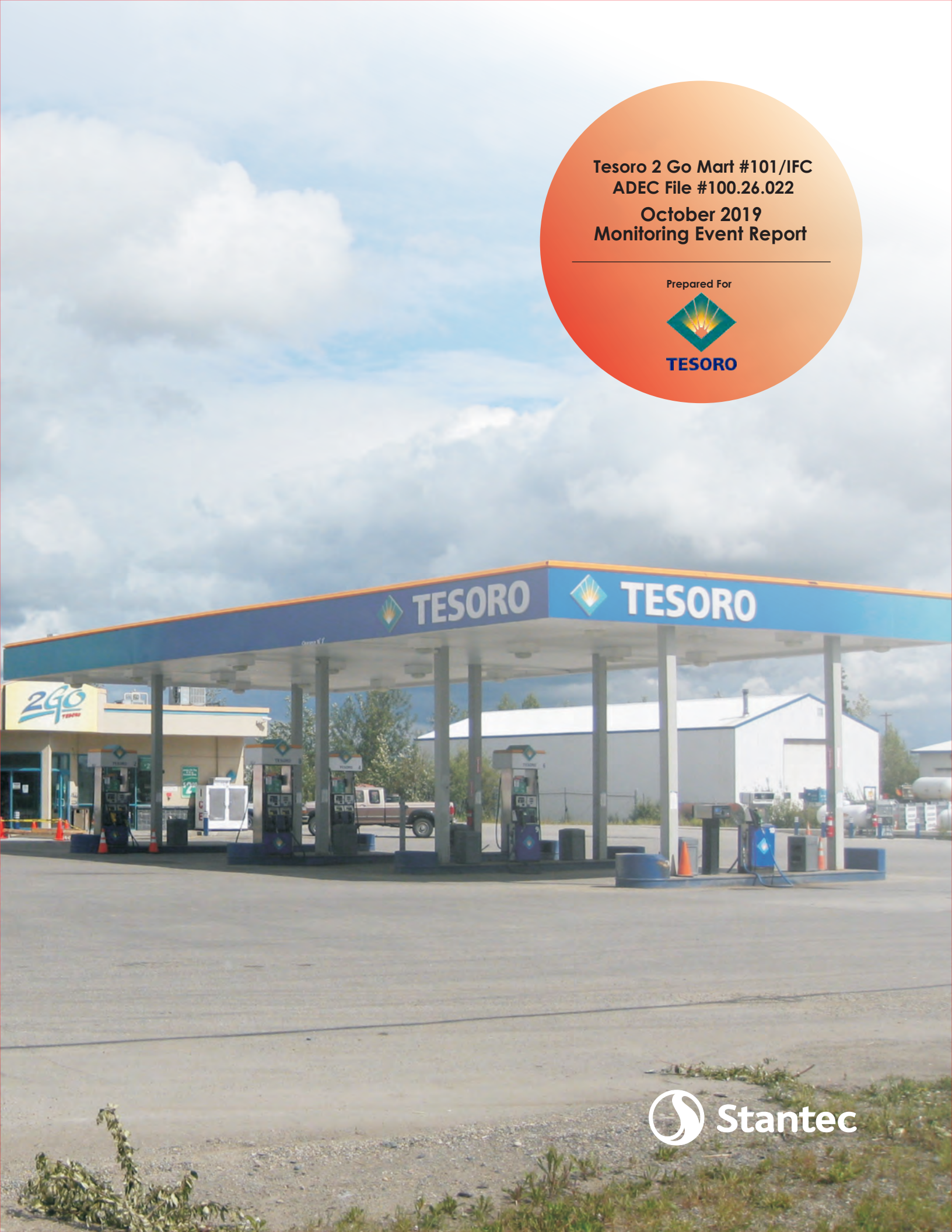
Tesoro 2 Go Mart #101/IFC
ADEC File #100.26.022
October 2019
Monitoring Event Report

Prepared For

TESORO



Stantec

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ACRONYMS AND ABBREVIATIONS

ADEC	Alaska Department of Environmental Conservation
AK	Alaska Test Method
DRO	diesel range organics
EPA	U.S. Environmental Protection Agency Method
GCL	groundwater cleanup level
GRO	gasoline range organics
ORP	oxidation/reduction potential
PAH	polynuclear aromatic hydrocarbons
PQL	practical quantitation limit
QA	quality assurance
QC	quality control
Stantec	Stantec Consulting Services Inc.
VOC	volatile organic compounds

1.0 EXECUTIVE SUMMARY

This 2019 annual monitoring event report was prepared by Stantec Consulting Services Inc. (Stantec) on behalf of Tesoro Refining and Marketing Company for the Tesoro 2 Go Mart #101/IFC, located at the northeast corner of the intersection of South Cushman Street and Van Horn Road at 3569 South Cushman Street, Fairbanks, Alaska (**Figure 1**). The methods that were used for this monitoring event were conducted in accordance with the 2019 Alaska Department of Environmental Conservation (ADEC)-approved Work Plan for this site.

This annual monitoring event was conducted on October 23, 2019 by John Marshall (Senior Environmental Scientist), Leslie Petre (Engineer-In-Training EIT)) and Bob Gilfilian (Senior Principal Engineer), all with Stantec. This monitoring event included: measuring the depth to groundwater; measuring water quality intrinsic parameters; collecting and analyzing groundwater samples from Monitoring Wells MW-3, MW-4, MW-8, MW-14, MW-17, and MW 19-1, as well as Remediation Well CRW-2 and the Drainfield (Aeration Tank effluent) (**Figure 2**). Monitoring Well MW 19-2 was not sampled due to the presence of 1.05-feet of NAPL found in the well.

During this monitoring event; an assessment and maintenance on the on-site remediation system, consisting of the free product recovery system and groundwater treatment and recirculation system (see **Figure 3**) was conducted.

Results of the analytical sampling showed the analytes detected above the ADEC groundwater cleanup levels (GCLs) were:

- Monitoring Well MW-3: benzene, ethylbenzene, xylenes, gasoline range organics (GRO), diesel range organics (DRO), naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.
- Monitoring Well MW-8: DRO.
- Monitoring Well MW-14: benzene, ethylbenzene, xylenes, GRO, DRO, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.
- Monitoring Well MW-17: benzene, ethylbenzene, and DRO.
- Monitoring Well MW 19-1: benzene, ethylbenzene, xylenes, GRO, DRO, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.
- Remediation Well CRW-2: benzene, ethylbenzene, xylenes, naphthalene, and 1,2,4-trimethylbenzene.
- Monitoring Well MW 19-2 was not sampled due to the presence of free product which had a total measured depth of 1.05-feet.

Several analytes for volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PAHs) were reported as undetected but had practical quantitation limits (PQLs) that exceeded their corresponding GCLs.

The free product recovery system consists of a free product skimmer in Remediation Well CRW-2. An aeration system is currently used for treating groundwater that is discharged from the groundwater drawdown pump in Remediation Well CRW-2. The aerated effluent from the Aeration Treatment Tank discharges to an on-site drainfield (Infiltrator System) that is located upgradient of the groundwater interceptor trench (see **Figure 4**).

2.0 SITE BACKGROUND

Background information is summarized in **Appendix A**.

3.0 FIELD ACTIVITIES

The following field activities were conducted during this monitoring event:

- Measured the depth to groundwater in Monitoring Wells MW-3, MW-4, MW-8, MW-14, MW-17, MW 19-1, and MW 19-2.
- Collected water samples from Monitoring Wells MW-3, MW-4, MW-8, MW-14, MW-17, and MW 19-1, as well as Remediation Well CRW-2 and the drainfield which receives effluent discharged from the treatment aeration tank. The samples were measured in the field for the following intrinsic water quality parameters: temperature, pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), and conductivity.
- Collected groundwater samples from Monitoring Wells MW-3, MW-4, MW-8, MW-14, MW-17, and MW 19-1, as well as Remediation Well CRW-2 and the Drainfield (Aeration Tank effluent) for laboratory analysis of the following test parameters:
  - GRO by Alaska Test Method (AK)101.
  - DRO by AK102.
  - Alaska expanded list of VOCs by U.S. Environmental Protection Agency Method (EPA) 8260C.
  - PAHs by EPA Method 8270D Selective Ion Monitoring (SIM).
- Measured the free product thickness in all monitoring wells and Remediation Well CRW-2. Monitoring Well MW 19-2 was not sampled due to the presence of approximately 1.05-feet of free product in the well.
- Assessed the operation of the on-site remediation system.

4.0 GROUNDWATER MONITORING RESULTS

Groundwater Levels. Table 1 presents groundwater elevations at this site based on the depths to static water levels measured during this monitoring event on October 23, 2019. Based on a polynomial regression, fitted to the water level observations measured on October 23, 2019, the average hydraulic gradient was approximately 0.001 feet per foot with flow direction to the northwest at 307 degrees. The flow direction and gradient for this monitoring event were

consistent with the historical data for this site, as shown in the groundwater flow summary ("Rose Diagram") presented on **Figure 2**.

Table 1 Groundwater Elevations
Measurements taken on October 23, 2019

Monitoring Well Identification	Top of Casing Elevation (feet)[1]	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-3	436.53	7.20	429.33
MW-4	438.31	6.78	431.53
MW-8	442.23	12.84	429.39
MW-14	440.41	10.77	429.64
MW-17	438.75	9.44	429.31
MW 19-1	439.23	9.87	429.36
MW 19-2	438.78	10.30[2]	428.48[2]

Key:
1 – Based on a vertical control survey completed on July 31, 2019, based on a topographic datum of 441.09 feet.
2 – Free product (1.05-feet) was detected at a depth of 9.25 feet.
NC – Not Calculated
NM – Not measured

Water Sample Intrinsic Field Parameters. The results of intrinsic water quality parameter testing of the water samples collected during this monitoring event are presented in **Table 2**. DO and ORP concentrations indicate little available oxygen at any of the monitoring points. Conductivity was comparable at all locations within expected natural ranges for groundwater.

Table 2 Field Tested Intrinsic Water Quality Parameters
Measured on October 23, 2019

Monitoring Well Identification	Temperature (°C)	pH	Dissolved Oxygen (mg/L)	ORP (mV)	SC (µs/cm°C)
MW-3	6.3	6.27	0.07	74.5	407
MW-4	5.7	6.06	0.12	133.8	256
MW-8	5.7	5.89	0.03	94.4	363
MW-14	7.8	6.37	0.14	99.0	487
MW-17	6.4	6.25	0.17	122.3	175
MW 19-1	5.9	6.17	0.30	84.6	487

Key:
°C – degrees Celsius
µs/cm°C – microSiemens per centimeter degrees Celsius
mg/L – milligrams per liter
mV – millivolt
ORP – oxidation-reduction potential
pH – -log [H^+]
SC – conductivity at 25 °C

Field methods and procedures are provided in **Appendix B**. Site visit field measurements, notes, and a hydraulic gradient plot are provided in **Appendix C**.

Water Sample Laboratory Analytical Results. Historical monitoring data for this site are presented in **Appendix D**. Laboratory analytical results for benzene, toluene, ethylbenzene, and xylenes (BTEX), GRO, and DRO detected in groundwater samples collected during this monitoring event are summarized in **Table 3**. The other VOC and PAH analytes with detections above GCLs or PQLs that exceeded their GCLs are provided in **Table E-1, Appendix E**, and the laboratory analytical report is provided in **Appendix F**. All monitoring wells and the effluent from the aeration tank (Drainfield sample) were sampled in accordance with the 2019 Corrective Action Work Plan.

The GRO result for Monitoring Well MW-17 was flagged by the laboratory with a note indicating the GRO concentration reported was due to the presence of discrete peaks. In addition, the GRO results for Monitoring Well MW-8 and Remediation Well CRW-2 were flagged by the laboratory with a note indicating detections for the samples were seen outside the AK101 range. The DRO results for Monitoring Wells MW-3, MW-4, MW-8, MW-14, MW-17, and MW 19-1 were flagged by the laboratory with a note indicating the samples contained a hydrocarbon pattern in the diesel range, but the elution pattern was later that the typical diesel fuel pattern used by the laboratory for quantitative purposes.

Table 3 Groundwater Analytical Results for BTEX, GRO, and DRO
Samples collected on October 23, 2019

Sample Identification	Benzene[1] (mg/L)	Toluene[1] (mg/L)	Ethylbenzene[1] (mg/L)	Xylenes[1] (mg/L)	GRO (mg/L)	DRO[2] (mg/L)
MW-3	**0.0047**	0.0071	**0.071**	**1.23**	**3.1**	**210**
MW-4	U (0.003)	0.022	U (0.003)	U (0.003)	U (0.25)	0.33 H
MW-8	U (0.003)	U (0.002)	0.0083	0.08	0.45	**12**
MW-14	**0.054**	0.012	**0.7**	**4.3**	**12**	**15 H**
MW-17	**0.0077**	U (0.002)	**0.034**	0.109	0.38	**14**
MW 19-1	**0.085**	0.12	**0.56**	**3.6**	**8.6**	**42 H**
Drainfield (Aeration Tank Effluent)	U (0.003)	U (0.002)	U (0.003)	U (0.003)	U (0.25)	0.37
CRW-2	**0.011**	0.0041	**0.061**	**0.275**	0.99	1.4
2GM101DUP (duplicate of MW 19-1)	**0.098**	0.15	**0.52**	**3**	**9.8**	**48 H**
Trip Blank	U (0.003)	U (0.002)	U (0.003)	U (0.003)	U (0.25)	NT
GCLs	0.0046	1.1	0.015	0.19	2.2	1.5

Key:
1 – Analyzed by EPA Method 8260C.
2 – Due to laboratory QC failure in the initial extraction, these samples were re-extracted out of holding time and re-analyzed. The re-extracted batch also contained laboratory QC failures. Both sets of data were reported by the laboratory. The higher of the two concentrations for each sample is listed in this table.
AK – Alaska Test Method
BTEX – benzene, toluene, ethylbenzene, and xylenes
DRO – Diesel range organics, analyzed by AK102.
EPA – U.S. Environmental Protection Agency
GCLs – Groundwater cleanup levels, per Alaska Department of Environmental Conservation 18 Alaska Administrative Code 75.345, Table C, updated September 29, 2018.
GRO – Gasoline range organics, analyzed by AK101.
H – Sampled was prepped or analyzed beyond the specific holding time
mg/L – milligrams per liter
NT – Not tested
U – Undetected above practical quantitation limits shown in parentheses.
Bold indicates the concentration exceeds the GCL or, if not detected, the practical quantitation limit exceeds the GCL

Quality Assurance (QA)/Quality Control (QC) Review. Eurofins TestAmerica, Inc. did not meet all laboratory QA/QC criteria during the analysis of groundwater samples for this sampling event, as described in **Table 4**, which provides a summary of the laboratory QC objectives and outcomes for this monitoring event. Laboratory QC data and the ADEC Laboratory Data Review Checklist are included with the laboratory report in **Appendix F**.

Sample 2GM101DUP is a duplicate of Sample MW 19-1. The duplicate sample set was collected to determine the precision of the field collection and laboratory analysis for this monitoring event. Data presented in **Table 4** show that the precision for the duplicate sample set (analytes that were detected above the PQL and exceeded GCLs) was within the established QA criteria tolerances for BTEX, GRO, DRO, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and naphthalene, but not

1-methylnaphthalene and 2-methylnaphthalene. The holding times for VOCs, PAHs, and GRO were within established criteria but holding time issues were observed for DRO. Due to laboratory QC failures in the initial extraction, all of the DRO samples were re-extracted out of holding time and re-analyzed. The re-extracted batch also contained laboratory QC failures. Both sets of data were reported by the laboratory. The higher of the two reported values for each sample is listed in this report.

Table 4 Laboratory Quality Control Objectives

Quality Control Designation	Tolerance	Results for This Event
Holding Times		
DRO/Water/to analyze	40 days	14 to 23 days
DRO/Water/to extract	14 days	14 to 20 days
GRO/Water/to analyze	14 days	7 to 8 days
VOCs/Water/to analyze	14 days	9 to 13 days
PAHs/Water/to extract	7 days	7 days
PAHs/Water/to analyze	40 days	15 to 22 days
Field Duplicates – Precision		
Benzene/Water	± 30%	-14.21%
Toluene/Water	± 30%	-22.22%
Ethylbenzene/Water	± 30%	7.41%
Xylenes/Water	± 30%	18.18%
GRO/Water	± 30%	-13.04
DRO/Water	± 30%	-13.33%
1,2,4-Trimethylbenzene	± 30%	10.53%
1,3,5-Trimethylbenzene	± 30%	0.00%
Naphthalene	± 30%	-23.26%
1-Methylnaphthalene	± 30%	-37.50%
2-Methylnaphthalene	± 30%	-44.44%

Key:
% – percent
± – plus or minus
DRO – diesel range organics
GRO – gasoline range organics
PAH – polynuclear aromatic hydrocarbon
VOC – volatile organic compound

5.0 REMEDIATION SYSTEM OPERATION AND PERFORMANCE MONITORING

The free product recovery system for this site includes the operation of a new free product skimmer that was installed late 2017 in Remediation Well CRW-2. This skimmer consists of a "Sipper Pump and Skimmer" manufactured by Geotech and Xitech Instruments, Inc. The free product collected with the new skimmer pump in CRW-2 is temporarily stored on-site in a 55-gallon drum that is contained in an over-pack drum (secondary containment). Approximately 50 gallons of free

product has been recovered during this past year as Stantec identified several issues associated with the operation of the skimmer. Stantec field staff are currently in the process of correcting the operational problems that have primarily been caused by the fluctuating groundwater levels experienced at this site.

The 1.0-horsepower groundwater drawdown pump in CRW-2 is operating normally and pumps at a constant rate of 1.6 gallons per minute. The drawdown pump discharges in an insulated/heat traced water line to the 1,500-gallon, double compartment Aeration Treatment Tank. The aerated, treated effluent from the aeration treatment tank discharges by gravity to an on-site drainfield (Infiltrator System) that is located upgradient of the groundwater interceptor trench and the free product recovery well (see **Figure 4**). The water levels in the drainfield are checked on a quarterly to semi-annual basis to check the performance of the drainfield. As demonstrated by the sample results for the drainfield reported herein, the aeration system is discharging effluent that is significantly "cleaner" than the water entering the tank from the drawdown pump in CRW-2.

6.0 CONCLUSIONS

The analytical results for the monitoring wells sampled during the October 2019 monitoring event were relatively consistent with the last groundwater monitoring event (September 2018). The effluent from the remediation aeration tank was found to have no contaminants of concern that exceeded the GCLs, which is an indication that effective treatment is being provided by the aeration tank.

Results of the analytical sampling showed the analytes detected above the ADEC GCLs were:

- Monitoring Well MW-3: benzene, ethylbenzene, xylenes, GRO, DRO, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.
- Monitoring Well MW-8: DRO.
- Monitoring Well MW-14: benzene, ethylbenzene, xylenes, GRO, DRO, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.
- Monitoring Well MW-17: benzene, ethylbenzene, and DRO.
- Monitoring Well MW 19-1: benzene, ethylbenzene, xylenes, GRO, DRO, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.
- Remediation Well CRW-2: benzene, ethylbenzene, xylenes, naphthalene, and 1,2,4-trimethylbenzene.
- Monitoring Well MW 19-2 was not sampled due to the presence of free product which had a total measured depth of 1.05-feet.

Several VOCs and PAHs were reported as undetected but had PQLs that exceeded their corresponding GCLs. The laboratory results for these compounds are provided in **Table E-1, Appendix E**.

The free product skimmer and groundwater drawdown pump in CRW-2 are operating on a year-round basis. Stantec maintained the iMonnit telemetry equipment to monitor the operation of the following equipment: free product skimmer, drawdown pump discharge line, and the blower (compressor) that provides aeration to the aeration remediation tank.

7.0 RECOMMENDATIONS AND PROPOSED ACTIVITIES

No anomalies were found during the October 2019 monitoring event that would require additional corrective action or changes to the approved year 2019 Corrective Action Work Plan for this site.

8.0 LIMITATIONS

Stantec conducted this monitoring event in accordance with the Corrective Action Work Plan approved by ADEC, and in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions. All sampling activities were completed in accordance with the ADEC *Underground Storage Tanks Procedures Manual – Standard Sampling Procedures* (August 18, 2014). No other warranty, expressed or implied, is made. Data and recommendations made herein were prepared for Tesoro 2 Go Mart #101/IFC and Tesoro Refining and Marketing Company. Information herein is for use at this site in accordance with the purpose of the report described.

FIGURES

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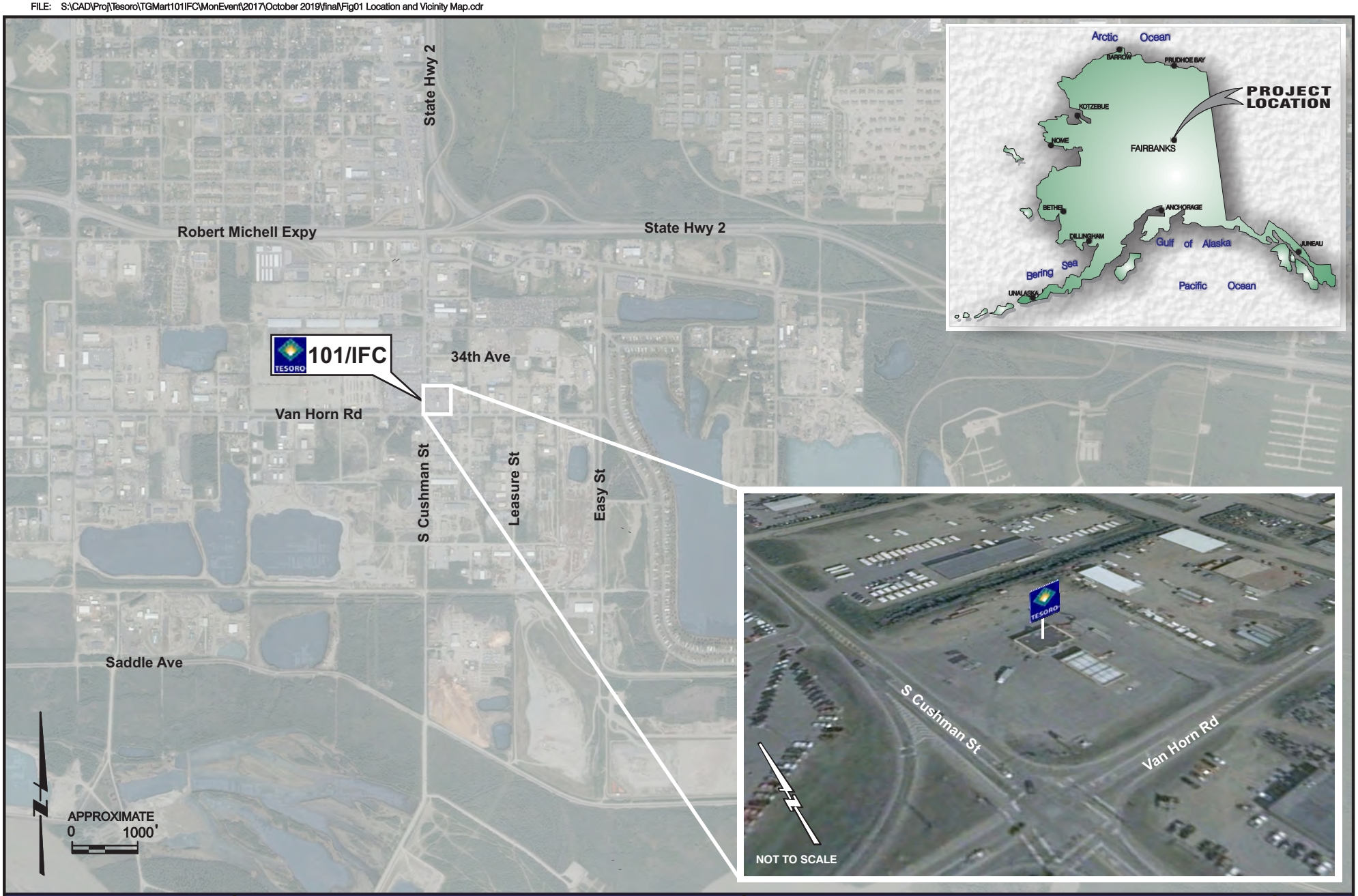
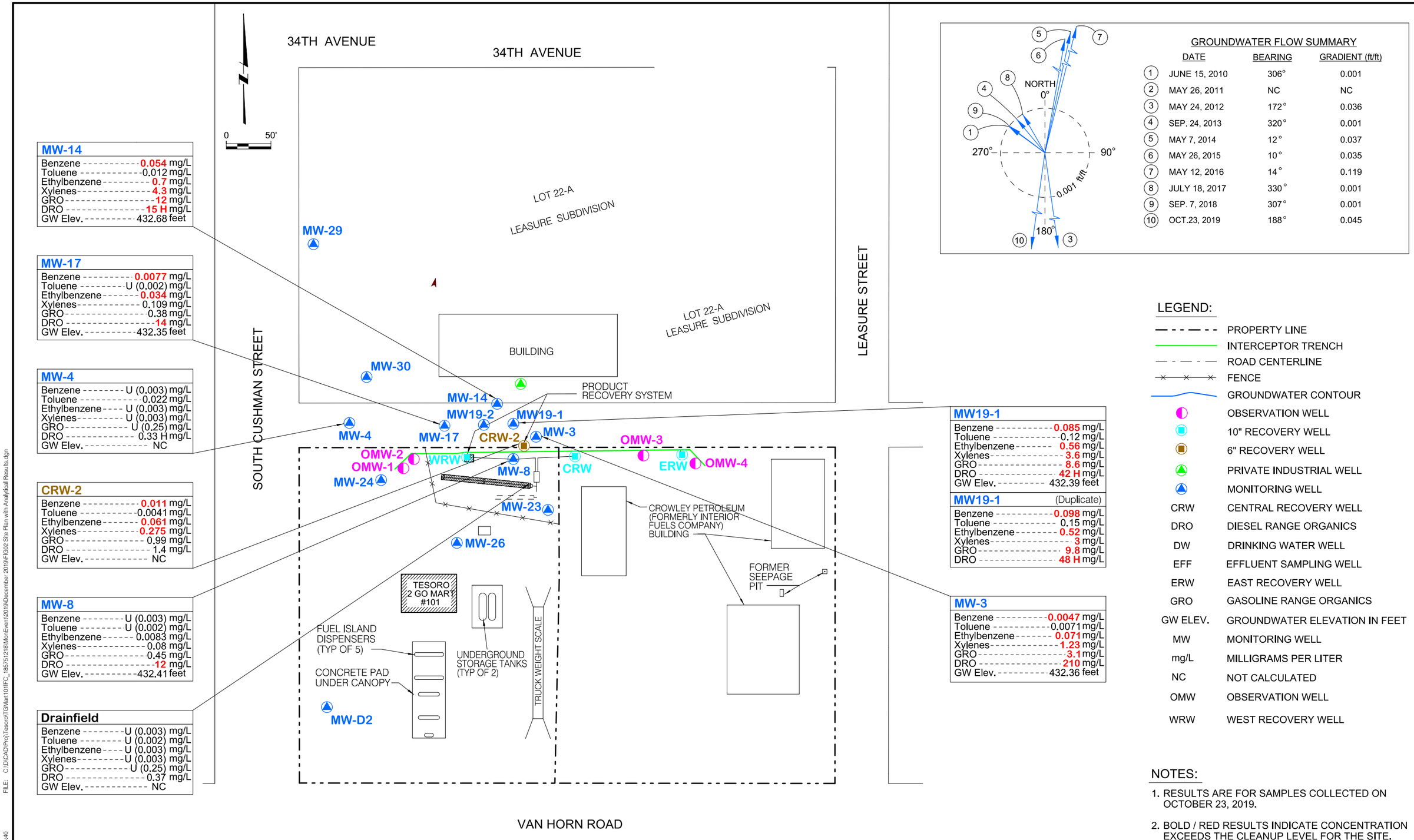


Stantec	TESORO COMPANY TESORO 2 GO MART #101 & IFC OCTOBER 2019 MONITORING EVENT REPORT	LOCATION AND VICINITY MAP	FIGURE 1 185751218. 200.205



MW-14

Benzene	0.054 mg/L
Toluene	0.012 mg/L
Ethylbenzene	0.7 mg/L
Xylenes	4.3 mg/L
GRO	12 mg/L
DRO	15 H mg/L
GW Elev.	432.68 feet

MW-17

Benzene	0.0077 mg/L
Toluene	U (0.002) mg/L
Ethylbenzene	0.034 mg/L
Xylenes	0.109 mg/L
GRO	0.38 mg/L
DRO	14 mg/L
GW Elev.	432.35 feet

MW-4

Benzene	U (0.003) mg/L
Toluene	0.022 mg/L
Ethylbenzene	U (0.003) mg/L
Xylenes	U (0.003) mg/L
GRO	U (0.25) mg/L
DRO	0.33 H mg/L
GW Elev.	NC

CRW-2

Benzene	0.011 mg/L
Toluene	0.0041 mg/L
Ethylbenzene	0.061 mg/L
Xylenes	0.275 mg/L
GRO	0.99 mg/L
DRO	1.4 mg/L
GW Elev.	NC

MW-8

Benzene	U (0.003) mg/L
Toluene	U (0.002) mg/L
Ethylbenzene	0.0083 mg/L
Xylenes	0.08 mg/L
GRO	0.45 mg/L
DRO	12 mg/L
GW Elev.	432.41 feet

Drainfield

Benzene	U (0.003) mg/L
Toluene	U (0.002) mg/L
Ethylbenzene	U (0.003) mg/L
Xylenes	U (0.003) mg/L
GRO	U (0.25) mg/L
DRO	0.37 mg/L
GW Elev.	NC

MW19-1

Benzene	0.085 mg/L
Toluene	0.12 mg/L
Ethylbenzene	0.56 mg/L
Xylenes	3.6 mg/L
GRO	8.6 mg/L
DRO	42 H mg/L
GW Elev.	432.39 feet

MW19-1 (Duplicate)

Benzene	0.098 mg/L
Toluene	0.15 mg/L
Ethylbenzene	0.52 mg/L
Xylenes	3 mg/L
GRO	9.8 mg/L
DRO	48 H mg/L

MW-3

Benzene	0.0047 mg/L
Toluene	0.0071 mg/L
Ethylbenzene	0.071 mg/L
Xylenes	1.23 mg/L
GRO	3.1 mg/L
DRO	210 mg/L
GW Elev.	432.36 feet

GROUNDWATER FLOW SUMMARY

	DATE	BEARING	GRADIENT (ft/ft)
1	JUNE 15, 2010	306°	0.001
2	MAY 26, 2011	NC	NC
3	MAY 24, 2012	172°	0.036
4	SEP. 24, 2013	320°	0.001
5	MAY 7, 2014	12°	0.037
6	MAY 26, 2015	10°	0.035
7	MAY 12, 2016	14°	0.119
8	JULY 18, 2017	330°	0.001
9	SEP. 7, 2018	307°	0.001
10	OCT.23, 2019	188°	0.045

LEGEND:

	PROPERTY LINE
	INTERCEPTOR TRENCH
	ROAD CENTERLINE
	FENCE
	GROUNDWATER CONTOUR
	OBSERVATION WELL
	10" RECOVERY WELL
	6" RECOVERY WELL
	PRIVATE INDUSTRIAL WELL
	MONITORING WELL
CRW	CENTRAL RECOVERY WELL
DRO	DIESEL RANGE ORGANICS
DW	DRINKING WATER WELL
EFF	EFFLUENT SAMPLING WELL
ERW	EAST RECOVERY WELL
GRO	GASOLINE RANGE ORGANICS
GW ELEV.	GROUNDWATER ELEVATION IN FEET
MW	MONITORING WELL
mg/L	MILLIGRAMS PER LITER
NC	NOT CALCULATED
OMW	OBSERVATION WELL
WRW	WEST RECOVERY WELL

NOTES:

1. RESULTS ARE FOR SAMPLES COLLECTED ON OCTOBER 23, 2019.
2. BOLD / RED RESULTS INDICATE CONCENTRATION EXCEEDS THE CLEANUP LEVEL FOR THE SITE.

