to water level was measured with respect to the top of each well/ well point casing.
- Three well casing volumes were purged from each monitoring well or well point, with the exception of WP-1, WP-2, and WP-3 which are sampled directly to ensure adequate sample volume given previous sampling events where the well points go dry. New, disposable, Teflon® bailers were used to purge and sample each well. Purge water was disposed of by filtering through a portable carbon filtration unit and then discharging into the 10,000-gallon treatment tank.
- Water samples were collected in laboratory-supplied sample containers. The samples were delivered to the SGS laboratory located in Anchorage, Alaska, in accordance with standard chain-of-custody procedures. The groundwater samples were analyzed for:
    - Gasoline range organics (GRO) by AK101
    - Diesel range organics (DRO) by AK102
    - Residual range organics (RRO) by AK103
    - Polycyclic aromatic hydrocarbons (PAH) by SW8270D Selected Ion Monitoring (SIM)

The first portion of water removed from each well was examined for petroleum odor, sheen, and any other unique physical features. The results of field parameter testing of the ground water samples collected during the monitoring events are presented in Appendix A.

2.1 GROUNDWATER SAMPLE ANALYTICAL RESULTS

All samples were submitted to SGS North America (SGS) in Anchorage for analysis. Historical monitoring data for this site are tabulated in Appendix C. Table 1 presents the analytical results for the 2019 monitoring event, which are shown on Figure 1. Copies of the laboratory report along with the ADEC Data Review Checklist are provided in Appendix B.

2.1.1 Well Points

GRO was not detected in any of the five well points. Well points WP-1, WP-2 and WP-3R each had detections of DRO above the 1.5 milligrams per liter (mg/L) groundwater cleanup level (GCL): WP-1 (1.78 (mg/L) WP-2 (19.5 mg/L), and WP-3R (6.75 mg/L). Additionally, well points WP-1, WP-2, and WP-3 each had detections of RRO above the GCL of 1.0 mg/L and ranged from 5.1 to 12.1 mg/L. Well point WP-3R also had a detection of benzo(a)pyrene above the groundwater cleanup level of 0.25 µg/L at 0.288 µg/L. Well points WP-4 and WP-5 each had low level detections of RRO at 0.586 mg/L and 0.504 mg/L respectively.

Figure 2 presents the graphical trend analysis for Well Points WP-1, WP-2, and WP-3/WP-3R which shows an increase in DRO and RRO concentrations during the past three sampling rounds.

2.1.2 Monitoring Wells

GRO was not detected in any of the three monitoring wells sampled (MW-6, MW-7, G2-R). DRO was detected in MW-6 at 1.10 mg/L, below the GCL of 1.5 mg/L, and above the GCL in MW-7 at 16.1 mg/L and in G2-R at 16.0 mg/L. RRO was detected in MW-6 at 0.812 mg/L, below the GCL of 1.1 mg/L, and above the GCL in MW-7 at 3.51 mg/L and in G2-R at 32.0 mg/L. The PAH benzo(a)pyrene was detected in MW-7 at 0.288 µg/L, above the GCL of 0.25 µg/L.

Figure 3 presents the graphical trend analysis for Monitoring Wells MW-6, MW-7, and G2-R which show a marked decrease from the initial sampling events to the current sampling round in 2019.

LEGEND:

- MONITORING WELL
- WELL POINT
- BORING HOLE
- PROPERTY LINE
- 1" DIA. HDPE WATER PIPE
- AST — ABOVEGROUND STORAGE TANK
- DRO — DIESEL RANGE ORGANICS
- mg/L — MILLIGRAMS PER LITER
- ug/L — MICROGRAMS PER LITER
- RRO — RESIDUAL RANGE ORGANICS

NOTES:
1. SAMPLES WERE COLLECTED ON JULY 1 AND 2, 2019.
2. BOLD/ RED TEXT INDICATES CONTAMINANT CONCENTRATIONS GREATER THAN THE ADEC 18 AAC 75 TABLE C GROUNDWATER CLEANUP LEVEL.

EYAK LAKE

FORMER COOLING POND

WP-5

WP-5
RRO ----- 0.504 mg/L

WP-4

WP-4
RRO ----- 0.586 mg/L

WP-3R (WP-3 ABANDONED)

WP-3R
DRO ---------- **6.75** mg/L
RRO ---------- **12.1** mg/L
Benzo[a]pyrene ---- **0.288** ug/L

OPEN TRENCH WITH ACCESS PORTS AND GABION WALLS

SUMP 1

BERM

SUMP 2

WP-2

SUMP 3

WP-2
DRO -- **19.5** mg/L
RRO ------- **5.51** mg/L

FORMER SUMP

MW-5R

MW-5 (ABANDONED)

WP-1

BERM

DITCH

CULVERT

FORMER CONTAINMENT AREA

SEPARATOR HOUSE

FORMER OIL RETURN LINE

FORMER 130,000 GALLON AST

DRAIN TO SEPARATOR SHED

MW-7

FORMER 10,000 GALLON DIESEL TANK

FORMER 10,000 GALLON DIESEL TANK

DRAIN

10,000 GALLON WASTE OIL TANK

BH-8

MW-6

WP-1
DRO ---------- **1.78** mg/L
RRO ---------- **5.1** mg/L

(SUCTION LINE)

G-4 (ABANDONED)

TW-10 (ABANDONED)

DRAIN

ACCESS ROAD

MW-4

G-5 (ABANDONED)

G-2 (DESTROYED)

G-2R

SD

S

1% GRAVITY

MH

G-3 (ABANDONED)

CEC STORAGE AREA (OUTSIDE)

FORMER EYAK POWER PLANT

24 LF INFILTRATOR (BURIED)

10,000 GALLON AST STEEL WATER TREATMENT TANK

LINE CREW SHOP

MW-6
DRO -------- 1.1 mg/L
RRO ------ 0.812 mg/L

FENCE

G-1 (NOT FOUND PRESUMED ABANDONED)

G-7 (ABANDONED)

STORAGE BUILDING

G-6 (ABANDONED)

PROPERTY LINE

MW-7
DRO ---------- **16.1** mg/L
RRO ---------- **3.51** mg/L
Benzo[a]pyrene ------ **0.288** ug/L

G-2R
DRO ---------- **16.0** mg/L
RRO ---------- **32.0** mg/L

N

0 40'
APPROXIMATE

FILE: C:\D\CAD\Proj\Cordova Electric\2017-2019_Eyak_PP_185750825\2019 July Mon Event\fig01_site_plan.dgn

TIME: 06-SEP-2019 12:33

Stantec

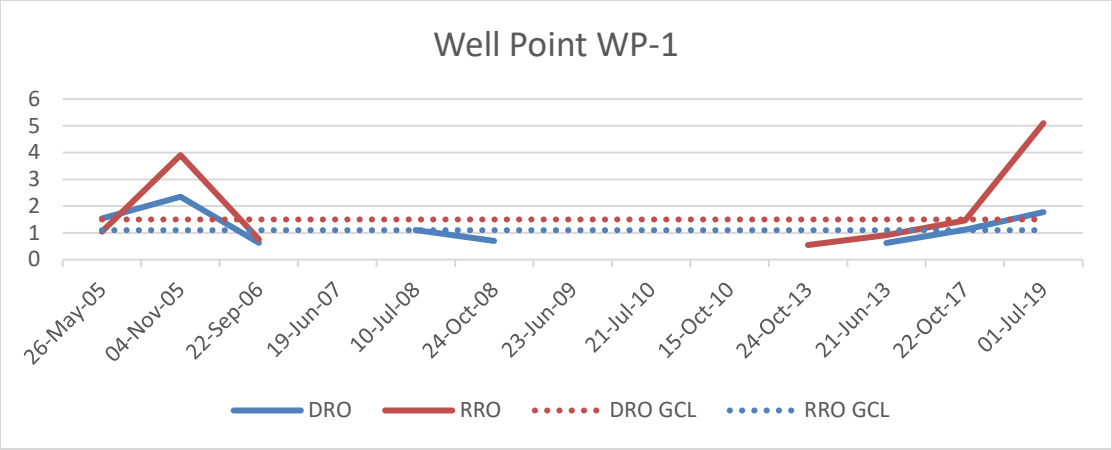
CORDOVA ELECTRIC COOPERATIVE
EYAK LAKE POWER PLANT

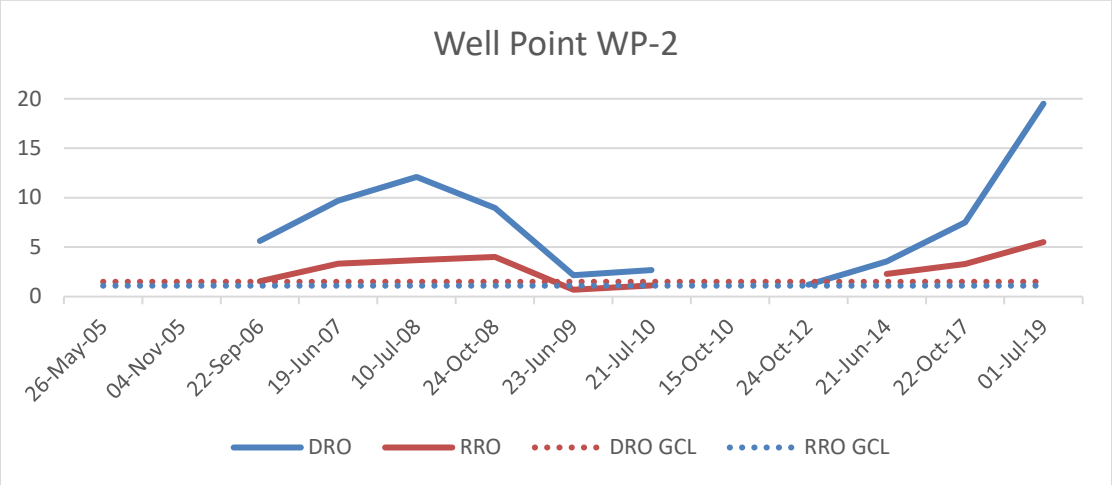
JULY 2019
MONITORING EVENT REPORT

SITE PLAN WITH GROUNDWATER ANALYTICAL RESULTS (July 2019)

FIGURE
1
185750825.
001.010101

Figure 2 Well Points WP-1, WP-2, and WP-3/WP-3R Trend Analysis





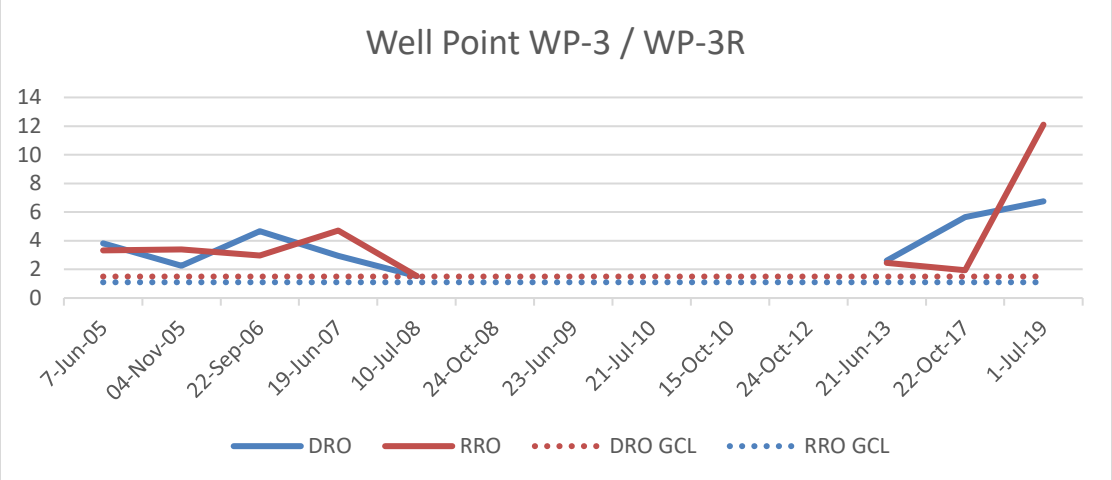
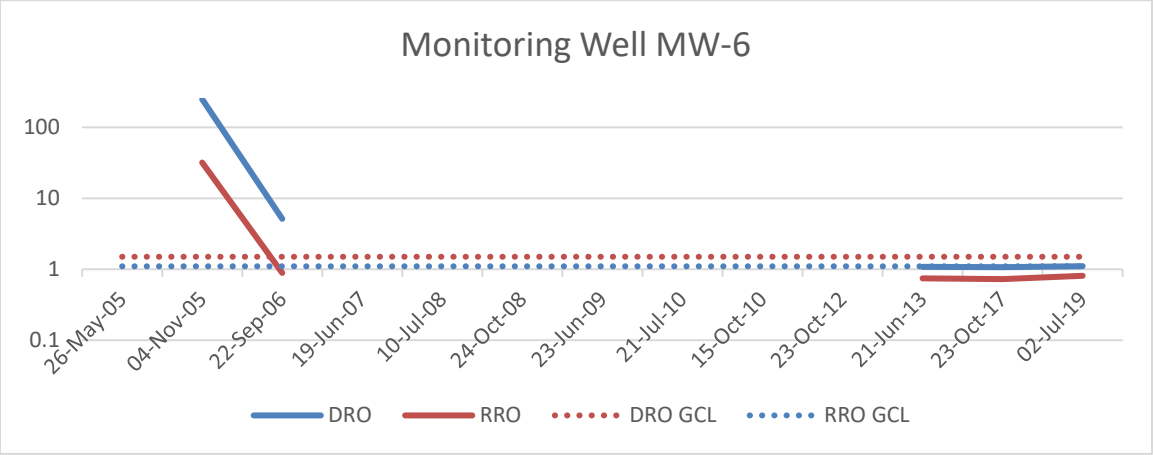
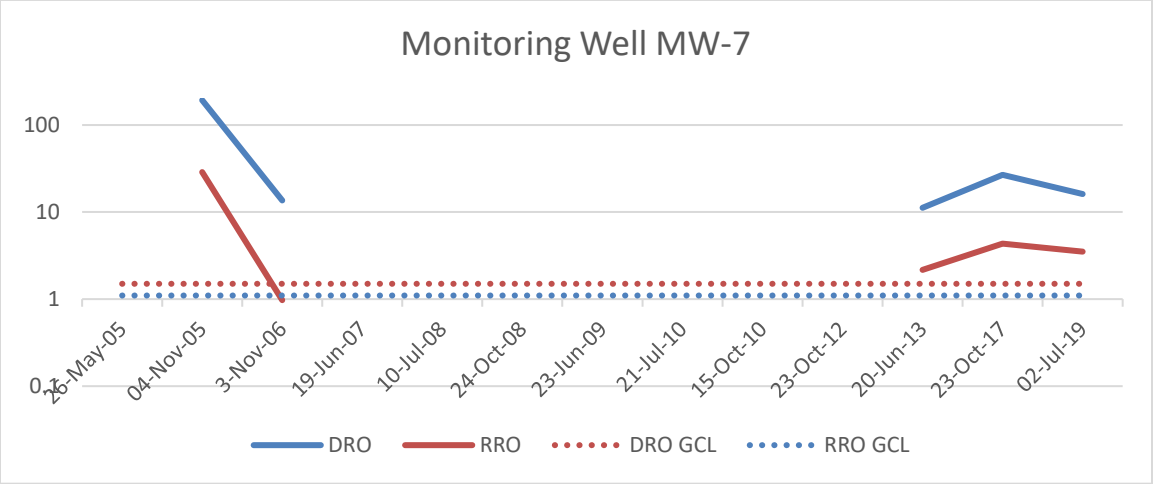