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OCTOBER 2019
MONITORING EVENT REPORT

SITE PLAN WITH GROUNDWATER ANALYTICAL DETECTIONS AND EXCEEDANCES

FIGURE 2

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TIME: 10-DEC-2019 15:40

MW-14

MW-4

MW-17

MW19-2

MW19-1

MW-3

CRW-2

25

OMW-2

WRW

MW-8

CRW

OMW-3

ERW

25

OMW-4

OMW-1

REMEDIATION SHED
(8'X10')

AERATION
TREATMENT
TANK

6'

A

OBSERVATION
PIPE (6 TYP)

MW-24

100'-0"

A'

ABANDONED
PIPE

REPLACEMENT DRAINFIELD
TWO ROWS OF INFILTRATORS
(BOTTOM AREA 100'x6')

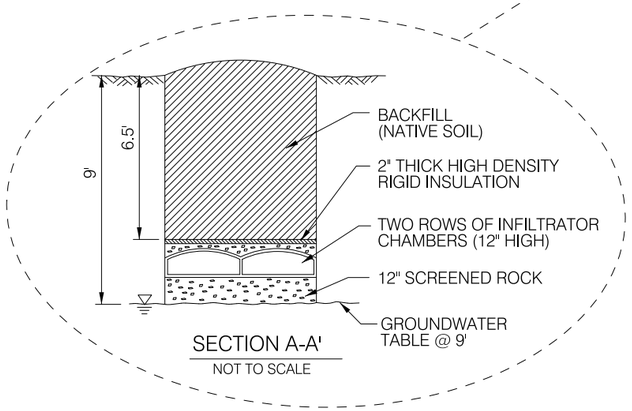
ABANDONED
SEEPAGE BED

MW-23

CROWLEY PETROLEUM
(FORMERLY INTERIOR
FUELS COMPANY)
BUILDING

DUMPSTER
PEN

MW-26



SECTION A-A'

NOT TO SCALE

UNDERGROUND STORAGE
TANKS (TYP OF 2)

TESORO
2 GO MART
#101

CONCRETE PAD

CONCRETE PAD
UNDER CANOPY

FUEL ISLAND
DISPENSERS
(TYP OF 5)

TRUCK WEIGHT SCALE

LEGEND:

- 3 EA. 4" DIA. ENVIROFLEX SECONDARY PIPING
- INTERCEPTOR TRENCH
- FENCE
- OBSERVATION WELL
- 6" RECOVERY WELL
- 10" RECOVERY WELL
- MONITORING WELL
- CRW — CENTRAL RECOVERY WELL
- ERW — EAST RECOVERY WELL
- OMW — OBSERVATION WELL
- OWE — OBSERVATION WELL EAST
- WRW — WEST RECOVERY WELL

N

0 30'

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OCTOBER 2019
MONITORING EVENT REPORT

REMEDIATION SYSTEM LAYOUT

FIGURE
3

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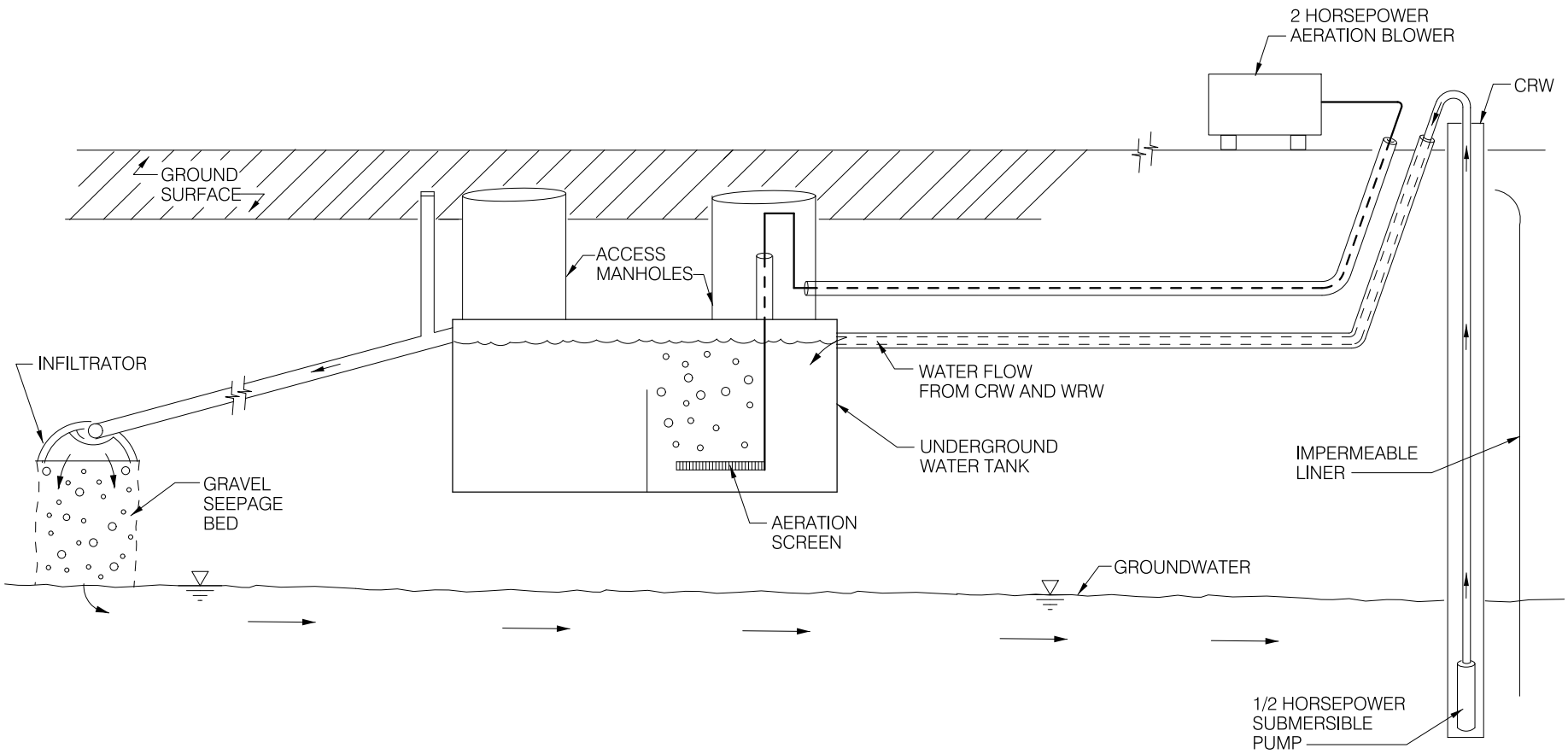
TIME: 10-DEC-2019 15:48 FILE: C:\D\CADD\Proj\Tesoro\TGMart101IFC_185751218\MonEvent\2019\December 2019\FIG03 Remediation System Layout.dgn



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OCTOBER 2019
MONITORING EVENT REPORT

ON-SITE GROUND WATER TREATMENT
SYSTEM LAYOUT

FIGURE
4

185751218.
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APPENDIX A

Site Background

APPENDIX A – SITE BACKGROUND

Tesoro 2 Go Mart #101/ Interior Fuels Company
ADEC Facility ID #2960; ADEC File #100.26.022

The Tesoro 2 Go Mart #101 is a retail gas service/convenience store and the former Interior Fuels Company (IFC) are located at the intersection of South Cushman Street and Van Horn Road in Fairbanks, Alaska. The site has a combined address of 170 East Van Horn Road and 3569 South Cushman Street.

The Tesoro 2 Go Mart #101 was formerly called the Tesoro Discount Truck Stop (DTS) Facility. The IFC was a former heating fuel distribution service company that was located on an adjacent lot next to the Tesoro 2 Go Mart #101 site. Due to their common history of ownership by Tesoro and their shared property lines, both sites are being managed as a single contaminated site. The legal description for these properties is Lot 3 and Lot 4, Block 26, Leisure Subdivision.

July 1991. A former underground storage tank (UST) system and a tanker truck loading rack was removed from the IFC site in July 1991. The UST system contained heating fuel oil and consisted of three 20,000-gallon tanks and a 15,000-gallon tank with a diesel fuel pump station connected the truck loading rack. A Site Assessment (SA) of the closure of the heating oil UST system and the loading rack was conducted by Dames & Moore. A significant amount of petroleum contamination was encountered. The excavation was lined with a reinforced polyethylene liner, and the excavated soil was placed within the liner subject to approval from the Alaska Department of Environmental Conservation (ADEC).

April 1992. Dames and Moore conducted a Release Investigation at IFC to assess the extent of contamination that was associated with the former heating oil USTs and truck loading rack facility. Seven soil borings were drilled and seven groundwater monitoring wells were installed on the IFC property. Extensive subsurface contamination was discovered and free phase petroleum product was found in three of the monitoring wells. The free product thickness ranged from 1.24 feet to 2.95 feet. A well search for domestic drinking water wells was completed around the IFC site.

August 1993. A release of petroleum contamination was discovered during the upgrade of the UST system serving the former DTS facility.

August 1994. Dames and Moore conducted a Release Assessment at the former DTS facility. The Release Assessment included installing three on-site groundwater monitoring wells. Contamination was detected in all three wells and the source of the contamination was assumed to be another off-site facility located upgradient (south of Van Horn Road) of the Tesoro site. A well search of domestic wells located within 0.5 miles of the site was completed.

April 1995. Gilfilian Engineering & Environmental Services, Inc. (GE2T) conducted a groundwater monitoring event of 10 monitoring wells associated with the combined IFC and DTS sites. Free product was found in three of the monitoring wells, with thickness that ranged from 2.68 feet to 5.97 feet. Delineation of the free phase contaminants and dissolved phase

contaminants in the groundwater table was estimated and noted to extend downgradient of the Tesoro site to surrounding private property.

July 1995. GE2T conducted a groundwater monitoring event and installed a new off-site, downgradient monitoring well (G-1). A total of 12 wells were surveyed and sampled. The new well was found to be free of contamination. The 6-inch diameter free product recovery well (MW-3) was found to be producing an average of 2.7 gallons of free product on a daily basis.

February 1998. GE2T completed a SA of the abandonment of two floor drain pits located inside the IFC garage. Contamination was discovered in the underlying soil and determined not to warrant clean up or removal. The floor drain system was upgraded by the installation of an aboveground oil/water separator.

March 1998. GE2T completed a well search of drinking water wells located within 0.25 miles of the IFC/DTS properties. A total of 24 wells were identified, of which the majority were located downgradient of the subject site.

June 1999. GE2T conducted a SA of the removal of a 1,000-gallon gasoline UST that served the IFC garage facility. No contamination was detected during the removal of the UST.

June 2001. The former UST system serving the DTS (renamed to Tesoro 2 Go Mart #101) was removed and replaced with a new UST fueling system. A SA for the UST System Closure was completed by GE2T. The former UST system consisted of two 20,000-gallon gasoline tanks and two 20,000-gallon diesel tanks. A 1,000-gallon heating oil tank was also removed during the upgrade of the convenience store. Approximately 1,500 tons of contaminated soil was excavated and shipped off-site for thermal remediation. The new UST system consisted of two 20,000-gallon USTs. An undetermined, small amount of contaminated soil was left in-place at the base of the new USTs and a soil vapor extraction (SVE) piping system was installed for future treatment of the in-situ contaminated soil.

September 2001. A fuel recovery system for the removal of floating fuel product from groundwater on the property of the Tesoro 2 Go Mart #101 and IFC was designed and installed under the direction of GE2T. The fuel recovery system consisted of a 12-foot deep by 350-foot long groundwater interceptor trench and three 12-inch diameter free product recovery wells. The recovery wells were equipped with Spillbuster™ pump systems that were connected to free product storage drums and underground piping to discharge dewatered groundwater to a 1,500-gallon treatment aeration and settling tank, with discharge to the upgradient groundwater via a subsurface infiltration (seepage) bed.

November 2001. GE2T drilled two soil borings and installed five new groundwater monitoring wells (MW-24, MW-25, MW-26, MW-27, and MW-28). Several of these wells were installed for the purpose of assessing the groundwater impact associated with the former seepage pits that served the IFC garage floors. The impact to the groundwater quality from the seepage pits was determined not to be contaminated above ADEC groundwater cleanup levels.

May 2002. GE2T conducted a SA during the removal of a log crib seepage pit that was previously used for the on-site disposal of floor drain waste collected in the IFC garage. A total of 23 tons of contaminated soil was excavated and taken off-site for thermal treatment. The underlying soil was found to have contamination concentration below the soil clean up levels.

August 2002. MWH Americas, Inc. (MWH) performed a SA at IFC for an excavation for the foundation of a new building (garage) located in the northwest corner of the IFC property. The building foundation covered an area that was 40 feet wide and 100 feet long and to a depth of 10 feet. The excavation area included former bulk fuel loading racks. A total of 3,999 tons of contaminated soil was excavated and transported for thermal remediation. A SVE system was installed at the base of the excavation to address the potential threat of hydrocarbon vapor migration into the new garage building.

October 2003. MWH conducted a Release Investigation (RI) that included replacing two downgradient monitoring wells and a seepage bed for the recirculation of groundwater that was pumped from the groundwater treatment recovery system. The purpose of the RI was to investigate the extent of soil contamination and to evaluate groundwater quality at the site. The RI involved drilling two soil borings downgradient and off-site of the Tesoro 2 Go Mart #101 property. These wells were completed as 2-inch diameter monitoring wells (MW-29 and MW-30). Petroleum hydrocarbon contamination was not detected in either soil or groundwater in the two, new off-site groundwater monitoring wells. The fuel recovery system was re-started on October 16, 2003, immediately following the installation of a replacement, expanded infiltration (seepage) bed that is used for the discharge of aerated and settled water pumped from the free product recovery wells. The free product recovery system recovered approximately 1,200 gallons of fuel, from November 2001 to 2003.

May 2007. The free product recovery system remains in operation, as does the dissolved phase groundwater treatment system. Free product is still present in several recovery wells and monitoring wells. Groundwater contaminant plume is stable. Twice yearly monitoring well sampling and quarterly treatment system operation and maintenance continue.

November 2011. MWH decommissioned eight groundwater monitoring wells (MW-2, MW-5, MW-9, MW-16, MW-18, MW-25, MW-27, and MW-28) and two observation wells (OWW and OWE).

July 2013. MWH conducted a SA for purpose of evaluating the characterization and extent of petroleum contamination in the shallow soil strata located on the Tesoro 2 Go Mart #101 and former IFC properties. Three shallow test pits were excavated on the #101 property and one soil test pit excavated on the former IFC property. All of the test holes were located in close proximity to the upgradient edge of the Interceptor Trench. Nearly all of the soil samples had a significant amount of petroleum contamination remaining in the soil strata. The extent of contamination was greatest at the groundwater table. Based on the relatively tight (fine grained) soil found in the test pits, it was recommended not to use chemical oxidation treatment methods, but to continue use of the existing Interceptor Trench. This trench has proven to be an effective means of controlling the flow of the contaminated groundwater and associated free product from moving downgradient (off-site) of the sites.

August 2013. Well CRW (Central Recovery Well) was added to the monitoring event sampling due to the recent findings during the excavation of test pits on July 23, 2013.

May 2015. MWH conducted a second quarter groundwater monitoring event on May 26, 2015. Monitoring Well MW-3 contained ice and could not be sampled. Monitoring Wells MW-8, MW-14, and MW-17 all exceeded the ADEC groundwater cleanup levels (GCLs) for GRO and DRO, with MW-14 also for benzene. The Aeration Tank exceeded the GCLs for both benzene and DRO. The product recovery system in Recovery Well WRW was not operational.

May 2016. MWH conducted a second quarter groundwater monitoring event on May 12, 2016. Free product was observed in Monitoring Well MW-3 (0.2124 feet thick) and CRW-2 (1.60185 feet thick). Monitoring Well MW-14 was not sampled because of the presence of an ice plug. The GCL was exceeded for DRO in Monitoring Well MW-8, GRO and DRO in MW-17, and benzene in the Aeration Tank. The product recovery system in Recovery Well WRW and CRW-2 were not operational, although the drawdown pump was operating as normal in CRW-2.

September 2017. Stantec conducted the annual groundwater monitoring event during the month of September 2017. Results of the analytical sampling found analytes detected above the ADEC GCLs in the following wells:

- Monitoring Well MW-3: benzene, xylene, ethylbenzene, GRO, DRO, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene.
- Monitoring Well MW-8: benzene, ethylbenzene, and DRO.
- Monitoring Well MW-14: benzene, xylene, ethylbenzene, GRO, and DRO.
- Monitoring Well MW-17: benzene, xylene, ethylbenzene, GRO, DRO, naphthalene, 1,2,4-trimethylbenzene, and vinyl chloride.
- Remediation Well CRW-2: benzene, ethylbenzene, naphthalene, 1,2,4-trimethylbenzene, and vinyl chloride.

Analytes were detected above practical quantitation limits (PQLs), but below the GCLs, in all of the monitoring wells and effluent from the Aeration Treatment Tank. A new free product skimmer pump was installed in Recovery/Remediation Well CRW-2. Upgrades were also made to the aeration treatment tank including the water discharge line from the groundwater drawdown pump in CRW-2 and the aeration line from the blower to the treatment tank.

September 2018. The analytical results for the monitoring wells sampled during the September 2018 monitoring event were relatively consistent with the last groundwater monitoring event (September 2017). The effluent from the remediation aeration tank was found to have no contaminants of concern that exceeded the GCLs, which is an indication that effective treatment is being provided by the aeration tank.

Results of the analytical sampling showed the analytes detected above the ADEC GCLs were:

- Monitoring Well MW-3: ethylbenzene, xylenes, DRO, 1-methylnaphthalene, 2-methylnaphthalene, 1,2,4 trimethylbenzene, 1,3,5 trimethylbenzene, and naphthalene.

- Monitoring Well MW-8: DRO.
- Monitoring Well MW-14: benzene, ethylbenzene, xylenes, GRO, DRO, 1-methylnaphthalene, naphthalene, 2-methylnaphthalene, 1,2,4 trimethylbenzene, and 1,3,5-trimethylbenzene.
- Monitoring Well MW-17: benzene, ethylbenzene, xylenes, GRO, DRO, naphthalene, and 1,2,4-trimethylbenzene.
- Remediation Well CRW-2: benzene, ethylbenzene, xylenes, DRO, naphthalene, 1,2,4-trimethylbenzene, and 1-methylnaphthalene.

Several VOCs and PAHs were reported as undetected but had PQLs that equaled or exceeded their corresponding GCLs.

The free product skimmer and groundwater drawdown pump in CRW-2 are operating on a year-round basis. Stantec installed telemetry components to monitor the operation of the following equipment: free product skimmer, drawdown pump discharge line, and the blower aeration line to the aeration remediation tank.

October 2019. The analytical results for the monitoring wells sampled during the October 2019 monitoring event were relatively consistent with the last groundwater monitoring event (September 2018). The effluent from the remediation aeration tank was found to have no contaminants of concern that exceeded the GCLs, which is an indication that effective treatment is being provided by the aeration tank. In addition, the recently drilled monitoring well MW 19-2 was noted to have 1.05-feet of NAPL in the well during this monitoring event.

Results of the analytical sampling showed the analytes detected above the ADEC GCLs were:

- Monitoring Well MW-3: benzene, ethylbenzene, xylenes, GRO, DRO, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.
- Monitoring Well MW-8: DRO.
- Monitoring Well MW-14: benzene, ethylbenzene, xylenes, GRO, DRO, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.
- Monitoring Well MW-17: benzene, ethylbenzene, and DRO.
- Monitoring Well MW 19-1: benzene, ethylbenzene, xylenes, GRO, DRO, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene.
- Remediation Well CRW-2: benzene, ethylbenzene, xylenes, naphthalene, and 1,2,4-trimethylbenzene.

Several VOCs and PAHs were reported as undetected but had PQLs that exceeded their corresponding GCLs. The free product skimmer and groundwater drawdown pump in CRW-2 are operating on a year-round basis. Stantec installed telemetry components to monitor the operation of the following equipment: free product skimmer, drawdown pump discharge line, and the blower aeration line to the aeration remediation tank.

APPENDIX B

Field Methods and Procedures

APPENDIX B – FIELD METHODS AND PROCEDURES

The following table presents the tasks for the Alaska Department of Environmental Conservation (ADEC)-approved 2019 Corrective Action Work Plan. The scope of these tasks is based on the results and findings of the monitoring and remediation completed to date at Tesoro 2 Go Mart #101/Interior Fuels Company (ADEC Facility ID #2960; ADEC File #100.26.022

2019 Work Plan Schedule

Work Plan Task		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Task 1	Monitoring Wells: MW-3, MW-4, MW-8, MW-14, MW-17, and Aeration Treatment Tank (influent (CRW-2) and effluent discharged to the Drainfield			D, G, V, P, I	
Task 2	Remediation System Operation and Maintenance	✓	✓	✓	✓
Task 3	Clear On-site Brush & Vegetation		✓	✓	

Key:
AK – Alaska Test Method
D – Diesel range organics by AK102.
EPA – U.S. Environmental Protection Agency
G – Gasoline range organics by AK101.
I – Indicators, parameters tested include: dissolved oxygen, specific conductance, pH, and temperature.
P – Polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270D Selective Ion Monitoring (SIM)
V – Alaska expanded list of volatile organic carbon (VOCs) by U.S. Environmental Protection Agency Method (EPA) 8260C

The Corrective Action Work Plan for the year 2019 will be implemented by Stantec on behalf of Tesoro. Groundwater monitoring will be conducted to track migration and trends of contaminants that are present at the site. All sampling activities will be completed in accordance with ADEC's *Underground Storage Tanks Procedures Manual– Standard Sampling Procedures* (August 18, 2014). The methods that will be used for conducting a monitoring event, unless otherwise noted in the monitoring report, will include:

- The static water levels in the monitoring wells will be measured with respect to the top of each well casing. The elevation of the static water level will be based on an arbitrary datum established on-site during a vertical control survey that will be completed by Stantec on an annual basis. The survey will be performed during the summer after the seasonal frost layer thaws.
- The monitoring wells will be purged of a minimum of three well bore volumes prior to collecting the water samples. A new, disposable, Teflon® bailer will be used to sample each well. The first bail of water removed from each well will be examined for petroleum odor, sheen, and any other unique physical features.
- Water and vapor samples will be collected in laboratory-supplied sample containers. The samples will be delivered an ADEC-approved laboratory in accordance with standard chain-of-custody procedures.

- Additional water samples will be collected from the monitoring wells after the well has been purged, as described above, and tested in the field for chemical and physical intrinsic parameters.

APPENDIX C

Field Measurements, Notes, and Hydraulic Gradient Plot

Appendix C
Field Measurements and Notes

Project: TNS #101/IFC **Date:** 10/23/2019

Project number: 185751218 **Samplers:** J Marshall & B Gilfilian

Well ID	Volume Purged (gallons)	Sheen/ Odor	Temp. (°C)	pH	Dissolved Oxygen (mg/l)	ORP (mV)	Conductivity (µs/cm)	Top of Casing[1]	Total Depth	Depth to Product	Depth to GW	GW Elevation
MW-3	NM	Y/Y	6.3	6.27	0.07	74.5	407	436.53	12.50	NA	7.20	429.33
MW-4	2.5	N/N	5.7	6.06	0.12	133.8	256	438.31	12.43	NA	6.78	431.53
MW-8	38	Y/Y	5.7	5.89	0.03	94.4	363	442.23	20.50	NA	12.84	429.39
MW-14	0.90	Y/Y	7.8	6.37	0.14	99.0	487	440.41	15.40	NA	10.77	429.64
MW-17	0.75	Y/Y	6.4	6.25	0.17	122.3	175	438.75	12.80	NA	9.44	429.31
MW 19-1	NM	Y/Y	5.9	6.17	0.30	84.6	487	NM	12.75	NA	9.87	NC
MW 19-2	NA; Not Sampled due to Free Product							NM		9.25	10.30	NC
CRW-2	NA							442.43				
Drainfield (NE Obs Pipe)	NA							441.89				

1 – Based on a vertical control survey completed on July 21, 2017, using a topographic datum of 441.09 feet located at the intersection of South Cushman Road and Van Horn Road, as provided by Design Alaska on December 14, 1995.

NA - Not Applicable

NC - Not Calculated

NM - Not Measured

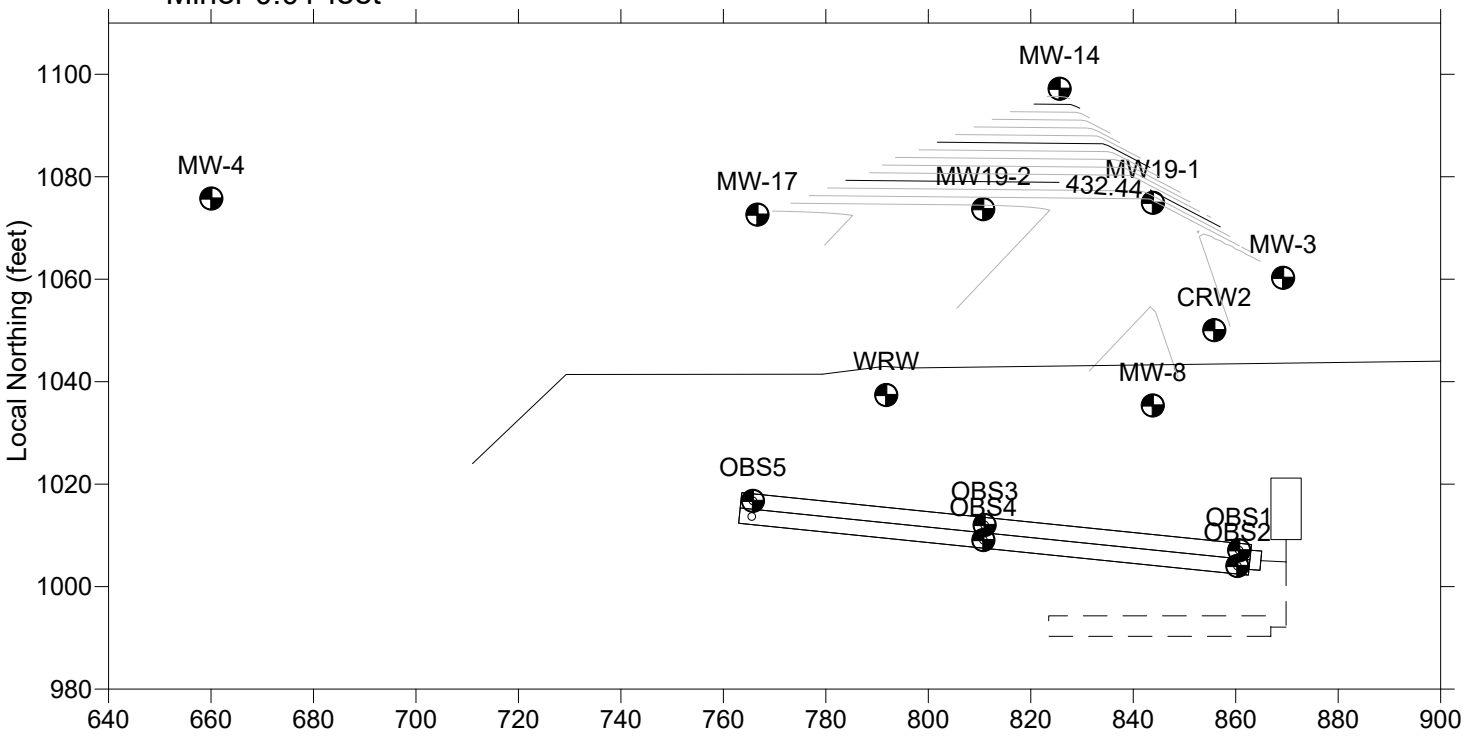
Well ID	Notes	Well Dia.	Sample Time
MW-3	Translucent, dark grey	2"	1453
MW-4	Purged dry, translucent, brown, springtails	2"	1055
MW-8	Clear, some black floc	6"	1303
MW-14	Opaque, dark grey	1.25"	1205
MW-17	Purged dry, translucent, light brown	2"	1130
MW 19-1	Opaque, dark grey	2"	1420
MW 19-2	Not Sampled due to free product	2"	
CRW-2	Clear	6"	1534
Drainfield	Collected sample from drainfield NE observation pipe discharge from aeration tank outlet, dark orange with floc	4"	1510
TNS 101 Dup	Duplicate of MW 19-1		1422

Instruments / methods used		Model
Static water level	Heron	H01L
pH	YSI	556
Conductivity	YSI	556
Dissolved Oxygen	YSI	556
Temperature	YSI	556
ORP	YSI	556

Tesoro 2 Go Mart #101 - October 2019
Groundwater Elevation Contours

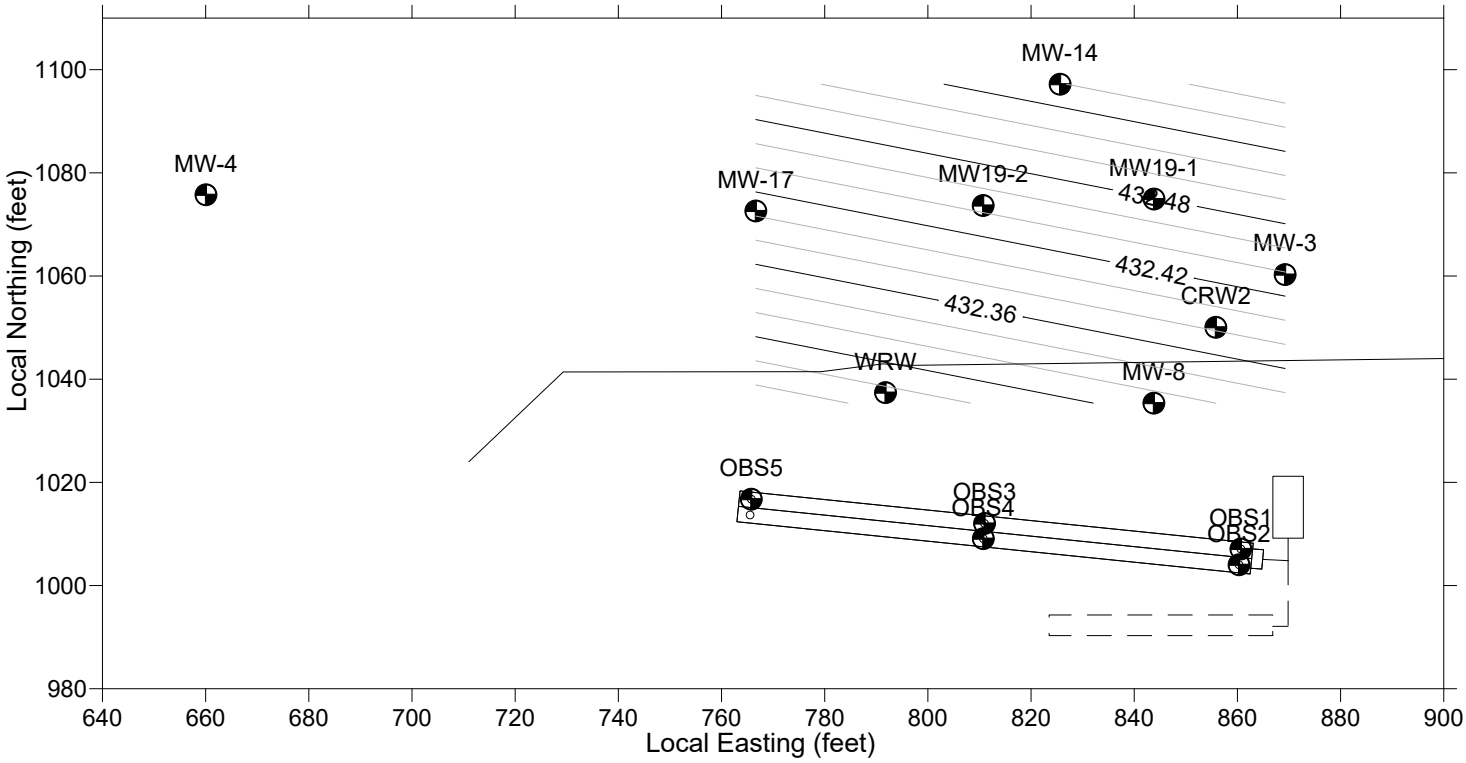
Linear Interpolation with CRW-2 Drawdown

Contour Interval
Major .0.05-feet
Minor 0.01-feet



Polynomial Interpolation with CRW-2 Drawdown

Contour Interval
Major 0.5-feet
Minor 0.1-feet



*Elevations based on a vertical control survey of completed on July 2019, using local datum of 441.09 feet.

APPENDIX D

Tables of Historical Monitoring Data

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well MW-1

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
04-Nov-91	**0.016**	NS	NS	431.01	430.91	430.99
29-Jan-92	NS	NS	NS	432.03	430.34	*431.69*
09-Mar-92	NS	NS	NS	431.45	429.52	*431.06*
23-Apr-92	NS	NS	NS	431.65	427.8	*430.88*
19-May-92	NS	NS	NS	433.06	426.94	*431.84*
16-Jun-92	NS	NS	NS	433.68	429.84	*432.91*
09-Jul-92	NS	NS	NS	434.18	431.27	*433.60*
21-Jul-92	NS	NS	NS	436.78	433.57	*436.14*
28-Jul-92	NS	NS	NS	433.63	432.42	*433.39*
05-Aug-92	NS	NS	NS	433.55	432.5	*433.34*
11-Aug-92	NS	NS	NS	433.41	432.52	*433.23*
18-Aug-92	NS	NS	NS	433.22	431.29	*432.83*
07-Sep-93	NS	NS	NS	433.29	432.06	*433.04*
31-Mar-94	NS	NS	NS	430.60	429.76	*430.43*
12-Dec-94	NS	NS	NS	430.27	429.46	*430.11*
12-Mar-95	NS	NS	NS	430.72	429.43	*430.46*
12-Apr-95	NS	NS	NS	432.17	426.20	*430.98*
19-Jul-95	**0.278**	NS	NS	NA	432.84	NA
22-May-96	NS	NS	NS	NA	NM	NA
06-Nov-96	NS	NS	NS	NA	NM	NA
29-Apr-98	NS	NS	NS	NA	NM	NA
13-Oct-98	**0.149**	**10**	**47.8**	NA	431.47	NA
28-Jan-00	NS	NS	NS	429.52	427.88	*429.19*
10-Apr-00	NS	NS	NS	430.12	427.59	*429.61*
27-Jul-00	NS	NS	NS	435.46	433.88	*435.14*
08-Mar-01	NS	NS	NS	431.00	429.29	*430.66*
04-Jun-01	NS	NS	NS	435.42	435.26	*435.39*
30-Nov-01	NS	NS	NS	431.23	429.80	*430.94*
24-Apr-02	NS	NS	NS	NA	NM	NA
20-Aug-02	Well Destroyed					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well MW-2

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
04-Nov-91	U	NS	NS	NA	431.31	NA
03-Jan-92	NS	NS	NS	NA	431.28	NA
28-Jan-92	NS	NS	NS	NA	431.19	NA
09-Mar-92	NS	NS	NS	NA	431.04	NA
23-Apr-92	U	NS	NS	NA	430.86	NA
16-Jul-92	U	NS	NS	NA	433.32	NA
11-Aug-92	U	NS	NS	NA	433.17	NA
07-Oct-92	U	NS	NS	NA	431.68	NA
21-Dec-92	U	NS	NS	NA	430.64	NA
09-Mar-93	U	NS	NS	NA	431.00	NA
16-Jun-93	U	NS	NS	NA	432.59	NA
07-Sep-93	U	NS	NS	NA	432.58	NA
13-Dec-93	U	NS	NS	NA	431.79	NA
31-Mar-94	U	NS	NS	NA	430.87	NA
23-Sep-94	U	NS	NS	NA	432.13	NA
12-Dec-94	U	NS	NS	NA	431.11	NA
12-Mar-95	U	NS	NS	NA	430.43	NA
13-Apr-95	U	NS	NS	NA	430.84	NA
19-Jul-95	U	NS	NS	NA	432.54	NA
25-Oct-95	U	NS	U	NA	431.93	NA
22-May-96	U	NS	NS	NA	431.10	NA
06-Nov-96	U	NS	NS	NA	430.37	NA
19-Mar-97	U	NS	NS	NA	429.65	NA
17-Nov-97	U	U	NS	NA	431.01	NA
29-Apr-98	U	U	0.203	NA	428.85	NA
13-Oct-98	U	U	0.278	NA	431.18	NA
27-Jul-00	U	U	0.314	NA	431.71	NA
08-Mar-01	NS	NS	NS	NA	431.08	NA
04-Jun-01	U	U	U	NA	431.32	NA
30-Nov-01	NS	NS	NS	NA	NM	NA
24-Apr-02	NS	NS	NS	NA	430.43	NA
20-Aug-02	NS	NS	NS	NA	NM	NA
06-Nov-02	NS	NS	NS	NA	NM	NA
20-Mar-03	NS	NS	NS	NA	NM	NA
16-May-03	NS	NS	NS	NA	NM	NA
04-Aug-03	NS	NS	NS	NA	NM	NA
24-Nov-03	NS	NS	NS	NA	NM	NA
10-Feb-04	NS	NS	NS	NA	NM	NA
03-May-04	NS	NS	NS	NA	NM	NA
18-Aug-04	NS	NS	NS	NA	NM	NA
08-Nov-04	NS	NS	NS	NA	NM	NA
01-Apr-05	NS	NS	NS	NA	NM	NA
27-Sep-05	NS	NS	NS	NA	NM	NA
16-May-06	NS	NS	NS	NA	NM	NA
14-Sep-06	NS	NS	NS	NA	NM	NA
14-May-07	NS	NS	NS	NA	NM	NA
04-Jun-08	NS	NS	NS	NA	NM	NA
13-May-09	U (0.0005)	U (0.05	U (0.467)	NA	NM	NA
15-Jun-10	NS	NS	NS	NA	NM	NA
04-Oct-11	Well Decommissioned					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well MW-3

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
6-Nov-91	NS	NS	NS	431.53	428.98	*431.02*
3-Jan-92	NS	NS	NS	431.59	428.99	*431.07*
28-Jan-92	NS	NS	NS	431.52	428.95	*431.01*
9-Mar-92	NS	NS	NS	431.43	428.78	*430.90*
23-Apr-92	NS	NS	NS	431.16	429.31	*430.79*
19-May-92	NS	NS	NS	432.38	429.74	*431.85*
16-Jun-92	NS	NS	NS	433.28	430.20	*432.66*
09-Jul-92	NS	NS	NS	433.9	430.73	*433.27*
21-Jul-92	NS	NS	NS	430.9	428.68	*430.46*
28-Jul-92	NS	NS	NS	433.9	430.71	*433.26*
05-Aug-92	NS	NS	NS	433.76	430.53	*433.11*
11-Aug-92	NS	NS	NS	433.95	430.37	*433.23*
18-Aug-92	NS	NS	NS	433.5	430.37	*432.87*
26-Aug-92	NS	NS	NS	432.8	429.80	*432.20*
04-Sep-92	NS	NS	NS	432.63	429.68	*432.04*
30-Sep-92	NS	NS	NS	431.93	429.18	*431.38*
07-Oct-92	NS	NS	NS	431.93	428.92	*431.33*
03-Nov-92	NS	NS	NS	431.49	428.90	*430.97*
01-Dec-92	NS	NS	NS	431.24	428.48	*430.69*
21-Dec-92	NS	NS	NS	431.19	428.29	*430.61*
09-Mar-93	NS	NS	NS	431.37	429.09	*430.91*
12-Apr-93	NS	NS	NS	431.39	429.64	*431.04*
16-Jun-93	NS	NS	NS	433.07	430.35	*432.53*
12-Jul-93	NS	NS	NS	432.92	430.19	*432.37*
13-Aug-93	NS	NS	NS	432.97	430.05	*432.39*
07-Sep-93	NS	NS	NS	433.26	430.24	*432.66*
31-Mar-94	NS	NS	NS	431.01	428.01	*430.41*
12-Mar-95	NS	NS	NS	430.86	427.70	*430.23*
13-Apr-95	**0.090**	NS	NS	432.05	429.12	*431.46*
19-Jul-95	NS	NS	NS	432.76	430.53	*432.31*
25-Oct-95	**0.480**	NS	**200**	432.11	430.18	*431.72*
22-May-96	**0.050**	NS	NS	431.27	429.80	*430.98*
06-Nov-96	NS	NS	NS	430.86	427.68	*430.22*
19-Mar-97	**0.095**	NS	NS	430.22	426.72	429.52
17-Nov-97	**0.0421**	**2.2**	NS	432.89	430.96	432.50
29-Apr-98	**0.0273**	**2.3**	**118**	430.62	428.17	*430.13*
13-Oct-98	NS	NS	NS	432.25	431.07	*432.01*
28-Jan-00	NS	NS	NS	429.77	426.56	*429.13*
10-Apr-00	NS	NS	NS	430.14	427.01	*429.51*
27-Jul-00	NS	NS	NS	431.77	430.69	*431.55*
08-Mar-01	NS	NS	NS	431.20	429.03	*430.77*
04-Jun-01	NS	NS	NS	431.36	430.16	*431.12*
30-Nov-01	NS	NS	NS	431.37	429.99	*431.09*
24-Apr-02	NS	NS	NS	430.81	429.34	*430.52*
20-Aug-02	NS	NS	NS	433.21	432.23	*433.01*
06-Nov-02	NS	NS	NS	*431.34*	*431.15*	*431.30*
20-Mar-03	NS	NS	NS	431.34	430.39	*431.15*
16-May-03	NS	NS	NS	431.45	430.75	*431.31*
04-Aug-03	NS	NS	NS	*432.55*	*432.45*	*432.53*
24-Nov-03	NS	NS	NS	431.06	430.35	*430.92*
10-Feb-04	NS	NS	NS	429.55	428.74	*429.39*
03-May-04	NS	NS	NS	431.52	429.98	*431.21*
18-Aug-04	NS	NS	NS	431.95	431.23	*431.81*
08-Nov-04	NA	NA	NA	430.45	429.45	*430.25*
01-Apr-05	NS	NS	NS	NA	NM	NA
27-Sep-05	NS	NS	NS	432.46	431.08	*432.18*
16-May-06	NS	NS	NS	0.5 feet thick	NM	NA
14-Sep-06	NS	NS	NS	Several inches	NM	NA
14-May-07	NS	NS	NS	*430.10*	*429.70*	*430.02*
04-Jun-08	NS	NS	NS	*NM*	NM	NA
13-May-09	NS	NS	NS	NA	NM	NA
15-Jun-10	NS	NS	NS	NA	NM	NA
26-May-11	NS	NS	NS	NA	NM	NA
24-May-12	NS	NS	NS	NA	NM	NA
12-Aug-13	NS	NS	NS	0.6 feet thick	NM	NA
06-May-14	U (0.0005)	0.072	1.1	NA	NM	NA
26-May-15	NS	NS	NS	NA	Frozen	NA
12-May-16	NS	NS	NS	*428.32*	*428.08*	*428.27*
07-Sep-17	**0.024**	**3.7**	**160**	*429.65*	*429.64*	*429.65*
07-Sep-18	0.0033	1.3	**60**	NA	430.78	NA
23-Oct-19	**0.0047**	**3.1**	**210**	NA	429.33	NA
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well MW-4

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
04-Nov-91	**0.17**	NS	NS	NA	430.94	NA
03-Jan-92	NS	NS	NS	NA	430.70	NA
28-Jan-92	**0.16**	NS	NS	NA	430.83	NA
09-Mar-92	NS	NS	NS	NA	430.61	NA
23-Apr-92	**0.11**	NS	NS	NA	431.00	NA
16-Jul-92	U	NS	NS	NA	433.04	NA
11-Aug-92	**0.13**	NS	NS	NA	432.88	NA
10-Sep-92	**0.15**	NS	NS	NA	432.08	NA
07-Oct-92	**0.11**	NS	NS	NA	431.43	NA
21-Dec-92	**0.11**	NS	NS	NA	430.31	NA
09-Mar-93	**0.093**	NS	NS	NA	430.36	NA
23-Sep-94	U	NS	NS	NA	431.72	NA
12-Mar-95	U	NS	NS	NA	429.98	NA
13-Apr-95	U	NS	NS	NA	430.47	NA
19-Jul-95	U	NS	NS	NA	432.15	NA
25-Oct-95	U	NS	U	NA	431.53	NA
22-May-96	U	NS	NS	NA	430.64	NA
06-Nov-96	U	NS	NS	NA	430.93	NA
19-Mar-97	U	NS	NS	NA	429.15	NA
17-Nov-97	U	U	NS	NA	430.61	NA
29-Apr-98	U	U	0.405	NA	428.37	NA
13-Oct-98	U	U	0.511	NA	430.78	NA
05-Nov-99	U	U	0.688	NA	430.16	NA
27-Jul-00	NS	NS	NS	NA	NM	NA
08-Mar-01	NS	NS	NS	NA	430.58	NA
04-Jun-01	U	U	0.915	NA	430.81	NA
30-Nov-01	U	U	0.955	NA	430.56	NA
24-Apr-02	NS	NS	NS	NA	430.28	NA
20-Aug-02	U	U	**3.31**	NA	432.83	NA
06-Nov-02	NS	NS	NS	NA	431.14	NA
20-Mar-03	NS	NS	NS	NA	430.84	NA
16-May-03	NS	NS	NS	NA	431.02	NA
04-Aug-03	U	U	U	NA	432.93	NA
24-Nov-03	NS	NS	NS	NA	430.57	NA
10-Feb-04	NS	NS	NS	NA	429.85	NA
03-May-04	U	U	U	NA	431.52	NA
18-Aug-04	NS	NS	NS	NA	431.41	NA
08-Nov-04	NS	NS	NS	NA	NA	NA
01-Apr-05	NS	NS	NS	NA	NM	NA
27-Sep-05	NS	NS	NS	NA	NM	NA
16-May-06	U (0.0005)	U (0.050)	0.616	NA	430.29	NA
14-Sep-06	U (0.0005)	2.17	1.38	NA	431.37	NA
14-May-07	U (0.0005)	U	U	NA	431.86	NA
04-Jun-08	U (0.0005)	0.308	0.581	NA	430.46	NA
13-May-09	U (0.0005)	U (0.05)	U (0.417)	NA	431.46	NA
15-Jun-10	U (0.0005)	U (0.05)	U (0.455)	NA	429.00	NA
26-May-11	U (0.0005)	U (0.05)	0.439	NA	430.81	NA
24-May-12	U (0.0005)	U (0.05)	0.565	NA	428.69	NA
12-Aug-13	U (0.0005)	U (0.05)	U (0.400)	NA	428.95	NA
06-May-14	U (0.0005)	U (0.05)	U (0.41)	NA	428.80	NA
26-May-15	U (0.001)	U (0.05)	U (0.21)	NA	428.60	NA
12-May-16	U (0.0020)	U (0.1)	0.78	NA	428.17	NA
07-Sep-17	U (0.00040)	U (0.150)	0.59	NA	429.50	NA
07-Sep-18	U (0.00040)	U (0.150)	U (0.28)	NA	430.61	NA
23-Oct-19	U (0.003)	U (0.25)	0.33 H	NA	431.53	NA
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well MW-5

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
04-Nov-91	U	NS	NS	NA	431.47	NA
03-Jan-92	NS	NS	NS	NA	431.52	NA
28-Jan-92	U	NS	NS	NA	431.41	NA
09-Mar-92	NS	NS	NS	NA	431.30	NA
23-Apr-92	U	NS	NS	NA	431.17	NA
16-Jul-92	U	NS	NS	NA	433.63	NA
11-Aug-92	U	NS	NS	NA	433.45	NA
10-Sep-92	U	NS	NS	NA	432.68	NA
07-Oct-92	U	NS	NS	NA	431.94	NA
21-Dec-92	U	NS	NS	NA	431.0	NA
09-Mar-93	U	NS	NS	NA	431.32	NA
16-Jun-93	U	NS	NS	NA	432.94	NA
07-Sep-93	U	NS	NS	NA	432.95	NA
13-Dec-93	U	NS	NS	NA	431.48	NA
31-Mar-94	U	NS	NS	NA	430.80	NA
23-Sep-94	U	NS	NS	NA	432.31	NA
12-Dec-94	U	NS	NS	NA	431.32	NA
12-Mar-95	U	NS	NS	NA	430.66	NA
13-Apr-95	U	NS	NS	NA	431.32	NA
19-Jul-95	U	NS	NS	NA	433.08	NA
25-Oct-95	U	NS	U	NA	432.43	NA
22-May-96	U	NS	NS	NA	431.63	NA
06-Nov-96	U	NS	NS	NA	430.95	NA
19-Mar-97	U	NS	NS	NA	430.30	NA
17-Nov-97	U	U	NS	NA	431.22	NA
29-Apr-98	U	U	0.106	NA	429.11	NA
13-Oct-98	U	U	0.129	NA	431.41	NA
04-Nov-99	U	U	U	NA	430.95	NA
27-Jul-00	NS	NS	NS	NA	NM	NA
08-Mar-01	NS	NS	NS	NA	NM	NA
04-Jun-01	NS	NS	NS	NA	NM	NA
30-Nov-01	U	U	U	NA	NM	NA
24-Apr-02	NS	NS	NS	NA	430.87	NA
20-Aug-02	NS	NS	NS	NA	433.37	NA
06-Nov-02	NS	NS	NS	NA	431.68	NA
20-Mar-03	NS	NS	NS	NA	431.57	NA
16-May-03	NS	NS	NS	NA	434.76	NA
04-Aug-03	U	U	U	NA	433.58	NA
24-Nov-03	NS	NS	NS	NA	431.29	NA
10-Feb-04	NS	NS	NS	NA	430.60	NA
03-May-04	NS	NS	NS	NA	430.98	NA
18-Aug-04	NS	NS	NS	NA	431.24	NA
08-Nov-04	NS	NS	NS	NA	430.61	NA
01-Apr-05	NS	NS	NS	NA	NM	NA
27-Sep-05	NS	NS	NS	NA	NM	NA
16-May-06	NS	NS	NS	NA	NM	NA
14-Sep-06	NS	NS	NS	NA	NM	NA
14-May-07	NS	NS	NS	NA	NM	NA
04-Jun-08	NS	NS	NS	NA	NM	NA
13-May-09	NS	NS	NS	NA	NM	NA
15-Jun-10	NS	NS	NS	NA	NM	NA
26-May-11	NS	NS	NS	NA	NM	NA
04-Oct-11	Well Decommissioned					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well MW-6

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
28-Jan-92	U	NS	NS	NA	430.59	NA
09-Mar-92	NS	NS	NS	NA	430.49	NA
23-Apr-92	U	NS	NS	NA	430.85	NA
16-Jul-92	U	NS	NS	NA	432.83	NA
11-Aug-92	U	NS	NS	NA	432.60	NA
10-Sep-92	U	NS	NS	NA	431.86	NA
07-Oct-92	U	NS	NS	NA	431.23	NA
21-Dec-92	U	NS	NS	NA	430.19	NA
09-Mar-93	U	NS	NS	NA	430.19	NA
16-Jun-93	U	NS	NS	NA	432.06	NA
07-Sep-93	U	NS	NS	NA	432.08	NA
12-Dec-94	U	NS	NS	NA	436.61	NA
13-Apr-95	NS	NS	NS	NA	NM	NA
19-Jul-95	NS	NS	NS	NA	NM	NA
25-Oct-95	U	NS	U	NA	431.46	NA
22-May-96	U	NS	NS	NA	430.21	NA
06-Nov-96	U	NS	NS	NA	429.49	NA
19-Mar-97	U	NS	NS	NA	428.56	NA
17-Nov-97	U	U	NS	NA	430.37	NA
29-Apr-98	U	U	0.119	NA	427.95	NA
13-Oct-98	U	U	0.151	NA	430.33	NA
27-Jul-00	U	U	0.331	NA	431.15	NA
08-Mar-01	NS	NS	NS	NA	NM	NA
04-Jun-01	NS	NS	NS	NA	NM	NA
30-Nov-01	U	U	**1.61**	NA	430.13	NA
14-May-07	Well Destroyed					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW-7

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
28-Jan-92	U	NS	NS	NA	430.59	NA
09-Mar-92	NS	NS	NS	NA	430.41	NA
23-Apr-92	U	NS	NS	NA	430.73	NA
16-Jul-92	U	NS	NS	NA	432.69	NA
11-Aug-92	U	NS	NS	NA	432.50	NA
10-Sep-92	U	NS	NS	NA	431.65	NA
07-Oct-92	U	NS	NS	NA	431.11	NA
21-Dec-92	U	NS	NS	NA	430.08	NA
09-Mar-93	U	NS	NS	NA	430.36	NA
16-Jun-93	U	NS	NS	NA	431.96	NA
07-Sep-93	U	NS	NS	NA	431.96	NA
13-Dec-93	U	NS	NS	NA	430.96	NA
31-Mar-94	U	NS	NS	NA	430.06	NA
23-Sep-94	U	NS	NS	NA	431.63	NA
12-Mar-95	U	NS	NS	NA	429.94	NA
13-Apr-95	U	NS	NS	NA	430.29	NA
19-Jul-95	U	NS	NS	NA	432.05	NA
25-Oct-95	U	NS	U	NA	431.54	NA
22-May-96	U	NS	NS	NA	430.54	NA
06-Nov-96	U	NS	NS	NA	429.81	NA
19-Mar-97	U	NS	NS	NA	429.05	NA
17-Nov-97	U	U	NS	NA	430.43	NA
29-Apr-98	0.00223	U	0.132	NA	428.18	NA
13-Oct-98	NS	NS	NS	NA	NM	NA
07-Jun-00	Well Destroyed					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well MW-8

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
29-Jan-92	NS	NS	NS	431.54	428.79	*430.99*
09-Mar-92	NS	NS	NS	431.43	428.28	*430.80*
12-Mar-95	NS	NS	NS	430.84	427.56	*430.18*
13-Apr-95	NS	NS	NS	431.44	428.76	*430.90*
19-Jul-95	NS	NS	NS	432.66	432.63	*432.65*
25-Oct-95	NS	NS	NS	432.32	430.70	*432.00*
19-Mar-97	NS	NS	NS	432.99	429.80	*432.35*
17-Nov-97	NS	NS	NS	433.33	431.02	*432.87*
29-Apr-98	NS	NS	NS	430.56	428.23	*430.09*
13-Oct-98	NS	NS	NS	433.00	431.01	*432.60*
28-Jan-00	NS	NS	NS	429.61	426.66	*429.02*
10-Apr-00	NS	NS	NS	430.05	427.14	*429.47*
27-Jul-00	NS	NS	NS	431.48	431.45	*431.47*
08-Mar-01	NS	NS	NS	431.43	429.13	*430.97*
08-Jun-01	NS	NS	NS	431.33	430.24	*431.11*
30-Nov-01	NS	NS	NS	NA	NM	NA
24-Apr-02	NS	NS	NS	430.03	430.02	*430.03*
20-Aug-02	NS	NS	NS	433.04	433.01	*433.03*
06-Nov-02	NS	NS	NS	430.93	430.92	*430.93*
20-Mar-03	NS	NS	NS	430.17	430.14	*430.16*
16-May-03	NS	NS	NS	431.23	431.17	*431.22*
04-Aug-03	NS	NS	NS	*433.31*	*433.30*	*433.31*
24-Nov-03	NS	NS	NS	430.94	430.91	*430.93*
10-Feb-04	NS	NS	NS	430.30	430.28	*430.30*
03-May-04	NS	NS	NS	NA	430.68	NA
18-Aug-04	NS	NS	NS	NA	431.86	NA
30-Aug-04	**0.00516**	0.329	**1.69**	NA	NM	NA
08-Nov-04	NS	NS	NS	NA	430.70	NA
01-Apr-05	NS	NS	NS	NA	NM	NA
27-Sep-05	U (0.0005)	U (0.05)	U (0.4)	NA	430.21	NA
16-May-06	0.000695	0.0766	**4.12**	*NA*	*430.59*	*NA*
14-Sep-06	**0.00645**	0.284	0.956	NA	431.52	NA
14-May-07	NS	NS	NS	*430.04*	*430.00*	*430.03*
04-Jun-08	0.00188	0.450	**5.81**	*430.61*	*430.60*	*430.61*
13-May-09	0.00238	0.740	**12.6**	NA	430.98	NA
15-Jun-10	**0.00467**	1.390	**2.45**	NA	428.96	NA
26-May-11	0.00188	1.10	**13.1**	NA	431.01	NA
24-May-12	0.00134	0.524	**1.88**	NA	428.91	NA
12-Aug-13	NS	NS	NS	*428.42*	*428.40*	*428.42*
07-May-14	0.00067	**2.2**	**43**	*NA*	428.42	NA
26-May-15	0.0025	**2.8**	**65**	*NA*	428.87	NA
12-May-16	0.00087	0.86	**12**	NA	428.34	NA
07-Sep-17	**0.016**	0.390	**27**	NA	429.69	NA
07-Sep-18	0.00067	0.280	**20**	NA	430.79	NA
23-Oct-19	U (0.003)	0.45	**12**	NA	429.39	NA
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW-9

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
16-May-03	NS	NS	NS	431.36	431.16	431.32
04-Aug-03	NS	NS	NS	NA	NM	NA
24-Nov-03	NS	NS	NS	NA	NM	NA
10-Feb-04	NS	NS	NS	NA	NM	NA
03-May-04	NS	NS	NS	430.87	429.21	*430.54*
18-Aug-04	NS	NS	NS	432.19	430.59	*431.87*
08-Nov-04	NS	NS	NS	430.09	430.04	430.08
01-Apr-05	NS	NS	NS	NA	NM	NA
27-Sep-05	NS	NS	NS	NA	NM	NA
16-May-06	NS	NS	NS	NA	NM	NA
14-Sep-06	NS	NS	NS	NA	NM	NA
14-May-07	NS	NS	NS	NA	NM	NA
04-Jun-08	NS	NS	NS	NA	NM	NA
13-May-09	NS	NS	NS	NA	NM	NA
15-Jun-10	NS	NS	NS	NA	NM	NA
26-May-11	NS	NS	NS	NA	NM	NA
04-Oct-11	Well Decommissioned					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Wells MW-10, MW-11, and MW-12 consist of steel pipe casings, and are typically frozen. Monitoring Well MW-12 has been destroyed. Data for Monitoring Wells MW-10, MW-11, and MW-12 is not included.