Figure 3 Monitoring Wells MW-6, MW-7, and G2-R Trend Analysis





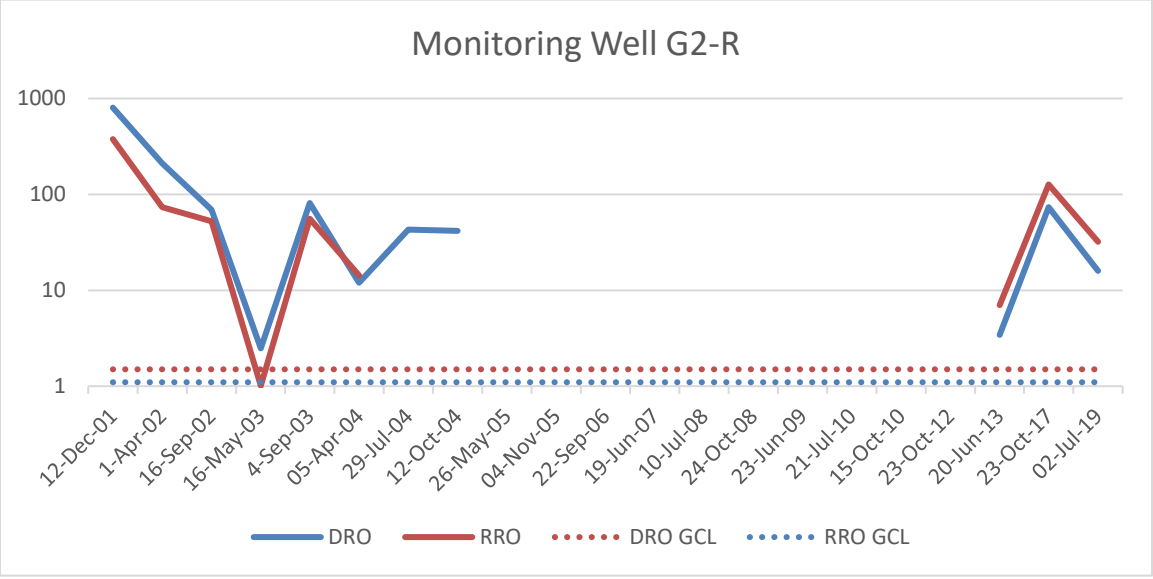


Table 1 2019 Groundwater Analytical Results

	Units	ADEC GCL	WP-1	WP-2	WP-3R	WP4	WP5	WP5 (Duplicate)	MW-6	MW-7	MW-G2R
Gasoline Range Organics	mg/L	2.2	(0.100) U	(0.100) U	(0.100) U	(0.100) U	(0.100) U	(0.100) U	(0.100) U	(0.100) U	(0.100) U
Diesel Range Organics	mg/L	1.5	**1.78**	**19.5**	**6.75**	(0.545) U	(0.577) U	(0.588) U	1.10	**16.1**	**16**
Residual Range Organics	mg/L	1.1	**5.10**	**5.51**	**12.1**	0.586	0.504	(0.490) U	0.812	**3.51**	**32**
PAHs[1]											
1-Methylnaphthalene	µg/L	11	2.25	(0.0481) U	0.847	(0.0510) U	(0.0490) U	(0.0472) U	(0.0481) U	(0.0481) U	0.200
2-Methylnaphthalene	µg/L	36	0.588	(0.0481) U	0.145	(0.0510) U	(0.0490) U	(0.0472) U	(0.0481) U	(0.0481) U	(0.0463) U
Acenaphthene	µg/L	530	1.17	(0.0481) U	0.745	0.139	(0.0490) U	(0.0472) U	(0.0481) U	(0.0481) U	(0.0463) U
Acenaphthylene	µg/L	260	(0.0463) U	(0.0481) U	(0.0472) U	(0.0510) U	(0.0490) U	(0.0472) U	(0.0481) U	(0.0481) U	(0.0463) U
Anthracene	µg/L	43	0.0754	(0.0481) U	0.304	(0.0510) U	(0.0490) U	(0.0472) U	(0.0481) U	(0.0481) U	(0.0463) U
Benzo(a)anthracene	µg/L	0.30	(0.0463) U	(0.0481) U	(0.0472) U	(0.0510) U	(0.0490) U	(0.0472) U	(0.0481) U	0.205	(0.0463) U
Benzo[a]pyrene	µg/L	0.25	0.0185 U	(0.0192) U	**0.288**	(0.0204) U	(0.0196) U	(0.0189) U	(0.0192) U	**0.288**	(0.0185) U
Benzo[b]Fluoranthene	µg/L	2.5	(0.0463) U	(0.0481) U	(0.0472) U	(0.0510) U	(0.0490) U	(0.0472) U	(0.0481) U	0.672	(0.0463) U
Benzo[g,h,i]perylene	µg/L	0.26	(0.0463) U	(0.0481) U	(0.0472) U	(0.0510) U	(0.0490) U	(0.0472) U	(0.0481) U	0.146	(0.0463) U
Benzo[k]fluoranthene	µg/L	0.80	(0.0463) U	(0.0481) U	(0.0472) U	(0.0510) U	(0.0490) U	(0.0472) U	(0.0481) U	0.230	(0.0463) U
Chrysene	µg/L	2.0	0.0599	(0.0481) U	(0.0472) U	(0.0510) U	(0.0490) U	(0.0472) U	(0.0481) U	0.933	(0.0463) U
Dibenzo[a,h]anthracene	µg/L	0.25	(0.0185) U	(0.0192) U	(0.0189) U	(0.0204) U	(0.0196) U	(0.0189) U	(0.0192) U	(0.0192) U	(0.0185) U
Fluoranthene	µg/L	260	0.134	1.06	0.267	(0.0510) U	(0.0490) U	(0.0472) U	(0.0481) U	1.37	(0.0463) U
Fluorene	µg/L	290	4.55	2.31	2.84	0.567	0.174	(0.0472) U	0.174	(0.0481) U	(0.0463) U
Indeno[1,2,3-c,d] pyrene	µg/L	0.19	(0.0463) U	(0.0481) U	(0.0472) U	(0.0510) U	(0.0490) U	(0.0472) U	(0.0481) U	0.138	(0.0463) U
Naphthalene	µg/L	1.7	0.597	(0.962) U	0.544	(0.102) U	(0.0980) U	(0.0943) U	(0.0962) U	(0.0962) U	(0.0926) U
Phenanthrene	µg/L	170	0.623	(0.0481) U	1.89	(0.0510) U	(0.0490) U	(0.0472) U	(0.0481) U	(0.0481) U	(0.0463) U
Pyrene	µg/L	120	0.181	1.05	0.268	(0.0510) U	(0.0490) U	(0.0472) U	(0.0481) U	1.48	(0.0463) U

Key:

1 – Analyzed by U.S. Environmental Protection Agency Test Method 8021B
µg/L – micrograms per liter
AK – Alaska Test method
DRO – Diesel range organics, analyzed by AK 102.
GCLs – Groundwater Cleanup Levels, per Alaska Department of Environmental Conservation 18 Alaska Administrative Code 75.345, Table C.
GRO – Gasoline range organics, analyzed by AK 101.
mg/L – milligrams per liter
RRO – Residual range organics, analyzed by AK 103.
U – Undetected above practical quantitation limits shown in parentheses.

Bold indicates the concentration exceeds the GCL for this location.

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3.0 REMEDIATION SYSTEM ASSESSMENT

The remediation system at the time of the sampling event was under maintenance and brought back online in July. The system, including tank, inlet, outlet, and chemical addition tanks, appears in good repair. The Interceptor trench was in good repair and the lids were all intact, and in place at the time of the sampling event. There was a very slight, yet sporadic sheen noted on the surface of the interceptor trench.

4.0 QUALITY ASSURANCE QUALITY CONTROL REVIEW

One duplicate sample (WP-75) was collected from WP-5 to assess quality assurance goals for the project. Table 2 details the project performance and relative percent difference (RPD) between the primary and duplicate samples. Typical RPD could not be calculated based on the sample results as in all instances, at least one of the results was non detect. Comparison between samples was made using two times the detection limit for those samples reported as non-detect, and RPD ranged from -2 to 4. All data are considered useable without further qualification.

Table 2 2019 Quality Assurance Samples and Calculated Relative Percent Difference

Analyte	Units	WP-5	WP-75 Duplicate	RPD	RPD U = 2 x DL [1]
Gasoline Range Organics	mg/L	(0.100) U	(0.100) U	NC	0
Diesel Range Organics	mg/L	(0.577) U	(0.588) U	NC	-2
Residual Range Organics	mg/L	0.504	(0.490) U	NC	**-64** [1] / 3 [2]
Polycyclic Aromatic Hydrocarbons (PAHs)					
1-Methylnaphthalene	µg/L	(0.0490) U	(0.0472) U	NC	4
2-Methylnaphthalene	µg/L	(0.0490) U	(0.0472) U	NC	4
Acenaphthene	µg/L	(0.0490) U	(0.0472) U	NC	4
Acenaphthylene	µg/L	(0.0490) U	(0.0472) U	NC	4
Anthracene	µg/L	(0.0490) U	(0.0472) U	NC	4
Benzo(a)Anthracene	µg/L	(0.0490) U	(0.0472) U	NC	4
Benzo[a]pyrene	µg/L	(0.0196) U	(0.0189) U	NC	4
Benzo[b]Fluoranthene	µg/L	(0.0490) U	(0.0472) U	NC	4
Benzo[g,h,i]perylene	µg/L	(0.0490) U	(0.0472) U	NC	4
Benzo[k]fluoranthene	µg/L	(0.0490) U	(0.0472) U	NC	4
Chrysene	µg/L	(0.0490) U	(0.0472) U	NC	4
Dibenzo[a,h]anthracene	µg/L	(0.0196) U	(0.0189) U	NC	4
Fluoranthene	µg/L	(0.0490) U	(0.0472) U	NC	4
Fluorene	µg/L	(0.0490) U	(0.0472) U	NC	4
Indeno[1,2,3-c,d] pyrene	µg/L	(0.0490) U	(0.0472) U	NC	4
Naphthalene	µg/L	(0.0980) U	(0.0943) U	NC	4
Phenanthrene	µg/L	(0.0490) U	(0.0472) U	NC	4
Pyrene	µg/L	(0.0490) U	(0.0472) U	NC	4

Key:
1 – RPD calculated using two times the Detection Limit for analytes which were non detect (U).
2 – RPD calculated using DL for analyte, which was non detect, based on primary detection just above DL.
µg/L – micrograms per liter
NC – not calculated
mg/L – milligrams per liter
RPD- relative percent difference
U – Undetected above practical quantitation limits shown in parentheses.
Bold indicates the concentration exceeds the 50% RPD.

5.0 CONCLUSIONS AND RECOMMENDATIONS

There is an upward trend in the DRO and RRO concentrations at WP-1, WP-2, WP-3R since the previous sampling event in 2017. The cause of the increase may be attributable to shifting plume dynamics within the site, and unseasonably dry conditions prior to the sampling. The lack of precipitation and likely reduced the volume of groundwater at the site, as evidenced by the lower groundwater levels, and effectively concentrating the presence of petroleum in those well-points which are directly sampled, due to historical low production.

Conversely, there has been a steady downward trend in the DRO and RRO concentrations at the upgradient monitoring wells MW-6, MW-7 and G2-R. This would support that the infiltration system has been effective in decreasing the overall concentration of DRO and RRO at the site, particularly near the location of the former tanks, and area of greatest contamination.

However, based on the past three monitoring events in 2013, 2017 and 2019, there has been a clear increase in DRO and RRO concentrations downgradient of the infiltration trench in Well Points WP-1, WP-2, and WP-3R. The trend analysis shown in Figure 2 graphically depicts this increase. It is evident that the effectiveness of the infiltration system in its current status of preventing petroleum contamination from migrating beyond its boundary is not performing as intended.

It is recommended that the infiltration system be modified in place, with activated carbon placed in the open trench below the water table and then backfilled with clean fill to the surface, the recirculation piping and tank be removed. Five direct push injection wells are proposed, three within the existing culverts, and two injection wells to be located approximately 15 feet to the east and west of the lateral ends of the current trench. The westernmost injection well would be in close proximity to Monitoring Well MW-5R, which consistently shows free product at 0.01 ft, the minimum measurable.

It is recommended that stainless steel laser-slotted Well Points WP-1, WP-2, and WP-3R be abandoned and replaced with new well points to be constructed of 3- to 5-foot pre-packed well points with 4-foot solid risers. Due to the rocky nature of the site, it is recommended that the well points be installed using an excavator to remove the rocky soil and place the pre-packed wells in the open excavation backfilling around them and providing a 0.5-ft bentonite seal above the filter pack. The revegetation of the coastline directly in front of the existing Interceptor trench continues to be vigorous, with alders and willows roughly 5-8 feet in height along nearly the entirety of the shoreline from WP-1 towards the east to WP-5 to the west. Great care should be taken to minimize disturbing the well-established vegetation nearest the shoreline when abandoning and reestablishing the well points.

The proposed monitoring locations for 2020 would be the new well point designations WP-1R, WP-2R, WP-3R2, as well as the existing monitoring locations WP-4, WP-5, MW-5R, MW-6, and MW-7, G-2R, and would include the same parameters of GRO, DRO, RRO, and PAHs.

Over the course of the remedial action at the former Eyak Lake Power Plant site, the extent of in-situ contamination has been greatly reduced to the point practicable using the infiltration and recirculation technology. The proposed addition of activated carbon in the trench as well as deeper injections in the proposed locations, should help to further mitigate DRO and RRO concentrations adjacent to the Eyak Lake shoreline. Additionally, the three proposed replacement well points should provide better quality water quality data assuming a deeper practicable water column can be established.

Appendix A FIELD MEASUREMENTS AND NOTES

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NUMBER: 185708825 WELL ID: WP-1 DATE: 7-1-2019

FACILITY NAME: Consumers Electric (Former Eyak Lake Power Plant) TEMPERATURE: 60°F

FIELD PERSONNEL: Douglas Quist WEATHER: Overcast

FIELD MEASUREMENTS:

A. Depth to Water (DTW) below top of casing/piezometer: 3.70 FT. or IN
B. Thickness of Free Product, if present: 0 Inches 0 FT. or IN
C. Total Depth of well (TD) from top of casing/piezometer: 5.10 FT. or IN
D. Height of Water Column in casing (h = TD - DTW): 1.10 FT. or IN
E. Useful approximate Purge Volumes (PV) per foot of water column for common casing sizes:

	3 Well Vols	5 Well Vols		
2" Diameter =	0.5 gals/ft	0.82 gals/ft	x 1.10 feet of water (h) = 0.55	PV (gal)
4" Diameter =	2.0 gals/ft	3.25 gals/ft	x ____ feet of water (h) =	PV (gal)
6" Diameter =	4.4 gals/ft	7.35 gals/ft	x ____ feet of water (h) =	PV (gal)

PURGING METHOD: Teflon Bailer DURATION:

AVERAGE FLOW RATE:

OBSERVATIONS: Direct Sample No Purge - Purge Dry Repeatedly

Cumulative PV (gal)	Time	Turbidity	DO (mg/L)	ORP (mV)	pH	Temperature (°C)	Conductivity (mS/cm)	DTW	Sheen/Odor
* 0	2250	-	12.95	560	6.58	12.59	0.067	-	Rusty

TOTAL VOLUME OF WATER PURGED FROM WELL:

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

DEPTH TO WATER AT TIME OF SAMPLE COLLECTION:

Sample ID:	Time:	Size/Number of Container(s):	Preservative:
* WP-1	2250	GRO / DRO, RRO / PAH	HCL / 4

COMMENTS:

ADDITIONAL INFORMATION:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft.
8-inch hole.....2.60 gal/lin ft.
10-inch hole.....4.10 gal/lin ft

Recharge Calculation at Time of Sample Collection:
Collect sample when DTW <= (TD - h x 0.80)

Signature: Douglas Quist

Parameter Change
DO = (10%)
Cond. = (3%)
ORP = (+/- 10)
pH = (+/- .10)

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NUMBER: 185708825 WELL ID: WP-2 DATE: 7-1-2019

FACILITY NAME: Cardno Electric (Former Eyak Lake Power Plant) TEMPERATURE: 60°F

FIELD PERSONNEL: Douglas Quist WEATHER: Overcast

2200 - 2230

FIELD MEASUREMENTS:

A. Depth to Water (DTW) below top of casing/piezometer:	4,04	FT. or IN
B. Thickness of Free Product, if present: 0 Inches	0	FT. or IN
C. Total Depth of well (TD) from top of casing/piezometer:	5,10	FT. or IN
D. Height of Water Column in casing (h = TD - DTW):	0,96	FT. or IN

E. Useful approximate Purge Volumes (PV) per foot of water column for common casing sizes:

	3 Well Vols	5 Well Vols		
2" Diameter =	0.5 gals/ft	0.82 gals/ft	x 0,96 feet of water (h) = 0,48	PV (gal)
4" Diameter =	2.0 gals/ft	3.25 gals/ft	x _____ feet of water (h) =	PV (gal)
6" Diameter =	4.4 gals/ft	7.35 gals/ft	x _____ feet of water (h) =	PV (gal)

PURGING METHOD: Teflon Bailer DURATION:

AVERAGE FLOW RATE:

OBSERVATIONS: Direct Sample - No Purge - Purged Dry Repeatedly During Sampling

Cumulative PV (gal)	Time	Turbidity	DO (mg/L)	ORP (mV)	pH	Temperature (°C)	Conductivity (mS/cm)	DTW	Sheen/Odor
* 0	2230	-	5,08	55,1	6,38	13,40	0,093	-	Rusty/Petrol

TOTAL VOLUME OF WATER PURGED FROM WELL:

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

DEPTH TO WATER AT TIME OF SAMPLE COLLECTION:

Sample ID:	Time:	Size/Number of Container(s):	Preservative:
* WP-2	2230	GRO/DRO/RRO/PAH's	HCL/0

COMMENTS:

ADDITIONAL INFORMATION:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft.
8-inch hole.....2.60 gal/lin ft.
10-inch hole.....4.10 gal/lin ft

Recharge Calculation at Time of Sample Collection:
Collect sample when DTW <= (TD - h x 0.80)

Signature: Douglas Quist

Parameter Change
DO = (10%)
Cond. = (3%)
ORP = (+/- 10)
pH = (+/- .10)

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NUMBER: 185708.25 WELL ID: WP-3R DATE: 7-1-2019

FACILITY NAME: Cordova Electric (Former Eyak Lake Power Plant) TEMPERATURE: 60°F

FIELD PERSONNEL: Douglas Quist WEATHER: Overcast

FIELD MEASUREMENTS:

A. Depth to Water (DTW) below top of casing/piezometer:	3.01	FT. or IN
B. Thickness of Free Product, if present: 0 Inches	0	FT. or IN
C. Total Depth of well (TD) from top of casing/piezometer:	5.0	FT. or IN
D. Height of Water Column in casing (h = TD - DTW):	1.99	FT. or IN

E. Useful approximate Purge Volumes (PV) per foot of water column for common casing sizes:

	3 Well Vols	5 Well Vols			
2" Diameter =	0.5 gals/ft	0.82 gals/ft	x 1.99	feet of water (h) = 0.99	PV (gal)
4" Diameter =	2.0 gals/ft	3.25 gals/ft	x	feet of water (h) =	PV (gal)
6" Diameter =	4.4 gals/ft	7.35 gals/ft	x	feet of water (h) =	PV (gal)

PURGING METHOD: Teflon Bailer - Micro Bailer DURATION:

AVERAGE FLOW RATE:

OBSERVATIONS: Direct Sample No Purge - Repeatedly Purged Dry.

Cumulative PV (gal)	Time	Turbidity	DO (mg/L)	ORP (mV)	pH	Temperature (°C)	Conductivity (mS/cm)	DTW	Sheen/Odor
* 0	2045	-	13.10	58.6	6.55	13.01	0.081	-	Rusty / Petrol Odor.