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well MW-13

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
04-Nov-99	**0.00468**	0.096	1.26	NA	NM	NA
27-Jul-00	**0.012**	0.32	0.848	NA	NM	NA
08-Mar-01	NS	NS	NS	NA	430.69	430.69
04-Jun-01	0.00276	U	0.831	NA	430.93	430.93
04-Oct-11	Well Decommissioned					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW-14

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
10-Apr-00	NS	NS	NS	NA	428.72	NA
28-Jan-00	NS	NS	NS	NA	429.65	NA
27-Jul-00	NS	NS	NS	431.93	431.87	*431.92*
08-Mar-01	NS	NS	NS	NA	430.71	NA
04-Jun-01	NS	NS	NS	NA	Frozen	NA
30-Nov-01	NS	NS	NS	*429.12*	*429.11*	*429.12*
24-Apr-02	NS	NS	NS	NA	428.51	NA
20-Aug-02	NS	NS	NS	NA	NM	NA
06-Nov-02	NS	NS	NS	NA	429.37	NA
20-Mar-03	NS	NS	NS	NA	Frozen	NA
16-May-03	NS	NS	NS	NA	Frozen	NA
04-Aug-03	NS	NS	NS	NA	433.36	NA
24-Nov-03	NS	NS	NS	NA	429.01	NA
10-Feb-04	NS	NS	NS	NA	428.31	NA
03-May-04	NS	NS	NS	NA	Frozen	NA
18-Aug-04	NS	NS	NS	NA	430.79	NA
08-Nov-04	NS	NS	NS	NA	428.18	NA
01-Apr-05	**0.0162**	2.16	**22**	NA	429.39	NA
27-Sep-05	**0.0194**	1.07	**4.34**	NA	429.31	NA
16-May-06	NS	NS	NS	NA	NM	NA
14-Sep-06	0.00323	0.457	**1.51**	NA	NR	NA
14-May-07	NS	NS	NS	NA	NM	NA
04-Jun-08	**0.0128**	0.964	**3.02**	NA	430.57	NA
13-May-09	**0.0267**	2.18	**1.77**	NA	430.88	NA
15-Jun-10	**0.0119**	1.15	**1.89**	NA	429.05	NA
26-May-11	**0.0103**	1.23	**3.78**	NA	430.92	NA
24-May-12	0.00271	0.284	**2.72**	NA	428.79	NA
12-Aug-13	**0.0442**	**3.77**	**120**	NA	429.18	NA
06-May-14	**0.027**	**12**	**67**	NA	426.53	NA
26-May-15	**0.020**	**3.6**	**6.4**	NA	426.47	NA
Ice Plug	Ice Plug					
07-Sep-17	**0.050**	**6.5**	**14**	NA	429.60	NA
07-Sep-18	**0.074**	**U (7.5)**	**26**	NA	430.73	NA
23-Oct-19	**0.054**	**12**	**15 H**	NA	429.64	NA
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW-15

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
04-Nov-99	**0.106**	**12.0**	**8.51**	NA	NM	NA
28-Jan-00	NS	NS	NS	NA	429.29	NA
27-Jul-00	NS	NS	NS	431.69	431.03	*431.56*
08-Mar-01	NS	NS	NS	431.04	430.44	430.88
04-Jun-01	NS	NS	NS	NA	Frozen	NA
30-Nov-01	Well Destroyed					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well MW-16

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
04-Nov-99	U	**2.4**	**1.83**	NA	NS	NA
10-Apr-00	NS	NS	NS	429.23	428.88	*429.16*
27-Jul-00	NS	NS	NS	431.64	431.65	*431.64*
08-Mar-01	NS	NS	NS	431.03	430.62	430.92
04-Jun-01	U	U	**1.61**	NA	431.29	NA
30-Nov-01	NS	NS	NS	NA	430.98	NA
24-Apr-02	NS	NS	NS	NA	NM	NA
20-Aug-02	0.0006	1.63	1.22	NA	433.03	NA
06-Nov-02	NS	NS	NS	NA	431.36	NA
20-Mar-03	NS	NS	NS	NA	431.27	NA
16-May-03	NS	NS	NS	NA	Frozen	NA
04-Aug-03	NS	NS	NS	NA	433.47	NA
24-Nov-03	NS	NS	NS	NA	431.02	NA
10-Feb-04	NS	NS	NS	NA	430.29	NA
03-May-04	NS	NS	NS	NA	436.26	NA
18-Aug-04	NS	NS	NS	NA	431.94	NA
08-Nov-04	NS	NS	NS	NA	430.15	NA
01-Apr-05	NS	NS	NS	NA	NM	NA
27-Sep-05	NS	NS	NS	NA	NM	NA
16-May-06	U (0.0005)	U (0.050)	1.06	NA	430.08	NA
14-Sep-06	U (0.0005)	0.237	0.908	NA	431.63	NA
14-May-07	U (0.0005)	U (0.050)	1.12	*429.56*	*429.20*	*429.24*
04-Jun-08	U (0.0005)	U (0.050)	U (0.4)	NA	430.74	NA
13-May-09	NS	NS	NS	NA	NM	NA
15-Jun-10	NS	NS	NS	NA	NM	NA
04-Oct-11	Well Decommissioned					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW-17

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
04-Nov-99	NS	NS	NS	NA	NM	NA
28-Jan-00	NS	NS	NS	NA	429.08	NA
10-Apr-00	NS	NS	NS	429.97	427.06	*429.39*
27-Jul-00	**0.07**	**6.8**	**57.6**	431.45	431.44	431.45
08-Mar-01	NS	NS	NS	NA	430.41	NA
04-Jun-01	NS	NS	NS	430.64	430.39	430.57
30-Nov-01	NS	NS	NS	431.07	430.82	431.00
24-Apr-02	NS	NS	NS	NA	NM	NA
20-Aug-02	NS	NS	NS	NA	433.51	NA
06-Nov-02	NS	NS	NS	NA	431.81	NA
20-Mar-03	NS	NS	NS	NA	431.59	NA
16-May-03	NS	NS	NS	NA	431.76	NA
04-Aug-03	0.0016	0.535	**4.5**	NA	433.63	NA
24-Nov-03	NS	NS	NS	NA	431.29	NA
10-Feb-04	NS	NS	NS	NA	430.53	NA
03-May-04	**0.0823**	1.14	**65.2**	NA	431.26	NA
18-Aug-04	NS	NS	NS	NA	432.18	NA
08-Nov-04	NS	NS	NS	NA	430.40	NA
01-Apr-05	**0.0148**	**5.37**	**118**	NA	430.61	NA
27-Sep-05	0.00422	0.204	**6.53**	NA	432.54	NA
16-May-06	0.000652	0.633	**51.2**	NA	430.95	NA
14-Sep-06	**0.00634**	0.642	**9.33**	NA	431.46	NA
14-May-07	0.00182	0.467	**74.1**	NA	*429.79*	NA
04-Jun-08	0.00054	0.213	**3.49**	NA	430.54	NA
13-May-09	U (0.0005)	U (0.05)	1.11	NA	433.54	NA
15-Jun-10	0.00384	0.148	**3.7**	NA	428.82	NA
26-May-11	U (0.0005)	U (0.05)	0.963	NA	431.19	NA
24-May-12	U (0.0005)	0.122	1.05	NA	428.13	NA
12-Aug-13	U (0.0005)	1.68	**114**	NA	429.15	NA
06-May-14	U (0.0005)	1.2	**28**	NA	426.33	NA
26-May-15	U (0.0010)	**3.9**	**32**	NA	426.17	NA
12-May-16	U (0.00026)	**3.3**	**74**	NA	427.12	NA
07-Sep-17	**0.0059**	**2.4**	**47**	NA	429.61	NA
07-Sep-18	**0.0064**	**2.9**	**24**	NA	430.60	NA
23-Oct-19	**0.0077**	0.38	**14**	NA	429.31	NA
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well MW-18

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
04-Nov-99	U	**3.4**	**24.6**	NA	NM	NA
10-Apr-00	NS	NS	NS	429.21	429.12	*429.19*
27-Jul-00	U	U	**6.06**	NA	432.73	NA
08-Mar-01	NS	NS	NS	NA	430.95	NA
04-Jun-01	U	1.42	**11.6**	NA	431.29	NA
30-Nov-01	NS	NS	NS	NA	430.81	NA
24-Apr-02	NS	NS	NS	NA	NM	NA
20-Aug-02	NS	NS	NS	NA	NM	NA
06-Nov-02	NS	NS	NS	NA	NM	NA
20-Mar-03	NS	NS	NS	NA	NM	NA
16-May-03	NS	NS	NS	NA	NM	NA
04-Aug-03	NS	NS	NS	NA	NM	NA
24-Nov-03	NS	NS	NS	NA	NM	NA
10-Feb-04	NS	NS	NS	NA	NM	NA
03-May-04	NS	NS	NS	NA	430.60	NA
18-Aug-04	NS	NS	NS	NA	431.91	NA
08-Nov-04	NS	NS	NS	NA	430.07	NA
01-Apr-05	NS	NS	NS	NA	NM	NA
27-Sep-05	NS	NS	NS	NA	NM	NA
16-May-06	NS	NS	NS	NA	NM	NA
14-Sep-06	NS	NS	NS	NA	NM	NA
14-May-07	NS	NS	NS	NA	NM	NA
04-Jun-08	NS	NS	NS	NA	NM	NA
13-May-09	NS	NS	NS	NA	NM	NA
15-Jun-10	NS	NS	NS	NA	NM	NA
26-May-11	NS	NS	NS	NA	NM	NA
04-Oct-11	Well Decommissioned					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW-19

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
27-Jul-00	**0.044**	U	1.14	NA	NST	NA
08-Mar-01	NS	NS	NS	NA	430.57	NA
04-Jun-01	0.0037	0.271	1.05	NA	430.82	NA
30-Nov-01	Well Destroyed					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW 19-1

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
23-Oct-19	**0.085**	**8.6**	**42 H**	NA	NC	NA
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW 19-2

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
23-Oct-19	NS	NS	NS	N	428.48	NC
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW-20

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
27-Jul-00	U	U	0.997	NA	NST	NA
08-Mar-01	NS	NS	NS	NA	NM	NA
04-Jun-01	NS	NS	NS	NA	NM	NA
30-Nov-01	Well Destroyed					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well MW-21

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
27-Jul-00	**0.028**	U	**1.55**	NA	NST	NA
08-Mar-01	NS	NS	NS	NA	NM	NA
04-Jun-01	NS	NS	NS	NA	NM	NA
30-Nov-01	Well Destroyed					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW-22

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
27-Jul-00	U	U	0.008	NA	NST	NA
08-Mar-01	NS	NS	NS	NA	NM	NA
04-Jun-01	NS	NS	NS	NA	NM	NA
30-Nov-01	Well Destroyed					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW-23

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
30-Nov-01	NS	NS	NS	NA	NM	NA
24-Apr-02	NS	NS	NS	430.71	430.59	430.69
20-Aug-02	NS	NS	NS	NA	433.01	NA
06-Nov-02	NS	NS	NS	NA	431.59	NA
20-Mar-03	NS	NS	NS	NA	432.00	NA
16-May-03	NS	NS	NS	NA	432.06	NA
04-Aug-03	NS	NS	NS	NA	433.38	NA
16-Oct-03	Well damaged during site work and removed.					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW-24

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
30-Nov-01	**0.0142**	0.230	0.714	NA	NST	NA
24-Apr-02	**0.0144**	0.213	0.686	NA	430.35	NA
20-Aug-02	U	U	U	NA	433.01	NA
06-Nov-02	NS	NS	NS	NA	431.34	NA
20-Mar-03	NS	NS	NS	NA	430.92	NA
16-May-03	NS	NS	NS	NA	431.11	NA
04-Aug-03	0.0007	0.115	U	NA	432.99	NA
24-Nov-03	NS	NS	NS	NA	NM	NA
10-Feb-04	NS	NS	NS	NA	429.75	NA
03-May-04	**0.0342**	1.12	**4.32**	NA	430.11	NA
18-Aug-04	NS	NS	NS	NA	431.74	NA
08-Nov-04	NS	NS	NS	NA	429.94	NA
01-Apr-05	**0.0147**	2.0	**17.6**	NA	429.87	NA
27-Sep-05	U (0.0005)	U (0.05)	1.29	NA	431.88	NA
16-May-06	NS	NS	NS	NA	NM	NA
14-Sep-06	0.00270	0.0520	1.15	NA	431.46	NA
14-May-07	NS	NS	NS	NA	NM	NA
04-Jun-08	NS	NS	NS	NA	NM	NA
13-May-09	NS	NS	NS	NA	NM	NA
15-Jun-10	NS	NS	NS	NA	NM	NA
26-May-11	NS	NS	NS	NA	NM	NA
24-May-12	NS	NS	NS	NA	NM	NA
12-Aug-13	NS	NS	NS	NA	NM	NA
06-May-14	NS	NS	NS	NA	NM	NA
26-May-16	NS	NS	NS	NA	NM	NA
07-Sep-17	NS	NS	NS	NA	NM	NA
07-Sep-18	NS	NS	NS	NA	NM	NA
23-Oct-19	NS	NS	NS	NA	NM	NA
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well MW-25

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
30-Nov-01	U	U	U	NA	NST	NA
24-Apr-02	NS	NS	NS	NA	Frozen	NA
20-Aug-02	NS	NS	NS	NA	433.39	NA
06-Nov-02	NS	NS	NS	NA	NM	NA
20-Mar-03	NS	NS	NS	NA	NM	NA
16-May-03	NS	NS	NS	NA	Frozen	NA
04-Aug-03	NS	NS	NS	NA	433.18	NA
24-Nov-03	NS	NS	NS	NA	NM	NA
10-Feb-04	NS	NS	NS	NA	NM	NA
03-May-04	NS	NS	NS	NA	430.38	NA
18-Aug-04	NS	NS	NS	NA	431.63	NA
08-Nov-04	NS	NS	NS	NA	429.79	NA
01-Apr-05	NS	NS	NS	NA	NM	NA
27-Sep-05	NS	NS	NS	NA	NM	NA
16-May-06	NS	NS	NS	NA	NM	NA
14-Sep-06	NS	NS	NS	NA	NM	NA
14-May-07	NS	NS	NS	NA	NM	NA
04-Jun-08	NS	NS	NS	NA	NM	NA
13-May-09	NS	NS	NS	NA	NM	NA
15-Jun-10	NS	NS	NS	NA	NM	NA
26-May-11	NS	NS	NS	NA	NM	NA
04-Oct-11	Well Decommissioned					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW-26

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
30-Nov-01	NS	NS	NS	NA	NST	NA
24-Apr-02	0.0024	0.0909	1.42	NA	416.97	NA
20-Aug-02	NS	NS	NS	NA	NM	NA
06-Nov-02	NS	NS	NS	NA	432.06	NA
20-Mar-03	NS	NS	NS	NA	Frozen	NA
16-May-03	NS	NS	NS	NA	Frozen	NA
04-Aug-03	NS	NS	NS	NA	433.56	NA
24-Nov-03	NS	NS	NS	NA	Frozen	NA
10-Feb-04	NS	NS	NS	NA	Frozen	NA
03-May-04	NS	NS	NS	NA	Frozen	NA
18-Aug-04	NS	NS	NS	NA	Frozen	NA
08-Nov-04	NS	NS	NS	NA	Frozen	NA
01-Apr-05	NS	NS	NS	NA	NM	NA
27-Sep-05	NS	NS	NS	NA	NM	NA
16-May-06	NS	NS	NS	NA	NM	NA
14-Sep-06	NS	NS	NS	NA	NM	NA
14-May-07	NS	NS	NS	NA	NM	NA
04-Jun-08	NS	NS	NS	NA	NM	NA
13-May-09	NS	NS	NS	NA	NM	NA
15-Jun-10	NS	NS	NS	NA	NM	NA
26-May-11	NS	NS	NS	NA	NM	NA
24-May-12	NS	NS	NS	NA	NM	NA
12-Aug-13	NS	NS	NS	NA	NM	NA
06-May-14	NS	NS	NS	NA	NM	NA
26-Jun-14	NS	NS	NS	NA	NM	NA
07-Sep-17	NS	NS	NS	NA	NM	NA
07-Sep-18	NS	NS	NS	NA	NM	NA
23-Oct-19	NS	NS	NS	NA	NM	NA
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well MW-27

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
30-Nov-01	U	U	U	NA	NST	NA
24-Apr-02	U	U	U	NA	431.69	NA
20-Aug-02	U	U	0.54	NA	433.58	NA
06-Nov-02	NS	NS	NS	NA	432.9	NA
20-Mar-03	NS	NS	NS	NA	432.43	NA
16-May-03	NS	NS	NS	NA	432.75	NA
04-Aug-03	U	U	0.589	NA	434.62	NA
24-Nov-03	NS	NS	NS	NA	432.28	NA
10-Feb-04	NS	NS	NS	NA	431.33	NA
03-May-04	NS	NS	NS	NA	431.74	NA
18-Aug-04	NS	NS	NS	NA	433.29	NA
08-Nov-04	NS	NS	NS	NA	Frozen	NA
01-Apr-05	NS	NS	NS	NA	NM	NA
27-Sep-05	NS	NS	NS	NA	NM	NA
16-May-06	NS	NS	NS	NA	NM	NA
14-Sep-06	NS	NS	NS	NA	NM	NA
14-May-07	NS	NS	NS	NA	NM	NA
04-Jun-08	NS	NS	NS	NA	NM	NA
13-May-09	NS	NS	NS	NA	NM	NA
15-Jun-10	NS	NS	NS	NA	NM	NA
26-May-11	NS	NS	NS	NA	NM	NA
04-Oct-11	Well Decommissioned					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW-28

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
30-Nov-01	0.003	U	0.747	NA	NST	NA
24-Apr-02	U	U	0.570	NA	430.89	NA
20-Aug-02	0.004	U	0.878	NA	433.31	NA
06-Nov-02	NS	NS	NS	NA	431.64	NA
20-Mar-03	NS	NS	NS	NA	431.47	NA
16-May-03	NS	NS	NS	NA	431.68	NA
04-Aug-03	NS	NS	NS	NA	433.5	NA
24-Nov-03	NS	NS	NS	NA	431.12	NA
10-Feb-04	NS	NS	NS	NA	430.32	NA
03-May-04	NS	NS	NS	NA	430.72	NA
18-Aug-04	NS	NS	NS	NA	431.99	NA
08-Nov-04	NS	NS	NS	NA	430.35	NA
01-Apr-05	NS	NS	NS	NA	NM	NA
27-Sep-05	NS	NS	NS	NA	NM	NA
16-May-06	NS	NS	NS	NA	NM	NA
14-Sep-06	NS	NS	NS	NA	NM	NA
14-May-07	NS	NS	NS	NA	NM	NA
04-Jun-08	NS	NS	NS	NA	NM	NA
13-May-09	NS	NS	NS	NA	NM	NA
15-Jun-10	NS	NS	NS	NA	NM	NA
26-May-11	NS	NS	NS	NA	NM	NA
04-Oct-11	Well Decommissioned					
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well G-1

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
Mar-01	NS	NS	NS	NA	NST	NA
May-01	U	U	U	NA	NST	NA
30-Nov-01	U	U	U	NA	429.16	NA
24-Apr-02	U	U	U	NA	430.30	NA
04-Jun-02	NS	NS	NS	NA	430.30	NA
20-Aug-02	U	U	U	NA	432.87	NA
06-Nov-02	NS	NS	NS	NA	431.12	NA
20-Mar-03	NS	NS	NS	NA	431.06	NA
16-May-03	NS	NS	NS	NA	431.26	NA
04-Aug-03	U	U	U	NA	433.22	*NA*
24-Nov-03	NS	NS	NS	NA	430.81	NA
10-Feb-04	NS	NS	NS	NA	430.18	NA
03-May-04	NS	NS	NS	NA	*430.50*	NA
18-Aug-04	NS	NS	NS	NA	431.73	NA
08-Nov-04	NS	NS	NS	NA	NM	NA
01-Apr-05	NS	NS	NS	NA	NM	NA
27-Sep-05	NS	NS	NS	NA	NM	NA
16-May-06	NS	NS	NS	NA	NM	NA
14-Sep-06	NS	NS	NS	NA	NM	NA
14-May-07	NS	NS	NS	NA	NM	NA
04-Jun-08	NS	NS	NS	NA	NM	NA
13-May-09	NS	NS	NS	NA	NM	NA
15-Jun-10	NS	NS	NS	NA	NM	NA
26-May-11	NS	NS	NS	NA	NM	NA
24-May-12	NS	NS	NS	NA	NM	NA
12-Aug-13	NS	NS	NS	NA	NM	NA
06-May-14	NS	NS	NS	NA	NM	NA
26-May-14	NS	NS	NS	NA	NM	NA
07-Sep-17	NS	NS	NS	NA	NM	NA
07-Sep-18	NS	NS	NS	NA	NM	NA
23-Oct-19	NS	NS	NS	NA	NM	NA
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Monitoring Well MW-29

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
16-Oct-03	U	U	U	NA	431.56	NA
24-Nov-03	NS	NS	NS	NA	430.49	NA
10-Feb-04	NS	NS	NS	NA	429.66	NA
03-May-04	U	U	U	NA	430.01	NA
18-Aug-04	NS	NS	NS	NA	NM	NA
08-Nov-04	NS	NS	NS	NA	NM	NA
01-Apr-05	NS	NS	NS	NA	NM	NA
27-Sep-05	U (0.0005)	U (0.05)	U (0.403)	NA	431.49	NA
16-May-06	NS	NS	NS	NA	NM	NA
14-Sep-06	NS	NS	NS	NA	NM	NA
14-May-07	NS	NS	NS	NA	NM	NA
04-Jun-08	NS	NS	NS	NA	NM	NA
13-May-09	NS	NS	NS	NA	NM	NA
15-Jun-10	NS	NS	NS	NA	NM	NA
26-May-11	NS	NS	NS	NA	NM	NA
24-May-12	NS	NS	NS	NA	NM	NA
12-Aug-13	NS	NS	NS	NA	NM	NA
06-May-14	NS	NS	NS	NA	NM	NA
26-May-14	NS	NS	NS	NA	NM	NA
17-Sep-17	NS	NS	NS	NA	NM	NA
07-Sep-18	NS	NS	NS	NA	NM	NA
23-Oct-19	NS	NS	NS	NA	NM	NA
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Appendix D
Tables of Historical Groundwater Monitoring Data

Monitoring Well MW-30

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
16-Oct-03	U	U	U	NA	431.98	NA
24-Nov-03	NS	NS	NS	NA	430.74	NA
10-Feb-04	NS	NS	NS	NA	429.98	NA
03-May-04	U	U	U	NA	430.31	NA
18-Aug-04	NS	NS	NS	NA	NM	NA
08-Nov-04	NS	NS	NS	NA	429.70	NA
01-Apr-05	NS	NS	NS	NA	428.69	NA
27-Sep-05	NS	NS	NS	NA	NM	NA
16-May-06	NS	NS	NS	NA	NM	NA
14-Sep-06	NS	NS	NS	NA	NM	NA
14-May-07	NS	NS	NS	NA	NM	NA
04-Jun-08	NS	NS	NS	NA	NM	NA
13-May-09	NS	NS	NS	NA	NM	NA
15-Jun-10	NS	NS	NS	NA	NM	NA
26-May-11	NS	NS	NS	NA	NM	NA
24-May-12	NS	NS	NS	NA	NM	NA
12-Aug-13	NS	NS	NS	NA	NM	NA
06-May-14	NS	NS	NS	NA	NM	NA
26-May-14	NS	NS	NS	NA	NM	NA
07-Sep-17	NS	NS	NS	NA	NM	NA
07-Sep-18	NS	NS	NS	NA	NM	NA
23-Oct-19	NS	NS	NS	NA	NM	NA
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

IFC Aeration Tank

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
24-May-12	**0.00486**	0.532	0.478	NA	NM	NA
12-Aug-13	NS	NS	NS	NA	NM	NA
06-May-14	NS	NS	NS	NA	NM	NA
26-May-15	**0.0065**	0.59	**21**	NA	NM	NA
12-May-16	**0.005**	0.21	U (0.43)	NA	NM	NA
07-Sep-17	U (0.00040)	U (0.150)	0.74	NA	430.91	NA
07-Sep-18	U (0.00040)	U (0.150)	0.28	NA	NM	NA
23-Oct-19	U (0.003)	U (0.25)	0.37	NA	NM	NA
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

CRW-2

Date	Benzene (mg/L)	GRO (mg/L)	DRO (mg/L)	Product Elevation (feet)	Measured GW Elevation (feet)	Corrected GW Elevation (feet)
24-Sep-13	U (0.0005)	U (0.05)	U (0.439)	NA	NM	NA
07-May-14	0.0014	0.05	1.2	NA	NM	NA
26-May-15	NS	NS	NS	NA	NM	NA
12-May-16	NS	NS	NS	*426.91*	*425.10*	*426.55*
07-Sep-17	**0.016**	0.350	0.96	*429.60*	*423.60*	*428.40*
07-Sep-18	**0.013**	0.910	**2.8**	430.70	NM	NM
23-Oct-19	**0.011**	0.99	1.4	NA	NM	NA
GCL	**0.0046**	**2.2**	**1.5**	**NA**	**NA**	**NA**

Key:
DRO - diesel range organics
GCL - groundwater cleanup levels
GRO - gasoline range organics
GW - groundwater
H - Sampled was prepped or analyzed beyond the specific holding time
mg/L - milligrams per liter
NA - not applicable
NC - not calculated
NM - not measured
NS - not sampled
NST - Not surveyed at time of monitoring.
U - Undetected above practical quantitation limits (PQLs).
Density of product assumed 800 kg/m^3
Bold, shade indicates concentration exceeds the GCL or, if not detected, the PQL exceeds the GCL

italisized cells indicate a revision completed in January 2018

APPENDIX E

Groundwater Analytical Results for Expanded List of VOCs and PAHs

Table E-1 Groundwater Analytical Results for Expanded List of VOCs and PAHs

Samples collected on October 23, 2019

Sample Identification	1,1,2,2-Tetrachloroethane[1] (mg/L)	1,1,2-Trichloroethane[1] (mg/L)	1,2-Dibromoethane[1] (mg/L)	1,2-Dichloroethane[1] (mg/L)	1,2,3-Trichloropropane[1] (mg/L)	1,2,4-Trimethylbenzene[1] (mg/L)	1,3,5-Trimethylbenzene[1] (mg/L)	Bromodichloromethane[1] (mg/L)	Chloroform[1] (mg/L)	Hexachlorobutadiene[1] (mg/L)	Trichloroethene[1] (mg/L)	Vinyl Chloride[1] (mg/L)	1-Methylnaphthalene[2] (mg/L)	2-Methylnaphthalene[2] (mg/L)	Benzo[a]anthracene[2] (mg/L)	Benzo[a]pyrene[2] (mg/L)	Benzo[g,h,i]perylene[2] (mg/L)	Benzo[k]fluoranthene[2] (mg/L)	Chrysene[2] (mg/L)	Dibenz(a,h)anthracene[2] (mg/L)	Indeno[1,2,3-cd]pyrene[2] (mg/L)	Naphthalene[2] (mg/L)
MW-3	**U (0.003)**	**U (0.001)**	**U (0.002)**	**U (0.002)**	**U (0.002)**	**0.3**	**0.11**	**U (0.002)**	**U (0.005)**	**U (0.006)**	**U (0.003)**	**U (0.001)**	**0.28**	**0.33**	**U (0.001)**	**U (0.0021)**	**U (0.001)**	**U (0.001)**	**U (0.0021)**	**U (0.0021)**	**U (0.001)**	**0.096**
MW-4	**U (0.003)**	**U (0.001)**	**U (0.002)**	**U (0.002)**	**U (0.002)**	U (0.003)	U (0.003)	**U (0.002)**	**U (0.005)**	**U (0.006)**	**U (0.003)**	**U (0.001)**	U (0.00011)	U (0.00023)	U (0.000056)	U (0.00011)	U (0.000056)	U (0.000056)	U (0.00011)	U (0.00011)	U (0.000056)	U (0.00011)
MW-8	**U (0.003)**	**U (0.001)**	**U (0.002)**	**U (0.002)**	**U (0.002)**	0.045	0.025	**U (0.002)**	**U (0.005)**	**U (0.006)**	**U (0.003)**	**U (0.001)**	U (0.00011)	U (0.00022)	U (0.000054)	U (0.00011)	U (0.000054)	U (0.000054)	U (0.00011)	U (0.00011)	U (0.000054)	U (0.00011)
MW-14	**U (0.003)**	**U (0.001)**	**U (0.002)**	**U (0.002)**	**U (0.002)**	**0.67**	**0.21**	**U (0.002)**	**U (0.005)**	**U (0.006)**	**U (0.003)**	**U (0.001)**	**0.074**	**0.076**	**U (0.00057)**	**U (0.0011)**	**U (0.00057)**	U (0.00057)	U (0.0011)	**U (0.0011)**	**U (0.00057)**	**0.19**
MW-17	**U (0.003)**	**U (0.001)**	**U (0.002)**	**U (0.002)**	**U (0.002)**	0.013	0.003	**U (0.002)**	**U (0.005)**	**U (0.006)**	**U (0.003)**	**U (0.001)**	U (0.00052)	U (0.001)	U (0.00026)	**U (0.00052)**	U (0.00026)	U (0.00026)	U (0.00052)	**U (0.00052)**	**U (0.00026)**	U (0.00052)
MW-19-1	**U (0.003)**	**U (0.001)**	**U (0.002)**	**U (0.002)**	**U (0.002)**	**0.6**	**0.18**	**U (0.002)**	**U (0.005)**	**U (0.006)**	**U (0.003)**	**U (0.001)**	**0.13**	**0.14**	**U (0.00053)**	**U (0.0011)**	**U (0.00053)**	U (0.00053)	U (0.0011)	**U (0.0011)**	**U (0.00053)**	**0.19**
Drainfield (Aeration Tank Effluent)	**U (0.003)**	**U (0.001)**	**U (0.002)**	**U (0.002)**	**U (0.002)**	U (0.003)	U (0.003)	**U (0.002)**	**U (0.005)**	**U (0.006)**	**U (0.003)**	**U (0.001)**	U (0.00011)	U (0.00023)	U (0.000057)	U (0.00011)	U (0.000057)	U (0.000057)	U (0.00011)	U (0.00011)	U (0.000057)	U (0.00011)
CRW-2	**U (0.003)**	**U (0.001)**	**U (0.002)**	**U (0.002)**	**U (0.002)**	**0.1**	0.025	**U (0.002)**	**U (0.005)**	**U (0.006)**	**U (0.003)**	**U (0.001)**	0.0064	0.0044	U (0.000056)	U (0.00011)	U (0.000056)	U (0.000056)	U (0.00011)	U (0.00011)	U (0.000056)	**0.012**
2GM101DUP (duplicate of MW-19-1)	**U (0.003)**	**U (0.001)**	**U (0.002)**	**U (0.002)**	**U (0.002)**	**0.54**	**0.18**	**U (0.002)**	**U (0.005)**	**U (0.006)**	**U (0.003)**	**U (0.001)**	**0.19**	**0.22**	**U (0.00055)**	**U (0.0011)**	**U (0.00055)**	U (0.00055)	U (0.0011)	**U (0.0011)**	**U (0.00055)**	**0.24**
Trip Blank	**U (0.003)**	**U (0.001)**	**U (0.002)**	**U (0.002)**	**U (0.002)**	U (0.003)	U (0.003)	**U (0.002)**	**U (0.005)**	**U (0.006)**	**U (0.003)**	**U (0.001)**	NT	NT	NT	NT	NT	NT	NT	NT	NT	**U (0.004)[1]**
GCLs	**0.00076**	**0.00041**	**0.000075**	**0.0017**	**0.0000075**	**0.056**	**0.06**	**0.0013**	**0.0022**	**0.0014**	**0.0028**	**0.00019**	**0.011**	**0.036**	**0.0003**	**0.00025**	**0.00026**	**0.0008**	**0.002**	**0.00025**	**0.00019**	**0.0017**

Key:

1 – Analyzed by EPA Method 8260C.

2 – Analyzed by EPA method 8270D Selective Ion Monitoring (SIM).

EPA – U.S. Environmental Protection Agency

GCLs – Groundwater cleanup levels, per Alaska Department of Environmental Conservation 18 Alaska Administrative Code 75.345, Table C, updated September 29, 2018.

mg/L – milligrams per liter

NT – Not tested

PAH – polynuclear aromatic hydrocarbon

U – Undetected above practical quantitation limit shown in parentheses

VOC – volatile organic compound

Bold indicates the concentration exceeds the GCL or, if not detected, the practical quantitation limit exceeds the GCL

APPENDIX F

Laboratory Analytical Report and ADEC Laboratory Data Review Checklist

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

Laboratory Job ID: 580-90396-1
Client Project/Site: IFC/101

For:
Stantec Consulting Services Inc
1835 S. Bragraw
Suite 350
Anchorage, Alaska 99508

Attn: Robert Gilifilian

M. Elaine Walker

Authorized for release by:
11/15/2019 4:50:59 PM

Elaine Walker, Project Manager II
(253)248-4972
elaine.walker@testamericainc.com

Table of Contents

Job ID: 580-90396-1

Laboratory: Eurofins TestAmerica, Seattle

Narrative

Job Narrative
580-90396-1

Receipt
Ten samples were received on 10/28/2019 1:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.3º C.

GC/MS VOA
Method 8260C: The following analyte(s) recovered outside control limits for the LCSD associated with analytical batch 580-315794: 1,1-Dichloropropene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-3 (580-90396-1), MW-14 (580-90396-4), MW-19-1 (580-90396-6), CRW-2 (580-90396-7) and 2GM101DUP (580-90396-9). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270D SIM: Terphenyl-d14 surrogate recovery for the method blank associated with preparation batch 580-315494 and analytical batch 580-316468 was below lower limits by 4%. The CCV %Drift is biased low to an extent that the method blank recovery is within control limits when accounting for the bias. All other associated QC and samples are within acceptance criteria for this surrogate. Therefore, the data is qualified and reported. (CCVIS 580-316468/3) and (MB 580-315494/1-A).

Method 8270D SIM: Surrogate recovery for the following samples were outside control limits: MW-4 (580-90396-2), MW-8 (580-90396-3), MW-17 (580-90396-5), CRW-2 (580-90396-7) and 2GM101DUP (580-90396-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8270D SIM: The following samples were diluted due to the nature of the sample matrix: MW-3 (580-90396-1), MW-14 (580-90396-4), MW-17 (580-90396-5) and MW-19-1 (580-90396-6). Elevated reporting limits (RLs) are provided.

Method 8270D SIM: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-3 (580-90396-1), MW-14 (580-90396-4), MW-19-1 (580-90396-6), CRW-2 (580-90396-7), and 2GM101DUP (580-90396-9). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA
Method AK101: The Gasoline Range Organics (GRO) concentration reported for the following sample is due to the presence of discrete peaks: MW-17 (580-90396-5). Gasoline Range Organics (GRO)-C6-C10

Method AK101: Detections were seen outside the AK101 range for samples MW-8 (580-90396-3) and CRW-2 (580-90396-7).

Method AK101: The following sample required anti-foam: (MB 580-315586/9). Anti-foam was added to the associated MB.

Method AK101: Surrogate 4-Bromofluorobenzene (Surr) recovery for the following samples were outside control limits: MW-14 (580-90396-4), MW-19-1 (580-90396-6) and 2GM101DUP (580-90396-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method AK102 & 103: Reanalysis of the following samples were performed outside of the analytical holding time due to LCS recoveries outside control limits: MW-3 (580-90396-1), MW-4 (580-90396-2), MW-8 (580-90396-3), MW-14 (580-90396-4), MW-17 (580-90396-5), MW-19-1 (580-90396-6), CRW-2 (580-90396-7) and DRAIN FIELD (580-90396-8).