TOTAL VOLUME OF WATER PURGED FROM WELL:

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

DEPTH TO WATER AT TIME OF SAMPLE COLLECTION:

Sample ID:	Time:	Size/Number of Container(s):	Preservative:
* WP-3R	2045	GRO, DRO/RRO, PAHs	HCL / 0

COMMENTS:

ADDITIONAL INFORMATION:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft.
8-inch hole.....2.60 gal/lin ft.
10-inch hole.....4.10 gal/lin ft

Recharge Calculation at Time of Sample Collection:
Collect sample when DTW <= (TD - h x 0.80)

Signature: Douglas Quist

Parameter Change
DO = (10%)
Cond. = (3%)
ORP = (+/- 10)
pH = (+/- .10)

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NUMBER: 185708.25 WELL ID: WP-4 DATE: 7-1-2019

FACILITY NAME: Cardova Electric (Former Eyak lake Power Plant) TEMPERATURE: 60°F

FIELD PERSONNEL: Douglas Quist WEATHER: Overcast

FIELD MEASUREMENTS:

A. Depth to Water (DTW) below top of casing/piezometer: 3.10 FT. or IN
B. Thickness of Free Product, if present: 0 Inches 0 FT. or IN
C. Total Depth of well (TD) from top of casing/piezometer: 5.10 FT. or IN
D. Height of Water Column in casing (h = TD - DTW): 2.0 FT. or IN
E. Useful approximate Purge Volumes (PV) per foot of water column for common casing sizes:

	3 Well Vols	5 Well Vols
2" Diameter =	0.5 gals/ft	0.82 gals/ft
4" Diameter =	2.0 gals/ft	3.25 gals/ft
6" Diameter =	4.4 gals/ft	7.35 gals/ft

x 2.0 feet of water (h) = 1.0 PV (gal)
x _____ feet of water (h) = _____ PV (gal)
x _____ feet of water (h) = _____ PV (gal)

PURGING METHOD: Teflon Bailer DURATION:

AVERAGE FLOW RATE:

OBSERVATIONS:

	Cumulative PV (gal)	Time	Turbidity	DO (mg/L)	ORP (mV)	pH	Temperature (°C)	Conductivity (mS/cm)	DTW	Sheen/Odor
	0	1947	~	6.36	103.2	6.21	8.18	0.096	~	ϕ
	0.5	1950	~	14.28	101.1	6.24	7.98	0.040	~	ϕ
	1.0	1954	~	14.27	108.7	6.06	7.50	0.096	~	ϕ
	1.5	1956	~	13.24	114.5	5.86	7.39	0.081	~	ϕ
	2.0	1958	~	8.34	113.6	5.83	7.22	0.087	~	ϕ
*	2.25	2000	~	9.72	113.1	5.83	7.35	0.081	~	ϕ
	2.25	2010	~	9.78	112.9	5.84	7.39	0.082	3.32	ϕ

TOTAL VOLUME OF WATER PURGED FROM WELL:

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

DEPTH TO WATER AT TIME OF SAMPLE COLLECTION:

	Sample ID:	Time:	Size/Number of Container(s):	Preservative:
*	WP-4	2000	GRO, DRO/RRO, PAH	HCL / ϕ

COMMENTS:

ADDITIONAL INFORMATION:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft.
8-inch hole.....2.60 gal/lin ft.
10-inch hole.....4.10 gal/lin ft

Recharge Calculation at Time of Sample Collection:
Collect sample when DTW <= (TD - h x 0.80)

Signature: Douglas Quist

Parameter Change
DO = (10%)
Cond. = (3%)
ORP = (+/- 10)
pH = (+/- .10)

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NUMBER: 185708825 WELL ID: WP-5 DATE: 7-1-2019

FACILITY NAME: Cordova Electric. TEMPERATURE: 60°F

FIELD PERSONNEL: Douglas Quist WEATHER: Overcast

FIELD MEASUREMENTS:

A. Depth to Water (DTW) below top of casing/piezometer:	2.60	FT. or IN
B. Thickness of Free Product, if present: 0 Inches	0	FT. or IN
C. Total Depth of well (TD) from top of casing/piezometer:	5.10	FT. or IN
D. Height of Water Column in casing (h = TD - DTW):	2.40	FT. or IN

E. Useful approximate Purge Volumes (PV) per foot of water column for common casing sizes:

	3 Well Vols	5 Well Vols		
2" Diameter =	0.5 gals/ft	0.82 gals/ft	x 2.4 feet of water (h) =	1.2 PV (gal)
4" Diameter =	2.0 gals/ft	3.25 gals/ft	x ____ feet of water (h) =	PV (gal)
6" Diameter =	4.4 gals/ft	7.35 gals/ft	x ____ feet of water (h) =	PV (gal)

PURGING METHOD: Teflon Bailed DURATION:

AVERAGE FLOW RATE:

OBSERVATIONS:

	Cumulative PV (gal)	Time	Turbidity	DO (mg/L)	ORP (mV)	pH	Temperature (°C)	Conductivity (mS/cm)	DTW	Sheen/Odor
	0	1854	-	7.34	238.6	4.66	11.20	0.129	-	ϕ
	0.25	1856	-	6.00	189.1	5.40	10.59	0.108	-	ϕ
	0.5	1900	-	12.99	173.5	5.56	10.48	0.100	-	ϕ
	0.7	1902	-	14.24	162.0	5.66	10.36	0.107	-	ϕ
	1.0	1904	-	14.24	155.8	5.70	10.40	0.093	-	ϕ
	1.3	1906	-	6.01	151.5	5.71	10.35	0.112	-	ϕ
	1.5	1907	-	4.54	146.9	5.70	10.35	0.113	-	ϕ
	1.8	1908	-	4.78	149.9	5.68	10.35	0.110	-	ϕ
*	2.0	1910	-	4.99	144.2	5.68	10.35	0.111	-	ϕ
	2.04	1937	-	13.44	114.0	6.12	10.35	0.103	5.10	ϕ

TOTAL VOLUME OF WATER PURGED FROM WELL:

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

DEPTH TO WATER AT TIME OF SAMPLE COLLECTION:

Sample ID:	Time:	Size/Number of Container(s):	Preservative:
WP-5	1910	GAG, DRO/RRO, PAHs	HCL / ϕ

COMMENTS: Duplicate WP-75 and MS/MSD.

ADDITIONAL INFORMATION:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft.
8-inch hole.....2.60 gal/lin ft.
10-inch hole.....4.10 gal/lin ft

Recharge Calculation at Time of Sample Collection:
Collect sample when DTW <= (TD - h x 0.80)

Signature: Douglas Quist

Parameter Change
DO = (10%)
Cond. = (3%)
ORP = (+/- 10)
pH = (+/- .10)

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Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NUMBER: 185708.25 WELL ID: MW-5R DATE: 7/1/2019 2350

FACILITY NAME: Cordova Electric (Former Eyak Lake Power Plant) TEMPERATURE: 60°F

FIELD PERSONNEL: Douglas Quist WEATHER: Overcast

FIELD MEASUREMENTS:

A. Depth to Water (DTW) below top of casing/piezometer: 5.11 FT. or IN
B. Thickness of Free Product, if present: 0.01 Inches FT. or IN Free Product
C. Total Depth of well (TD) from top of casing/piezometer: _____ FT. or IN
D. Height of Water Column in casing (h = TD - DTW): _____ FT. or IN
E. Useful approximate Purge Volumes (PV) per foot of water column for common casing sizes:

	3 Well Vols	5 Well Vols		
2" Diameter =	0.5 gals/ft	0.82 gals/ft	x _____ feet of water (h) =	PV (gal)
4" Diameter =	2.0 gals/ft	3.25 gals/ft	x _____ feet of water (h) =	PV (gal)
6" Diameter =	4.4 gals/ft	7.35 gals/ft	x _____ feet of water (h) =	PV (gal)

PURGING METHOD: DURATION:

AVERAGE FLOW RATE:

OBSERVATIONS:

Cumulative PV (gal)	Time	Turbidity	DO (mg/L)	ORP (mV)	pH	Temperature (°C)	Conductivity (mS/cm)	DTW	Sheen/Odor

TOTAL VOLUME OF WATER PURGED FROM WELL:

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

DEPTH TO WATER AT TIME OF SAMPLE COLLECTION: No Sample 0.01' Free Product

Sample ID:	Time:	Size/Number of Container(s):	Preservative:

COMMENTS:

ADDITIONAL INFORMATION:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft.
8-inch hole.....2.60 gal/lin ft.
10-inch hole.....4.10 gal/lin ft

Recharge Calculation at Time of Sample Collection:
Collect sample when DTW <= (TD - h x 0.80)

Signature: Douglas Quist

Parameter Change
DO = (10%)
Cond. = (3%)
ORP = (+/- 10)
pH = (+/- .10)

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NUMBER: 185708825 WELL ID: MW-6 DATE: 7-2-2019

FACILITY NAME: Cardova Electric (Former Exxon Lake Power Plant) TEMPERATURE: 60°F

FIELD PERSONNEL: Douglas Quist WEATHER: Overcast

FIELD MEASUREMENTS:

A. Depth to Water (DTW) below top of casing/piezometer:	17.64	FT. or IN
B. Thickness of Free Product, if present: _____ Inches	0	FT. or IN
C. Total Depth of well (TD) from top of casing/piezometer:	21.60	FT. or IN
D. Height of Water Column in casing (h = TD - DTW):	3.96	FT. or IN

E. Useful approximate Purge Volumes (PV) per foot of water column for common casing sizes:

	3 Well Vols	5 Well Vols		
2" Diameter =	0.5 gals/ft	0.82 gals/ft	x 3.96 feet of water (h) =	1.98 PV (gal)
4" Diameter =	2.0 gals/ft	3.25 gals/ft	x _____ feet of water (h) =	PV (gal)
6" Diameter =	4.4 gals/ft	7.35 gals/ft	x _____ feet of water (h) =	PV (gal)

PURGING METHOD: Microbailer DURATION:

AVERAGE FLOW RATE:

OBSERVATIONS:

Cumulative PV (gal)	Time	Turbidity	DO (mg/L)	ORP (mV)	pH	Temperature (°C)	Conductivity (mS/cm)	DTW	Sheen/Odor
0	0754	-	17.94	217.0	5.86	11.55	0.002	-	Gray - No Sheen
0.25	0758	-	22.14	210.6	5.60	8.84	0.037	-	Gray - No Sheen
0.5	0802	-	16.20	211.0	5.57	8.06	0.070	-	Gray - No Sheen
0.6	0804	-	18.71	215.7	5.58	6.83	0.034	-	L - No Sheen
0.8	0806	-	15.91	211.7	5.62	6.56	0.036	-	L - No Sheen
1.0	0808	-	17.56	210.9	5.56	6.54	0.067	-	L - No Sheen
1.2	0810	-	18.13	209.8	5.69	6.61	0.062	-	L - No Sheen
1.4	0812	-	17.46	207.6	5.65	6.37	0.036	-	L - No Sheen
1.6	0814	-	17.66	208.1	5.61	6.38	0.033	-	L - No Sheen
1.8	0816	-	17.31	208.4	5.60	6.38	0.033	-	L - No Sheen

TOTAL VOLUME OF WATER PURGED FROM WELL:

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

* 2.0	0820	-	17.41	208.5	5.58	6.37	0.037	-	C No Sheen
2.01	0830	-	18.61	201.6	5.62	6.38	0.036	17.72	C No Sheen

SAMPLES COLLECTED:

L = Lesser Gray, C = Clear.

DEPTH TO WATER AT TIME OF SAMPLE COLLECTION:

Sample ID:	Time:	Size/Number of Container(s):	Preservative:
MW-6	0820	GRO, DRO/RRO, PAH	HCl / ice

COMMENTS: PVC Warped at top - Requires Microbailer

ADDITIONAL INFORMATION:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft.
8-inch hole.....2.60 gal/lin ft.
10-inch hole.....4.10 gal/lin ft

Recharge Calculation at Time of Sample Collection:
Collect sample when DTW <= (TD - h x 0.80)

Signature: Douglas Quist

Parameter Change
DO = (10%)
Cond. = (3%)
ORP = (+/- 10)
pH = (+/- .10)

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NUMBER: 185708.25 WELL ID: MW7 DATE: 7/2/2019

FACILITY NAME: Cordova Electric (Former Eyak Lake PP) TEMPERATURE: 60° F

FIELD PERSONNEL: Douglas Quist WEATHER: Overcast

FIELD MEASUREMENTS:

A. Depth to Water (DTW) below top of casing/piezometer:	17.5	FT. or IN
B. Thickness of Free Product, if present: 0 Inches	0	FT. or IN
C. Total Depth of well (TD) from top of casing/piezometer:	18.9	FT. or IN
D. Height of Water Column in casing (h = TD - DTW):	1.4	FT. or IN

E. Useful approximate Purge Volumes (PV) per foot of water column for common casing sizes:

	3 Well Vols	5 Well Vols			
2" Diameter =	0.5 gals/ft	0.82 gals/ft	x 1.4 feet of water (h) =	0.7	PV (gal)
4" Diameter =	2.0 gals/ft	3.25 gals/ft	x ____ feet of water (h) =		PV (gal)
6" Diameter =	4.4 gals/ft	7.35 gals/ft	x ____ feet of water (h) =		PV (gal)

PURGING METHOD: Teflon Bailer DURATION:

AVERAGE FLOW RATE:

OBSERVATIONS:

	Cumulative PV (gal)	Time	Turbidity	DO (mg/L)	ORP (mV)	pH	Temperature (°C)	Conductivity (mS/cm)	DTW	Sheen/Odor
	0	1012	—	21.8	150.3	6.23	8.37	0.138	—	Gray/Sheen
	1	1016	—	4.00	132.0	6.23	7.31	0.119	—	Gray/Sheen
	3	1022	—	3.55	126.9	6.05	6.96	0.090	—	Gray/Sheen
	4	1028	—	2.00	113.5	5.99	6.94	0.079	—	Gray/Sheen
*	6	1030	—	2.01	112.9	5.99	6.94	0.077	—	Gray/Sheen.
	6+	1035	—	2.00	112.3	5.98	6.93	0.062	17.56	Gray/Sheen.

TOTAL VOLUME OF WATER PURGED FROM WELL:

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

DEPTH TO WATER AT TIME OF SAMPLE COLLECTION:

	Sample ID:	Time:	Size/Number of Container(s):	Preservative:
*	MW-7	1030	GRO, DRO/RRO, PAH	HCL / ϕ

COMMENTS:

ADDITIONAL INFORMATION:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft.
8-inch hole.....2.60 gal/lin ft.
10-inch hole.....4.10 gal/lin ft

Recharge Calculation at Time of Sample Collection:
Collect sample when DTW <= (TD - h x 0.80)

Signature: Douglas Quist

Parameter Change
DO = (10%)
Cond. = (3%)
ORP = (+/- 10)
pH = (+/- .10)

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NUMBER: 185708.25 WELL ID: MW-G2R DATE: 7/2/2019

FACILITY NAME: Cordova Electric TEMPERATURE: 60°F

FIELD PERSONNEL: Douglas Quast WEATHER: Overcast.

FIELD MEASUREMENTS:

A. Depth to Water (DTW) below top of casing/piezometer: 17.45 FT. or IN

B. Thickness of Free Product, if present: 0 Inches 0 FT. or IN

C. Total Depth of well (TD) from top of casing/piezometer: 18.9 FT. or IN

D. Height of Water Column in casing (h = TD - DTW): 1.45 FT. or IN

E. Useful approximate Purge Volumes (PV) per foot of water column for common casing sizes:

	3 Well Vols	5 Well Vols		
2" Diameter =	0.5 gals/ft	0.82 gals/ft	x 1.45 feet of water (h) =	0.725 PV (gal)
4" Diameter =	2.0 gals/ft	3.25 gals/ft	x _____ feet of water (h) =	PV (gal)
6" Diameter =	4.4 gals/ft	7.35 gals/ft	x _____ feet of water (h) =	PV (gal)

PURGING METHOD: Teflon Bailer DURATION:

AVERAGE FLOW RATE:

OBSERVATIONS:

	Cumulative PV (gal)	Time	Turbidity	DO (mg/L)	ORP (mV)	pH	Temperature (°C)	Conductivity (mS/cm)	DTW	Sheen/Odor
	0	1040	-	11.64	98.7	5.88	9.41	0.092		Clear-Sheen
	1	1045	-	8.82	99.1	6.00	8.81	0.091		Clear-Sheen
	2	1050	-	7.39	92.0	5.98	8.75	0.089		Clear-Sheen
	3	1055	-	7.88	86.7	5.96	8.74	0.093		Clear-Sheen
	4	1110	-	7.85	86.6	5.95	8.76	0.091		Clear-Sheen
*	5	1115	-	7.48	84.4	5.99	8.76	0.092		Clear-Sheen
	5+	1120	-	7.44	83.8	5.94	8.75	0.088		Clear-Sheen

TOTAL VOLUME OF WATER PURGED FROM WELL:

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

DEPTH TO WATER AT TIME OF SAMPLE COLLECTION:

	Sample ID:	Time:	Size/Number of Container(s):	Preservative:
*	MW-G2R	1115	GRO/DRO, RRO/PAH	HCL/Ø

COMMENTS:

ADDITIONAL INFORMATION:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft.
8-inch hole.....2.60 gal/lin ft.
10-inch hole.....4.10 gal/lin ft

Recharge Calculation at Time of Sample Collection:
Collect sample when DTW <= (TD - h x 0.80)

Signature: Douglas Quast

Parameter Change
DO = (10%)
Cond. = (3%)
ORP = (+/- 10)
pH = (+/- .10)

Appendix B LABORATORY DATA REPORT AND DATA REVIEW CHECKLIST

Laboratory Report of Analysis

To: Cordova Electric Co
1835 S Bragaw St, Suite 350
Anchorage, AK 99508
(907)266-1148

Report Number: **1193512**

Client Project: **Former Eyak Lake Power Plant**

Dear Douglas Quist,

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 Justin 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.

Justin Nelson Date
Project Manager
Justin.Nelson@sgs.com

Print Date: 07/26/2019 4:47:35PM

Case Narrative

SGS Client: **Cordova Electric Co**
SGS Project: **1193512**
Project Name/Site: **Former Eyak Lake Power Plant**
Project Contact: **Douglas Quist**

Refer to sample receipt form for information on sample condition.

WP-4 (1193512004) PS

AK101 - Sample has a pH greater than two; however, the sample was analyzed within 7 days from collection.

MW-7 (1193512010) PS

8270D SIM - PAH surrogate recovery for 2-Methylnaphthalene-d10 does not meet QC criteria.
8270D SIM - PAH sample was re-extracted outside of hold time. Results are comparable and in hold data posted.

WP-5 MS (1193512006) BMS

AK102/103 - BMS/BMSD recovery does not meet QC criteria. Sample was reextracted past the 14 day hold time. All requirements met in the reextract.
AK102/103 - Surrogate recoveries for 5a-androstane and n-triacontane does not meet QC criteria. Sample was reextracted past the 14 day hold time. All requirements met in the reextract.

WP-5 MSD (1193512007) BMSD

8270D SIM - PAH BMS/BMSD RPD for Ideno[1,2,3-c,d]pyrene and Benzo[g,h,i]perylene do not meet QC criteria. Results for this analyte are considered estimated in the parent sample.
AK102/103 - BMS/BMSD RPD does not meet QC criteria. Sample was reextracted past the 14 day hold time. All requirements met in the reextract.

1193788001MS (1518727) MS

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

1193512005MSD (1516485) MSD

8270D SIM - PAH MS/MSD RPD for Ideno[1,2,3-c,d]pyrene and Benzo[g,h,i]perylene do not meet QC criteria. Results for this analyte are considered estimated in the parent sample.

1193788001MSD (1518728) MSD

8270D SIM - PAH MSD recovery for several analytes do not meet QC criteria. Refer to the LCS for accuracy requirements.
8270D SIM - PAH MS/MSD RPD for several analytes do not meet QC criteria. Results for this analyte are considered estimated in the parent sample.

*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)				
1193512010	MW-7	XMS11511	Benzo[k]fluoranthene	RP

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.

Print Date: 07/26/2019 4:47:38PM

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. 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 (DW Chemistry (Provisionally Certified as of 6/20/19 for Turbidity by SM 2130B, and Copper by EPA 200.8) & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification, and only those analytes will be reported to the State of Alaska for compliance. 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
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
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
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
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.

Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
WP-1	1193512001	07/01/2019	07/02/2019	Water (Surface, Eff., Ground)
WP-2	1193512002	07/01/2019	07/02/2019	Water (Surface, Eff., Ground)
WP-3	1193512003	07/01/2019	07/02/2019	Water (Surface, Eff., Ground)
WP-4	1193512004	07/01/2019	07/02/2019	Water (Surface, Eff., Ground)
WP-5	1193512005	07/01/2019	07/02/2019	Water (Surface, Eff., Ground)
WP-5 MS	1193512006	07/01/2019	07/02/2019	Water (Surface, Eff., Ground)
WP-5 MSD	1193512007	07/01/2019	07/02/2019	Water (Surface, Eff., Ground)
WP-75	1193512008	07/01/2019	07/02/2019	Water (Surface, Eff., Ground)
MW-6	1193512009	07/02/2019	07/02/2019	Water (Surface, Eff., Ground)
MW-7	1193512010	07/02/2019	07/02/2019	Water (Surface, Eff., Ground)
MW-G2R	1193512011	07/02/2019	07/02/2019	Water (Surface, Eff., Ground)
Trip Blank	1193512012	07/02/2019	07/02/2019	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)

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Detectable Results Summary

Client Sample ID: **WP-1**
Lab Sample ID: 1193512001

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	2.25	ug/L
	2-Methylnaphthalene	0.588	ug/L
	Acenaphthene	1.17	ug/L
	Anthracene	0.0754	ug/L
	Chrysene	0.0599	ug/L
	Fluoranthene	0.134	ug/L
	Fluorene	4.55	ug/L
	Naphthalene	0.597	ug/L
	Phenanthrene	0.623	ug/L
	Pyrene	0.181	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	1.78	mg/L
	Residual Range Organics	5.10	mg/L

Client Sample ID: **WP-2**
Lab Sample ID: 1193512002

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	Fluoranthene	1.06	ug/L
	Fluorene	2.31	ug/L
	Pyrene	1.05	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	19.5	mg/L
	Residual Range Organics	5.51	mg/L

Client Sample ID: **WP-3**
Lab Sample ID: 1193512003

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.847	ug/L
	2-Methylnaphthalene	0.145	ug/L
	Acenaphthene	0.745	ug/L
	Anthracene	0.304	ug/L
	Benzo[a]pyrene	0.288	ug/L
	Fluoranthene	0.267	ug/L
	Fluorene	2.84	ug/L
	Naphthalene	0.544	ug/L
	Phenanthrene	1.89	ug/L
	Pyrene	0.268	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	6.75	mg/L
	Residual Range Organics	12.1	mg/L

Client Sample ID: **WP-4**
Lab Sample ID: 1193512004

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	Acenaphthene	0.139	ug/L
	Fluorene	0.567	ug/L
Semivolatile Organic Fuels	Residual Range Organics	0.586	mg/L

Client Sample ID: **WP-5**
Lab Sample ID: 1193512005

	Parameter	Result	Units
Semivolatile Organic Fuels	Residual Range Organics	0.504	mg/L

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Detectable Results Summary

Client Sample ID: **MW-6**
Lab Sample ID: 1193512009

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	Fluorene	0.174	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	1.10	mg/L
	Residual Range Organics	0.812	mg/L

Client Sample ID: **MW-7**
Lab Sample ID: 1193512010

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	Benzo(a)Anthracene	0.205	ug/L
	Benzo[a]pyrene	0.228	ug/L
	Benzo[b]Fluoranthene	0.672	ug/L
	Benzo[g,h,i]perylene	0.146	ug/L
	Benzo[k]fluoranthene	0.230	ug/L
	Chrysene	0.933	ug/L
	Fluoranthene	1.37	ug/L
	Indeno[1,2,3-c,d] pyrene	0.138	ug/L
	Pyrene	1.48	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	16.1	mg/L
	Residual Range Organics	3.51	mg/L

Client Sample ID: **MW-G2R**
Lab Sample ID: 1193512011

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.200	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	16.0	mg/L
	Residual Range Organics	32.0	mg/L

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Results of **WP-1**

Client Sample ID: **WP-1**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512001
Lab Project ID: 1193512

Collection Date: 07/01/19 22:50
Received Date: 07/02/19 15:55
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	2.25		0.0463	0.0139	ug/L	1		07/11/19 22:24
2-Methylnaphthalene	0.588		0.0463	0.0139	ug/L	1		07/11/19 22:24
Acenaphthene	1.17		0.0463	0.0139	ug/L	1		07/11/19 22:24
Acenaphthylene	0.0463 U		0.0463	0.0139	ug/L	1		07/11/19 22:24
Anthracene	0.0754		0.0463	0.0139	ug/L	1		07/11/19 22:24
Benzo(a)Anthracene	0.0463 U		0.0463	0.0139	ug/L	1		07/11/19 22:24
Benzo[a]pyrene	0.0185 U		0.0185	0.00574	ug/L	1		07/11/19 22:24
Benzo[b]Fluoranthene	0.0463 U		0.0463	0.0139	ug/L	1		07/11/19 22:24
Benzo[g,h,i]perylene	0.0463 U		0.0463	0.0139	ug/L	1		07/11/19 22:24
Benzo[k]fluoranthene	0.0463 U		0.0463	0.0139	ug/L	1		07/11/19 22:24
Chrysene	0.0599		0.0463	0.0139	ug/L	1		07/11/19 22:24
Dibenzo[a,h]anthracene	0.0185 U		0.0185	0.00574	ug/L	1		07/11/19 22:24
Fluoranthene	0.134		0.0463	0.0139	ug/L	1		07/11/19 22:24
Fluorene	4.55		0.0463	0.0139	ug/L	1		07/11/19 22:24
Indeno[1,2,3-c,d] pyrene	0.0463 U		0.0463	0.0139	ug/L	1		07/11/19 22:24
Naphthalene	0.597		0.0926	0.0287	ug/L	1		07/11/19 22:24
Phenanthrene	0.623		0.0463	0.0139	ug/L	1		07/11/19 22:24
Pyrene	0.181		0.0463	0.0139	ug/L	1		07/11/19 22:24
Surrogates								
2-Methylnaphthalene-d10 (surr)	61.9		47-106		%	1		07/11/19 22:24
Fluoranthene-d10 (surr)	42.1		24-116		%	1		07/11/19 22:24

Batch Information

Analytical Batch: XMS11511
Analytical Method: 8270D SIM LV (PAH)
Analyst: BMZ
Analytical Date/Time: 07/11/19 22:24
Container ID: 1193512001-F

Prep Batch: XXX41697
Prep Method: SW3520C
Prep Date/Time: 07/03/19 10:10
Prep Initial Wt./Vol.: 270 mL
Prep Extract Vol: 1 mL

Results of **WP-1**

Client Sample ID: **WP-1**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512001
Lab Project ID: 1193512

Collection Date: 07/01/19 22:50
Received Date: 07/02/19 15:55
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	1.78		0.566	0.170	mg/L	1		07/12/19 16:25
Surrogates								
5a Androstane (surr)	77.6		50-150		%	1		07/12/19 16:25

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK102
Analyst: VDL
Analytical Date/Time: 07/12/19 16:25
Container ID: 1193512001-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	5.10		0.472	0.142	mg/L	1		07/12/19 16:25
Surrogates								
n-Triacontane-d62 (surr)	97.7		50-150		%	1		07/12/19 16:25

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK103
Analyst: VDL
Analytical Date/Time: 07/12/19 16:25
Container ID: 1193512001-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

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Results of **WP-1**

Client Sample ID: **WP-1**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512001
Lab Project ID: 1193512

Collection Date: 07/01/19 22:50
Received Date: 07/02/19 15:55
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	0.100	U	0.100	0.0310	mg/L	1		07/04/19 00:59
Surrogates								
4-Bromofluorobenzene (surr)	89.6		50-150		%	1		07/04/19 00:59

Batch Information

Analytical Batch: VFC14803
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/04/19 00:59
Container ID: 1193512001-C

Prep Batch: VXX34368
Prep Method: SW5030B
Prep Date/Time: 07/03/19 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/26/2019 4:47:42PM

Results of **WP-2**

Client Sample ID: **WP-2**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512002
Lab Project ID: 1193512

Collection Date: 07/01/19 22:30
Received Date: 07/02/19 15:55
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	0.481	U	0.481	0.144	ug/L	10		07/15/19 13:10
2-Methylnaphthalene	0.481	U	0.481	0.144	ug/L	10		07/15/19 13:10
Acenaphthene	0.481	U	0.481	0.144	ug/L	10		07/15/19 13:10
Acenaphthylene	0.481	U	0.481	0.144	ug/L	10		07/15/19 13:10
Anthracene	0.481	U	0.481	0.144	ug/L	10		07/15/19 13:10
Benzo(a)Anthracene	0.0481	U	0.0481	0.0144	ug/L	1		07/11/19 22:45
Benzo[a]pyrene	0.0192	U	0.0192	0.00596	ug/L	1		07/11/19 22:45
Benzo[b]Fluoranthene	0.0481	U	0.0481	0.0144	ug/L	1		07/11/19 22:45
Benzo[g,h,i]perylene	0.0481	U	0.0481	0.0144	ug/L	1		07/11/19 22:45
Benzo[k]fluoranthene	0.0481	U	0.0481	0.0144	ug/L	1		07/11/19 22:45
Chrysene	0.0481	U	0.0481	0.0144	ug/L	1		07/11/19 22:45
Dibenzo[a,h]anthracene	0.0192	U	0.0192	0.00596	ug/L	1		07/11/19 22:45
Fluoranthene	1.06		0.0481	0.0144	ug/L	1		07/11/19 22:45
Fluorene	2.31		0.481	0.144	ug/L	10		07/15/19 13:10
Indeno[1,2,3-c,d] pyrene	0.0481	U	0.0481	0.0144	ug/L	1		07/11/19 22:45
Naphthalene	0.962	U	0.962	0.298	ug/L	10		07/15/19 13:10
Phenanthrene	0.481	U	0.481	0.144	ug/L	10		07/15/19 13:10
Pyrene	1.05		0.0481	0.0144	ug/L	1		07/11/19 22:45
Surrogates								
2-Methylnaphthalene-d10 (surr)	71.5		47-106		%	10		07/15/19 13:10
Fluoranthene-d10 (surr)	48.9		24-116		%	1		07/11/19 22:45

Batch Information

Analytical Batch: XMS11521
Analytical Method: 8270D SIM LV (PAH)
Analyst: BMZ
Analytical Date/Time: 07/15/19 13:10
Container ID: 1193512002-F

Prep Batch: XXX41697
Prep Method: SW3520C
Prep Date/Time: 07/03/19 10:10
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Analytical Batch: XMS11511
Analytical Method: 8270D SIM LV (PAH)
Analyst: BMZ
Analytical Date/Time: 07/11/19 22:45
Container ID: 1193512002-F

Prep Batch: XXX41697
Prep Method: SW3520C
Prep Date/Time: 07/03/19 10:10
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Results of **WP-2**

Client Sample ID: **WP-2**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512002
Lab Project ID: 1193512

Collection Date: 07/01/19 22:30
Received Date: 07/02/19 15:55
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	19.5		0.556	0.167	mg/L	1		07/12/19 16:36
Surrogates								
5a Androstane (surr)	84.3		50-150		%	1		07/12/19 16:36

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK102
Analyst: VDL
Analytical Date/Time: 07/12/19 16:36
Container ID: 1193512002-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 270 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	5.51		0.463	0.139	mg/L	1		07/12/19 16:36
Surrogates								
n-Triacontane-d62 (surr)	102		50-150		%	1		07/12/19 16:36

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK103
Analyst: VDL
Analytical Date/Time: 07/12/19 16:36
Container ID: 1193512002-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 270 mL
Prep Extract Vol: 1 mL

Print Date: 07/26/2019 4:47:42PM

Results of **WP-2**

Client Sample ID: **WP-2**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512002
Lab Project ID: 1193512

Collection Date: 07/01/19 22:30
Received Date: 07/02/19 15:55
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	0.100	U	0.100	0.0310	mg/L	1		07/04/19 01:16
Surrogates								
4-Bromofluorobenzene (surr)	89.6		50-150		%	1		07/04/19 01:16

Batch Information

Analytical Batch: VFC14803
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/04/19 01:16
Container ID: 1193512002-C

Prep Batch: VXX34368
Prep Method: SW5030B
Prep Date/Time: 07/03/19 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/26/2019 4:47:42PM

Results of **WP-3**

Client Sample ID: **WP-3**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512003
Lab Project ID: 1193512

Collection Date: 07/01/19 20:45
Received Date: 07/02/19 15:55
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	0.847		0.0472	0.0142	ug/L	1		07/11/19 23:05
2-Methylnaphthalene	0.145		0.0472	0.0142	ug/L	1		07/11/19 23:05
Acenaphthene	0.745		0.0472	0.0142	ug/L	1		07/11/19 23:05
Acenaphthylene	0.0472 U		0.0472	0.0142	ug/L	1		07/11/19 23:05
Anthracene	0.304		0.0472	0.0142	ug/L	1		07/11/19 23:05
Benzo(a)Anthracene	0.0472 U		0.0472	0.0142	ug/L	1		07/11/19 23:05
Benzo[a]pyrene	0.288		0.0189	0.00585	ug/L	1		07/11/19 23:05
Benzo[b]Fluoranthene	0.0472 U		0.0472	0.0142	ug/L	1		07/11/19 23:05
Benzo[g,h,i]perylene	0.0472 U		0.0472	0.0142	ug/L	1		07/11/19 23:05
Benzo[k]fluoranthene	0.0472 U		0.0472	0.0142	ug/L	1		07/11/19 23:05
Chrysene	0.0472 U		0.0472	0.0142	ug/L	1		07/11/19 23:05
Dibenzo[a,h]anthracene	0.0189 U		0.0189	0.00585	ug/L	1		07/11/19 23:05
Fluoranthene	0.267		0.0472	0.0142	ug/L	1		07/11/19 23:05
Fluorene	2.84		0.0472	0.0142	ug/L	1		07/11/19 23:05
Indeno[1,2,3-c,d] pyrene	0.0472 U		0.0472	0.0142	ug/L	1		07/11/19 23:05
Naphthalene	0.544		0.0943	0.0292	ug/L	1		07/11/19 23:05
Phenanthrene	1.89		0.0472	0.0142	ug/L	1		07/11/19 23:05
Pyrene	0.268		0.0472	0.0142	ug/L	1		07/11/19 23:05
Surrogates								
2-Methylnaphthalene-d10 (surr)	53.3		47-106		%	1		07/11/19 23:05
Fluoranthene-d10 (surr)	38.4		24-116		%	1		07/11/19 23:05

Batch Information

Analytical Batch: XMS11511
Analytical Method: 8270D SIM LV (PAH)
Analyst: BMZ
Analytical Date/Time: 07/11/19 23:05
Container ID: 1193512003-F

Prep Batch: XXX41697
Prep Method: SW3520C
Prep Date/Time: 07/03/19 10:10
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Print Date: 07/26/2019 4:47:42PM

Results of **WP-3**

Client Sample ID: **WP-3**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512003
Lab Project ID: 1193512

Collection Date: 07/01/19 20:45
Received Date: 07/02/19 15:55
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	6.75		0.600	0.180	mg/L	1		07/12/19 16:46
Surrogates								
5a Androstane (surr)	86.4		50-150		%	1		07/12/19 16:46

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK102
Analyst: VDL
Analytical Date/Time: 07/12/19 16:46
Container ID: 1193512003-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	12.1		0.500	0.150	mg/L	1		07/12/19 16:46
Surrogates								
n-Triacontane-d62 (surr)	112		50-150		%	1		07/12/19 16:46

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK103
Analyst: VDL
Analytical Date/Time: 07/12/19 16:46
Container ID: 1193512003-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 07/26/2019 4:47:42PM

Results of **WP-3**

Client Sample ID: **WP-3**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512003
Lab Project ID: 1193512

Collection Date: 07/01/19 20:45
Received Date: 07/02/19 15:55
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	0.100	U	0.100	0.0310	mg/L	1		07/04/19 01:34
Surrogates								
4-Bromofluorobenzene (surr)	93.9		50-150		%	1		07/04/19 01:34

Batch Information

Analytical Batch: VFC14803
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/04/19 01:34
Container ID: 1193512003-C

Prep Batch: VXX34368
Prep Method: SW5030B
Prep Date/Time: 07/03/19 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/26/2019 4:47:42PM

Results of **WP-4**

Client Sample ID: **WP-4**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512004
Lab Project ID: 1193512