Job ID: 580-90396-1 (Continued)

Laboratory: Eurofins TestAmerica, Seattle (Continued)

Method AK102 & 103: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-3 (580-90396-1). Elevated reporting limits (RLs) are provided.

Method AK102 & 103: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: MW-3 (580-90396-1), MW-4 (580-90396-2), MW-8 (580-90396-3), MW-14 (580-90396-4), MW-17 (580-90396-5) and MW-19-1 (580-90396-6).

Method AK102 & 103: Surrogate recovery for the following samples were outside control limits: MW-3 (580-90396-1), MW-19-1 (580-90396-6), CRW-2 (580-90396-7), and 2GM101DUP (580-90396-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method AK102 & 103: The laboratory control sample (LCS) for preparation batch 580-315972 and analytical batch 580-316161 recovered outside control limits for the following analytes: DRO (nC10-<nC25). The associated sample(s) was re-prepared and/or re-analyzed outside holding time. Both sets of data have been reported.

Method AK102 & 103: The following sample was diluted due to the nature of the sample matrix: 2GM101DUP (580-90396-9). Elevated reporting limits (RLs) are provided.

Method AK102 & 103: 2GM101DUP (580-90396-9) were extracted outside of holding time due to quality control failures in the initial analysis. Both sets of data are reported.

Method AK102 & 103: (LCS 580-316072/2-A) and (LCSD 580-316072/3-A) recover outside control limits, low-biased, for C10-C25 diesel range organics. Surrogate recovery and %RPD is also outside control limits. Samples in 580-316072 are either out-of-hold re-extracts or in-hold initial extractions. For affected samples, two sets of data are reported from other preparation batches.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

GC VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-3

Date Collected: 10/23/19 14:53
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	2.3	ug/L			11/01/19 21:31	1
Chloromethane	ND		20	5.4	ug/L			11/01/19 21:31	1
Vinyl chloride	ND		1.0	0.22	ug/L			11/01/19 21:31	1
Bromomethane	ND		6.0	1.1	ug/L			11/01/19 21:31	1
Chloroethane	ND		5.0	1.1	ug/L			11/01/19 21:31	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			11/01/19 21:31	1
1,1-Dichloroethene	ND		4.0	0.78	ug/L			11/01/19 21:31	1
Carbon disulfide	ND		3.0	0.53	ug/L			11/01/19 21:31	1
Acetone	ND		50	7.8	ug/L			11/01/19 21:31	1
Methylene Chloride	ND		5.0	1.4	ug/L			11/01/19 21:31	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			11/01/19 21:31	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			11/01/19 21:31	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			11/01/19 21:31	1
2-Butanone	ND		20	4.7	ug/L			11/01/19 21:31	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			11/01/19 21:31	1
Bromochloromethane	ND		2.0	0.29	ug/L			11/01/19 21:31	1
Chloroform	ND		5.0	0.50	ug/L			11/01/19 21:31	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			11/01/19 21:31	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			11/01/19 21:31	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			11/01/19 21:31	1
Benzene	**4.7**		3.0	0.53	ug/L			11/01/19 21:31	1
1,2-Dichloroethane	ND		2.0	0.53	ug/L			11/01/19 21:31	1
Trichloroethene	ND		3.0	0.85	ug/L			11/01/19 21:31	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			11/01/19 21:31	1
Dibromomethane	ND		2.0	0.34	ug/L			11/01/19 21:31	1
Bromodichloromethane	ND		2.0	0.14	ug/L			11/01/19 21:31	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			11/01/19 21:31	1
4-Methyl-2-pentanone	ND		15	2.5	ug/L			11/01/19 21:31	1
Toluene	**7.1**		2.0	0.39	ug/L			11/01/19 21:31	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			11/01/19 21:31	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			11/01/19 21:31	1
Tetrachloroethene	ND		3.0	0.41	ug/L			11/01/19 21:31	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			11/01/19 21:31	1
2-Hexanone	ND		20	4.0	ug/L			11/01/19 21:31	1
Dibromochloromethane	ND		2.0	0.50	ug/L			11/01/19 21:31	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			11/01/19 21:31	1
Chlorobenzene	ND		2.0	0.44	ug/L			11/01/19 21:31	1
Ethylbenzene	**71**		3.0	0.50	ug/L			11/01/19 21:31	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			11/01/19 21:31	1
Styrene	ND		5.0	1.0	ug/L			11/01/19 21:31	1
Bromoform	ND		3.0	0.56	ug/L			11/01/19 21:31	1
Isopropylbenzene	**18**		2.0	0.51	ug/L			11/01/19 21:31	1
Bromobenzene	ND		2.0	0.43	ug/L			11/01/19 21:31	1
N-Propylbenzene	**24**		3.0	0.50	ug/L			11/01/19 21:31	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			11/01/19 21:31	1
4-Chlorotoluene	ND		2.0	0.51	ug/L			11/01/19 21:31	1
t-Butylbenzene	ND		3.0	0.58	ug/L			11/01/19 21:31	1
sec-Butylbenzene	**8.0**		3.0	0.49	ug/L			11/01/19 21:31	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			11/01/19 21:31	1

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-3

Date Collected: 10/23/19 14:53
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Isopropyltoluene	**13**		3.0	0.28	ug/L			11/01/19 21:31	1
1,4-Dichlorobenzene	ND		4.0	0.98	ug/L			11/01/19 21:31	1
n-Butylbenzene	**15**		3.0	0.44	ug/L			11/01/19 21:31	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			11/01/19 21:31	1
1,2-Dibromo-3-Chloropropane	ND		10	1.8	ug/L			11/01/19 21:31	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			11/01/19 21:31	1
1,2,3-Trichlorobenzene	ND		5.0	1.1	ug/L			11/01/19 21:31	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			11/01/19 21:31	1
Naphthalene	**110**		4.0	0.93	ug/L			11/01/19 21:31	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/01/19 21:31	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			11/01/19 21:31	1
1,3,5-Trimethylbenzene	**110**		3.0	0.55	ug/L			11/01/19 21:31	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			11/01/19 21:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/01/19 21:31*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/01/19 21:31*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/01/19 21:31*	*1*
Trifluorotoluene (Surr)	*102*		*80 - 120*		*11/01/19 21:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 126*		*11/01/19 21:31*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	**790**		30	7.5	ug/L			11/04/19 18:15	10
o-Xylene	**440**		20	3.9	ug/L			11/04/19 18:15	10
1,2,4-Trimethylbenzene	**300**		30	6.1	ug/L			11/04/19 18:15	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*11/04/19 18:15*	*10*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*11/04/19 18:15*	*10*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/04/19 18:15*	*10*
Trifluorotoluene (Surr)	*90*		*80 - 120*		*11/04/19 18:15*	*10*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 126*		*11/04/19 18:15*	*10*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**96**		2.1	0.64	ug/L		10/30/19 09:13	11/07/19 21:43	20
Acenaphthylene	**8.1**		1.0	0.18	ug/L		10/30/19 09:13	11/07/19 21:43	20
Acenaphthene	**14**		2.1	0.29	ug/L		10/30/19 09:13	11/07/19 21:43	20
Fluorene	**22**		2.1	0.35	ug/L		10/30/19 09:13	11/07/19 21:43	20
Phenanthrene	**16**		2.1	0.64	ug/L		10/30/19 09:13	11/07/19 21:43	20
Anthracene	ND		2.1	0.45	ug/L		10/30/19 09:13	11/07/19 21:43	20
Fluoranthene	ND		4.1	1.0	ug/L		10/30/19 09:13	11/07/19 21:43	20
Pyrene	ND		2.1	0.68	ug/L		10/30/19 09:13	11/07/19 21:43	20
Benzo[a]anthracene	ND		1.0	0.29	ug/L		10/30/19 09:13	11/07/19 21:43	20
Chrysene	ND		2.1	0.33	ug/L		10/30/19 09:13	11/07/19 21:43	20
Benzo[b]fluoranthene	ND		1.0	0.23	ug/L		10/30/19 09:13	11/07/19 21:43	20
Benzo[k]fluoranthene	ND		1.0	0.25	ug/L		10/30/19 09:13	11/07/19 21:43	20
Benzo[a]pyrene	ND		2.1	0.23	ug/L		10/30/19 09:13	11/07/19 21:43	20
Indeno[1,2,3-cd]pyrene	ND		1.0	0.29	ug/L		10/30/19 09:13	11/07/19 21:43	20

Client Sample ID: MW-3

Date Collected: 10/23/19 14:53
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-1

Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		2.1	0.53	ug/L		10/30/19 09:13	11/07/19 21:43	20
Benzo[g,h,i]perylene	ND		1.0	0.25	ug/L		10/30/19 09:13	11/07/19 21:43	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*65*		*53 - 120*	*10/30/19 09:13*	*11/07/19 21:43*	*20*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	**330**		41	8.0	ug/L		10/30/19 09:13	11/11/19 15:50	200
1-Methylnaphthalene	**280**		21	3.9	ug/L		10/30/19 09:13	11/11/19 15:50	200

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	**3.1**		0.25	0.10	mg/L			10/31/19 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*87*		*50 - 150*		*10/31/19 16:59*	*1*
4-Bromofluorobenzene (Surr)	*140*		*50 - 150*		*10/31/19 16:59*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**210**	*	1.0	0.71	mg/L		11/06/19 08:57	11/07/19 21:39	9

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*90*		*50 - 150*	*11/06/19 08:57*	*11/07/19 21:39*	*9*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**120**	H	0.59	0.40	mg/L		11/12/19 09:20	11/13/19 18:29	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*232*	*X*	*50 - 150*	*11/12/19 09:20*	*11/13/19 18:29*	*5*

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-4
Date Collected: 10/23/19 10:55
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	2.3	ug/L			11/01/19 21:56	1
Chloromethane	ND		20	5.4	ug/L			11/01/19 21:56	1
Vinyl chloride	ND		1.0	0.22	ug/L			11/01/19 21:56	1
Bromomethane	ND		6.0	1.1	ug/L			11/01/19 21:56	1
Chloroethane	ND		5.0	1.1	ug/L			11/01/19 21:56	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			11/01/19 21:56	1
1,1-Dichloroethene	ND		4.0	0.78	ug/L			11/01/19 21:56	1
Carbon disulfide	ND		3.0	0.53	ug/L			11/01/19 21:56	1
Acetone	ND		50	7.8	ug/L			11/01/19 21:56	1
Methylene Chloride	ND		5.0	1.4	ug/L			11/01/19 21:56	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			11/01/19 21:56	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			11/01/19 21:56	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			11/01/19 21:56	1
2-Butanone	ND		20	4.7	ug/L			11/01/19 21:56	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			11/01/19 21:56	1
Bromochloromethane	ND		2.0	0.29	ug/L			11/01/19 21:56	1
Chloroform	ND		5.0	0.50	ug/L			11/01/19 21:56	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			11/01/19 21:56	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			11/01/19 21:56	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			11/01/19 21:56	1
Benzene	ND		3.0	0.53	ug/L			11/01/19 21:56	1
1,2-Dichloroethane	ND		2.0	0.53	ug/L			11/01/19 21:56	1
Trichloroethene	ND		3.0	0.85	ug/L			11/01/19 21:56	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			11/01/19 21:56	1
Dibromomethane	ND		2.0	0.34	ug/L			11/01/19 21:56	1
Bromodichloromethane	ND		2.0	0.14	ug/L			11/01/19 21:56	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			11/01/19 21:56	1
4-Methyl-2-pentanone	ND		15	2.5	ug/L			11/01/19 21:56	1
Toluene	**22**		2.0	0.39	ug/L			11/01/19 21:56	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			11/01/19 21:56	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			11/01/19 21:56	1
Tetrachloroethene	ND		3.0	0.41	ug/L			11/01/19 21:56	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			11/01/19 21:56	1
2-Hexanone	ND		20	4.0	ug/L			11/01/19 21:56	1
Dibromochloromethane	ND		2.0	0.50	ug/L			11/01/19 21:56	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			11/01/19 21:56	1
Chlorobenzene	ND		2.0	0.44	ug/L			11/01/19 21:56	1
Ethylbenzene	ND		3.0	0.50	ug/L			11/01/19 21:56	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			11/01/19 21:56	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/01/19 21:56	1
o-Xylene	ND		2.0	0.39	ug/L			11/01/19 21:56	1
Styrene	ND		5.0	1.0	ug/L			11/01/19 21:56	1
Bromoform	ND		3.0	0.56	ug/L			11/01/19 21:56	1
Isopropylbenzene	ND		2.0	0.51	ug/L			11/01/19 21:56	1
Bromobenzene	ND		2.0	0.43	ug/L			11/01/19 21:56	1
N-Propylbenzene	ND		3.0	0.50	ug/L			11/01/19 21:56	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			11/01/19 21:56	1
4-Chlorotoluene	ND		2.0	0.51	ug/L			11/01/19 21:56	1
t-Butylbenzene	ND		3.0	0.58	ug/L			11/01/19 21:56	1

Client Sample ID: MW-4
Date Collected: 10/23/19 10:55
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			11/01/19 21:56	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			11/01/19 21:56	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			11/01/19 21:56	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			11/01/19 21:56	1
1,4-Dichlorobenzene	ND		4.0	0.98	ug/L			11/01/19 21:56	1
n-Butylbenzene	ND		3.0	0.44	ug/L			11/01/19 21:56	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			11/01/19 21:56	1
1,2-Dibromo-3-Chloropropane	ND		10	1.8	ug/L			11/01/19 21:56	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			11/01/19 21:56	1
1,2,3-Trichlorobenzene	ND		5.0	1.1	ug/L			11/01/19 21:56	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			11/01/19 21:56	1
Naphthalene	ND		4.0	0.93	ug/L			11/01/19 21:56	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/01/19 21:56	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			11/01/19 21:56	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			11/01/19 21:56	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			11/01/19 21:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/01/19 21:56*	*1*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*11/01/19 21:56*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*11/01/19 21:56*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*11/01/19 21:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 126*		*11/01/19 21:56*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.11	0.035	ug/L		10/30/19 09:13	11/07/19 22:09	1
2-Methylnaphthalene	ND		0.23	0.044	ug/L		10/30/19 09:13	11/07/19 22:09	1
1-Methylnaphthalene	ND		0.11	0.021	ug/L		10/30/19 09:13	11/07/19 22:09	1
Acenaphthylene	ND		0.056	0.010	ug/L		10/30/19 09:13	11/07/19 22:09	1
Acenaphthene	ND		0.11	0.016	ug/L		10/30/19 09:13	11/07/19 22:09	1
Fluorene	ND		0.11	0.019	ug/L		10/30/19 09:13	11/07/19 22:09	1
Phenanthrene	ND		0.11	0.035	ug/L		10/30/19 09:13	11/07/19 22:09	1
Anthracene	ND		0.11	0.025	ug/L		10/30/19 09:13	11/07/19 22:09	1
Fluoranthene	ND		0.23	0.056	ug/L		10/30/19 09:13	11/07/19 22:09	1
Pyrene	ND		0.11	0.037	ug/L		10/30/19 09:13	11/07/19 22:09	1
Benzo[a]anthracene	ND		0.056	0.016	ug/L		10/30/19 09:13	11/07/19 22:09	1
Chrysene	ND		0.11	0.018	ug/L		10/30/19 09:13	11/07/19 22:09	1
Benzo[b]fluoranthene	ND		0.056	0.012	ug/L		10/30/19 09:13	11/07/19 22:09	1
Benzo[k]fluoranthene	ND		0.056	0.014	ug/L		10/30/19 09:13	11/07/19 22:09	1
Benzo[a]pyrene	ND		0.11	0.012	ug/L		10/30/19 09:13	11/07/19 22:09	1
Indeno[1,2,3-cd]pyrene	ND		0.056	0.016	ug/L		10/30/19 09:13	11/07/19 22:09	1
Dibenz(a,h)anthracene	ND		0.11	0.029	ug/L		10/30/19 09:13	11/07/19 22:09	1
Benzo[g,h,i]perylene	ND		0.056	0.014	ug/L		10/30/19 09:13	11/07/19 22:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*47*	*X*	*53 - 120*	*10/30/19 09:13*	*11/07/19 22:09*	*1*

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-4

Date Collected: 10/23/19 10:55
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-2

Matrix: Water

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		0.25	0.10	mg/L			10/30/19 19:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*104*		*50 - 150*		*10/30/19 19:30*	*1*
4-Bromofluorobenzene (Surr)	*105*		*50 - 150*		*10/30/19 19:30*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**0.18**	*	0.12	0.080	mg/L		11/06/19 08:57	11/07/19 21:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*67*		*50 - 150*	*11/06/19 08:57*	*11/07/19 21:59*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**0.33**	H	0.12	0.080	mg/L		11/12/19 09:20	11/13/19 18:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*86*		*50 - 150*	*11/12/19 09:20*	*11/13/19 18:51*	*1*

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-8

Date Collected: 10/23/19 13:03
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-3

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	2.3	ug/L			11/01/19 22:20	1
Chloromethane	ND		20	5.4	ug/L			11/01/19 22:20	1
Vinyl chloride	ND		1.0	0.22	ug/L			11/01/19 22:20	1
Bromomethane	ND		6.0	1.1	ug/L			11/01/19 22:20	1
Chloroethane	ND		5.0	1.1	ug/L			11/01/19 22:20	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			11/01/19 22:20	1
1,1-Dichloroethene	ND		4.0	0.78	ug/L			11/01/19 22:20	1
Carbon disulfide	ND		3.0	0.53	ug/L			11/01/19 22:20	1
Acetone	ND		50	7.8	ug/L			11/01/19 22:20	1
Methylene Chloride	ND		5.0	1.4	ug/L			11/01/19 22:20	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			11/01/19 22:20	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			11/01/19 22:20	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			11/01/19 22:20	1
2-Butanone	**20**		20	4.7	ug/L			11/01/19 22:20	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			11/01/19 22:20	1
Bromochloromethane	ND		2.0	0.29	ug/L			11/01/19 22:20	1
Chloroform	ND		5.0	0.50	ug/L			11/01/19 22:20	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			11/01/19 22:20	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			11/01/19 22:20	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			11/01/19 22:20	1
Benzene	ND		3.0	0.53	ug/L			11/01/19 22:20	1
1,2-Dichloroethane	ND		2.0	0.53	ug/L			11/01/19 22:20	1
Trichloroethene	ND		3.0	0.85	ug/L			11/01/19 22:20	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			11/01/19 22:20	1
Dibromomethane	ND		2.0	0.34	ug/L			11/01/19 22:20	1
Bromodichloromethane	ND		2.0	0.14	ug/L			11/01/19 22:20	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			11/01/19 22:20	1
4-Methyl-2-pentanone	ND		15	2.5	ug/L			11/01/19 22:20	1
Toluene	ND		2.0	0.39	ug/L			11/01/19 22:20	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			11/01/19 22:20	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			11/01/19 22:20	1
Tetrachloroethene	ND		3.0	0.41	ug/L			11/01/19 22:20	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			11/01/19 22:20	1
2-Hexanone	ND		20	4.0	ug/L			11/01/19 22:20	1
Dibromochloromethane	ND		2.0	0.50	ug/L			11/01/19 22:20	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			11/01/19 22:20	1
Chlorobenzene	ND		2.0	0.44	ug/L			11/01/19 22:20	1
Ethylbenzene	**8.3**		3.0	0.50	ug/L			11/01/19 22:20	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			11/01/19 22:20	1
m-Xylene & p-Xylene	**48**		3.0	0.75	ug/L			11/01/19 22:20	1
o-Xylene	**32**		2.0	0.39	ug/L			11/01/19 22:20	1
Styrene	ND		5.0	1.0	ug/L			11/01/19 22:20	1
Bromoform	ND		3.0	0.56	ug/L			11/01/19 22:20	1
Isopropylbenzene	**3.9**		2.0	0.51	ug/L			11/01/19 22:20	1
Bromobenzene	ND		2.0	0.43	ug/L			11/01/19 22:20	1
N-Propylbenzene	**6.1**		3.0	0.50	ug/L			11/01/19 22:20	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			11/01/19 22:20	1
4-Chlorotoluene	ND		2.0	0.51	ug/L			11/01/19 22:20	1
t-Butylbenzene	ND		3.0	0.58	ug/L			11/01/19 22:20	1

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-8
Date Collected: 10/23/19 13:03
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	**45**		3.0	0.61	ug/L			11/01/19 22:20	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			11/01/19 22:20	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			11/01/19 22:20	1
4-Isopropyltoluene	**3.2**		3.0	0.28	ug/L			11/01/19 22:20	1
1,4-Dichlorobenzene	ND		4.0	0.98	ug/L			11/01/19 22:20	1
n-Butylbenzene	**4.4**		3.0	0.44	ug/L			11/01/19 22:20	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			11/01/19 22:20	1
1,2-Dibromo-3-Chloropropane	ND		10	1.8	ug/L			11/01/19 22:20	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			11/01/19 22:20	1
1,2,3-Trichlorobenzene	ND		5.0	1.1	ug/L			11/01/19 22:20	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			11/01/19 22:20	1
Naphthalene	**21**		4.0	0.93	ug/L			11/01/19 22:20	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/01/19 22:20	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			11/01/19 22:20	1
1,3,5-Trimethylbenzene	**25**		3.0	0.55	ug/L			11/01/19 22:20	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			11/01/19 22:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/01/19 22:20*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*11/01/19 22:20*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/01/19 22:20*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*11/01/19 22:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 126*		*11/01/19 22:20*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.11	0.033	ug/L		10/30/19 09:13	11/07/19 22:35	1
2-Methylnaphthalene	ND		0.22	0.042	ug/L		10/30/19 09:13	11/07/19 22:35	1
1-Methylnaphthalene	ND		0.11	0.021	ug/L		10/30/19 09:13	11/07/19 22:35	1
Acenaphthylene	ND		0.054	0.0097	ug/L		10/30/19 09:13	11/07/19 22:35	1
Acenaphthene	ND		0.11	0.015	ug/L		10/30/19 09:13	11/07/19 22:35	1
Fluorene	ND		0.11	0.018	ug/L		10/30/19 09:13	11/07/19 22:35	1
Phenanthrene	ND		0.11	0.033	ug/L		10/30/19 09:13	11/07/19 22:35	1
Anthracene	ND		0.11	0.024	ug/L		10/30/19 09:13	11/07/19 22:35	1
Fluoranthene	ND		0.22	0.054	ug/L		10/30/19 09:13	11/07/19 22:35	1
Pyrene	ND		0.11	0.036	ug/L		10/30/19 09:13	11/07/19 22:35	1
Benzo[a]anthracene	ND		0.054	0.015	ug/L		10/30/19 09:13	11/07/19 22:35	1
Chrysene	ND		0.11	0.017	ug/L		10/30/19 09:13	11/07/19 22:35	1
Benzo[b]fluoranthene	ND		0.054	0.012	ug/L		10/30/19 09:13	11/07/19 22:35	1
Benzo[k]fluoranthene	ND		0.054	0.013	ug/L		10/30/19 09:13	11/07/19 22:35	1
Benzo[a]pyrene	ND		0.11	0.012	ug/L		10/30/19 09:13	11/07/19 22:35	1
Indeno[1,2,3-cd]pyrene	ND		0.054	0.015	ug/L		10/30/19 09:13	11/07/19 22:35	1
Dibenz(a,h)anthracene	ND		0.11	0.028	ug/L		10/30/19 09:13	11/07/19 22:35	1
Benzo[g,h,i]perylene	ND		0.054	0.013	ug/L		10/30/19 09:13	11/07/19 22:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*43*	*X*	*53 - 120*	*10/30/19 09:13*	*11/07/19 22:35*	*1*

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-8

Date Collected: 10/23/19 13:03
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Lab Sample ID: 580-90396-3

Matrix: Water

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	0.45		0.25	0.10	mg/L			10/30/19 20:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*98*		*50 - 150*		*10/30/19 20:42*	*1*
4-Bromofluorobenzene (Surr)	*116*		*50 - 150*		*10/30/19 20:42*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	12	*	0.12	0.079	mg/L		11/06/19 08:57	11/07/19 22:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*102*		*50 - 150*	*11/06/19 08:57*	*11/07/19 22:19*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	11	H	0.12	0.083	mg/L		11/12/19 09:20	11/13/19 19:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*106*		*50 - 150*	*11/12/19 09:20*	*11/13/19 19:13*	*1*

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-14

Date Collected: 10/23/19 12:05
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	2.3	ug/L			11/01/19 22:45	1
Chloromethane	ND		20	5.4	ug/L			11/01/19 22:45	1
Vinyl chloride	ND		1.0	0.22	ug/L			11/01/19 22:45	1
Bromomethane	ND		6.0	1.1	ug/L			11/01/19 22:45	1
Chloroethane	ND		5.0	1.1	ug/L			11/01/19 22:45	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			11/01/19 22:45	1
1,1-Dichloroethene	ND		4.0	0.78	ug/L			11/01/19 22:45	1
Carbon disulfide	ND		3.0	0.53	ug/L			11/01/19 22:45	1
Acetone	ND		50	7.8	ug/L			11/01/19 22:45	1
Methylene Chloride	ND		5.0	1.4	ug/L			11/01/19 22:45	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			11/01/19 22:45	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			11/01/19 22:45	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			11/01/19 22:45	1
2-Butanone	ND		20	4.7	ug/L			11/01/19 22:45	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			11/01/19 22:45	1
Bromochloromethane	ND		2.0	0.29	ug/L			11/01/19 22:45	1
Chloroform	ND		5.0	0.50	ug/L			11/01/19 22:45	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			11/01/19 22:45	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			11/01/19 22:45	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			11/01/19 22:45	1
Benzene	**54**		3.0	0.53	ug/L			11/01/19 22:45	1
1,2-Dichloroethane	ND		2.0	0.53	ug/L			11/01/19 22:45	1
Trichloroethene	ND		3.0	0.85	ug/L			11/01/19 22:45	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			11/01/19 22:45	1
Dibromomethane	ND		2.0	0.34	ug/L			11/01/19 22:45	1
Bromodichloromethane	ND		2.0	0.14	ug/L			11/01/19 22:45	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			11/01/19 22:45	1
4-Methyl-2-pentanone	ND		15	2.5	ug/L			11/01/19 22:45	1
Toluene	**12**		2.0	0.39	ug/L			11/01/19 22:45	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			11/01/19 22:45	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			11/01/19 22:45	1
Tetrachloroethene	ND		3.0	0.41	ug/L			11/01/19 22:45	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			11/01/19 22:45	1
2-Hexanone	ND		20	4.0	ug/L			11/01/19 22:45	1
Dibromochloromethane	ND		2.0	0.50	ug/L			11/01/19 22:45	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			11/01/19 22:45	1
Chlorobenzene	ND		2.0	0.44	ug/L			11/01/19 22:45	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			11/01/19 22:45	1
Styrene	ND		5.0	1.0	ug/L			11/01/19 22:45	1
Bromoform	ND		3.0	0.56	ug/L			11/01/19 22:45	1
Isopropylbenzene	**97**		2.0	0.51	ug/L			11/01/19 22:45	1
Bromobenzene	ND		2.0	0.43	ug/L			11/01/19 22:45	1
N-Propylbenzene	**120**		3.0	0.50	ug/L			11/01/19 22:45	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			11/01/19 22:45	1
4-Chlorotoluene	ND		2.0	0.51	ug/L			11/01/19 22:45	1
t-Butylbenzene	ND		3.0	0.58	ug/L			11/01/19 22:45	1
sec-Butylbenzene	**19**		3.0	0.49	ug/L			11/01/19 22:45	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			11/01/19 22:45	1
4-Isopropyltoluene	**18**		3.0	0.28	ug/L			11/01/19 22:45	1

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-14

Date Collected: 10/23/19 12:05
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		4.0	0.98	ug/L			11/01/19 22:45	1
n-Butylbenzene	**23**		3.0	0.44	ug/L			11/01/19 22:45	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			11/01/19 22:45	1
1,2-Dibromo-3-Chloropropane	ND		10	1.8	ug/L			11/01/19 22:45	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			11/01/19 22:45	1
1,2,3-Trichlorobenzene	ND		5.0	1.1	ug/L			11/01/19 22:45	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			11/01/19 22:45	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/01/19 22:45	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			11/01/19 22:45	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			11/01/19 22:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/01/19 22:45*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*11/01/19 22:45*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*11/01/19 22:45*	*1*
Trifluorotoluene (Surr)	*102*		*80 - 120*		*11/01/19 22:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 126*		*11/01/19 22:45*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	**700**		150	25	ug/L			11/04/19 17:25	50
m-Xylene & p-Xylene	**2900**		150	38	ug/L			11/04/19 17:25	50
o-Xylene	**1400**		100	20	ug/L			11/04/19 17:25	50
1,2,4-Trimethylbenzene	**670**		150	31	ug/L			11/04/19 17:25	50
Naphthalene	**400**		200	47	ug/L			11/04/19 17:25	50
1,3,5-Trimethylbenzene	**210**		150	28	ug/L			11/04/19 17:25	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/04/19 17:25*	*50*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*11/04/19 17:25*	*50*
Dibromofluoromethane (Surr)	*94*		*80 - 120*		*11/04/19 17:25*	*50*
Trifluorotoluene (Surr)	*91*		*80 - 120*		*11/04/19 17:25*	*50*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 126*		*11/04/19 17:25*	*50*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	**76**		2.3	0.44	ug/L		10/30/19 09:13	11/07/19 23:01	10
1-Methylnaphthalene	**74**		1.1	0.21	ug/L		10/30/19 09:13	11/07/19 23:01	10
Acenaphthylene	**1.1**		0.57	0.10	ug/L		10/30/19 09:13	11/07/19 23:01	10
Acenaphthene	**2.1**		1.1	0.16	ug/L		10/30/19 09:13	11/07/19 23:01	10
Fluorene	**2.4**		1.1	0.19	ug/L		10/30/19 09:13	11/07/19 23:01	10
Phenanthrene	**1.4**		1.1	0.35	ug/L		10/30/19 09:13	11/07/19 23:01	10
Anthracene	ND		1.1	0.25	ug/L		10/30/19 09:13	11/07/19 23:01	10
Fluoranthene	ND		2.3	0.57	ug/L		10/30/19 09:13	11/07/19 23:01	10
Pyrene	ND		1.1	0.37	ug/L		10/30/19 09:13	11/07/19 23:01	10
Benzo[a]anthracene	ND		0.57	0.16	ug/L		10/30/19 09:13	11/07/19 23:01	10
Chrysene	ND		1.1	0.18	ug/L		10/30/19 09:13	11/07/19 23:01	10
Benzo[b]fluoranthene	ND		0.57	0.12	ug/L		10/30/19 09:13	11/07/19 23:01	10
Benzo[k]fluoranthene	ND		0.57	0.14	ug/L		10/30/19 09:13	11/07/19 23:01	10
Benzo[a]pyrene	ND		1.1	0.12	ug/L		10/30/19 09:13	11/07/19 23:01	10

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-14
Date Collected: 10/23/19 12:05
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Lab Sample ID: 580-90396-4
Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		0.57	0.16	ug/L		10/30/19 09:13	11/07/19 23:01	10
Dibenz(a,h)anthracene	ND		1.1	0.29	ug/L		10/30/19 09:13	11/07/19 23:01	10
Benzo[g,h,i]perylene	ND		0.57	0.14	ug/L		10/30/19 09:13	11/07/19 23:01	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*61*		*53 - 120*	*10/30/19 09:13*	*11/07/19 23:01*	*10*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**190**		11	3.5	ug/L		10/30/19 09:13	11/11/19 16:17	100

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	**12**		0.25	0.10	mg/L			10/31/19 17:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*82*		*50 - 150*		*10/31/19 17:23*	*1*
4-Bromofluorobenzene (Surr)	*228*	*X*	*50 - 150*		*10/31/19 17:23*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**8.3**	**	0.12	0.080	mg/L		11/06/19 08:57	11/07/19 22:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*62*		*50 - 150*	*11/06/19 08:57*	*11/07/19 22:39*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**15**	**H**	0.12	0.079	mg/L		11/12/19 09:20	11/13/19 19:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*97*		*50 - 150*	*11/12/19 09:20*	*11/13/19 19:35*	*1*

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-17

Date Collected: 10/23/19 11:30
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	2.3	ug/L			11/01/19 23:10	1
Chloromethane	ND		20	5.4	ug/L			11/01/19 23:10	1
Vinyl chloride	ND		1.0	0.22	ug/L			11/01/19 23:10	1
Bromomethane	ND		6.0	1.1	ug/L			11/01/19 23:10	1
Chloroethane	ND		5.0	1.1	ug/L			11/01/19 23:10	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			11/01/19 23:10	1
1,1-Dichloroethene	ND		4.0	0.78	ug/L			11/01/19 23:10	1
Carbon disulfide	ND		3.0	0.53	ug/L			11/01/19 23:10	1
Acetone	ND		50	7.8	ug/L			11/01/19 23:10	1
Methylene Chloride	ND		5.0	1.4	ug/L			11/01/19 23:10	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			11/01/19 23:10	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			11/01/19 23:10	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			11/01/19 23:10	1
2-Butanone	ND		20	4.7	ug/L			11/01/19 23:10	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			11/01/19 23:10	1
Bromochloromethane	ND		2.0	0.29	ug/L			11/01/19 23:10	1
Chloroform	ND		5.0	0.50	ug/L			11/01/19 23:10	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			11/01/19 23:10	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			11/01/19 23:10	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			11/01/19 23:10	1
Benzene	**7.7**		3.0	0.53	ug/L			11/01/19 23:10	1
1,2-Dichloroethane	ND		2.0	0.53	ug/L			11/01/19 23:10	1
Trichloroethene	ND		3.0	0.85	ug/L			11/01/19 23:10	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			11/01/19 23:10	1
Dibromomethane	ND		2.0	0.34	ug/L			11/01/19 23:10	1
Bromodichloromethane	ND		2.0	0.14	ug/L			11/01/19 23:10	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			11/01/19 23:10	1
4-Methyl-2-pentanone	ND		15	2.5	ug/L			11/01/19 23:10	1
Toluene	ND		2.0	0.39	ug/L			11/01/19 23:10	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			11/01/19 23:10	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			11/01/19 23:10	1
Tetrachloroethene	ND		3.0	0.41	ug/L			11/01/19 23:10	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			11/01/19 23:10	1
2-Hexanone	ND		20	4.0	ug/L			11/01/19 23:10	1
Dibromochloromethane	ND		2.0	0.50	ug/L			11/01/19 23:10	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			11/01/19 23:10	1
Chlorobenzene	ND		2.0	0.44	ug/L			11/01/19 23:10	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			11/01/19 23:10	1
Styrene	ND		5.0	1.0	ug/L			11/01/19 23:10	1
Bromoform	ND		3.0	0.56	ug/L			11/01/19 23:10	1
Isopropylbenzene	**2.7**		2.0	0.51	ug/L			11/01/19 23:10	1
Bromobenzene	ND		2.0	0.43	ug/L			11/01/19 23:10	1
N-Propylbenzene	**3.4**		3.0	0.50	ug/L			11/01/19 23:10	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			11/01/19 23:10	1
4-Chlorotoluene	ND		2.0	0.51	ug/L			11/01/19 23:10	1
t-Butylbenzene	ND		3.0	0.58	ug/L			11/01/19 23:10	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			11/01/19 23:10	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			11/01/19 23:10	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			11/01/19 23:10	1

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-17

Date Collected: 10/23/19 11:30
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		4.0	0.98	ug/L			11/01/19 23:10	1
n-Butylbenzene	ND		3.0	0.44	ug/L			11/01/19 23:10	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			11/01/19 23:10	1
1,2-Dibromo-3-Chloropropane	ND		10	1.8	ug/L			11/01/19 23:10	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			11/01/19 23:10	1
1,2,3-Trichlorobenzene	ND		5.0	1.1	ug/L			11/01/19 23:10	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			11/01/19 23:10	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/01/19 23:10	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			11/01/19 23:10	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			11/01/19 23:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/01/19 23:10*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*11/01/19 23:10*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*11/01/19 23:10*	*1*
Trifluorotoluene (Surr)	*101*		*80 - 120*		*11/01/19 23:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 126*		*11/01/19 23:10*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	**34**		3.0	0.50	ug/L			11/04/19 15:45	1
m-Xylene & p-Xylene	**92**		3.0	0.75	ug/L			11/04/19 15:45	1
o-Xylene	**17**		2.0	0.39	ug/L			11/04/19 15:45	1
1,2,4-Trimethylbenzene	**13**		3.0	0.61	ug/L			11/04/19 15:45	1
Naphthalene	**4.1**		4.0	0.93	ug/L			11/04/19 15:45	1
1,3,5-Trimethylbenzene	**3.0**		3.0	0.55	ug/L			11/04/19 15:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/04/19 15:45*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/04/19 15:45*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/04/19 15:45*	*1*
Trifluorotoluene (Surr)	*92*		*80 - 120*		*11/04/19 15:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 126*		*11/04/19 15:45*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.52	0.16	ug/L		10/30/19 09:13	11/07/19 23:27	5
2-Methylnaphthalene	ND		1.0	0.20	ug/L		10/30/19 09:13	11/07/19 23:27	5
1-Methylnaphthalene	ND		0.52	0.098	ug/L		10/30/19 09:13	11/07/19 23:27	5
Acenaphthylene	ND		0.26	0.047	ug/L		10/30/19 09:13	11/07/19 23:27	5
Acenaphthene	ND		0.52	0.073	ug/L		10/30/19 09:13	11/07/19 23:27	5
Fluorene	ND		0.52	0.088	ug/L		10/30/19 09:13	11/07/19 23:27	5
Phenanthrene	ND		0.52	0.16	ug/L		10/30/19 09:13	11/07/19 23:27	5
Anthracene	ND		0.52	0.11	ug/L		10/30/19 09:13	11/07/19 23:27	5
Fluoranthene	ND		1.0	0.26	ug/L		10/30/19 09:13	11/07/19 23:27	5
Pyrene	ND		0.52	0.17	ug/L		10/30/19 09:13	11/07/19 23:27	5
Benzo[a]anthracene	ND		0.26	0.073	ug/L		10/30/19 09:13	11/07/19 23:27	5
Chrysene	ND		0.52	0.083	ug/L		10/30/19 09:13	11/07/19 23:27	5
Benzo[b]fluoranthene	ND		0.26	0.057	ug/L		10/30/19 09:13	11/07/19 23:27	5
Benzo[k]fluoranthene	ND		0.26	0.062	ug/L		10/30/19 09:13	11/07/19 23:27	5

Client Sample ID: MW-17
Date Collected: 10/23/19 11:30
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-5
Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		0.52	0.057	ug/L		10/30/19 09:13	11/07/19 23:27	5
Indeno[1,2,3-cd]pyrene	ND		0.26	0.073	ug/L		10/30/19 09:13	11/07/19 23:27	5
Dibenz(a,h)anthracene	ND		0.52	0.13	ug/L		10/30/19 09:13	11/07/19 23:27	5
Benzo[g,h,i]perylene	ND		0.26	0.062	ug/L		10/30/19 09:13	11/07/19 23:27	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*52*	*X*	*53 - 120*	*10/30/19 09:13*	*11/07/19 23:27*	*5*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	**0.38**		0.25	0.10	mg/L			10/30/19 23:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*101*		*50 - 150*		*10/30/19 23:07*	*1*
4-Bromofluorobenzene (Surr)	*103*		*50 - 150*		*10/30/19 23:07*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**14**	*	0.12	0.081	mg/L		11/06/19 08:57	11/07/19 23:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*56*		*50 - 150*	*11/06/19 08:57*	*11/07/19 23:00*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**6.9**	**H**	0.12	0.080	mg/L		11/12/19 09:20	11/13/19 19:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*87*		*50 - 150*	*11/12/19 09:20*	*11/13/19 19:58*	*1*

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-19-1

Date Collected: 10/23/19 14:20
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	2.3	ug/L			11/01/19 23:35	1
Chloromethane	ND		20	5.4	ug/L			11/01/19 23:35	1
Vinyl chloride	ND		1.0	0.22	ug/L			11/01/19 23:35	1
Bromomethane	ND		6.0	1.1	ug/L			11/01/19 23:35	1
Chloroethane	ND		5.0	1.1	ug/L			11/01/19 23:35	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			11/01/19 23:35	1
1,1-Dichloroethene	ND		4.0	0.78	ug/L			11/01/19 23:35	1
Carbon disulfide	ND		3.0	0.53	ug/L			11/01/19 23:35	1
Acetone	ND		50	7.8	ug/L			11/01/19 23:35	1
Methylene Chloride	ND		5.0	1.4	ug/L			11/01/19 23:35	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			11/01/19 23:35	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			11/01/19 23:35	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			11/01/19 23:35	1
2-Butanone	ND		20	4.7	ug/L			11/01/19 23:35	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			11/01/19 23:35	1
Bromochloromethane	ND		2.0	0.29	ug/L			11/01/19 23:35	1
Chloroform	ND		5.0	0.50	ug/L			11/01/19 23:35	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			11/01/19 23:35	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			11/01/19 23:35	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			11/01/19 23:35	1
Benzene	**85**		3.0	0.53	ug/L			11/01/19 23:35	1
1,2-Dichloroethane	ND		2.0	0.53	ug/L			11/01/19 23:35	1
Trichloroethene	ND		3.0	0.85	ug/L			11/01/19 23:35	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			11/01/19 23:35	1
Dibromomethane	ND		2.0	0.34	ug/L			11/01/19 23:35	1
Bromodichloromethane	ND		2.0	0.14	ug/L			11/01/19 23:35	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			11/01/19 23:35	1
4-Methyl-2-pentanone	ND		15	2.5	ug/L			11/01/19 23:35	1
Toluene	**120**		2.0	0.39	ug/L			11/01/19 23:35	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			11/01/19 23:35	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			11/01/19 23:35	1
Tetrachloroethene	ND		3.0	0.41	ug/L			11/01/19 23:35	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			11/01/19 23:35	1
2-Hexanone	ND		20	4.0	ug/L			11/01/19 23:35	1
Dibromochloromethane	ND		2.0	0.50	ug/L			11/01/19 23:35	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			11/01/19 23:35	1
Chlorobenzene	ND		2.0	0.44	ug/L			11/01/19 23:35	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			11/01/19 23:35	1
Styrene	ND		5.0	1.0	ug/L			11/01/19 23:35	1
Bromoform	ND		3.0	0.56	ug/L			11/01/19 23:35	1
Isopropylbenzene	**78**		2.0	0.51	ug/L			11/01/19 23:35	1
Bromobenzene	ND		2.0	0.43	ug/L			11/01/19 23:35	1
N-Propylbenzene	**100**		3.0	0.50	ug/L			11/01/19 23:35	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			11/01/19 23:35	1
4-Chlorotoluene	ND		2.0	0.51	ug/L			11/01/19 23:35	1
t-Butylbenzene	ND		3.0	0.58	ug/L			11/01/19 23:35	1
sec-Butylbenzene	**19**		3.0	0.49	ug/L			11/01/19 23:35	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			11/01/19 23:35	1
4-Isopropyltoluene	**21**		3.0	0.28	ug/L			11/01/19 23:35	1

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-19-1

Date Collected: 10/23/19 14:20
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		4.0	0.98	ug/L			11/01/19 23:35	1
n-Butylbenzene	**26**		3.0	0.44	ug/L			11/01/19 23:35	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			11/01/19 23:35	1
1,2-Dibromo-3-Chloropropane	ND		10	1.8	ug/L			11/01/19 23:35	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			11/01/19 23:35	1
1,2,3-Trichlorobenzene	ND		5.0	1.1	ug/L			11/01/19 23:35	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			11/01/19 23:35	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/01/19 23:35	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			11/01/19 23:35	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			11/01/19 23:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/01/19 23:35*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*11/01/19 23:35*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*11/01/19 23:35*	*1*
Trifluorotoluene (Surr)	*100*		*80 - 120*		*11/01/19 23:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 126*		*11/01/19 23:35*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	**560**		150	25	ug/L			11/04/19 17:50	50
m-Xylene & p-Xylene	**2400**		150	38	ug/L			11/04/19 17:50	50
o-Xylene	**1200**		100	20	ug/L			11/04/19 17:50	50
1,2,4-Trimethylbenzene	**600**		150	31	ug/L			11/04/19 17:50	50
Naphthalene	**380**		200	47	ug/L			11/04/19 17:50	50
1,3,5-Trimethylbenzene	**180**		150	28	ug/L			11/04/19 17:50	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/04/19 17:50*	*50*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*11/04/19 17:50*	*50*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*11/04/19 17:50*	*50*
Trifluorotoluene (Surr)	*91*		*80 - 120*		*11/04/19 17:50*	*50*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 126*		*11/04/19 17:50*	*50*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	**2.5**		0.53	0.095	ug/L		10/30/19 09:13	11/07/19 23:53	10
Acenaphthene	**5.5**		1.1	0.15	ug/L		10/30/19 09:13	11/07/19 23:53	10
Fluorene	**6.8**		1.1	0.18	ug/L		10/30/19 09:13	11/07/19 23:53	10
Phenanthrene	**4.5**		1.1	0.33	ug/L		10/30/19 09:13	11/07/19 23:53	10
Anthracene	ND		1.1	0.23	ug/L		10/30/19 09:13	11/07/19 23:53	10
Fluoranthene	ND		2.1	0.53	ug/L		10/30/19 09:13	11/07/19 23:53	10
Pyrene	ND		1.1	0.35	ug/L		10/30/19 09:13	11/07/19 23:53	10
Benzo[a]anthracene	ND		0.53	0.15	ug/L		10/30/19 09:13	11/07/19 23:53	10
Chrysene	ND		1.1	0.17	ug/L		10/30/19 09:13	11/07/19 23:53	10
Benzo[b]fluoranthene	ND		0.53	0.12	ug/L		10/30/19 09:13	11/07/19 23:53	10
Benzo[k]fluoranthene	ND		0.53	0.13	ug/L		10/30/19 09:13	11/07/19 23:53	10
Benzo[a]pyrene	ND		1.1	0.12	ug/L		10/30/19 09:13	11/07/19 23:53	10
Indeno[1,2,3-cd]pyrene	ND		0.53	0.15	ug/L		10/30/19 09:13	11/07/19 23:53	10
Dibenz(a,h)anthracene	ND		1.1	0.27	ug/L		10/30/19 09:13	11/07/19 23:53	10

Client Sample ID: MW-19-1
Date Collected: 10/23/19 14:20
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-6
Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	ND		0.53	0.13	ug/L		10/30/19 09:13	11/07/19 23:53	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*92*		*53 - 120*	*10/30/19 09:13*	*11/07/19 23:53*	*10*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**190**		11	3.3	ug/L		10/30/19 09:13	11/11/19 16:43	100
2-Methylnaphthalene	**140**		21	4.1	ug/L		10/30/19 09:13	11/11/19 16:43	100
1-Methylnaphthalene	**130**		11	2.0	ug/L		10/30/19 09:13	11/11/19 16:43	100

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	**8.6**		0.25	0.10	mg/L			10/31/19 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*90*		*50 - 150*		*10/31/19 17:47*	*1*
4-Bromofluorobenzene (Surr)	*199*	*X*	*50 - 150*		*10/31/19 17:47*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**22**	*****	0.12	0.085	mg/L		11/06/19 08:57	11/07/19 23:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*38*	*X*	*50 - 150*	*11/06/19 08:57*	*11/07/19 23:20*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**42**	**H**	0.12	0.081	mg/L		11/12/19 09:20	11/13/19 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*159*	*X*	*50 - 150*	*11/12/19 09:20*	*11/13/19 20:20*	*1*

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: CRW-2

Date Collected: 10/23/19 15:34
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-7

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	2.3	ug/L			11/02/19 02:07	1
Chloromethane	ND		20	5.4	ug/L			11/02/19 02:07	1
Vinyl chloride	ND		1.0	0.22	ug/L			11/02/19 02:07	1
Bromomethane	ND		6.0	1.1	ug/L			11/02/19 02:07	1
Chloroethane	ND		5.0	1.1	ug/L			11/02/19 02:07	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			11/02/19 02:07	1
1,1-Dichloroethene	ND		4.0	0.78	ug/L			11/02/19 02:07	1
Carbon disulfide	ND		3.0	0.53	ug/L			11/02/19 02:07	1
Acetone	ND		50	7.8	ug/L			11/02/19 02:07	1
Methylene Chloride	ND		5.0	1.4	ug/L			11/02/19 02:07	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			11/02/19 02:07	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			11/02/19 02:07	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			11/02/19 02:07	1
2-Butanone	ND		20	4.7	ug/L			11/02/19 02:07	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			11/02/19 02:07	1
Bromochloromethane	ND		2.0	0.29	ug/L			11/02/19 02:07	1
Chloroform	ND		5.0	0.50	ug/L			11/02/19 02:07	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			11/02/19 02:07	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			11/02/19 02:07	1
1,1-Dichloropropene	ND	*	3.0	0.29	ug/L			11/02/19 02:07	1
Benzene	**11**		3.0	0.53	ug/L			11/02/19 02:07	1
1,2-Dichloroethane	ND		2.0	0.53	ug/L			11/02/19 02:07	1
Trichloroethene	ND		3.0	0.85	ug/L			11/02/19 02:07	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			11/02/19 02:07	1
Dibromomethane	ND		2.0	0.34	ug/L			11/02/19 02:07	1
Bromodichloromethane	ND		2.0	0.14	ug/L			11/02/19 02:07	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			11/02/19 02:07	1
4-Methyl-2-pentanone	ND		15	2.5	ug/L			11/02/19 02:07	1
Toluene	**4.1**		2.0	0.39	ug/L			11/02/19 02:07	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			11/02/19 02:07	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			11/02/19 02:07	1
Tetrachloroethene	ND		3.0	0.41	ug/L			11/02/19 02:07	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			11/02/19 02:07	1
2-Hexanone	ND		20	4.0	ug/L			11/02/19 02:07	1
Dibromochloromethane	ND		2.0	0.50	ug/L			11/02/19 02:07	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			11/02/19 02:07	1
Chlorobenzene	ND		2.0	0.44	ug/L			11/02/19 02:07	1
Ethylbenzene	**61**		3.0	0.50	ug/L			11/02/19 02:07	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			11/02/19 02:07	1
o-Xylene	**75**		2.0	0.39	ug/L			11/02/19 02:07	1
Styrene	ND		5.0	1.0	ug/L			11/02/19 02:07	1
Bromoform	ND		3.0	0.56	ug/L			11/02/19 02:07	1
Isopropylbenzene	**24**		2.0	0.51	ug/L			11/02/19 02:07	1
Bromobenzene	ND		2.0	0.43	ug/L			11/02/19 02:07	1
N-Propylbenzene	**20**		3.0	0.50	ug/L			11/02/19 02:07	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			11/02/19 02:07	1
4-Chlorotoluene	ND		2.0	0.51	ug/L			11/02/19 02:07	1
t-Butylbenzene	ND		3.0	0.58	ug/L			11/02/19 02:07	1
1,2,4-Trimethylbenzene	**100**		3.0	0.61	ug/L			11/02/19 02:07	1

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: CRW-2
Date Collected: 10/23/19 15:34
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	**4.7**		3.0	0.49	ug/L			11/02/19 02:07	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			11/02/19 02:07	1
4-Isopropyltoluene	**4.2**		3.0	0.28	ug/L			11/02/19 02:07	1
1,4-Dichlorobenzene	ND		4.0	0.98	ug/L			11/02/19 02:07	1
n-Butylbenzene	ND		3.0	0.44	ug/L			11/02/19 02:07	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			11/02/19 02:07	1
1,2-Dibromo-3-Chloropropane	ND		10	1.8	ug/L			11/02/19 02:07	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			11/02/19 02:07	1
1,2,3-Trichlorobenzene	ND		5.0	1.1	ug/L			11/02/19 02:07	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			11/02/19 02:07	1
Naphthalene	**41**		4.0	0.93	ug/L			11/02/19 02:07	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/02/19 02:07	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			11/02/19 02:07	1
1,3,5-Trimethylbenzene	**25**		3.0	0.55	ug/L			11/02/19 02:07	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			11/02/19 02:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/02/19 02:07*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*11/02/19 02:07*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/02/19 02:07*	*1*
Trifluorotoluene (Surr)	*91*		*80 - 120*		*11/02/19 02:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 126*		*11/02/19 02:07*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	**200**		15	3.8	ug/L			11/04/19 19:54	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*80 - 120*		*11/04/19 19:54*	*5*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*11/04/19 19:54*	*5*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/04/19 19:54*	*5*
Trifluorotoluene (Surr)	*91*		*80 - 120*		*11/04/19 19:54*	*5*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 126*		*11/04/19 19:54*	*5*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	**4.4**		0.22	0.043	ug/L		10/30/19 09:13	11/08/19 00:19	1
1-Methylnaphthalene	**6.4**		0.11	0.021	ug/L		10/30/19 09:13	11/08/19 00:19	1
Acenaphthylene	ND		0.056	0.010	ug/L		10/30/19 09:13	11/08/19 00:19	1
Acenaphthene	**0.12**		0.11	0.016	ug/L		10/30/19 09:13	11/08/19 00:19	1
Fluorene	**0.24**		0.11	0.019	ug/L		10/30/19 09:13	11/08/19 00:19	1
Phenanthrene	**0.13**		0.11	0.034	ug/L		10/30/19 09:13	11/08/19 00:19	1
Anthracene	ND		0.11	0.024	ug/L		10/30/19 09:13	11/08/19 00:19	1
Fluoranthene	ND		0.22	0.056	ug/L		10/30/19 09:13	11/08/19 00:19	1
Pyrene	ND		0.11	0.037	ug/L		10/30/19 09:13	11/08/19 00:19	1
Benzo[a]anthracene	ND		0.056	0.016	ug/L		10/30/19 09:13	11/08/19 00:19	1
Chrysene	ND		0.11	0.018	ug/L		10/30/19 09:13	11/08/19 00:19	1
Benzo[b]fluoranthene	ND		0.056	0.012	ug/L		10/30/19 09:13	11/08/19 00:19	1
Benzo[k]fluoranthene	ND		0.056	0.013	ug/L		10/30/19 09:13	11/08/19 00:19	1
Benzo[a]pyrene	ND		0.11	0.012	ug/L		10/30/19 09:13	11/08/19 00:19	1

Client Sample ID: CRW-2

Date Collected: 10/23/19 15:34
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-7

Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		0.056	0.016	ug/L		10/30/19 09:13	11/08/19 00:19	1
Dibenz(a,h)anthracene	ND		0.11	0.029	ug/L		10/30/19 09:13	11/08/19 00:19	1
Benzo[g,h,i]perylene	ND		0.056	0.013	ug/L		10/30/19 09:13	11/08/19 00:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*39*	*X*	*53 - 120*	*10/30/19 09:13*	*11/08/19 00:19*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**12**		1.1	0.34	ug/L		10/30/19 09:13	11/11/19 17:09	10

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	**0.99**		0.25	0.10	mg/L			10/30/19 23:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*102*		*50 - 150*		*10/30/19 23:56*	*1*
4-Bromofluorobenzene (Surr)	*128*		*50 - 150*		*10/30/19 23:56*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**1.0**	*	0.12	0.085	mg/L		11/05/19 09:25	11/06/19 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*62*		*50 - 150*	*11/05/19 09:25*	*11/06/19 19:57*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**1.4**	*	0.13	0.088	mg/L		11/06/19 08:57	11/08/19 00:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*73*		*50 - 150*	*11/06/19 08:57*	*11/08/19 00:00*	*1*

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: DRAIN FIELD
Date Collected: 10/23/19 15:10
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-8
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	2.3	ug/L			11/02/19 02:32	1
Chloromethane	ND		20	5.4	ug/L			11/02/19 02:32	1
Vinyl chloride	ND		1.0	0.22	ug/L			11/02/19 02:32	1
Bromomethane	ND		6.0	1.1	ug/L			11/02/19 02:32	1
Chloroethane	ND		5.0	1.1	ug/L			11/02/19 02:32	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			11/02/19 02:32	1
1,1-Dichloroethene	ND		4.0	0.78	ug/L			11/02/19 02:32	1
Carbon disulfide	ND		3.0	0.53	ug/L			11/02/19 02:32	1
Acetone	ND		50	7.8	ug/L			11/02/19 02:32	1
Methylene Chloride	ND		5.0	1.4	ug/L			11/02/19 02:32	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			11/02/19 02:32	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			11/02/19 02:32	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			11/02/19 02:32	1
2-Butanone	ND		20	4.7	ug/L			11/02/19 02:32	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			11/02/19 02:32	1
Bromochloromethane	ND		2.0	0.29	ug/L			11/02/19 02:32	1
Chloroform	ND		5.0	0.50	ug/L			11/02/19 02:32	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			11/02/19 02:32	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			11/02/19 02:32	1
1,1-Dichloropropene	ND	*	3.0	0.29	ug/L			11/02/19 02:32	1
Benzene	ND		3.0	0.53	ug/L			11/02/19 02:32	1
1,2-Dichloroethane	ND		2.0	0.53	ug/L			11/02/19 02:32	1
Trichloroethene	ND		3.0	0.85	ug/L			11/02/19 02:32	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			11/02/19 02:32	1
Dibromomethane	ND		2.0	0.34	ug/L			11/02/19 02:32	1
Bromodichloromethane	ND		2.0	0.14	ug/L			11/02/19 02:32	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			11/02/19 02:32	1
4-Methyl-2-pentanone	ND		15	2.5	ug/L			11/02/19 02:32	1
Toluene	ND		2.0	0.39	ug/L			11/02/19 02:32	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			11/02/19 02:32	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			11/02/19 02:32	1
Tetrachloroethene	ND		3.0	0.41	ug/L			11/02/19 02:32	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			11/02/19 02:32	1
2-Hexanone	ND		20	4.0	ug/L			11/02/19 02:32	1
Dibromochloromethane	ND		2.0	0.50	ug/L			11/02/19 02:32	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			11/02/19 02:32	1
Chlorobenzene	ND		2.0	0.44	ug/L			11/02/19 02:32	1
Ethylbenzene	ND		3.0	0.50	ug/L			11/02/19 02:32	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			11/02/19 02:32	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/02/19 02:32	1
o-Xylene	ND		2.0	0.39	ug/L			11/02/19 02:32	1
Styrene	ND		5.0	1.0	ug/L			11/02/19 02:32	1
Bromoform	ND		3.0	0.56	ug/L			11/02/19 02:32	1
Isopropylbenzene	ND		2.0	0.51	ug/L			11/02/19 02:32	1
Bromobenzene	ND		2.0	0.43	ug/L			11/02/19 02:32	1
N-Propylbenzene	ND		3.0	0.50	ug/L			11/02/19 02:32	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			11/02/19 02:32	1
4-Chlorotoluene	ND		2.0	0.51	ug/L			11/02/19 02:32	1
t-Butylbenzene	ND		3.0	0.58	ug/L			11/02/19 02:32	1

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: DRAIN FIELD

Date Collected: 10/23/19 15:10
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-8
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			11/02/19 02:32	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			11/02/19 02:32	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			11/02/19 02:32	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			11/02/19 02:32	1
1,4-Dichlorobenzene	ND		4.0	0.98	ug/L			11/02/19 02:32	1
n-Butylbenzene	ND		3.0	0.44	ug/L			11/02/19 02:32	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			11/02/19 02:32	1
1,2-Dibromo-3-Chloropropane	ND		10	1.8	ug/L			11/02/19 02:32	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			11/02/19 02:32	1
1,2,3-Trichlorobenzene	ND		5.0	1.1	ug/L			11/02/19 02:32	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			11/02/19 02:32	1
Naphthalene	ND		4.0	0.93	ug/L			11/02/19 02:32	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/02/19 02:32	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			11/02/19 02:32	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			11/02/19 02:32	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			11/02/19 02:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/02/19 02:32*	*1*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*11/02/19 02:32*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*11/02/19 02:32*	*1*
Trifluorotoluene (Surr)	*92*		*80 - 120*		*11/02/19 02:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 126*		*11/02/19 02:32*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.11	0.035	ug/L		10/30/19 09:13	11/08/19 00:45	1
2-Methylnaphthalene	ND		0.23	0.045	ug/L		10/30/19 09:13	11/08/19 00:45	1
1-Methylnaphthalene	ND		0.11	0.022	ug/L		10/30/19 09:13	11/08/19 00:45	1
Acenaphthylene	ND		0.057	0.010	ug/L		10/30/19 09:13	11/08/19 00:45	1
Acenaphthene	ND		0.11	0.016	ug/L		10/30/19 09:13	11/08/19 00:45	1
Fluorene	ND		0.11	0.019	ug/L		10/30/19 09:13	11/08/19 00:45	1
Phenanthrene	ND		0.11	0.035	ug/L		10/30/19 09:13	11/08/19 00:45	1
Anthracene	ND		0.11	0.025	ug/L		10/30/19 09:13	11/08/19 00:45	1
Fluoranthene	ND		0.23	0.057	ug/L		10/30/19 09:13	11/08/19 00:45	1
Pyrene	ND		0.11	0.038	ug/L		10/30/19 09:13	11/08/19 00:45	1
Benzo[a]anthracene	ND		0.057	0.016	ug/L		10/30/19 09:13	11/08/19 00:45	1
Chrysene	ND		0.11	0.018	ug/L		10/30/19 09:13	11/08/19 00:45	1
Benzo[b]fluoranthene	ND		0.057	0.013	ug/L		10/30/19 09:13	11/08/19 00:45	1
Benzo[k]fluoranthene	ND		0.057	0.014	ug/L		10/30/19 09:13	11/08/19 00:45	1
Benzo[a]pyrene	ND		0.11	0.013	ug/L		10/30/19 09:13	11/08/19 00:45	1
Indeno[1,2,3-cd]pyrene	ND		0.057	0.016	ug/L		10/30/19 09:13	11/08/19 00:45	1
Dibenz(a,h)anthracene	ND		0.11	0.030	ug/L		10/30/19 09:13	11/08/19 00:45	1
Benzo[g,h,i]perylene	ND		0.057	0.014	ug/L		10/30/19 09:13	11/08/19 00:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*54*		*53 - 120*	*10/30/19 09:13*	*11/08/19 00:45*	*1*

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: DRAIN FIELD

Lab Sample ID: 580-90396-8

Date Collected: 10/23/19 15:10

Matrix: Water

Date Received: 10/28/19 13:25

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		0.25	0.10	mg/L			10/31/19 00:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*95*		*50 - 150*		*10/31/19 00:20*	*1*
4-Bromofluorobenzene (Surr)	*103*		*50 - 150*		*10/31/19 00:20*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**0.37**	*	0.13	0.091	mg/L		11/05/19 09:25	11/06/19 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*72*		*50 - 150*	*11/05/19 09:25*	*11/06/19 20:18*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**0.22**	*	0.13	0.086	mg/L		11/06/19 08:57	11/08/19 00:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*75*		*50 - 150*	*11/06/19 08:57*	*11/08/19 00:20*	*1*