Collection Date: 07/01/19 20:00
Received Date: 07/02/19 15:55
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	0.0510	U	0.0510	0.0153	ug/L	1		07/11/19 23:26
2-Methylnaphthalene	0.0510	U	0.0510	0.0153	ug/L	1		07/11/19 23:26
Acenaphthene	0.139		0.0510	0.0153	ug/L	1		07/11/19 23:26
Acenaphthylene	0.0510	U	0.0510	0.0153	ug/L	1		07/11/19 23:26
Anthracene	0.0510	U	0.0510	0.0153	ug/L	1		07/11/19 23:26
Benzo(a)Anthracene	0.0510	U	0.0510	0.0153	ug/L	1		07/11/19 23:26
Benzo[a]pyrene	0.0204	U	0.0204	0.00633	ug/L	1		07/11/19 23:26
Benzo[b]Fluoranthene	0.0510	U	0.0510	0.0153	ug/L	1		07/11/19 23:26
Benzo[g,h,i]perylene	0.0510	U	0.0510	0.0153	ug/L	1		07/11/19 23:26
Benzo[k]fluoranthene	0.0510	U	0.0510	0.0153	ug/L	1		07/11/19 23:26
Chrysene	0.0510	U	0.0510	0.0153	ug/L	1		07/11/19 23:26
Dibenzo[a,h]anthracene	0.0204	U	0.0204	0.00633	ug/L	1		07/11/19 23:26
Fluoranthene	0.0510	U	0.0510	0.0153	ug/L	1		07/11/19 23:26
Fluorene	0.567		0.0510	0.0153	ug/L	1		07/11/19 23:26
Indeno[1,2,3-c,d] pyrene	0.0510	U	0.0510	0.0153	ug/L	1		07/11/19 23:26
Naphthalene	0.102	U	0.102	0.0316	ug/L	1		07/11/19 23:26
Phenanthrene	0.0510	U	0.0510	0.0153	ug/L	1		07/11/19 23:26
Pyrene	0.0510	U	0.0510	0.0153	ug/L	1		07/11/19 23:26
Surrogates								
2-Methylnaphthalene-d10 (surr)	70.7		47-106		%	1		07/11/19 23:26
Fluoranthene-d10 (surr)	70.8		24-116		%	1		07/11/19 23:26

Batch Information

Analytical Batch: XMS11511
Analytical Method: 8270D SIM LV (PAH)
Analyst: BMZ
Analytical Date/Time: 07/11/19 23:26
Container ID: 1193512004-F

Prep Batch: XXX41697
Prep Method: SW3520C
Prep Date/Time: 07/03/19 10:10
Prep Initial Wt./Vol.: 245 mL
Prep Extract Vol: 1 mL

Results of **WP-4**

Client Sample ID: **WP-4**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512004
Lab Project ID: 1193512

Collection Date: 07/01/19 20:00
Received Date: 07/02/19 15:55
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	0.545	U	0.545	0.164	mg/L	1		07/12/19 16:56
Surrogates								
5a Androstane (surr)	81.8		50-150		%	1		07/12/19 16:56

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK102
Analyst: VDL
Analytical Date/Time: 07/12/19 16:56
Container ID: 1193512004-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 275 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.586		0.455	0.136	mg/L	1		07/12/19 16:56
Surrogates								
n-Triacontane-d62 (surr)	107		50-150		%	1		07/12/19 16:56

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK103
Analyst: VDL
Analytical Date/Time: 07/12/19 16:56
Container ID: 1193512004-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 275 mL
Prep Extract Vol: 1 mL

Print Date: 07/26/2019 4:47:42PM

Results of **WP-4**

Client Sample ID: **WP-4**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512004
Lab Project ID: 1193512

Collection Date: 07/01/19 20:00
Received Date: 07/02/19 15:55
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	0.100	U	0.100	0.0310	mg/L	1		07/04/19 01:52
Surrogates								
4-Bromofluorobenzene (surr)	88.8		50-150		%	1		07/04/19 01:52

Batch Information

Analytical Batch: VFC14803
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/04/19 01:52
Container ID: 1193512004-C

Prep Batch: VXX34368
Prep Method: SW5030B
Prep Date/Time: 07/03/19 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/26/2019 4:47:42PM

Results of **WP-5**

Client Sample ID: **WP-5**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512005
Lab Project ID: 1193512

Collection Date: 07/01/19 19:10
Received Date: 07/02/19 15:55
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	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
2-Methylnaphthalene	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
Acenaphthene	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
Acenaphthylene	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
Anthracene	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
Benzo(a)Anthracene	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
Benzo[a]pyrene	0.0196	U	0.0196	0.00608	ug/L	1		07/11/19 23:46
Benzo[b]Fluoranthene	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
Benzo[g,h,i]perylene	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
Benzo[k]fluoranthene	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
Chrysene	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
Dibenzo[a,h]anthracene	0.0196	U	0.0196	0.00608	ug/L	1		07/11/19 23:46
Fluoranthene	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
Fluorene	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
Indeno[1,2,3-c,d] pyrene	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
Naphthalene	0.0980	U	0.0980	0.0304	ug/L	1		07/11/19 23:46
Phenanthrene	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
Pyrene	0.0490	U	0.0490	0.0147	ug/L	1		07/11/19 23:46
Surrogates								
2-Methylnaphthalene-d10 (surr)	71.3		47-106		%	1		07/11/19 23:46
Fluoranthene-d10 (surr)	77.2		24-116		%	1		07/11/19 23:46

Batch Information

Analytical Batch: XMS11511
Analytical Method: 8270D SIM LV (PAH)
Analyst: BMZ
Analytical Date/Time: 07/11/19 23:46
Container ID: 1193512005-F

Prep Batch: XXX41697
Prep Method: SW3520C
Prep Date/Time: 07/03/19 10:10
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Results of **WP-5**

Client Sample ID: **WP-5**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512005
Lab Project ID: 1193512

Collection Date: 07/01/19 19:10
Received Date: 07/02/19 15:55
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	0.577	U	0.577	0.173	mg/L	1		07/15/19 17:53
Surrogates								
5a Androstane (surr)	85.6		50-150		%	1		07/15/19 17:53

Batch Information

Analytical Batch: XFC15131
Analytical Method: AK102
Analyst: VDL
Analytical Date/Time: 07/15/19 17:53
Container ID: 1193512005-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.504		0.481	0.144	mg/L	1		07/15/19 17:53
Surrogates								
n-Triacontane-d62 (surr)	104		50-150		%	1		07/15/19 17:53

Batch Information

Analytical Batch: XFC15131
Analytical Method: AK103
Analyst: VDL
Analytical Date/Time: 07/15/19 17:53
Container ID: 1193512005-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Print Date: 07/26/2019 4:47:42PM

Results of **WP-5**

Client Sample ID: **WP-5**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512005
Lab Project ID: 1193512

Collection Date: 07/01/19 19:10
Received Date: 07/02/19 15:55
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	0.100	U	0.100	0.0310	mg/L	1		07/03/19 22:54
Surrogates								
4-Bromofluorobenzene (surr)	92		50-150		%	1		07/03/19 22:54

Batch Information

Analytical Batch: VFC14803
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/03/19 22:54
Container ID: 1193512005-C

Prep Batch: VXX34368
Prep Method: SW5030B
Prep Date/Time: 07/03/19 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/26/2019 4:47:42PM

Results of **WP-75**

Client Sample ID: **WP-75**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512008
Lab Project ID: 1193512

Collection Date: 07/01/19 19:13
Received Date: 07/02/19 15:55
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	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
2-Methylnaphthalene	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
Acenaphthene	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
Acenaphthylene	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
Anthracene	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
Benzo(a)Anthracene	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
Benzo[a]pyrene	0.0189	U	0.0189	0.00585	ug/L	1		07/12/19 00:48
Benzo[b]Fluoranthene	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
Benzo[g,h,i]perylene	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
Benzo[k]fluoranthene	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
Chrysene	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
Dibenzo[a,h]anthracene	0.0189	U	0.0189	0.00585	ug/L	1		07/12/19 00:48
Fluoranthene	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
Fluorene	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
Indeno[1,2,3-c,d] pyrene	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
Naphthalene	0.0943	U	0.0943	0.0292	ug/L	1		07/12/19 00:48
Phenanthrene	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
Pyrene	0.0472	U	0.0472	0.0142	ug/L	1		07/12/19 00:48
Surrogates								
2-Methylnaphthalene-d10 (surr)	66.3		47-106		%	1		07/12/19 00:48
Fluoranthene-d10 (surr)	71.2		24-116		%	1		07/12/19 00:48

Batch Information

Analytical Batch: XMS11511
Analytical Method: 8270D SIM LV (PAH)
Analyst: BMZ
Analytical Date/Time: 07/12/19 00:48
Container ID: 1193512008-F

Prep Batch: XXX41697
Prep Method: SW3520C
Prep Date/Time: 07/03/19 10:10
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Results of **WP-75**

Client Sample ID: **WP-75**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512008
Lab Project ID: 1193512

Collection Date: 07/01/19 19:13
Received Date: 07/02/19 15:55
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	0.588	U	0.588	0.176	mg/L	1		07/12/19 17:38
Surrogates								
5a Androstane (surr)	76		50-150		%	1		07/12/19 17:38

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK102
Analyst: VDL
Analytical Date/Time: 07/12/19 17:38
Container ID: 1193512008-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.490	U	0.490	0.147	mg/L	1		07/12/19 17:38
Surrogates								
n-Triacontane-d62 (surr)	96.2		50-150		%	1		07/12/19 17:38

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK103
Analyst: VDL
Analytical Date/Time: 07/12/19 17:38
Container ID: 1193512008-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Print Date: 07/26/2019 4:47:42PM

Results of **WP-75**

Client Sample ID: **WP-75**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512008
Lab Project ID: 1193512

Collection Date: 07/01/19 19:13
Received Date: 07/02/19 15:55
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	0.100	U	0.100	0.0310	mg/L	1		07/04/19 02:10
Surrogates								
4-Bromofluorobenzene (surr)	86.9		50-150		%	1		07/04/19 02:10

Batch Information

Analytical Batch: VFC14803
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/04/19 02:10
Container ID: 1193512008-C

Prep Batch: VXX34368
Prep Method: SW5030B
Prep Date/Time: 07/03/19 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/26/2019 4:47:42PM

Results of **MW-6**

Client Sample ID: **MW-6**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512009
Lab Project ID: 1193512

Collection Date: 07/02/19 08:20
Received Date: 07/02/19 15:55
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	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:08
2-Methylnaphthalene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:08
Acenaphthene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:08
Acenaphthylene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:08
Anthracene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:08
Benzo(a)Anthracene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:08
Benzo[a]pyrene	0.0192	U	0.0192	0.00596	ug/L	1		07/12/19 01:08
Benzo[b]Fluoranthene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:08
Benzo[g,h,i]perylene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:08
Benzo[k]fluoranthene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:08
Chrysene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:08
Dibenzo[a,h]anthracene	0.0192	U	0.0192	0.00596	ug/L	1		07/12/19 01:08
Fluoranthene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:08
Fluorene	0.174		0.0481	0.0144	ug/L	1		07/12/19 01:08
Indeno[1,2,3-c,d] pyrene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:08
Naphthalene	0.0962	U	0.0962	0.0298	ug/L	1		07/12/19 01:08
Phenanthrene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:08
Pyrene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:08
Surrogates								
2-Methylnaphthalene-d10 (surr)	59.3		47-106		%	1		07/12/19 01:08
Fluoranthene-d10 (surr)	60.4		24-116		%	1		07/12/19 01:08

Batch Information

Analytical Batch: XMS11511
Analytical Method: 8270D SIM LV (PAH)
Analyst: BMZ
Analytical Date/Time: 07/12/19 01:08
Container ID: 1193512009-F

Prep Batch: XXX41697
Prep Method: SW3520C
Prep Date/Time: 07/03/19 10:10
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Results of **MW-6**

Client Sample ID: **MW-6**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512009
Lab Project ID: 1193512

Collection Date: 07/02/19 08:20
Received Date: 07/02/19 15:55
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	1.10		0.566	0.170	mg/L	1		07/12/19 17:49
Surrogates								
5a Androstane (surr)	75.8		50-150		%	1		07/12/19 17:49

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK102
Analyst: VDL
Analytical Date/Time: 07/12/19 17:49
Container ID: 1193512009-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	0.812		0.472	0.142	mg/L	1		07/12/19 17:49
Surrogates								
n-Triacontane-d62 (surr)	97.1		50-150		%	1		07/12/19 17:49

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK103
Analyst: VDL
Analytical Date/Time: 07/12/19 17:49
Container ID: 1193512009-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

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Results of **MW-6**

Client Sample ID: **MW-6**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512009
Lab Project ID: 1193512

Collection Date: 07/02/19 08:20
Received Date: 07/02/19 15:55
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	0.100	U	0.100	0.0310	mg/L	1		07/04/19 02:27
Surrogates								
4-Bromofluorobenzene (surr)	86.6		50-150		%	1		07/04/19 02:27

Batch Information

Analytical Batch: VFC14803
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/04/19 02:27
Container ID: 1193512009-C

Prep Batch: VXX34368
Prep Method: SW5030B
Prep Date/Time: 07/03/19 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/26/2019 4:47:42PM

Results of **MW-7**

Client Sample ID: **MW-7**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512010
Lab Project ID: 1193512

Collection Date: 07/02/19 10:30
Received Date: 07/02/19 15:55
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	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:29
2-Methylnaphthalene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:29
Acenaphthene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:29
Acenaphthylene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:29
Anthracene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:29
Benzo(a)Anthracene	0.205		0.0481	0.0144	ug/L	1		07/12/19 01:29
Benzo[a]pyrene	0.228		0.0192	0.00596	ug/L	1		07/12/19 01:29
Benzo[b]Fluoranthene	0.672		0.0481	0.0144	ug/L	1		07/12/19 01:29
Benzo[g,h,i]perylene	0.146		0.0481	0.0144	ug/L	1		07/12/19 01:29
Benzo[k]fluoranthene	0.230		0.0481	0.0144	ug/L	1		07/12/19 01:29
Chrysene	0.933		0.0481	0.0144	ug/L	1		07/12/19 01:29
Dibenzo[a,h]anthracene	0.0192	U	0.0192	0.00596	ug/L	1		07/12/19 01:29
Fluoranthene	1.37		0.0481	0.0144	ug/L	1		07/12/19 01:29
Fluorene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:29
Indeno[1,2,3-c,d] pyrene	0.138		0.0481	0.0144	ug/L	1		07/12/19 01:29
Naphthalene	0.0962	U	0.0962	0.0298	ug/L	1		07/12/19 01:29
Phenanthrene	0.0481	U	0.0481	0.0144	ug/L	1		07/12/19 01:29
Pyrene	1.48		0.0481	0.0144	ug/L	1		07/12/19 01:29
Surrogates								
2-Methylnaphthalene-d10 (surr)	39.9	*	47-106		%	1		07/12/19 01:29
Fluoranthene-d10 (surr)	27.9		24-116		%	1		07/12/19 01:29

Batch Information

Analytical Batch: XMS11511
Analytical Method: 8270D SIM LV (PAH)
Analyst: BMZ
Analytical Date/Time: 07/12/19 01:29
Container ID: 1193512010-F

Prep Batch: XXX41697
Prep Method: SW3520C
Prep Date/Time: 07/03/19 10:10
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL

Print Date: 07/26/2019 4:47:42PM

Results of **MW-7**

Client Sample ID: **MW-7**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512010
Lab Project ID: 1193512

Collection Date: 07/02/19 10:30
Received Date: 07/02/19 15:55
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	16.1		0.566	0.170	mg/L	1		07/12/19 17:59
Surrogates								
5a Androstane (surr)	70.9		50-150		%	1		07/12/19 17:59

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK102
Analyst: VDL
Analytical Date/Time: 07/12/19 17:59
Container ID: 1193512010-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	3.51		0.472	0.142	mg/L	1		07/12/19 17:59
Surrogates								
n-Triacontane-d62 (surr)	86.1		50-150		%	1		07/12/19 17:59

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK103
Analyst: VDL
Analytical Date/Time: 07/12/19 17:59
Container ID: 1193512010-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Print Date: 07/26/2019 4:47:42PM

Results of **MW-7**

Client Sample ID: **MW-7**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512010
Lab Project ID: 1193512

Collection Date: 07/02/19 10:30
Received Date: 07/02/19 15:55
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	0.100	U	0.100	0.0310	mg/L	1		07/04/19 02:45
Surrogates								
4-Bromofluorobenzene (surr)	88.3		50-150		%	1		07/04/19 02:45

Batch Information

Analytical Batch: VFC14803
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/04/19 02:45
Container ID: 1193512010-C

Prep Batch: VXX34368
Prep Method: SW5030B
Prep Date/Time: 07/03/19 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/26/2019 4:47:42PM

Results of **MW-G2R**

Client Sample ID: **MW-G2R**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512011
Lab Project ID: 1193512

Collection Date: 07/02/19 11:15
Received Date: 07/02/19 15:55
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	0.200		0.0463	0.0139	ug/L	1		07/12/19 01:49
2-Methylnaphthalene	0.0463	U	0.0463	0.0139	ug/L	1		07/12/19 01:49
Acenaphthene	0.0463	U	0.0463	0.0139	ug/L	1		07/12/19 01:49
Acenaphthylene	0.0463	U	0.0463	0.0139	ug/L	1		07/12/19 01:49
Anthracene	0.0463	U	0.0463	0.0139	ug/L	1		07/12/19 01:49
Benzo(a)Anthracene	0.0463	U	0.0463	0.0139	ug/L	1		07/12/19 01:49
Benzo[a]pyrene	0.0185	U	0.0185	0.00574	ug/L	1		07/12/19 01:49
Benzo[b]Fluoranthene	0.0463	U	0.0463	0.0139	ug/L	1		07/12/19 01:49
Benzo[g,h,i]perylene	0.0463	U	0.0463	0.0139	ug/L	1		07/12/19 01:49
Benzo[k]fluoranthene	0.0463	U	0.0463	0.0139	ug/L	1		07/12/19 01:49
Chrysene	0.0463	U	0.0463	0.0139	ug/L	1		07/12/19 01:49
Dibenzo[a,h]anthracene	0.0185	U	0.0185	0.00574	ug/L	1		07/12/19 01:49
Fluoranthene	0.0463	U	0.0463	0.0139	ug/L	1		07/12/19 01:49
Fluorene	0.0463	U	0.0463	0.0139	ug/L	1		07/12/19 01:49
Indeno[1,2,3-c,d] pyrene	0.0463	U	0.0463	0.0139	ug/L	1		07/12/19 01:49
Naphthalene	0.0926	U	0.0926	0.0287	ug/L	1		07/12/19 01:49
Phenanthrene	0.0463	U	0.0463	0.0139	ug/L	1		07/12/19 01:49
Pyrene	0.0463	U	0.0463	0.0139	ug/L	1		07/12/19 01:49
Surrogates								
2-Methylnaphthalene-d10 (surr)	50.5		47-106		%	1		07/12/19 01:49
Fluoranthene-d10 (surr)	56.3		24-116		%	1		07/12/19 01:49

Batch Information

Analytical Batch: XMS11511
Analytical Method: 8270D SIM LV (PAH)
Analyst: BMZ
Analytical Date/Time: 07/12/19 01:49
Container ID: 1193512011-F

Prep Batch: XXX41697
Prep Method: SW3520C
Prep Date/Time: 07/03/19 10:10
Prep Initial Wt./Vol.: 270 mL
Prep Extract Vol: 1 mL

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Results of **MW-G2R**

Client Sample ID: **MW-G2R**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512011
Lab Project ID: 1193512

Collection Date: 07/02/19 11:15
Received Date: 07/02/19 15:55
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	16.0		0.600	0.180	mg/L	1		07/12/19 18:10
Surrogates								
5a Androstane (surr)	84.6		50-150		%	1		07/12/19 18:10

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK102
Analyst: VDL
Analytical Date/Time: 07/12/19 18:10
Container ID: 1193512011-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	32.0		0.500	0.150	mg/L	1		07/12/19 18:10
Surrogates								
n-Triacontane-d62 (surr)	91.1		50-150		%	1		07/12/19 18:10

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK103
Analyst: VDL
Analytical Date/Time: 07/12/19 18:10
Container ID: 1193512011-A

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 07/08/19 10:58
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 07/26/2019 4:47:42PM

Results of **MW-G2R**

Client Sample ID: **MW-G2R**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512011
Lab Project ID: 1193512

Collection Date: 07/02/19 11:15
Received Date: 07/02/19 15:55
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	0.100	U	0.100	0.0310	mg/L	1		07/04/19 03:03
Surrogates								
4-Bromofluorobenzene (surr)	86.8		50-150		%	1		07/04/19 03:03

Batch Information

Analytical Batch: VFC14803
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/04/19 03:03
Container ID: 1193512011-C

Prep Batch: VXX34368
Prep Method: SW5030B
Prep Date/Time: 07/03/19 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/26/2019 4:47:42PM

Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **Former Eyak Lake Power Plant**
Lab Sample ID: 1193512012
Lab Project ID: 1193512

Collection Date: 07/02/19 08:20
Received Date: 07/02/19 15:55
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	0.100	U	0.100	0.0310	mg/L	1		07/03/19 22:36
Surrogates								
4-Bromofluorobenzene (surr)	94.2		50-150		%	1		07/03/19 22:36

Batch Information

Analytical Batch: VFC14803
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 07/03/19 22:36
Container ID: 1193512012-A

Prep Batch: VXX34368
Prep Method: SW5030B
Prep Date/Time: 07/03/19 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/26/2019 4:47:42PM

Method Blank

Blank ID: MB for HBN 1795861 [VXX/34368]
Blank Lab ID: 1516633

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1193512001, 1193512002, 1193512003, 1193512004, 1193512005, 1193512008, 1193512009, 1193512010, 1193512011, 1193512012

Results by **AK101**

Parameter	Results	LOQ/CL	DL	Units
Gasoline Range Organics	0.0500U	0.100	0.0310	mg/L
Surrogates				
4-Bromofluorobenzene (surr)	93	50-150		%

Batch Information

Analytical Batch: VFC14803
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: ST
Analytical Date/Time: 7/3/2019 2:13:00PM

Prep Batch: VXX34368
Prep Method: SW5030B
Prep Date/Time: 7/3/2019 8:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1193512 [VXX34368]
Blank Spike Lab ID: 1516634
Date Analyzed: 07/03/2019 21:06

Spike Duplicate ID: LCSD for HBN 1193512 [VXX34368]
Spike Duplicate Lab ID: 1516635
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1193512001, 1193512002, 1193512003, 1193512004, 1193512005, 1193512008, 1193512009, 1193512010, 1193512011, 1193512012

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	1.09	109	1.00	1.03	103	(60-120)	6.10	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500	97.6	98	0.0500	88.8	89	(50-150)	9.40	

Batch Information

Analytical Batch: **VFC14803**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **ST**

Prep Batch: **VXX34368**
Prep Method: **SW5030B**
Prep Date/Time: **07/03/2019 08:00**
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: 1193512005
MS Sample ID: 1193512006 BMS
MSD Sample ID: 1193512007 BMSD

Analysis Date: 07/03/2019 22:54
Analysis Date: 07/03/2019 23:12
Analysis Date: 07/03/2019 23:30
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	0.100U	1.00	1.09	109	1.00	1.08	108	60-120	1.70	(< 20)
Surrogates										
4-Bromofluorobenzene (surr)		0.0500	0.0466	93	0.0500	0.0470	94	50-150	0.85	

Batch Information

Analytical Batch: VFC14803
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: ST
Analytical Date/Time: 7/3/2019 11:12:00PM

Prep Batch: VXX34368
Prep Method: Volatile Fuels Extraction (W)
Prep Date/Time: 7/3/2019 8:00:00AM
Prep Initial Wt./Vol.: 5.00mL
Prep Extract Vol: 5.00mL

Print Date: 07/26/2019 4:47:49PM

Method Blank

Blank ID: MB for HBN 1795796 [XXX/41697]
Blank Lab ID: 1516357

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1193512001, 1193512002, 1193512003, 1193512004, 1193512005, 1193512008, 1193512009, 1193512010, 1193512011

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-Methylnaphthalene-d10 (surr)	62.9	47-106		%
Fluoranthene-d10 (surr)	68.4	24-116		%

Batch Information

Analytical Batch: XMS11511
Analytical Method: 8270D SIM LV (PAH)
Instrument: SVA Agilent 780/5975 GC/MS
Analyst: BMZ
Analytical Date/Time: 7/11/2019 9:43:00PM

Prep Batch: XXX41697
Prep Method: SW3520C
Prep Date/Time: 7/3/2019 10:10:35AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1193512 [XXX41697]
Blank Spike Lab ID: 1516358
Date Analyzed: 07/11/2019 22:04

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1193512001, 1193512002, 1193512003, 1193512004, 1193512005, 1193512008, 1193512009, 1193512010, 1193512011

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

Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
1-Methylnaphthalene	2	1.51	75	(41-115)
2-Methylnaphthalene	2	1.47	73	(39-114)
Acenaphthene	2	1.44	72	(48-114)
Acenaphthylene	2	1.52	76	(35-121)
Anthracene	2	1.40	70	(53-119)
Benzo(a)Anthracene	2	1.51	75	(59-120)
Benzo[a]pyrene	2	1.49	74	(53-120)
Benzo[b]Fluoranthene	2	1.58	79	(53-126)
Benzo[g,h,i]perylene	2	1.42	71	(44-128)
Benzo[k]fluoranthene	2	1.51	75	(54-125)
Chrysene	2	1.56	78	(57-120)
Dibenzo[a,h]anthracene	2	1.31	66	(44-131)
Fluoranthene	2	1.59	79	(58-120)
Fluorene	2	1.47	74	(50-118)
Indeno[1,2,3-c,d] pyrene	2	1.53	76	(48-130)
Naphthalene	2	1.60	80	(43-114)
Phenanthrene	2	1.38	69	(53-115)
Pyrene	2	1.64	82	(53-121)
Surrogates				
2-Methylnaphthalene-d10 (surr)	2	66.6	67	(47-106)
Fluoranthene-d10 (surr)	2	70.3	70	(24-116)

Batch Information

Analytical Batch: **XMS11511**
Analytical Method: **8270D SIM LV (PAH)**
Instrument: **SVA Agilent 780/5975 GC/MS**
Analyst: **BMZ**

Prep Batch: **XXX41697**
Prep Method: **SW3520C**
Prep Date/Time: **07/03/2019 10:10**
Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 07/26/2019 4:47:52PM

Billable Matrix Spike Summary

Original Sample ID: 1193512005
MS Sample ID: 1193512006 BMS
MSD Sample ID: 1193512007 BMSD

Analysis Date: 07/11/2019 23:46
Analysis Date: 07/12/2019 0:07
Analysis Date: 07/12/2019 0:27
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	0.0490U	2.00	1.59	79	1.85	1.41	76	41-115	12.00	(< 20)
2-Methylnaphthalene	0.0490U	2.00	1.54	77	1.85	1.35	73	39-114	12.70	(< 20)
Acenaphthene	0.0490U	2.00	1.53	76	1.85	1.41	76	48-114	8.00	(< 20)
Acenaphthylene	0.0490U	2.00	1.58	79	1.85	1.50	81	35-121	5.40	(< 20)
Anthracene	0.0490U	2.00	1.46	73	1.85	1.42	77	53-119	2.80	(< 20)
Benzo(a)Anthracene	0.0490U	2.00	1.5	75	1.85	1.34	72	59-120	11.20	(< 20)
Benzo[a]pyrene	0.0196U	2.00	1.38	69	1.85	1.16	63	53-120	17.10	(< 20)
Benzo[b]Fluoranthene	0.0490U	2.00	1.47	74	1.85	1.29	69	53-126	13.60	(< 20)
Benzo[g,h,i]perylene	0.0490U	2.00	1.28	64	1.85	1.02	55	44-128	22.60	* (< 20)
Benzo[k]fluoranthene	0.0490U	2.00	1.45	72	1.85	1.20	65	54-125	18.80	(< 20)
Chrysene	0.0490U	2.00	1.53	77	1.85	1.38	74	57-120	11.00	(< 20)
Dibenzo[a,h]anthracene	0.0196U	2.00	1.15	57	1.85	0.962	52	44-131	17.50	(< 20)
Fluoranthene	0.0490U	2.00	1.61	81	1.85	1.55	84	58-120	4.00	(< 20)
Fluorene	0.0490U	2.00	1.61	80	1.85	1.45	79	50-118	10.00	(< 20)
Indeno[1,2,3-c,d] pyrene	0.0490U	2.00	1.34	67	1.85	1.05	57	48-130	24.10	* (< 20)
Naphthalene	0.0980U	2.00	1.6	80	1.85	1.41	76	43-114	12.90	(< 20)
Phenanthrene	0.0490U	2.00	1.47	73	1.85	1.41	76	53-115	4.10	(< 20)
Pyrene	0.0490U	2.00	1.66	83	1.85	1.56	84	53-121	6.10	(< 20)
Surrogates										
2-Methylnaphthalene-d10 (surr)		2.00	1.42	71	1.85	1.30	70	47-106	9.40	
Fluoranthene-d10 (surr)		2.00	1.45	72	1.85	1.39	75	24-116	4.00	

Batch Information

Analytical Batch: XMS11511
Analytical Method: 8270D SIM LV (PAH)
Instrument: SVA Agilent 780/5975 GC/MS
Analyst: BMZ
Analytical Date/Time: 7/12/2019 12:07:00AM

Prep Batch: XXX41697
Prep Method: 3520 Liq/Liq Ext for 8270 PAH SIM LV
Prep Date/Time: 7/3/2019 10:10:35AM
Prep Initial Wt./Vol.: 250.00mL
Prep Extract Vol: 1.00mL

Print Date: 07/26/2019 4:47:54PM

Method Blank

Blank ID: MB for HBN 1795936 [XXX/41719]
Blank Lab ID: 1517124

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1193512001, 1193512002, 1193512003, 1193512004, 1193512005, 1193512008, 1193512009, 1193512010, 1193512011

Results by **AK102**

Parameter	Results	LOQ/CL	DL	Units
Diesel Range Organics	0.300U	0.600	0.180	mg/L
Surrogates				
5a Androstane (surr)	80.1	60-120		%

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: VDL
Analytical Date/Time: 7/12/2019 3:55:00PM

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 7/8/2019 10:58:56AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1193512 [XXX41719]
Blank Spike Lab ID: 1517125
Date Analyzed: 07/12/2019 16:05

Spike Duplicate ID: LCSD for HBN 1193512 [XXX41719]
Spike Duplicate Lab ID: 1517126
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1193512001, 1193512002, 1193512003, 1193512004, 1193512005, 1193512008, 1193512009, 1193512010, 1193512011

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	18.8	94	20	18.0	90	(75-125)	4.40	(< 20)
Surrogates									
5a Androstane (surr)	0.4	87.6	88	0.4	87	87	(60-120)	0.69	

Batch Information

Analytical Batch: **XFC15124**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **VDL**

Prep Batch: **XXX41719**
Prep Method: **SW3520C**
Prep Date/Time: **07/08/2019 10:58**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Billable Matrix Spike Summary

Original Sample ID: 1193512005
MS Sample ID: 1193512006 BMS
MSD Sample ID: 1193512007 BMSD

Analysis Date: 07/15/2019 17:53
Analysis Date: 07/15/2019 18:03
Analysis Date: 07/15/2019 18:14
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

Results by **AK102**

		Matrix Spike (mg/L)				Spike Duplicate (mg/L)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	0.577U	19.6	5.64	29	*	18.9	20.9	111	75-125	115.00	* (< 30)
Surrogates											
5a Androstane (surr)		0.392	.0903	23	*	0.377	0.386	102	50-150	124.00	

Batch Information

Analytical Batch: XFC15131
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: VDL
Analytical Date/Time: 7/15/2019 6:03:00PM

Prep Batch: XXX41719
Prep Method: Cnt. Liq/Liq Ext. for AK102/3 Low Vol
Prep Date/Time: 7/8/2019 10:58:56AM
Prep Initial Wt./Vol.: 255.00mL
Prep Extract Vol: 1.00mL

Print Date: 07/26/2019 4:47:58PM

Method Blank

Blank ID: MB for HBN 1795936 [XXX/41719]
Blank Lab ID: 1517124

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1193512001, 1193512002, 1193512003, 1193512004, 1193512005, 1193512008, 1193512009, 1193512010, 1193512011

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)	102	60-120		%

Batch Information

Analytical Batch: XFC15124
Analytical Method: AK103
Instrument: Agilent 7890B R
Analyst: VDL
Analytical Date/Time: 7/12/2019 3:55:00PM

Prep Batch: XXX41719
Prep Method: SW3520C
Prep Date/Time: 7/8/2019 10:58:56AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1193512 [XXX41719]
Blank Spike Lab ID: 1517125
Date Analyzed: 07/12/2019 16:05

Spike Duplicate ID: LCSD for HBN 1193512 [XXX41719]
Spike Duplicate Lab ID: 1517126
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1193512001, 1193512002, 1193512003, 1193512004, 1193512005, 1193512008, 1193512009, 1193512010, 1193512011

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	20.7	103	20	20.1	100	(60-120)	2.90	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	0.4	99.8	100	0.4	102	102	(60-120)	2.40	

Batch Information

Analytical Batch: **XFC15124**
Analytical Method: **AK103**
Instrument: **Agilent 7890B R**
Analyst: **VDL**

Prep Batch: **XXX41719**
Prep Method: **SW3520C**
Prep Date/Time: **07/08/2019 10:58**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

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

Billable Matrix Spike Summary

Original Sample ID: 1193512005
MS Sample ID: 1193512006 BMS
MSD Sample ID: 1193512007 BMSD

Analysis Date: 07/15/2019 17:53
Analysis Date: 07/15/2019 18:03
Analysis Date: 07/15/2019 18:14
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

Results by **AK103**

		Matrix Spike (mg/L)				Spike Duplicate (mg/L)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Residual Range Organics	0.504	19.6	6	28	*	18.9	22.6	117	60-140	116.00	* (< 30)
Surrogates											
n-Triacontane-d62 (surr)		0.392	.0961	25	*	0.377	0.428	114	50-150	127.00	

Batch Information

Analytical Batch: XFC15131
Analytical Method: AK103
Instrument: Agilent 7890B R
Analyst: VDL
Analytical Date/Time: 7/15/2019 6:03:00PM

Prep Batch: XXX41719
Prep Method: Cnt. Liq/Liq Ext. for AK102/3 Low Vol
Prep Date/Time: 7/8/2019 10:58:56AM
Prep Initial Wt./Vol.: 255.00mL
Prep Extract Vol: 1.00mL

Print Date: 07/26/2019 4:48:02PM

SGS

SGS North America Inc.
CHAIN OF CUSTODY RECORD

1193512

Locations Nationwide

Alaska	Maryland
New Jersey	New York
North Carolina	Indiana
West Virginia	Kentucky

www.us.sgs.com

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

1

CLIENT:	Cordova Electric - Stantec		
CONTACT:	Douglas Quist	**PHONE NO:**	907-266-1148
PROJECT NAME:	Former Eyak Lake Power Plant	**PROJECT/ PWSID/ PERMIT#:**	
REPORTS TO:	Douglas Quist	**E-MAIL:**	douglas.quist@stantec.com
INVOICE TO:	Cordova Electric	**QUOTE #:** / **P.O. #:**	

2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Preservative Used: **3**	TYPE C = COMP G = GRAB MI = Multi Incremental Soils	AK101 - GRO	AK102/AK103 - DRO/RRO	SW8270D SIM - PAH							REMARKS/ LOC ID
(1) A-G	WP-1	7/1/2019	2250	W	7		G	x	x	x							
(2) A-G	WP-2	7/1/2019	2230	W	7		G	x	x	x							
(3) A-G	WP-3	7/1/2019	2045	W	7		G	x	x	x							
(4) A-G	WP-4	7/1/2019	2000	W	7		G	x	x	x							
(5) (MS) (MSD) A-G	WP-5	7/1/2019	1910	W	21		G	x	x	x							ms/msd
(6) A-G	WP-75	7/1/2019	1913	W	7		G	x	x	x							
(9) A-G	MW-6	7/2/2019	820	W	7		G	x	x	x							
(10) A-G	MW-7	7/2/2019	1030	W	7		G	x	x	x							
(11) A-G	MW-G2R	7/2/2019	1115	W	7		G	x	x	x					✓		
(12) A-G	Trip Blank	7/2/2019	2100	W	3		G	x									