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: 2GM101DUP

Date Collected: 10/23/19 14:22
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-9

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	2.3	ug/L			11/02/19 02:56	1
Chloromethane	ND		20	5.4	ug/L			11/02/19 02:56	1
Vinyl chloride	ND		1.0	0.22	ug/L			11/02/19 02:56	1
Bromomethane	ND		6.0	1.1	ug/L			11/02/19 02:56	1
Chloroethane	ND		5.0	1.1	ug/L			11/02/19 02:56	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			11/02/19 02:56	1
1,1-Dichloroethene	ND		4.0	0.78	ug/L			11/02/19 02:56	1
Carbon disulfide	ND		3.0	0.53	ug/L			11/02/19 02:56	1
Acetone	ND		50	7.8	ug/L			11/02/19 02:56	1
Methylene Chloride	ND		5.0	1.4	ug/L			11/02/19 02:56	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			11/02/19 02:56	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			11/02/19 02:56	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			11/02/19 02:56	1
2-Butanone	ND		20	4.7	ug/L			11/02/19 02:56	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			11/02/19 02:56	1
Bromochloromethane	ND		2.0	0.29	ug/L			11/02/19 02:56	1
Chloroform	ND		5.0	0.50	ug/L			11/02/19 02:56	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			11/02/19 02:56	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			11/02/19 02:56	1
1,1-Dichloropropene	ND	*	3.0	0.29	ug/L			11/02/19 02:56	1
Benzene	**98**		3.0	0.53	ug/L			11/02/19 02:56	1
1,2-Dichloroethane	ND		2.0	0.53	ug/L			11/02/19 02:56	1
Trichloroethene	ND		3.0	0.85	ug/L			11/02/19 02:56	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			11/02/19 02:56	1
Dibromomethane	ND		2.0	0.34	ug/L			11/02/19 02:56	1
Bromodichloromethane	ND		2.0	0.14	ug/L			11/02/19 02:56	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			11/02/19 02:56	1
4-Methyl-2-pentanone	ND		15	2.5	ug/L			11/02/19 02:56	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			11/02/19 02:56	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			11/02/19 02:56	1
Tetrachloroethene	ND		3.0	0.41	ug/L			11/02/19 02:56	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			11/02/19 02:56	1
2-Hexanone	ND		20	4.0	ug/L			11/02/19 02:56	1
Dibromochloromethane	ND		2.0	0.50	ug/L			11/02/19 02:56	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			11/02/19 02:56	1
Chlorobenzene	ND		2.0	0.44	ug/L			11/02/19 02:56	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			11/02/19 02:56	1
Styrene	ND		5.0	1.0	ug/L			11/02/19 02:56	1
Bromoform	ND		3.0	0.56	ug/L			11/02/19 02:56	1
Isopropylbenzene	**100**		2.0	0.51	ug/L			11/02/19 02:56	1
Bromobenzene	ND		2.0	0.43	ug/L			11/02/19 02:56	1
N-Propylbenzene	**120**		3.0	0.50	ug/L			11/02/19 02:56	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			11/02/19 02:56	1
4-Chlorotoluene	ND		2.0	0.51	ug/L			11/02/19 02:56	1
t-Butylbenzene	ND		3.0	0.58	ug/L			11/02/19 02:56	1
sec-Butylbenzene	**20**		3.0	0.49	ug/L			11/02/19 02:56	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			11/02/19 02:56	1
4-Isopropyltoluene	**21**		3.0	0.28	ug/L			11/02/19 02:56	1
1,4-Dichlorobenzene	ND		4.0	0.98	ug/L			11/02/19 02:56	1

Client Sample ID: 2GM101DUP

Date Collected: 10/23/19 14:22
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-9

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		3.0	0.44	ug/L			11/02/19 02:56	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			11/02/19 02:56	1
1,2-Dibromo-3-Chloropropane	ND		10	1.8	ug/L			11/02/19 02:56	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			11/02/19 02:56	1
1,2,3-Trichlorobenzene	ND		5.0	1.1	ug/L			11/02/19 02:56	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			11/02/19 02:56	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/02/19 02:56	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			11/02/19 02:56	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			11/02/19 02:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*11/02/19 02:56*	*1*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*11/02/19 02:56*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*11/02/19 02:56*	*1*
Trifluorotoluene (Surr)	*92*		*80 - 120*		*11/02/19 02:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 126*		*11/02/19 02:56*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	**150**		20	3.9	ug/L			11/04/19 18:39	10
Ethylbenzene	**520**		30	5.0	ug/L			11/04/19 18:39	10
o-Xylene	**1100**		20	3.9	ug/L			11/04/19 18:39	10
1,2,4-Trimethylbenzene	**540**		30	6.1	ug/L			11/04/19 18:39	10
Naphthalene	**360**		40	9.3	ug/L			11/04/19 18:39	10
1,3,5-Trimethylbenzene	**180**		30	5.5	ug/L			11/04/19 18:39	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/04/19 18:39*	*10*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*11/04/19 18:39*	*10*
Dibromofluoromethane (Surr)	*98*		*80 - 120*		*11/04/19 18:39*	*10*
Trifluorotoluene (Surr)	*90*		*80 - 120*		*11/04/19 18:39*	*10*
1,2-Dichloroethane-d4 (Surr)	*98*		*80 - 126*		*11/04/19 18:39*	*10*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	**1900**		150	38	ug/L			11/05/19 20:05	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 120*		*11/05/19 20:05*	*50*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*11/05/19 20:05*	*50*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*11/05/19 20:05*	*50*
Trifluorotoluene (Surr)	*110*		*80 - 120*		*11/05/19 20:05*	*50*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 126*		*11/05/19 20:05*	*50*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	**2.9**		0.55	0.099	ug/L		10/30/19 09:13	11/08/19 01:11	10
Acenaphthene	**5.3**		1.1	0.15	ug/L		10/30/19 09:13	11/08/19 01:11	10
Fluorene	**7.2**		1.1	0.19	ug/L		10/30/19 09:13	11/08/19 01:11	10
Phenanthrene	**5.0**		1.1	0.34	ug/L		10/30/19 09:13	11/08/19 01:11	10
Anthracene	ND		1.1	0.24	ug/L		10/30/19 09:13	11/08/19 01:11	10

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: 2GM101DUP

Date Collected: 10/23/19 14:22
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-9

Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		2.2	0.55	ug/L		10/30/19 09:13	11/08/19 01:11	10
Pyrene	ND		1.1	0.36	ug/L		10/30/19 09:13	11/08/19 01:11	10
Benzo[a]anthracene	ND		0.55	0.15	ug/L		10/30/19 09:13	11/08/19 01:11	10
Chrysene	ND		1.1	0.18	ug/L		10/30/19 09:13	11/08/19 01:11	10
Benzo[b]fluoranthene	ND		0.55	0.12	ug/L		10/30/19 09:13	11/08/19 01:11	10
Benzo[k]fluoranthene	ND		0.55	0.13	ug/L		10/30/19 09:13	11/08/19 01:11	10
Benzo[a]pyrene	ND		1.1	0.12	ug/L		10/30/19 09:13	11/08/19 01:11	10
Indeno[1,2,3-cd]pyrene	ND		0.55	0.15	ug/L		10/30/19 09:13	11/08/19 01:11	10
Dibenz(a,h)anthracene	ND		1.1	0.29	ug/L		10/30/19 09:13	11/08/19 01:11	10
Benzo[g,h,i]perylene	ND		0.55	0.13	ug/L		10/30/19 09:13	11/08/19 01:11	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*60*		*53 - 120*	*10/30/19 09:13*	*11/08/19 01:11*	*10*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**240**		28	8.5	ug/L		10/30/19 09:13	11/14/19 15:14	250
2-Methylnaphthalene	**220**		55	11	ug/L		10/30/19 09:13	11/14/19 15:14	250
1-Methylnaphthalene	**190**		28	5.2	ug/L		10/30/19 09:13	11/14/19 15:14	250

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	**9.8**		0.25	0.10	mg/L			10/31/19 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*85*		*50 - 150*		*10/31/19 18:11*	*1*
4-Bromofluorobenzene (Surr)	*223*	*X*	*50 - 150*		*10/31/19 18:11*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**34**	*****	0.13	0.089	mg/L		11/05/19 09:25	11/06/19 20:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*82*		*50 - 150*	*11/05/19 09:25*	*11/06/19 20:38*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) - REDL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**48**	**H**	2.9	2.0	mg/L		11/12/19 09:20	11/15/19 02:28	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*61*		*50 - 150*	*11/12/19 09:20*	*11/15/19 02:28*	*25*

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: TRIP BLANK
Date Collected: 10/23/19 12:00
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-10
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	2.3	ug/L			11/02/19 00:51	1
Chloromethane	ND		20	5.4	ug/L			11/02/19 00:51	1
Vinyl chloride	ND		1.0	0.22	ug/L			11/02/19 00:51	1
Bromomethane	ND		6.0	1.1	ug/L			11/02/19 00:51	1
Chloroethane	ND		5.0	1.1	ug/L			11/02/19 00:51	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			11/02/19 00:51	1
1,1-Dichloroethene	ND		4.0	0.78	ug/L			11/02/19 00:51	1
Carbon disulfide	ND		3.0	0.53	ug/L			11/02/19 00:51	1
Acetone	ND		50	7.8	ug/L			11/02/19 00:51	1
Methylene Chloride	ND		5.0	1.4	ug/L			11/02/19 00:51	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			11/02/19 00:51	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			11/02/19 00:51	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			11/02/19 00:51	1
2-Butanone	ND		20	4.7	ug/L			11/02/19 00:51	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			11/02/19 00:51	1
Bromochloromethane	ND		2.0	0.29	ug/L			11/02/19 00:51	1
Chloroform	ND		5.0	0.50	ug/L			11/02/19 00:51	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			11/02/19 00:51	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			11/02/19 00:51	1
1,1-Dichloropropene	ND	*	3.0	0.29	ug/L			11/02/19 00:51	1
Benzene	ND		3.0	0.53	ug/L			11/02/19 00:51	1
1,2-Dichloroethane	ND		2.0	0.53	ug/L			11/02/19 00:51	1
Trichloroethene	ND		3.0	0.85	ug/L			11/02/19 00:51	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			11/02/19 00:51	1
Dibromomethane	ND		2.0	0.34	ug/L			11/02/19 00:51	1
Bromodichloromethane	ND		2.0	0.14	ug/L			11/02/19 00:51	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			11/02/19 00:51	1
4-Methyl-2-pentanone	ND		15	2.5	ug/L			11/02/19 00:51	1
Toluene	ND		2.0	0.39	ug/L			11/02/19 00:51	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			11/02/19 00:51	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			11/02/19 00:51	1
Tetrachloroethene	ND		3.0	0.41	ug/L			11/02/19 00:51	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			11/02/19 00:51	1
2-Hexanone	ND		20	4.0	ug/L			11/02/19 00:51	1
Dibromochloromethane	ND		2.0	0.50	ug/L			11/02/19 00:51	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			11/02/19 00:51	1
Chlorobenzene	ND		2.0	0.44	ug/L			11/02/19 00:51	1
Ethylbenzene	ND		3.0	0.50	ug/L			11/02/19 00:51	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			11/02/19 00:51	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/02/19 00:51	1
o-Xylene	ND		2.0	0.39	ug/L			11/02/19 00:51	1
Styrene	ND		5.0	1.0	ug/L			11/02/19 00:51	1
Bromoform	ND		3.0	0.56	ug/L			11/02/19 00:51	1
Isopropylbenzene	ND		2.0	0.51	ug/L			11/02/19 00:51	1
Bromobenzene	ND		2.0	0.43	ug/L			11/02/19 00:51	1
N-Propylbenzene	ND		3.0	0.50	ug/L			11/02/19 00:51	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			11/02/19 00:51	1
4-Chlorotoluene	ND		2.0	0.51	ug/L			11/02/19 00:51	1
t-Butylbenzene	ND		3.0	0.58	ug/L			11/02/19 00:51	1

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: TRIP BLANK

Date Collected: 10/23/19 12:00
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-10
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			11/02/19 00:51	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			11/02/19 00:51	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			11/02/19 00:51	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			11/02/19 00:51	1
1,4-Dichlorobenzene	ND		4.0	0.98	ug/L			11/02/19 00:51	1
n-Butylbenzene	ND		3.0	0.44	ug/L			11/02/19 00:51	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			11/02/19 00:51	1
1,2-Dibromo-3-Chloropropane	ND		10	1.8	ug/L			11/02/19 00:51	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			11/02/19 00:51	1
1,2,3-Trichlorobenzene	ND		5.0	1.1	ug/L			11/02/19 00:51	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			11/02/19 00:51	1
Naphthalene	ND		4.0	0.93	ug/L			11/02/19 00:51	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/02/19 00:51	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			11/02/19 00:51	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			11/02/19 00:51	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			11/02/19 00:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*109*		*80 - 120*		*11/02/19 00:51*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*11/02/19 00:51*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*11/02/19 00:51*	*1*
Trifluorotoluene (Surr)	*93*		*80 - 120*		*11/02/19 00:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 126*		*11/02/19 00:51*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		0.25	0.10	mg/L			10/30/19 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*107*		*50 - 150*		*10/30/19 20:18*	*1*
4-Bromofluorobenzene (Surr)	*101*		*50 - 150*		*10/30/19 20:18*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-315784/6
Matrix: Water
Analysis Batch: 315784

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	2.3	ug/L			11/01/19 17:25	1
Chloromethane	ND		20	5.4	ug/L			11/01/19 17:25	1
Vinyl chloride	ND		1.0	0.22	ug/L			11/01/19 17:25	1
Bromomethane	ND		6.0	1.1	ug/L			11/01/19 17:25	1
Chloroethane	ND		5.0	1.1	ug/L			11/01/19 17:25	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			11/01/19 17:25	1
1,1-Dichloroethene	ND		4.0	0.78	ug/L			11/01/19 17:25	1
Carbon disulfide	ND		3.0	0.53	ug/L			11/01/19 17:25	1
Acetone	ND		50	7.8	ug/L			11/01/19 17:25	1
Methylene Chloride	ND		5.0	1.4	ug/L			11/01/19 17:25	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			11/01/19 17:25	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			11/01/19 17:25	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			11/01/19 17:25	1
2-Butanone	ND		20	4.7	ug/L			11/01/19 17:25	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			11/01/19 17:25	1
Bromochloromethane	ND		2.0	0.29	ug/L			11/01/19 17:25	1
Chloroform	ND		5.0	0.50	ug/L			11/01/19 17:25	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			11/01/19 17:25	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			11/01/19 17:25	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			11/01/19 17:25	1
Benzene	ND		3.0	0.53	ug/L			11/01/19 17:25	1
1,2-Dichloroethane	ND		2.0	0.53	ug/L			11/01/19 17:25	1
Trichloroethene	ND		3.0	0.85	ug/L			11/01/19 17:25	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			11/01/19 17:25	1
Dibromomethane	ND		2.0	0.34	ug/L			11/01/19 17:25	1
Bromodichloromethane	ND		2.0	0.14	ug/L			11/01/19 17:25	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			11/01/19 17:25	1
4-Methyl-2-pentanone	ND		15	2.5	ug/L			11/01/19 17:25	1
Toluene	ND		2.0	0.39	ug/L			11/01/19 17:25	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			11/01/19 17:25	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			11/01/19 17:25	1
Tetrachloroethene	ND		3.0	0.41	ug/L			11/01/19 17:25	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			11/01/19 17:25	1
2-Hexanone	ND		20	4.0	ug/L			11/01/19 17:25	1
Dibromochloromethane	ND		2.0	0.50	ug/L			11/01/19 17:25	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			11/01/19 17:25	1
Chlorobenzene	ND		2.0	0.44	ug/L			11/01/19 17:25	1
Ethylbenzene	ND		3.0	0.50	ug/L			11/01/19 17:25	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			11/01/19 17:25	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/01/19 17:25	1
o-Xylene	ND		2.0	0.39	ug/L			11/01/19 17:25	1
Styrene	ND		5.0	1.0	ug/L			11/01/19 17:25	1
Bromoform	ND		3.0	0.56	ug/L			11/01/19 17:25	1
Isopropylbenzene	ND		2.0	0.51	ug/L			11/01/19 17:25	1
Bromobenzene	ND		2.0	0.43	ug/L			11/01/19 17:25	1
N-Propylbenzene	ND		3.0	0.50	ug/L			11/01/19 17:25	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			11/01/19 17:25	1
4-Chlorotoluene	ND		2.0	0.51	ug/L			11/01/19 17:25	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-315784/6
Matrix: Water
Analysis Batch: 315784

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
t-Butylbenzene	ND		3.0	0.58	ug/L			11/01/19 17:25	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			11/01/19 17:25	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			11/01/19 17:25	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			11/01/19 17:25	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			11/01/19 17:25	1
1,4-Dichlorobenzene	ND		4.0	0.98	ug/L			11/01/19 17:25	1
n-Butylbenzene	ND		3.0	0.44	ug/L			11/01/19 17:25	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			11/01/19 17:25	1
1,2-Dibromo-3-Chloropropane	ND		10	1.8	ug/L			11/01/19 17:25	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			11/01/19 17:25	1
1,2,3-Trichlorobenzene	ND		5.0	1.1	ug/L			11/01/19 17:25	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			11/01/19 17:25	1
Naphthalene	ND		4.0	0.93	ug/L			11/01/19 17:25	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/01/19 17:25	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			11/01/19 17:25	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			11/01/19 17:25	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			11/01/19 17:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/01/19 17:25*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*11/01/19 17:25*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/01/19 17:25*	*1*
Trifluorotoluene (Surr)	*108*		*80 - 120*		*11/01/19 17:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 126*		*11/01/19 17:25*	*1*

Lab Sample ID: LCS 580-315784/3
Matrix: Water
Analysis Batch: 315784

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	6.37	J	ug/L		64	20 - 150
Chloromethane	10.0	7.96	J	ug/L		80	52 - 135
Vinyl chloride	10.0	7.71		ug/L		77	65 - 130
Bromomethane	10.0	8.74		ug/L		87	66 - 125
Chloroethane	10.0	8.33		ug/L		83	65 - 132
Trichlorofluoromethane	10.0	7.49		ug/L		75	64 - 136
1,1-Dichloroethene	10.0	7.73		ug/L		77	70 - 129
Carbon disulfide	10.0	7.64		ug/L		76	69 - 122
Acetone	50.0	56.9		ug/L		114	43 - 150
Methylene Chloride	10.0	9.31		ug/L		93	77 - 125
trans-1,2-Dichloroethene	10.0	9.18		ug/L		92	77 - 124
1,1-Dichloroethane	10.0	9.12		ug/L		91	70 - 129
2,2-Dichloropropane	10.0	9.92		ug/L		99	62 - 140
2-Butanone	50.0	50.4		ug/L		101	65 - 127
cis-1,2-Dichloroethene	10.0	9.50		ug/L		95	76 - 129
Bromochloromethane	10.0	10.5		ug/L		105	78 - 120
Chloroform	10.0	9.75		ug/L		97	73 - 127
1,1,1-Trichloroethane	10.0	9.02		ug/L		90	74 - 130

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-315784/3
Matrix: Water
Analysis Batch: 315784

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Carbon tetrachloride	10.0	8.74		ug/L		87	72 - 129
1,1-Dichloropropene	10.0	8.60		ug/L		86	80 - 120
Benzene	10.0	9.32		ug/L		93	75 - 121
1,2-Dichloroethane	10.0	10.5		ug/L		105	76 - 131
Trichloroethene	10.0	9.55		ug/L		96	70 - 120
1,2-Dichloropropane	10.0	9.43		ug/L		94	72 - 126
Dibromomethane	10.0	10.2		ug/L		102	80 - 120
Bromodichloromethane	10.0	10.0		ug/L		100	75 - 124
cis-1,3-Dichloropropene	10.0	9.48		ug/L		95	77 - 120
4-Methyl-2-pentanone	50.0	43.8		ug/L		88	69 - 124
Toluene	10.0	9.47		ug/L		95	80 - 120
trans-1,3-Dichloropropene	10.0	10.0		ug/L		100	80 - 122
1,1,2-Trichloroethane	10.0	9.97		ug/L		100	80 - 121
Tetrachloroethene	10.0	9.87		ug/L		99	76 - 120
1,3-Dichloropropane	10.0	9.86		ug/L		99	79 - 120
2-Hexanone	50.0	47.9		ug/L		96	65 - 125
Dibromochloromethane	10.0	10.4		ug/L		104	71 - 120
1,2-Dibromoethane	10.0	9.97		ug/L		100	79 - 120
Chlorobenzene	10.0	10.4		ug/L		104	80 - 120
Ethylbenzene	10.0	9.99		ug/L		100	80 - 120
1,1,1,2-Tetrachloroethane	10.0	10.4		ug/L		104	79 - 120
m-Xylene & p-Xylene	10.0	9.78		ug/L		98	80 - 120
o-Xylene	10.0	10.3		ug/L		103	80 - 120
Styrene	10.0	10.5		ug/L		105	76 - 121
Bromoform	10.0	9.97		ug/L		100	61 - 132
Isopropylbenzene	10.0	9.71		ug/L		97	75 - 120
Bromobenzene	10.0	10.2		ug/L		102	80 - 120
N-Propylbenzene	10.0	9.52		ug/L		95	80 - 120
1,1,2,2-Tetrachloroethane	10.0	8.99		ug/L		90	74 - 124
4-Chlorotoluene	10.0	9.55		ug/L		96	80 - 120
t-Butylbenzene	10.0	9.51		ug/L		95	80 - 121
1,2,4-Trimethylbenzene	10.0	9.79		ug/L		98	80 - 120
sec-Butylbenzene	10.0	9.22		ug/L		92	78 - 120
1,3-Dichlorobenzene	10.0	10.7		ug/L		107	80 - 120
4-Isopropyltoluene	10.0	9.62		ug/L		96	77 - 120
1,4-Dichlorobenzene	10.0	9.60		ug/L		96	80 - 120
n-Butylbenzene	10.0	9.06		ug/L		91	78 - 120
1,2-Dichlorobenzene	10.0	10.0		ug/L		100	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	9.47	J	ug/L		95	65 - 125
1,2,4-Trichlorobenzene	10.0	10.2		ug/L		102	57 - 140
1,2,3-Trichlorobenzene	10.0	9.95		ug/L		99	23 - 150
Hexachlorobutadiene	10.0	9.31		ug/L		93	74 - 125
Naphthalene	10.0	9.43		ug/L		94	44 - 144
Methyl tert-butyl ether	10.0	10.3		ug/L		103	72 - 130
1,2,3-Trichloropropane	10.0	8.99		ug/L		90	76 - 124
1,3,5-Trimethylbenzene	10.0	9.61		ug/L		96	80 - 120
2-Chlorotoluene	10.0	10.1		ug/L		101	80 - 120

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-315784/3
Matrix: Water
Analysis Batch: 315784

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Trifluorotoluene (Surr)	*110*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 126*

Lab Sample ID: LCSD 580-315784/4
Matrix: Water
Analysis Batch: 315784

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			10.0	5.84	J	ug/L		58	20 - 150	9	35
Chloromethane			10.0	7.13	J	ug/L		71	52 - 135	11	23
Vinyl chloride			10.0	7.12		ug/L		71	65 - 130	8	28
Bromomethane			10.0	8.29		ug/L		83	66 - 125	5	27
Chloroethane			10.0	7.55		ug/L		75	65 - 132	10	35
Trichlorofluoromethane			10.0	7.05		ug/L		70	64 - 136	6	27
1,1-Dichloroethene			10.0	7.86		ug/L		79	70 - 129	2	27
Carbon disulfide			10.0	7.33		ug/L		73	69 - 122	4	20
Acetone			50.0	50.2		ug/L		100	43 - 150	12	35
Methylene Chloride			10.0	8.97		ug/L		90	77 - 125	4	18
trans-1,2-Dichloroethene			10.0	8.64		ug/L		86	77 - 124	6	21
1,1-Dichloroethane			10.0	8.68		ug/L		87	70 - 129	5	26
2,2-Dichloropropane			10.0	8.86		ug/L		89	62 - 140	11	23
2-Butanone			50.0	45.3		ug/L		91	65 - 127	11	29
cis-1,2-Dichloroethene			10.0	9.40		ug/L		94	76 - 129	1	15
Bromochloromethane			10.0	9.91		ug/L		99	78 - 120	6	20
Chloroform			10.0	9.40		ug/L		94	73 - 127	4	22
1,1,1-Trichloroethane			10.0	8.35		ug/L		83	74 - 130	8	18
Carbon tetrachloride			10.0	7.95		ug/L		79	72 - 129	10	19
1,1-Dichloropropene			10.0	7.97		ug/L		80	80 - 120	8	14
Benzene			10.0	8.80		ug/L		88	75 - 121	6	14
1,2-Dichloroethane			10.0	9.67		ug/L		97	76 - 131	8	18
Trichloroethene			10.0	9.38		ug/L		94	70 - 120	2	21
1,2-Dichloropropane			10.0	8.90		ug/L		89	72 - 126	6	26
Dibromomethane			10.0	9.44		ug/L		94	80 - 120	8	22
Bromodichloromethane			10.0	9.62		ug/L		96	75 - 124	4	22
cis-1,3-Dichloropropene			10.0	9.09		ug/L		91	77 - 120	4	20
4-Methyl-2-pentanone			50.0	41.2		ug/L		82	69 - 124	6	22
Toluene			10.0	8.89		ug/L		89	80 - 120	6	19
trans-1,3-Dichloropropene			10.0	9.47		ug/L		95	80 - 122	6	25
1,1,2-Trichloroethane			10.0	9.48		ug/L		95	80 - 121	5	21
Tetrachloroethene			10.0	9.00		ug/L		90	76 - 120	9	20
1,3-Dichloropropane			10.0	9.34		ug/L		93	79 - 120	5	26
2-Hexanone			50.0	45.1		ug/L		90	65 - 125	6	30
Dibromochloromethane			10.0	9.66		ug/L		97	71 - 120	7	24
1,2-Dibromoethane			10.0	9.16		ug/L		92	79 - 120	8	20
Chlorobenzene			10.0	9.81		ug/L		98	80 - 120	6	15

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-315784/4
Matrix: Water
Analysis Batch: 315784

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	10.0	9.30		ug/L		93	80 - 120	7	14
1,1,1,2-Tetrachloroethane	10.0	9.67		ug/L		97	79 - 120	7	20
m-Xylene & p-Xylene	10.0	9.27		ug/L		93	80 - 120	5	14
o-Xylene	10.0	9.71		ug/L		97	80 - 120	6	16
Styrene	10.0	9.69		ug/L		97	76 - 121	8	16
Bromoform	10.0	9.35		ug/L		94	61 - 132	6	20
Isopropylbenzene	10.0	9.03		ug/L		90	75 - 120	7	20
Bromobenzene	10.0	9.79		ug/L		98	80 - 120	4	13
N-Propylbenzene	10.0	8.91		ug/L		89	80 - 120	7	13
1,1,2,2-Tetrachloroethane	10.0	8.38		ug/L		84	74 - 124	7	18
4-Chlorotoluene	10.0	8.99		ug/L		90	80 - 120	6	14
t-Butylbenzene	10.0	8.69		ug/L		87	80 - 121	9	14
1,2,4-Trimethylbenzene	10.0	9.11		ug/L		91	80 - 120	7	16
sec-Butylbenzene	10.0	8.51		ug/L		85	78 - 120	8	15
1,3-Dichlorobenzene	10.0	9.60		ug/L		96	80 - 120	11	14
4-Isopropyltoluene	10.0	8.84		ug/L		88	77 - 120	8	13
1,4-Dichlorobenzene	10.0	9.06		ug/L		91	80 - 120	6	17
n-Butylbenzene	10.0	8.22		ug/L		82	78 - 120	10	14
1,2-Dichlorobenzene	10.0	9.38		ug/L		94	80 - 120	7	15
1,2-Dibromo-3-Chloropropane	10.0	8.64	J	ug/L		86	65 - 125	9	27
1,2,4-Trichlorobenzene	10.0	9.15		ug/L		92	57 - 140	11	27
1,2,3-Trichlorobenzene	10.0	9.30		ug/L		93	23 - 150	7	35
Hexachlorobutadiene	10.0	8.95		ug/L		89	74 - 125	4	22
Naphthalene	10.0	8.81		ug/L		88	44 - 144	7	31
Methyl tert-butyl ether	10.0	9.28		ug/L		93	72 - 130	11	18
1,2,3-Trichloropropane	10.0	8.47		ug/L		85	76 - 124	6	30
1,3,5-Trimethylbenzene	10.0	8.90		ug/L		89	80 - 120	8	14
2-Chlorotoluene	10.0	9.16		ug/L		92	80 - 120	10	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*80 - 120*
Trifluorotoluene (Surr)	*108*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 126*

Lab Sample ID: MB 580-315794/7
Matrix: Water
Analysis Batch: 315794

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		10	2.3	ug/L			11/02/19 00:26	1
Chloromethane	ND		20	5.4	ug/L			11/02/19 00:26	1
Vinyl chloride	ND		1.0	0.22	ug/L			11/02/19 00:26	1
Bromomethane	ND		6.0	1.1	ug/L			11/02/19 00:26	1
Chloroethane	ND		5.0	1.1	ug/L			11/02/19 00:26	1
Trichlorofluoromethane	ND		3.0	0.63	ug/L			11/02/19 00:26	1
1,1-Dichloroethene	ND		4.0	0.78	ug/L			11/02/19 00:26	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-315794/7
Matrix: Water
Analysis Batch: 315794