5

	Date	Time	Received By:
Relinquished By: (1) Douglas Quist	7/2/19	1555	
Relinquished By: (2)	Date	Time	**Received By:**
Relinquished By: (3)	Date	Time	**Received By:**
Relinquished By: (4)	Date 7/2/19	Time 1555	**Received For Laboratory By:**

4

DOD Project? YES (NO)

Cooler ID: 19CDV001

Data Deliverable Requirements:

Requested Turnaround Time and-or Special Instructions:

Profile #16943

Temp Blank °C: (1) 2.5/D23 (2) 3.7/D30 or Ambient [ ] cooler temp

(See attached Sample Receipt Form)

Chain of Custody Seal: (Circle)

IC IB HD

INTACT BROKEN ABSENT

(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

e-Sample Receipt Form

SGS Workorder #: **1193512**

1193049	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements	Yes	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	No	1F 1B Broken
COC accompanied samples?	Yes	
DOD: Were samples received in COC corresponding coolers?	N/A	
N/A	**Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required	
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID: 1 @ 2.5 °C Therm. ID: D23
	Yes	Cooler ID: 2 @ 3.7 °C Therm. ID: D30
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
*If >6°C, were samples collected <8 hours ago?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	Yes	
Do samples **match COC**** (i.e.,sample IDs,dates/times collected)?	Yes	
**Note: If times differ <1hr, record details & login per COC.		
***Note: If sample information on containers differs from COC, SGS will default to COC information		
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals)	Yes	
	N/A	***Exemption permitted for metals (e.g,200.8/6020A).
Were proper containers (type/mass/volume/preservative***)used?	Yes	
Volatile / LL-Hg Requirements		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	Yes	
Were all soil VOAs field extracted with MeOH+BFB?	N/A	

Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

Additional notes (if applicable):

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1193512001-A	HCL to pH < 2	OK			
1193512001-B	HCL to pH < 2	OK			
1193512001-C	HCL to pH < 2	OK			
1193512001-D	HCL to pH < 2	OK			
1193512001-E	HCL to pH < 2	OK			
1193512001-F	HCL to pH < 2	OK			
1193512001-G	HCL to pH < 2	OK			
1193512001-H	HCL to pH < 2	OK			
1193512002-A	HCL to pH < 2	OK			
1193512002-B	HCL to pH < 2	OK			
1193512002-C	HCL to pH < 2	OK			
1193512002-D	HCL to pH < 2	OK			
1193512002-E	HCL to pH < 2	OK			
1193512002-F	HCL to pH < 2	OK			
1193512002-G	HCL to pH < 2	OK			
1193512002-H	HCL to pH < 2	OK			
1193512003-A	HCL to pH < 2	OK			
1193512003-B	HCL to pH < 2	OK			
1193512003-C	HCL to pH < 2	OK			
1193512003-D	HCL to pH < 2	OK			
1193512003-E	HCL to pH < 2	OK			
1193512003-F	HCL to pH < 2	OK			
1193512003-G	HCL to pH < 2	OK			
1193512003-H	HCL to pH < 2	OK			
1193512004-A	HCL to pH < 2	OK			
1193512004-B	HCL to pH < 2	OK			
1193512004-C	HCL to pH < 2	OK			
1193512004-D	HCL to pH < 2	OK			
1193512004-E	HCL to pH < 2	OK			
1193512004-F	HCL to pH < 2	OK			
1193512004-G	HCL to pH < 2	OK			
1193512004-H	HCL to pH < 2	OK			
1193512005-A	HCL to pH < 2	OK			
1193512005-B	HCL to pH < 2	OK			
1193512005-C	HCL to pH < 2	OK			
1193512005-D	HCL to pH < 2	OK			
1193512005-E	HCL to pH < 2	OK			
1193512005-F	HCL to pH < 2	OK			
1193512005-G	HCL to pH < 2	OK			
1193512005-H	HCL to pH < 2	OK			
1193512006-A	HCL to pH < 2	OK			
1193512006-B	HCL to pH < 2	OK			
1193512006-C	HCL to pH < 2	OK			
1193512006-D	HCL to pH < 2	OK			
1193512006-E	HCL to pH < 2	OK			
1193512006-F	HCL to pH < 2	OK			
1193512006-G	HCL to pH < 2	OK			
1193512006-H	HCL to pH < 2	OK			

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1193512007-A	HCL to pH < 2	OK			
1193512007-B	HCL to pH < 2	OK			
1193512007-C	HCL to pH < 2	OK			
1193512007-D	HCL to pH < 2	OK			
1193512007-E	HCL to pH < 2	OK			
1193512007-F	HCL to pH < 2	OK			
1193512007-G	HCL to pH < 2	OK			
1193512007-H	HCL to pH < 2	OK			
1193512008-A	HCL to pH < 2	OK			
1193512008-B	HCL to pH < 2	OK			
1193512008-C	HCL to pH < 2	OK			
1193512008-D	HCL to pH < 2	OK			
1193512008-E	HCL to pH < 2	OK			
1193512008-F	HCL to pH < 2	OK			
1193512008-G	HCL to pH < 2	OK			
1193512008-H	HCL to pH < 2	OK			
1193512009-A	HCL to pH < 2	OK			
1193512009-B	HCL to pH < 2	OK			
1193512009-C	HCL to pH < 2	OK			
1193512009-D	HCL to pH < 2	OK			
1193512009-E	HCL to pH < 2	OK			
1193512009-F	HCL to pH < 2	OK			
1193512009-G	HCL to pH < 2	OK			
1193512009-H	HCL to pH < 2	OK			
1193512010-A	HCL to pH < 2	OK			
1193512010-B	HCL to pH < 2	OK			
1193512010-C	HCL to pH < 2	OK			
1193512010-D	HCL to pH < 2	OK			
1193512010-E	HCL to pH < 2	OK			
1193512010-F	HCL to pH < 2	OK			
1193512010-G	HCL to pH < 2	OK			
1193512010-H	HCL to pH < 2	OK			
1193512011-A	HCL to pH < 2	OK			
1193512011-B	HCL to pH < 2	OK			
1193512011-C	HCL to pH < 2	OK			
1193512011-D	HCL to pH < 2	OK			
1193512011-E	HCL to pH < 2	OK			
1193512011-F	HCL to pH < 2	OK			
1193512011-G	HCL to pH < 2	OK			
1193512011-H	HCL to pH < 2	OK			
1193512012-A	HCL to pH < 2	OK			
1193512012-B	HCL to pH < 2	OK			
1193512012-C	HCL to pH < 2	OK			

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition

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.
IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.
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.

Laboratory Data Review Checklist

Completed By:

Douglas Quist

Title:

Senior Chemist

Date:

11-26-2019

CS Report Name:

Former Eyak Lake Power Plant, July 2019 Remediation System Monitoring Event Report

Report Date:

November 2019

Consultant Firm:

Stantec Consulting Inc.

Laboratory Name:

SGS North America

Laboratory Report Number:

1193512

ADEC File Number:

Hazard Identification Number:

1193512

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:

   NA – All samples were analyzed by SGS in Anchorage.

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:

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:

NA - No Discrepancies.

e. Data quality or usability affected?

Comments:

NA

4. Case Narrative

a. Present and understandable?

(•) Yes ( ) No Comments:

Narrative present.

b. Discrepancies, errors, or QC failures identified by the lab?

(•) Yes ( ) No Comments:

Discrepancies in surrogate recoveries, and RPD for MS/MSD samples noted.

c. Were all corrective actions documented?

(•) Yes ( ) No Comments:

d. What is the effect on data quality/usability according to the case narrative?

Comments:

Data is not affected and is considered useable.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

(•) Yes ( ) No Comments:

b. All applicable holding times met?

(•) Yes ( ) No Comments:

Holding times for initial analysis were met, re-extraction and reanalysis for samples where the RP were out of limits were past the 14 day hold times, but all requirements were met in the reextracts.

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c. All soils reported on a dry weight basis?

○ Yes ◉ No Comments:

NA- Groundwater samples only.

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?

○ Yes ◉ No Comments:

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:

NA – all method blanks LOQs were less than non detect – U, and less than the LOQ

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

○ Yes ◉ No Comments:

NA – Method blank was non detect

v. Data quality or usability affected?

Comments:

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:

NA – no metals analysis.

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:

Yes, %R within laboratory limits.

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:

Yes, RPD was within laboratory limits, however, some samples required reextraction to meet limits, outside of 14-day hold time, but limits were achieved.

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

No samples affected.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

○ Yes ◉ No Comments:

NA - %R and RPD acceptable

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data is acceptable

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:

MW-7 Surrogate recovery for 1193512010, for 2-Methylnaphthalene-d10 was out of QC criteria. The sample was reexetracted outside of the 14-day hold time but met all of the requirements in the reextract.

WP-5 MS - Surrogate recovery for 1193512006, for 5a-androstane and n-triacontane did not meet QC criteria initially, but sample was reextracted and reanalyzed past the 14 day hold time and all requirements were met in the reextract.

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:

Data are useable.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples?
(If not, enter explanation below.)

(•) 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:

Cooler 1 contained the trip blanks and all voas.

iii. All results less than LOQ?

◉ Yes ○ No Comments:

iv. If above LOQ, what samples are affected?

Comments:

none

v. Data quality or usability affected?

Comments:

none

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:

RPD was not able to be calculated with each analysis having NDs. However, if applying 2 x the DL to the Non Detect results, then the RPD ranged from -2 to 4.

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Not affected

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f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below).

○ Yes ○ No ◉ Not Applicable

Disposable sampling equipment only

i. All results less than LOQ?

○ Yes ◉ No Comments:

NA

ii. If above LOQ, what samples are affected?

Comments:

NA

iii. Data quality or usability affected?

Comments:

NA

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

○ Yes ◉ No Comments:

NA

Appendix C HISTORICAL GROUNDWATER MONITORING DATA

Appendix C
Tables of Historical Monitoring Data

Monitoring Well G-1

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev (feet)
14-Jun-01	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	**3.1**	**5.57**	104.05
13-Dec-01	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	1.19	**2.52**	91.77
1-Apr-02	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	0.695	ND (1.06)	91.67
16-Sep-02	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	0.719	ND (1.00)	93.94
16-May-03	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	1.13	**1.42**	92.77
4-Sep-03	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.040)	**1.3**	**2.31**	93.72
05-Apr-04	NT	NT	NT	NT	NT	NT	NT	NM
29-Jul-04	NT	NT	NT	NT	NT	NT	NT	NM
12-Oct-04	NT	NT	NT	NT	NT	NT	NT	NM
26-May-05	NT	NT	NT	NT	NT	NT	NT	NM
04-Nov-05	NT	NT	NT	NT	NT	NT	NT	NM
22-Sep-06	NT	NT	NT	NT	NT	NT	NT	NM
19-Jun-07	NT	NT	NT	NT	NT	NT	NT	NM
10-Jul-08	NT	NT	NT	NT	NT	NT	NT	NM
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NM
23-Jun-09	NT	NT	NT	NT	NT	NT	NT	NM
21-Jul-10	NT	NT	NT	NT	NT	NT	NT	NM
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
23-Oct-12	NT	NT	NT	NT	NT	NT	NT	NM
20-Jun-13	Abandoned - Monitoring Well Removed							
GCLs	**0.005**	**1**	**0.700**	**10**	**2.2**	**1.5**	**1.1**	**NA**

Monitoring Well G-2R

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev. (feet)
12-Dec-01	0.00217	ND (0.002)	0.00279	0.01374	0.242	**803**	**377**	84.03
1-Apr-02	0.00329	0.0123	0.0227	0.0407	0.493	**210**	**73.7**	83.29
16-Sep-02	0.00469	ND (0.002)	ND (0.002)	0.02255	0.102	**69.3**	**52.3**	86.64
16-May-03	**0.00618**	ND (0.002)	ND (0.002)	0.00975	ND (0.090)	**2.48**	1.01	85.49
4-Sep-03	0.0042	ND (0.0010)	ND (0.0010)	0.0116	0.19	**81.0**	**55.6**	86.09
05-Apr-04	**0.00761**	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	**12.0**	**14.3**	86.84
29-Jul-04	0.00135	ND (0.002)	ND (0.002)	0.01448	NT	**42.9**	**NT**	84.94
12-Oct-04	0.00116	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	**41.6**	**43.7**	86.40
26-May-05	0.01 FEET FREE PRODUCT PRESENT							NA
04-Nov-05	0.01 FEET FREE PRODUCT PRESENT							NA
22-Sep-06	0.00134	ND (0.002)	ND (0.002)	0.01992	0.511	**40.4**	**46.5**	NA
19-Jun-07	0.01 FEET FREE PRODUCT PRESENT							NA
10-Jul-08	ND (0.0004)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.100)	**31.4**	**49.6**	85.82
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NM
23-Jun-09	0.01 FEET FREE PRODUCT PRESENT							NM
21-Jul-10	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	**9.11**	**15.4**	NM
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
23-Oct-12	NT	NT	NT	NT	NT	NT	NT	NM
20-Jun-13	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.100)	3.43	7.02	NM
23-Oct-17	NT	NT	NT	NT	NT	**73.5**	**127**	NM
02-Jul-19	NT	NT	NT	NT	ND (0.100)	**16**	**32**	NM
GCLs	**0.005**	**1**	**0.700**	**10**	**2.2**	**1.5**	**1.1**	**NA**

Appendix C
Tables of Historical Monitoring Data

Monitoring Well G-3

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev. (feet)
12-Dec-01	ND (0.0005)	ND (0.002)	ND(0.002)	ND (0.002)	ND (0.090)	ND (0.495)	**1.37**	84.71
1-Apr-02	ND (0.0005)	ND (0.002)	ND(0.002)	ND (0.002)	ND (0.090)	ND (0.505)	ND (1.01)	82.99
16-Sep-02	NT	NT	NT	NT	NT	NT	NT	NT
16-May-03	NT	NT	NT	NT	NT	NT	NT	NT
4-Sep-03	NT	NT	NT	NT	NT	NT	NT	NT
5-Apr-04	NT	NT	NT	NT	NT	NT	NT	NM
29-Jul-04	NT	NT	NT	NT	NT	NT	NT	NM
12-Oct-04	NT	NT	NT	NT	NT	NT	NT	NM
26-May-05	NT	NT	NT	NT	NT	NT	NT	NM
04-Nov-05	NT	NT	NT	NT	NT	NT	NT	NM
22-Sep-06	NT	NT	NT	NT	NT	NT	NT	NM
19-Jun-07	NT	NT	NT	NT	NT	NT	NT	NM
10-Jul-08	NT	NT	NT	NT	NT	NT	NT	NM
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NM
23-Jun-09	NT	NT	NT	NT	NT	NT	NT	NM
21-Jul-10	NT	NT	NT	NT	NT	NT	NT	NM
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
23-Oct-12	NT	NT	NT	NT	NT	NT	NT	NM
20-Jun-13	Abandoned - Monitoring Well Removed							
GCLs	**0.005**	**1**	**0.700**	**10**	**2.2**	**1.5**	**1.1**	**NA**

Monitoring Well G-4

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev. (feet)
12-Dec-01	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	**4.63**	ND (0.990)	86.63
1-Apr-02	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	**1.53**	ND (0.990)	86.82
16-Sep-02	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	ND (0.495)	ND (0.990)	89.95
16-May-03	NT	NT	NT	NT	NT	NT	NT	NT
4-Sep-03	NT	NT	NT	NT	NT	NT	NT	NT
5-Apr-04	NT	NT	NT	NT	NT	NT	NT	NM
29-Jul-04	NT	NT	NT	NT	NT	NT	NT	NM
12-Oct-04	NT	NT	NT	NT	NT	NT	NT	NM
26-May-05	NT	NT	NT	NT	NT	NT	NT	NM
04-Nov-05	NT	NT	NT	NT	NT	NT	NT	NM
22-Sep-06	NT	NT	NT	NT	NT	NT	NT	NM
19-Jun-07	NT	NT	NT	NT	NT	NT	NT	NM
10-Jul-08	NT	NT	NT	NT	NT	NT	NT	NM
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NM
23-Jun-09	NT	NT	NT	NT	NT	NT	NT	NM
21-Jul-10	NT	NT	NT	NT	NT	NT	NT	NM
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
21-Jul-10	NT	NT	NT	NT	NT	NT	NT	NM
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
23-Oct-12	NT	NT	NT	NT	NT	NT	NT	NM
20-Jun-13	Abandoned - Monitoring Well Removed							
GCLs	**0.005**	**1**	**0.700**	**10**	**2.2**	**1.5**	**1.1**	**NA**

Appendix C
Tables of Historical Monitoring Data

Monitoring Well G-5

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev. (feet)
12-Dec-01	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	0.746	ND (1.00)	89.08
1-Apr-02	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	ND (0.510)	ND (1.02)	89.32
16-Sep-02	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	ND (0.500)	ND (1.00)	92.28
16-May-03	NT	NT	NT	NT	NT	NT	NT	NT
4-Sep-03	NT	NT	NT	NT	NT	NT	NT	NT
5-Apr-04	NT	NT	NT	NT	NT	NT	NT	NM
29-Jul-04	NT	NT	NT	NT	NT	NT	NT	NM
12-Oct-04	NT	NT	NT	NT	NT	NT	NT	NM
26-May-05	NT	NT	NT	NT	NT	NT	NT	NM
04-Nov-05	NT	NT	NT	NT	NT	NT	NT	NM
22-Sep-06	NT	NT	NT	NT	NT	NT	NT	NM
19-Jun-07	NT	NT	NT	NT	NT	NT	NT	NM
10-Jul-08	NT	NT	NT	NT	NT	NT	NT	NM
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NM
23-Jun-09	NT	NT	NT	NT	NT	NT	NT	NM
21-Jul-10	NT	NT	NT	NT	NT	NT	NT	NM
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
23-Oct-12	NT	NT	NT	NT	NT	NT	NT	NM
20-Jun-13	Abandoned - Monitoring Well Removed							
GCLs	**0.005**	**1**	**0.700**	**10**	**2.2**	**1.5**	**1.1**	**NA**

Monitoring Well G-6

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev. (feet)
13-Dec-01	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	ND (0.495)	ND (0.990)	91.94
1-Apr-02	NT	NT	NT	NT	NT	NT	NT	NA
16-Sep-02	NT	NT	NT	NT	NT	NT	NT	NA
16-May-03	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	ND (0.300)	ND (0.500)	93.57
4-Sep-03	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.040)	ND (0.80)	ND (0.800)	94.10
5-Apr-04	NT	NT	NT	NT	NT	NT	NT	NM
29-Jul-04	NT	NT	NT	NT	NT	NT	NT	NM
12-Oct-04	NT	NT	NT	NT	NT	NT	NT	NM
26-May-05	NT	NT	NT	NT	NT	NT	NT	NM
04-Nov-05	NT	NT	NT	NT	NT	NT	NT	NM
22-Sep-06	NT	NT	NT	NT	NT	NT	NT	NM
19-Jun-07	NT	NT	NT	NT	NT	NT	NT	NM
10-Jul-08	NT	NT	NT	NT	NT	NT	NT	NM
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NM
23-Jun-09	NT	NT	NT	NT	NT	NT	NT	NM
21-Jul-10	NT	NT	NT	NT	NT	NT	NT	NM
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
23-Oct-12	NT	NT	NT	NT	NT	NT	NT	NM
20-Jun-13	Abandoned - Monitoring Well Removed							
GCLs	**0.005**	**1**	**0.700**	**10**	**2.2**	**1.5**	**1.1**	**NA**

Appendix C
Tables of Historical Monitoring Data

Monitoring Well G-7

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev. (feet)
12-Dec-01	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	ND (0.495)	ND (0.990)	91.52
1-Apr-02	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	ND (0.505)	ND (1.01)	91.29
16-Sep-02	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	ND (0.510)	ND (1.02)	94.58
16-May-03	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	ND (0.300)	ND (0.500)	94.00
4-Sep-03	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.040)	NT	NT	94.14
5-Apr-04	NT	NT	NT	NT	NT	NT	NT	NM
29-Jul-04	NT	NT	NT	NT	NT	NT	NT	NM
12-Oct-04	NT	NT	NT	NT	NT	NT	NT	94.61
26-May-05	NT	NT	NT	NT	NT	NT	NT	NM
04-Nov-05	NT	NT	NT	NT	NT	NT	NT	NM
22-Sep-06	NT	NT	NT	NT	NT	NT	NT	NM
19-Jun-07	NT	NT	NT	NT	NT	NT	NT	NM
10-Jul-08	NT	NT	NT	NT	NT	NT	NT	NM
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NM
23-Jun-09	NT	NT	NT	NT	NT	NT	NT	NM
21-Jul-10	NT	NT	NT	NT	NT	NT	NT	NM
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
23-Oct-12	NT	NT	NT	NT	NT	NT	NT	NM
20-Jun-13	Abandoned - Monitoring Well Removed							
GCLs	**0.005**	**1**	**0.700**	**10**	**2.2**	**1.5**	**1.1**	**NA**

Monitoring Well MW-4

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev (feet)
14-Jun-01	NT	NT	NT	NT	NT	0.056	**1.81**	89.35
12-Dec-01	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	ND (0.495)	ND (0.990)	84.56
1-Apr-02	ND (0.0005)	ND (0.002)	ND(0.002)	ND (0.002)	ND (0.090)	1.08	ND (0.990)	83.53
16-Sep-02	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	ND (0.549)	ND (1.10)	87.21
16-May-03	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	ND (0.300)	ND (0.500)	85.84
4-Sep-03	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.040)	ND (0.80)	ND (0.800)	86.44
5-Apr-04	unable to locate - presumed destroyed							NM
29-Jul-04	unable to locate - presumed destroyed							NM
12-Oct-04	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	0.330	0.554	85.32
26-May-05	NT	NT	NT	NT	NT	NT	NT	NM
04-Nov-05	NT	NT	NT	NT	NT	NT	NT	NM
22-Sep-06	NT	NT	NT	NT	NT	NT	NT	NM
19-Jun-07	NT	NT	NT	NT	NT	NT	NT	NM
10-Jul-08	NT	NT	NT	NT	NT	NT	NT	NM
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NM
23-Jun-09	NT	NT	NT	NT	NT	NT	NT	NM
21-Jul-10	NT	NT	NT	NT	NT	NT	NT	NM
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
	unable to locate - presumed destroyed							
GCLs	**0.005**	**1**	**0.700**	**10**	**2.2**	**1.5**	**1.1**	**NA**

Appendix C
Tables of Historical Monitoring Data

Monitoring Well MW-5

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev (feet)
14-Jun-01	FREE PRODUCT PRESENT							94.69
12-Dec-01	0.17 FEET FREE PRODUCT PRESENT							83.17
1-Apr-02	0.2 FEET FREE PRODUCT PRESENT							83.33
16-Sep-02	NT	NT	NT	NT	NT	NT	NT	NM
16-May-03 [1]	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	**33.6**	**9.84**	85.10 [2]
4-Sep-03 [3]	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	0.85	**200**	**ND (87.0)**	85.84 [2]
5-Apr-04	Destroyed during remediation trench installation							
GCLs	**0.005**	**1**	**0.700**	**10**	**2.2**	**1.5**	**1.1**	**NA**

Monitoring Well MW-5R

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev (feet)
26-May-05	0.08 FEET (1 INCH) FREE PRODUCT PRESENT							83.97
04-Nov-05	0.2 FEET FREE PRODUCT PRESENT							83.55
22-Sep-06	0.01 FEET FREE PRODUCT PRESENT							82.78
19-Jun-07	ND (0.0005)	ND (0.002)	ND (0.002)	0.00251	ND (0.100)	**69.9**	**14.4**	82.77
10-Jul-08	0.02 FEET FREE PRODUCT PRESENT							82.78
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NM
23-Jun-09	0.01 FEET FREE PRODUCT PRESENT							NM
21-Jul-10	0.01 FEET FREE PRODUCT PRESENT							NM
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
23-Oct-12	0.01 FEET FREE PRODUCT PRESENT							NM
21-Jun-13	ND (0.0005)	ND (0.001)	ND (0.001)	0.39	0.0721	**53.5**	**16.6**	NM
23-Oct-17	0.01 FEET FREE PRODUCT PRESENT							NM
01-Jul-19	0.01 FEET FREE PRODUCT PRESENT							NM
GCLs	**0.005**	**1**	**0.700**	**10**	**2.2**	**1.5**	**1.1**	**NA**

Monitoring Well MW-6

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev (feet)
26-May-05	0.05 FEET FREE PRODUCT PRESENT							84.23
04-Nov-05	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	**249**	**31.9**	86.11
22-Sep-06	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	0.115	**5.11**	0.885	86.09
19-Jun-07	0.05 FEET FREE PRODUCT PRESENT							86.08
10-Jul-08	ND (0.0004)	ND (0.001)	ND (0.0001)	ND (0.002)	ND (0.100)	**3.09**	U (1.00)	86.09
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NM
23-Jun-09	0.03 FEET FREE PRODUCT PRESENT							NM
21-Jul-10	U (0.0005)	U (0.002)	U (0.002)	U (0.002)	U (0.100)	**2.69**	**1.25**	NM
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
23-Oct-12	WELL CASING FROZEN - NO SAMPLE POSSIBLE							NM
21-Jun-13	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	0.0399	1.08	0.744	NM
23-Oct-17	NT	NT	NT	NT	NT	1.07	0.726	NM
02-Jul-19	NT	NT	NT	NT	ND (0.100)	1.10	0.812	NM
GCLs	**0.005**	**1**	**0.700**	**10**	**2.2**	**1.5**	**1.1**	**NA**

Appendix C
Tables of Historical Monitoring Data

Monitoring Well MW-7

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev (feet)
26-May-05	0.06 FEET FREE PRODUCT PRESENT							85.71
04-Nov-05	0.0006	ND (0.002)	ND (0.002)	ND (0.002)	0.127	**193**	**28.8**	86.33
3-Nov-06	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.090)	**13.6**	0.973	86.29
19-Jun-07	0.05 FEET FREE PRODUCT PRESENT							86.30
10-Jul-08	ND (0.0004)	ND (0.001)	ND (0.0001)	ND (0.002)	ND (0.100)	**17.8**	**3.08**	86.29
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NM
23-Jun-09	0.03 FEET FREE PRODUCT PRESENT							NM
21-Jul-10	FLUSH MOUNT MONITORING WELL UNDER STANDING WATER DUE TO HEAVY RAINFALL							NM
15-Oct-10	ND (0.0004)	ND (0.002)	ND (0.001)	ND (0.002)	ND (0.100)	**5.82**	**0.875**	NM
23-Oct-12	GROUND FROZEN - NO SAMPLE POSSIBLE							NM
20-Jun-13	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	0.0809	**11.2**	**2.17**	NM
23-Oct-17	NT	NT	NT	NT	NT	**26.8**	**4.34**	NM
02-Jul-19	NT	NT	NT	NT	ND (0.100)	**16.1**	**3.51**	NM
GCLs	**0.005**	**1**	**0.700**	**10**	**1.3**	**1.5**	**1.1**	**NA**

Well Point 1

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev (feet)
26-May-05	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	**1.54**	1.05	NC
04-Nov-05	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	**2.35**	**3.9**	NC
22-Sep-06	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.10)	0.629	0.758	NC
19-Jun-07	NT / DRY	NT / DRY	NT / DRY	NT / DRY	NT / DRY	NT / DRY	NT / DRY	NC
10-Jul-08	ND (0.0004)	ND (0.001)	ND (0.001)	ND (0.002)	ND(0.100)	1.1	ND (1.09)	NC
24-Oct-08	ND (0.0004)	ND (0.0004)	ND (0.001)	ND (0.002)	ND (0.100)	0.698	**1.95**	NC
23-Jun-09	ND(0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	ND (0.899)	ND (0.854)	NC
21-Jul-10	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	1.01	**1.38**	NC
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
24-Oct-13	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.600)	0.546	NC
21-Jun-13	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	0.623	0.913	NC
22-Oct-17	NT	NT	NT	NT	NT	1.12	**1.47**	NC
01-Jul-19	NT	NT	NT	NT	ND (0.100)	**1.78**	**5.10**	NC
GCLs	**0.005**	**1**	**0.700**	**10**	**1.3**	**1.5**	**1.1**	**NA**

Well Point 2

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev (feet)
26-May-05	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	**10.9**	**3.58**	NC
04-Nov-05	NT/Frozen	NT/Frozen	NT/Frozen	NT/Frozen	NT/Frozen	NT/Frozen	NT/Frozen	NC
22-Sep-06	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.10)	**5.61**	**1.54**	NC
19-Jun-07	ND (0.0005)	ND (0.002)	ND (0.002)	0.00365	ND (0.100)	**9.7**	**3.33**	NC
10-Jul-08	ND (0.0004)	ND (0.001)	ND (0.001)	ND (0.002)	ND(0.100)	**12.1**	**3.69**	NC
24-Oct-08	ND (0.0004)	ND (0.0004)	ND (0.001)	ND (0.002)	ND (0.100)	**8.97**	**ND (4.00)**	NC
23-Jun-09	NT	NT	NT	NT	NT	**2.16**	0.694	NC
21-Jul-10	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	**2.69**	**1.12**	NC
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NC
24-Oct-12	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	1.2	ND (0.538)	NC
21-Jun-14	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	0.0383	**3.55**	**2.29**	NC
22-Oct-17	NT	NT	NT	NT	NT	**7.51**	**3.29**	NC
01-Jul-19	NT	NT	NT	NT	ND (0.100)	**19.5**	**5.51**	NC
GCLs	**0.005**	**1**	**0.700**	**10**	**1.3**	**1.5**	**1.1**	**NA**

Appendix C
Tables of Historical Monitoring Data

Well Point 3

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev (feet)
7-Jun-05	0.011	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	**3.82**	**3.32**	NC
04-Nov-05	0.0006	ND (0.002)	ND (0.002)	ND (0.002)	0.127	**2.26**	**3.4**	NC
22-Sep-06	ND (0.0005)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.090)	**4.66**	**2.97**	NC
19-Jun-07	0.000614	ND (0.002)	0.00474	ND (0.100)	ND (0.100)	**2.95**	**4.71**	NC
10-Jul-08	ND (0.0004)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.100)	**1.53**	**1.54**	NC
24-Oct-08	NT/DRY	NT/DRY	NT/DRY	NT/DRY	NT/DRY	NT/DRY	NT/DRY	NT/DRY
23-Jun-09	NT/DRY	NT/DRY	NT/DRY	NT/DRY	NT/DRY	NT/DRY	NT/DRY	NT/DRY
21-Jul-10	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	NT/DRY	NT/DRY	NC
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
24-Oct-12	WELL POINT FROZEN - NO SAMPLE							NM
21-Jun-13	WELL POINT REMOVED - REPLACED BY WP-3R							NM
GCLs	**0.005**	**1**	**0.700**	**10**	**1.3**	**1.5**	**1.1**	**NA**

Well Point 3R

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev (feet)
21-Jun-13	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	0.0334	**ND (2.61)**	**2.46**	NC
22-Oct-17	NT	NT	NT	NT	NT	**5.65**	**1.95**	NC
1-Jul-19	NT	NT	NT	NT	ND (0.100)	**6.75**	**12.1**	NC
GCLs	**0.005**	**1**	**0.700**	**10**	**1.3**	**1.5**	**1.1**	**NA**

Well Point 4

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev (feet)
19-Jun-07	0.00305	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	0.582	0.986	NC
10-Jul-08	ND (0.0004)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.100)	0.417	ND (1.00)	NC
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NC
23-Jun-09	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	ND (0.870)	ND (0.543)	NC
21-Jul-10	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	U (0.714)	0.774	NC
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
24-Oct-12	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.667)	ND (0.556)	NC
21-Jun-13	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	0.258	0.410	NC
22-Oct-17	NT	NT	NT	NT	ND(0.0500)	.350J	0.542	NC
01-Jul-19	NT	NT	NT	NT	ND (0.100)	ND (0.545)	0.586	NC
GCLs	**0.005**	**1**	**0.700**	**10**	**1.3**	**1.5**	**1.1**	**NA**

Well Point 5

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev (feet)
19-Jun-07	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	0.365	0.621	NC
10-Jul-08	ND (0.0004)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.100)	ND (0.370)	ND (0.926)	NC
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NC
23-Jun-09	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	ND (0.842)	ND (0.526)	NC
21-Jul-10	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	U (0.714)	U (0.446)	NC
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
24-Oct-12	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.600)	ND (0.500)	NC
21-Jun-13	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	0.258	0.410	NC
22-Oct-17	NT	NT	NT	NT	ND (0.050)	1.07	0.726	NC
01-Jul-19	NT	NT	NT	NT	ND (0.100)	ND (0.580)	0.504	NC
GCLs	**0.005**	**1**	**0.700**	**10**	**1.3**	**1.5**	**1.1**	**NA**

Appendix C
Tables of Historical Monitoring Data

TREATMENT TANK - INLET

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev (feet)
29-Jul-04	ND (0.0005)	0.0109	ND (0.002)	ND (0.002)	NT	**185**	NT	NA
12-Oct-04	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	1.20	ND (0.50)	NA
26-May-05	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	0.9	ND (0.521)	NA
19-Jun-07	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	1.3	0.68	NA
10-Jul-08	ND (0.0004)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.100)	1.04	**1.34**	NA
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NA
23-Jun-09	ND (0.0004)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.100)	1.04	**1.34**	NA
21-Jul-10	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	1.04	0.804	NA
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NA
23-Oct-12	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	0.641	ND (0.500)	NA
21-Jun-13	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	0.58	0.484	NA
22-Oct-17	not analyzed - system winterized							
01-Jul-19	not analyzed - system undergoing maintenance							
GCLs	**0.005**	**1**	**0.700**	**10**	**1.3**	**1.5**	**1.1**	**NA**

TREATMENT TANK - OUTLET

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)	RRO (mg/L)	GW Elev (feet)
29-Jul-04	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	NT	0.743	NT	NA
12-Oct-04	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	**9.86**	**5.20**	NA
26-May-05	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	0.843	ND (0.521)	NA
04-Nov-05	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.090)	1.14	**1.74**	NA
3-Nov-06	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.0100)	0.665	ND (0.561)	NA
19-Jun-07	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	1.31	0.72	NA
10-Jul-08	ND (0.0004)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.100)	0.833	ND (1.00)	NA
24-Oct-08	NT	NT	NT	NT	NT	NT	NT	NM
23-Jun-09	ND (0.0004)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.100)	1.02	ND (0.538)	NM
21-Jul-10	ND (0.0005)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.100)	0.9	0.683	NM
15-Oct-10	NT	NT	NT	NT	NT	NT	NT	NM
23-Oct-12	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.638)	ND (0.532)	NA
21-Jun-13	ND(0.005)	ND (0.001)	ND (0.001)	ND (0.002)	0.045	0.49	0.454	NA
22-Oct-17	not analyzed - system winterized							
01-Jul-19	not analyzed - system undergoing maintenance							
GCLs	**0.005**	**1**	**0.700**	**10**	**1.3**	**1.5**	**1.1**	**NA**

Key:
1 - Samples were collected following removal of 0.005 feet free product present.
2 - Ground water elevation corrected for free product, density = 0.827
3 - Samples were collected following removal of 0.10 feet free product present.
DRO - diesel range organics
GRO - gasoline range organics
GW Elev - ground water elevation
mg/L - milligrams per liter
NA - not applicable
ND - not detected
NM - not measured
NT - not tested
RRO - residual range organics

Bold, shade indicate concentration exceeds GCL.