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		3.0	0.53	ug/L			11/02/19 00:26	1
Acetone	ND		50	7.8	ug/L			11/02/19 00:26	1
Methylene Chloride	ND		5.0	1.4	ug/L			11/02/19 00:26	1
trans-1,2-Dichloroethene	ND		3.0	0.39	ug/L			11/02/19 00:26	1
1,1-Dichloroethane	ND		2.0	0.22	ug/L			11/02/19 00:26	1
2,2-Dichloropropane	ND		3.0	0.32	ug/L			11/02/19 00:26	1
2-Butanone	ND		20	4.7	ug/L			11/02/19 00:26	1
cis-1,2-Dichloroethene	ND		3.0	0.69	ug/L			11/02/19 00:26	1
Bromochloromethane	ND		2.0	0.29	ug/L			11/02/19 00:26	1
Chloroform	ND		5.0	0.50	ug/L			11/02/19 00:26	1
1,1,1-Trichloroethane	ND		3.0	0.39	ug/L			11/02/19 00:26	1
Carbon tetrachloride	ND		3.0	0.30	ug/L			11/02/19 00:26	1
1,1-Dichloropropene	ND		3.0	0.29	ug/L			11/02/19 00:26	1
Benzene	ND		3.0	0.53	ug/L			11/02/19 00:26	1
1,2-Dichloroethane	ND		2.0	0.53	ug/L			11/02/19 00:26	1
Trichloroethene	ND		3.0	0.85	ug/L			11/02/19 00:26	1
1,2-Dichloropropane	ND		1.0	0.18	ug/L			11/02/19 00:26	1
Dibromomethane	ND		2.0	0.34	ug/L			11/02/19 00:26	1
Bromodichloromethane	ND		2.0	0.14	ug/L			11/02/19 00:26	1
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			11/02/19 00:26	1
4-Methyl-2-pentanone	ND		15	2.5	ug/L			11/02/19 00:26	1
Toluene	ND		2.0	0.39	ug/L			11/02/19 00:26	1
trans-1,3-Dichloropropene	ND		1.0	0.16	ug/L			11/02/19 00:26	1
1,1,2-Trichloroethane	ND		1.0	0.24	ug/L			11/02/19 00:26	1
Tetrachloroethene	ND		3.0	0.41	ug/L			11/02/19 00:26	1
1,3-Dichloropropane	ND		2.0	0.35	ug/L			11/02/19 00:26	1
2-Hexanone	ND		20	4.0	ug/L			11/02/19 00:26	1
Dibromochloromethane	ND		2.0	0.50	ug/L			11/02/19 00:26	1
1,2-Dibromoethane	ND		2.0	0.40	ug/L			11/02/19 00:26	1
Chlorobenzene	ND		2.0	0.44	ug/L			11/02/19 00:26	1
Ethylbenzene	ND		3.0	0.50	ug/L			11/02/19 00:26	1
1,1,1,2-Tetrachloroethane	ND		2.0	0.18	ug/L			11/02/19 00:26	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/02/19 00:26	1
o-Xylene	ND		2.0	0.39	ug/L			11/02/19 00:26	1
Styrene	ND		5.0	1.0	ug/L			11/02/19 00:26	1
Bromoform	ND		3.0	0.56	ug/L			11/02/19 00:26	1
Isopropylbenzene	ND		2.0	0.51	ug/L			11/02/19 00:26	1
Bromobenzene	ND		2.0	0.43	ug/L			11/02/19 00:26	1
N-Propylbenzene	ND		3.0	0.50	ug/L			11/02/19 00:26	1
1,1,2,2-Tetrachloroethane	ND		3.0	0.52	ug/L			11/02/19 00:26	1
4-Chlorotoluene	ND		2.0	0.51	ug/L			11/02/19 00:26	1
t-Butylbenzene	ND		3.0	0.58	ug/L			11/02/19 00:26	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			11/02/19 00:26	1
sec-Butylbenzene	ND		3.0	0.49	ug/L			11/02/19 00:26	1
1,3-Dichlorobenzene	ND		2.0	0.18	ug/L			11/02/19 00:26	1
4-Isopropyltoluene	ND		3.0	0.28	ug/L			11/02/19 00:26	1
1,4-Dichlorobenzene	ND		4.0	0.98	ug/L			11/02/19 00:26	1
n-Butylbenzene	ND		3.0	0.44	ug/L			11/02/19 00:26	1
1,2-Dichlorobenzene	ND		2.0	0.46	ug/L			11/02/19 00:26	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-315794/7
Matrix: Water
Analysis Batch: 315794

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		10	1.8	ug/L			11/02/19 00:26	1
1,2,4-Trichlorobenzene	ND		2.0	0.33	ug/L			11/02/19 00:26	1
1,2,3-Trichlorobenzene	ND		5.0	1.1	ug/L			11/02/19 00:26	1
Hexachlorobutadiene	ND		6.0	0.79	ug/L			11/02/19 00:26	1
Naphthalene	ND		4.0	0.93	ug/L			11/02/19 00:26	1
Methyl tert-butyl ether	ND		2.0	0.44	ug/L			11/02/19 00:26	1
1,2,3-Trichloropropane	ND		2.0	0.41	ug/L			11/02/19 00:26	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			11/02/19 00:26	1
2-Chlorotoluene	ND		3.0	0.51	ug/L			11/02/19 00:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*107*		*80 - 120*		*11/02/19 00:26*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*11/02/19 00:26*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 120*		*11/02/19 00:26*	*1*
Trifluorotoluene (Surr)	*91*		*80 - 120*		*11/02/19 00:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 126*		*11/02/19 00:26*	*1*

Lab Sample ID: LCS 580-315794/4
Matrix: Water
Analysis Batch: 315794

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	10.0	8.68	J	ug/L		87	20 - 150
Chloromethane	10.0	10.7	J	ug/L		107	52 - 135
Vinyl chloride	10.0	10.3		ug/L		103	65 - 130
Bromomethane	10.0	9.36		ug/L		94	66 - 125
Chloroethane	10.0	8.91		ug/L		89	65 - 132
Trichlorofluoromethane	10.0	8.26		ug/L		83	64 - 136
1,1-Dichloroethene	10.0	8.63		ug/L		86	70 - 129
Carbon disulfide	10.0	8.69		ug/L		87	69 - 122
Acetone	50.0	34.5	J	ug/L		69	43 - 150
Methylene Chloride	10.0	8.72		ug/L		87	77 - 125
trans-1,2-Dichloroethene	10.0	8.70		ug/L		87	77 - 124
1,1-Dichloroethane	10.0	9.11		ug/L		91	70 - 129
2,2-Dichloropropane	10.0	9.12		ug/L		91	62 - 140
2-Butanone	50.0	38.2		ug/L		76	65 - 127
cis-1,2-Dichloroethene	10.0	8.58		ug/L		86	76 - 129
Bromochloromethane	10.0	8.03		ug/L		80	78 - 120
Chloroform	10.0	9.02		ug/L		90	73 - 127
1,1,1-Trichloroethane	10.0	8.43		ug/L		84	74 - 130
Carbon tetrachloride	10.0	7.82		ug/L		78	72 - 129
1,1-Dichloropropene	10.0	8.04		ug/L		80	80 - 120
Benzene	10.0	9.02		ug/L		90	75 - 121
1,2-Dichloroethane	10.0	8.47		ug/L		85	76 - 131
Trichloroethene	10.0	7.90		ug/L		79	70 - 120
1,2-Dichloropropane	10.0	9.29		ug/L		93	72 - 126
Dibromomethane	10.0	8.25		ug/L		82	80 - 120
Bromodichloromethane	10.0	8.39		ug/L		84	75 - 124

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-315794/4
Matrix: Water
Analysis Batch: 315794

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,3-Dichloropropene	10.0	9.28		ug/L		93	77 - 120
4-Methyl-2-pentanone	50.0	48.0		ug/L		96	69 - 124
Toluene	10.0	10.2		ug/L		102	80 - 120
trans-1,3-Dichloropropene	10.0	8.72		ug/L		87	80 - 122
1,1,2-Trichloroethane	10.0	9.98		ug/L		100	80 - 121
Tetrachloroethene	10.0	9.12		ug/L		91	76 - 120
1,3-Dichloropropane	10.0	10.0		ug/L		100	79 - 120
2-Hexanone	50.0	43.9		ug/L		88	65 - 125
Dibromochloromethane	10.0	8.23		ug/L		82	71 - 120
1,2-Dibromoethane	10.0	9.26		ug/L		93	79 - 120
Chlorobenzene	10.0	9.73		ug/L		97	80 - 120
Ethylbenzene	10.0	10.0		ug/L		100	80 - 120
1,1,1,2-Tetrachloroethane	10.0	9.28		ug/L		93	79 - 120
m-Xylene & p-Xylene	10.0	9.51		ug/L		95	80 - 120
o-Xylene	10.0	9.60		ug/L		96	80 - 120
Styrene	10.0	9.00		ug/L		90	76 - 121
Bromoform	10.0	7.59		ug/L		76	61 - 132
Isopropylbenzene	10.0	9.49		ug/L		95	75 - 120
Bromobenzene	10.0	9.19		ug/L		92	80 - 120
N-Propylbenzene	10.0	10.1		ug/L		101	80 - 120
1,1,2,2-Tetrachloroethane	10.0	11.6		ug/L		116	74 - 124
4-Chlorotoluene	10.0	9.48		ug/L		95	80 - 120
t-Butylbenzene	10.0	9.36		ug/L		94	80 - 121
1,2,4-Trimethylbenzene	10.0	9.79		ug/L		98	80 - 120
sec-Butylbenzene	10.0	9.50		ug/L		95	78 - 120
1,3-Dichlorobenzene	10.0	9.74		ug/L		97	80 - 120
4-Isopropyltoluene	10.0	9.21		ug/L		92	77 - 120
1,4-Dichlorobenzene	10.0	9.60		ug/L		96	80 - 120
n-Butylbenzene	10.0	8.71		ug/L		87	78 - 120
1,2-Dichlorobenzene	10.0	9.81		ug/L		98	80 - 120
1,2-Dibromo-3-Chloropropane	10.0	8.50	J	ug/L		85	65 - 125
1,2,4-Trichlorobenzene	10.0	9.70		ug/L		97	57 - 140
1,2,3-Trichlorobenzene	10.0	9.68		ug/L		97	23 - 150
Hexachlorobutadiene	10.0	8.39		ug/L		84	74 - 125
Naphthalene	10.0	9.75		ug/L		97	44 - 144
Methyl tert-butyl ether	10.0	8.72		ug/L		87	72 - 130
1,2,3-Trichloropropane	10.0	9.12		ug/L		91	76 - 124
1,3,5-Trimethylbenzene	10.0	9.88		ug/L		99	80 - 120
2-Chlorotoluene	10.0	9.45		ug/L		95	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
Trifluorotoluene (Surr)	*91*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 126*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-315794/5
Matrix: Water
Analysis Batch: 315794

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dichlorodifluoromethane			10.0	8.33	J	ug/L		83	20 - 150	4	35
Chloromethane			10.0	9.81	J	ug/L		98	52 - 135	9	23
Vinyl chloride			10.0	10.3		ug/L		103	65 - 130	1	28
Bromomethane			10.0	9.17		ug/L		92	66 - 125	2	27
Chloroethane			10.0	9.53		ug/L		95	65 - 132	7	35
Trichlorofluoromethane			10.0	7.81		ug/L		78	64 - 136	6	27
1,1-Dichloroethene			10.0	8.17		ug/L		82	70 - 129	5	27
Carbon disulfide			10.0	8.80		ug/L		88	69 - 122	1	20
Acetone			50.0	35.8	J	ug/L		72	43 - 150	4	35
Methylene Chloride			10.0	8.97		ug/L		90	77 - 125	3	18
trans-1,2-Dichloroethene			10.0	8.69		ug/L		87	77 - 124	0	21
1,1-Dichloroethane			10.0	8.69		ug/L		87	70 - 129	5	26
2,2-Dichloropropane			10.0	9.09		ug/L		91	62 - 140	0	23
2-Butanone			50.0	35.5		ug/L		71	65 - 127	7	29
cis-1,2-Dichloroethene			10.0	8.55		ug/L		85	76 - 129	0	15
Bromochloromethane			10.0	8.17		ug/L		82	78 - 120	2	20
Chloroform			10.0	8.77		ug/L		88	73 - 127	3	22
1,1,1-Trichloroethane			10.0	8.22		ug/L		82	74 - 130	3	18
Carbon tetrachloride			10.0	7.62		ug/L		76	72 - 129	3	19
1,1-Dichloropropene			10.0	7.89	*	ug/L		79	80 - 120	2	14
Benzene			10.0	8.81		ug/L		88	75 - 121	2	14
1,2-Dichloroethane			10.0	8.51		ug/L		85	76 - 131	1	18
Trichloroethene			10.0	7.78		ug/L		78	70 - 120	2	21
1,2-Dichloropropane			10.0	9.05		ug/L		90	72 - 126	3	26
Dibromomethane			10.0	8.31		ug/L		83	80 - 120	1	22
Bromodichloromethane			10.0	8.19		ug/L		82	75 - 124	2	22
cis-1,3-Dichloropropene			10.0	9.03		ug/L		90	77 - 120	3	20
4-Methyl-2-pentanone			50.0	48.1		ug/L		96	69 - 124	0	22
Toluene			10.0	9.87		ug/L		99	80 - 120	4	19
trans-1,3-Dichloropropene			10.0	8.67		ug/L		87	80 - 122	1	25
1,1,2-Trichloroethane			10.0	10.2		ug/L		102	80 - 121	2	21
Tetrachloroethene			10.0	8.95		ug/L		90	76 - 120	2	20
1,3-Dichloropropane			10.0	9.66		ug/L		97	79 - 120	4	26
2-Hexanone			50.0	42.2		ug/L		84	65 - 125	4	30
Dibromochloromethane			10.0	8.56		ug/L		86	71 - 120	4	24
1,2-Dibromoethane			10.0	8.87		ug/L		89	79 - 120	4	20
Chlorobenzene			10.0	9.15		ug/L		92	80 - 120	6	15
Ethylbenzene			10.0	9.86		ug/L		99	80 - 120	2	14
1,1,1,2-Tetrachloroethane			10.0	8.80		ug/L		88	79 - 120	5	20
m-Xylene & p-Xylene			10.0	9.40		ug/L		94	80 - 120	1	14
o-Xylene			10.0	9.54		ug/L		95	80 - 120	1	16
Styrene			10.0	8.84		ug/L		88	76 - 121	2	16
Bromoform			10.0	7.44		ug/L		74	61 - 132	2	20
Isopropylbenzene			10.0	9.21		ug/L		92	75 - 120	3	20
Bromobenzene			10.0	9.12		ug/L		91	80 - 120	1	13
N-Propylbenzene			10.0	9.89		ug/L		99	80 - 120	2	13
1,1,2,2-Tetrachloroethane			10.0	11.4		ug/L		114	74 - 124	2	18
4-Chlorotoluene			10.0	9.17		ug/L		92	80 - 120	3	14

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-315794/5
Matrix: Water
Analysis Batch: 315794

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
t-Butylbenzene			10.0	8.86		ug/L		89	80 - 121	5	14
1,2,4-Trimethylbenzene			10.0	9.71		ug/L		97	80 - 120	1	16
sec-Butylbenzene			10.0	9.21		ug/L		92	78 - 120	3	15
1,3-Dichlorobenzene			10.0	9.56		ug/L		96	80 - 120	2	14
4-Isopropyltoluene			10.0	8.92		ug/L		89	77 - 120	3	13
1,4-Dichlorobenzene			10.0	9.64		ug/L		96	80 - 120	0	17
n-Butylbenzene			10.0	8.09		ug/L		81	78 - 120	7	14
1,2-Dichlorobenzene			10.0	9.64		ug/L		96	80 - 120	2	15
1,2-Dibromo-3-Chloropropane			10.0	8.70	J	ug/L		87	65 - 125	2	27
1,2,4-Trichlorobenzene			10.0	9.05		ug/L		90	57 - 140	7	27
1,2,3-Trichlorobenzene			10.0	9.05		ug/L		91	23 - 150	7	35
Hexachlorobutadiene			10.0	7.96		ug/L		80	74 - 125	5	22
Naphthalene			10.0	9.45		ug/L		94	44 - 144	3	31
Methyl tert-butyl ether			10.0	8.71		ug/L		87	72 - 130	0	18
1,2,3-Trichloropropane			10.0	8.65		ug/L		86	76 - 124	5	30
1,3,5-Trimethylbenzene			10.0	9.48		ug/L		95	80 - 120	4	14
2-Chlorotoluene			10.0	8.94		ug/L		89	80 - 120	6	15

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*80 - 120*
Trifluorotoluene (Surr)	*91*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*97*		*80 - 126*

Lab Sample ID: MB 580-315865/13
Matrix: Water
Analysis Batch: 315865

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		2.0	0.39	ug/L			11/04/19 14:29	1
Ethylbenzene	ND		3.0	0.50	ug/L			11/04/19 14:29	1
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/04/19 14:29	1
o-Xylene	ND		2.0	0.39	ug/L			11/04/19 14:29	1
1,2,4-Trimethylbenzene	ND		3.0	0.61	ug/L			11/04/19 14:29	1
Naphthalene	ND		4.0	0.93	ug/L			11/04/19 14:29	1
1,3,5-Trimethylbenzene	ND		3.0	0.55	ug/L			11/04/19 14:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/04/19 14:29*	*1*
4-Bromofluorobenzene (Surr)	*90*		*80 - 120*		*11/04/19 14:29*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*11/04/19 14:29*	*1*
Trifluorotoluene (Surr)	*91*		*80 - 120*		*11/04/19 14:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 126*		*11/04/19 14:29*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-315865/14
Matrix: Water
Analysis Batch: 315865

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Toluene			10.0	10.8		ug/L		108	80 - 120		
Ethylbenzene			10.0	10.7		ug/L		107	80 - 120		
m-Xylene & p-Xylene			10.0	10.3		ug/L		103	80 - 120		
o-Xylene			10.0	10.2		ug/L		102	80 - 120		
1,2,4-Trimethylbenzene			10.0	10.3		ug/L		103	80 - 120		
Naphthalene			10.0	9.81		ug/L		98	44 - 144		
1,3,5-Trimethylbenzene			10.0	10.2		ug/L		102	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*105*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*80 - 120*
Trifluorotoluene (Surr)	*90*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*96*		*80 - 126*

Lab Sample ID: LCSD 580-315865/15
Matrix: Water
Analysis Batch: 315865

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene			10.0	10.9		ug/L		109	80 - 120	1	19
Ethylbenzene			10.0	10.5		ug/L		105	80 - 120	2	14
m-Xylene & p-Xylene			10.0	9.86		ug/L		99	80 - 120	4	14
o-Xylene			10.0	10.1		ug/L		101	80 - 120	2	16
1,2,4-Trimethylbenzene			10.0	10.7		ug/L		107	80 - 120	4	16
Naphthalene			10.0	9.93		ug/L		99	44 - 144	1	31
1,3,5-Trimethylbenzene			10.0	10.6		ug/L		106	80 - 120	4	14

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*107*		*80 - 120*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*
Trifluorotoluene (Surr)	*90*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*95*		*80 - 126*

Lab Sample ID: MB 580-315991/6
Matrix: Water
Analysis Batch: 315991

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	ND		3.0	0.75	ug/L			11/05/19 14:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*80 - 120*		*11/05/19 14:17*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*11/05/19 14:17*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*11/05/19 14:17*	*1*
Trifluorotoluene (Surr)	*112*		*80 - 120*		*11/05/19 14:17*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-315991/6
Matrix: Water
Analysis Batch: 315991

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		80 - 126		11/05/19 14:17	1

Lab Sample ID: LCS 580-315991/3
Matrix: Water
Analysis Batch: 315991

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
m-Xylene & p-Xylene			10.0	10.4		ug/L		104	80 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 120
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	104		80 - 120
Trifluorotoluene (Surr)	111		80 - 120
1,2-Dichloroethane-d4 (Surr)	101		80 - 126

Lab Sample ID: LCSD 580-315991/4
Matrix: Water
Analysis Batch: 315991

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
m-Xylene & p-Xylene			10.0	11.0		ug/L		110	80 - 120	5	14

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 120
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	106		80 - 120
Trifluorotoluene (Surr)	110		80 - 120
1,2-Dichloroethane-d4 (Surr)	104		80 - 126

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-315494/1-A
Matrix: Water
Analysis Batch: 316468

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315494

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.10	0.031	ug/L		10/30/19 09:13	11/11/19 14:32	1
2-Methylnaphthalene	ND		0.20	0.039	ug/L		10/30/19 09:13	11/11/19 14:32	1
1-Methylnaphthalene	ND		0.10	0.019	ug/L		10/30/19 09:13	11/11/19 14:32	1
Acenaphthylene	ND		0.050	0.0090	ug/L		10/30/19 09:13	11/11/19 14:32	1
Acenaphthene	ND		0.10	0.014	ug/L		10/30/19 09:13	11/11/19 14:32	1
Fluorene	ND		0.10	0.017	ug/L		10/30/19 09:13	11/11/19 14:32	1
Phenanthrene	ND		0.10	0.031	ug/L		10/30/19 09:13	11/11/19 14:32	1
Anthracene	ND		0.10	0.022	ug/L		10/30/19 09:13	11/11/19 14:32	1
Fluoranthene	ND		0.20	0.050	ug/L		10/30/19 09:13	11/11/19 14:32	1
Pyrene	ND		0.10	0.033	ug/L		10/30/19 09:13	11/11/19 14:32	1
Benzo[a]anthracene	ND		0.050	0.014	ug/L		10/30/19 09:13	11/11/19 14:32	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 580-315494/1-A
Matrix: Water
Analysis Batch: 316468

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315494

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		0.10	0.016	ug/L		10/30/19 09:13	11/11/19 14:32	1
Benzo[b]fluoranthene	ND		0.050	0.011	ug/L		10/30/19 09:13	11/11/19 14:32	1
Benzo[k]fluoranthene	ND		0.050	0.012	ug/L		10/30/19 09:13	11/11/19 14:32	1
Benzo[a]pyrene	ND		0.10	0.011	ug/L		10/30/19 09:13	11/11/19 14:32	1
Indeno[1,2,3-cd]pyrene	ND		0.050	0.014	ug/L		10/30/19 09:13	11/11/19 14:32	1
Dibenz(a,h)anthracene	ND		0.10	0.026	ug/L		10/30/19 09:13	11/11/19 14:32	1
Benzo[g,h,i]perylene	ND		0.050	0.012	ug/L		10/30/19 09:13	11/11/19 14:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*49*	*X*	*53 - 120*	*10/30/19 09:13*	*11/11/19 14:32*	*1*

Lab Sample ID: LCS 580-315494/2-A
Matrix: Water
Analysis Batch: 316468

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315494

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	4.00	2.28		ug/L		57	36 - 120
2-Methylnaphthalene	4.00	3.27		ug/L		82	33 - 120
1-Methylnaphthalene	4.00	2.31		ug/L		58	35 - 120
Acenaphthylene	4.00	2.70		ug/L		67	42 - 120
Acenaphthene	4.00	2.44		ug/L		61	42 - 120
Fluorene	4.00	2.63		ug/L		66	49 - 120
Phenanthrene	4.00	2.54		ug/L		63	54 - 120
Anthracene	4.00	2.77		ug/L		69	56 - 120
Fluoranthene	4.00	2.77		ug/L		69	52 - 129
Pyrene	4.00	2.68		ug/L		67	50 - 127
Benzo[a]anthracene	4.00	3.49		ug/L		87	61 - 129
Chrysene	4.00	2.89		ug/L		72	47 - 126
Benzo[b]fluoranthene	4.00	2.74		ug/L		68	53 - 133
Benzo[k]fluoranthene	4.00	2.98		ug/L		75	51 - 132
Benzo[a]pyrene	4.00	2.93		ug/L		73	56 - 130
Indeno[1,2,3-cd]pyrene	4.00	3.70		ug/L		93	56 - 135
Dibenz(a,h)anthracene	4.00	3.12		ug/L		78	60 - 133
Benzo[g,h,i]perylene	4.00	3.02		ug/L		76	55 - 127

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14	*55*		*53 - 120*

Lab Sample ID: LCSD 580-315494/3-A
Matrix: Water
Analysis Batch: 316468

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 315494

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	4.00	2.32		ug/L		58	36 - 120	2	27
2-Methylnaphthalene	4.00	3.25		ug/L		81	33 - 120	1	30
1-Methylnaphthalene	4.00	2.30		ug/L		58	35 - 120	1	34
Acenaphthylene	4.00	2.68		ug/L		67	42 - 120	1	26
Acenaphthene	4.00	2.41		ug/L		60	42 - 120	1	24

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-315494/3-A
Matrix: Water
Analysis Batch: 316468

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 315494

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluorene			4.00	2.57		ug/L		64	49 - 120	2	21
Phenanthrene			4.00	2.50		ug/L		63	54 - 120	1	21
Anthracene			4.00	2.74		ug/L		68	56 - 120	1	29
Fluoranthene			4.00	2.76		ug/L		69	52 - 129	0	32
Pyrene			4.00	2.84		ug/L		71	50 - 127	6	35
Benzo[a]anthracene			4.00	3.57		ug/L		89	61 - 129	2	31
Chrysene			4.00	2.90		ug/L		72	47 - 126	0	23
Benzo[b]fluoranthene			4.00	2.83		ug/L		71	53 - 133	3	25
Benzo[k]fluoranthene			4.00	3.09		ug/L		77	51 - 132	3	25
Benzo[a]pyrene			4.00	3.09		ug/L		77	56 - 130	5	27
Indeno[1,2,3-cd]pyrene			4.00	3.90		ug/L		98	56 - 135	5	24
Dibenz(a,h)anthracene			4.00	3.29		ug/L		82	60 - 133	5	25
Benzo[g,h,i]perylene			4.00	3.24		ug/L		81	55 - 127	7	27

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Terphenyl-d14	*55*		*53 - 120*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Lab Sample ID: MB 580-315497/33
Matrix: Water
Analysis Batch: 315497

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		0.25	0.10	mg/L			10/30/19 21:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*88*		*50 - 150*		*10/30/19 21:55*	*1*
4-Bromofluorobenzene (Surr)	*100*		*50 - 150*		*10/30/19 21:55*	*1*

Lab Sample ID: MB 580-315497/7
Matrix: Water
Analysis Batch: 315497

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		0.25	0.10	mg/L			10/30/19 11:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*59*		*50 - 150*		*10/30/19 11:17*	*1*
4-Bromofluorobenzene (Surr)	*100*		*50 - 150*		*10/30/19 11:17*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCS 580-315497/34
Matrix: Water
Analysis Batch: 315497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO) -C6-C10			1.00	0.893		mg/L		89	77 - 123		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Trifluorotoluene (Surr)	*90*		*50 - 150*
4-Bromofluorobenzene (Surr)	*105*		*50 - 150*

Lab Sample ID: LCS 580-315497/8
Matrix: Water
Analysis Batch: 315497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO) -C6-C10			1.00	0.999		mg/L		100	77 - 123		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Trifluorotoluene (Surr)	*94*		*50 - 150*
4-Bromofluorobenzene (Surr)	*109*		*50 - 150*

Lab Sample ID: LCSD 580-315497/35
Matrix: Water
Analysis Batch: 315497

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10			1.00	0.874		mg/L		87	77 - 123	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Trifluorotoluene (Surr)	*89*		*50 - 150*
4-Bromofluorobenzene (Surr)	*105*		*50 - 150*

Lab Sample ID: LCSD 580-315497/9
Matrix: Water
Analysis Batch: 315497

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10			1.00	1.01		mg/L		101	77 - 123	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Trifluorotoluene (Surr)	*92*		*50 - 150*
4-Bromofluorobenzene (Surr)	*109*		*50 - 150*

Method: AK101 - Alaska - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: MB 580-315586/9
Matrix: Water
Analysis Batch: 315586

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		0.25	0.10	mg/L			10/31/19 12:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*86*		*50 - 150*		*10/31/19 12:10*	*1*
4-Bromofluorobenzene (Surr)	*104*		*50 - 150*		*10/31/19 12:10*	*1*

Lab Sample ID: LCS 580-315586/10
Matrix: Water
Analysis Batch: 315586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO) -C6-C10			1.00	1.00		mg/L		100	77 - 123		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Trifluorotoluene (Surr)	*95*		*50 - 150*
4-Bromofluorobenzene (Surr)	*108*		*50 - 150*

Lab Sample ID: LCSD 580-315586/11
Matrix: Water
Analysis Batch: 315586

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10			1.00	1.02		mg/L		102	77 - 123	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Trifluorotoluene (Surr)	*99*		*50 - 150*
4-Bromofluorobenzene (Surr)	*103*		*50 - 150*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Lab Sample ID: MB 580-315972/1-A
Matrix: Water
Analysis Batch: 316161

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315972

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		0.11	0.075	mg/L		11/05/19 09:25	11/06/19 15:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*83*		*50 - 150*	*11/05/19 09:25*	*11/06/19 15:35*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) (Continued)

Lab Sample ID: LCS 580-315972/2-A
Matrix: Water
Analysis Batch: 316161

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315972

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
DRO (nC10-<nC25)			2.00	1.41	*	mg/L		70	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*68*		*50 - 150*

Lab Sample ID: LCSD 580-315972/3-A
Matrix: Water
Analysis Batch: 316161

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 315972

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (nC10-<nC25)			2.00	1.28	*	mg/L		64	75 - 125	9	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*65*		*50 - 150*

Lab Sample ID: MB 580-316072/1-A
Matrix: Water
Analysis Batch: 316296

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 316072

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		0.11	0.075	mg/L		11/06/19 08:57	11/07/19 16:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*65*		*50 - 150*	*11/06/19 08:57*	*11/07/19 16:36*	*1*

Lab Sample ID: LCS 580-316072/2-A
Matrix: Water
Analysis Batch: 316296

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 316072

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
DRO (nC10-<nC25)			2.00	1.08	*	mg/L		54	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*49*	*X*	*50 - 150*

Lab Sample ID: LCSD 580-316072/3-A
Matrix: Water
Analysis Batch: 316296

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 316072

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (nC10-<nC25)			2.00	1.29	*	mg/L		65	75 - 125	18	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*59*		*50 - 150*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) (Continued)

Lab Sample ID: MB 580-316551/1-A
Matrix: Water
Analysis Batch: 316740

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 316551

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		0.11	0.075	mg/L		11/12/19 09:20	11/13/19 17:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*82*		*50 - 150*	*11/12/19 09:20*	*11/13/19 17:00*	*1*

Lab Sample ID: MB 580-316551/1-A
Matrix: Water
Analysis Batch: 316859

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 316551

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		0.11	0.075	mg/L		11/12/19 09:20	11/15/19 02:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*77*		*50 - 150*	*11/12/19 09:20*	*11/15/19 02:06*	*1*

Lab Sample ID: LCS 580-316551/2-A
Matrix: Water
Analysis Batch: 316740

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 316551

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
DRO (nC10-<nC25)			2.00	1.82		mg/L		91	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*98*		*50 - 150*

Lab Sample ID: LCSD 580-316551/3-A
Matrix: Water
Analysis Batch: 316740

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 316551

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (nC10-<nC25)			2.00	1.86		mg/L		93	75 - 125	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*95*		*50 - 150*

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: MW-3

Lab Sample ID: 580-90396-1

Date Collected: 10/23/19 14:53

Matrix: Water

Date Received: 10/28/19 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	315784	11/01/19 21:31	W1T	TAL SEA
Total/NA	Analysis	8260C	DL	10	315865	11/04/19 18:15	APR	TAL SEA
Total/NA	Prep	3510C			315494	10/30/19 09:13	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		20	316289	11/07/19 21:43	E1L	TAL SEA
Total/NA	Prep	3510C	DL		315494	10/30/19 09:13	NRF	TAL SEA
Total/NA	Analysis	8270D SIM	DL	200	316468	11/11/19 15:50	W1T	TAL SEA
Total/NA	Analysis	AK101		1	315586	10/31/19 16:59	DCV	TAL SEA
Total/NA	Prep	3510C	RE		316551	11/12/19 09:20	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103	RE	5	316740	11/13/19 18:29	TL1	TAL SEA
Total/NA	Prep	3510C			316072	11/06/19 08:57	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103		9	316296	11/07/19 21:39	W1T	TAL SEA

Client Sample ID: MW-4

Lab Sample ID: 580-90396-2

Date Collected: 10/23/19 10:55

Matrix: Water

Date Received: 10/28/19 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	315784	11/01/19 21:56	W1T	TAL SEA
Total/NA	Prep	3510C			315494	10/30/19 09:13	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		1	316289	11/07/19 22:09	E1L	TAL SEA
Total/NA	Analysis	AK101		1	315497	10/30/19 19:30	EML	TAL SEA
Total/NA	Prep	3510C	RE		316551	11/12/19 09:20	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103	RE	1	316740	11/13/19 18:51	TL1	TAL SEA
Total/NA	Prep	3510C			316072	11/06/19 08:57	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103		1	316296	11/07/19 21:59	W1T	TAL SEA

Client Sample ID: MW-8

Lab Sample ID: 580-90396-3

Date Collected: 10/23/19 13:03

Matrix: Water

Date Received: 10/28/19 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	315784	11/01/19 22:20	W1T	TAL SEA
Total/NA	Prep	3510C			315494	10/30/19 09:13	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		1	316289	11/07/19 22:35	E1L	TAL SEA
Total/NA	Analysis	AK101		1	315497	10/30/19 20:42	EML	TAL SEA
Total/NA	Prep	3510C	RE		316551	11/12/19 09:20	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103	RE	1	316740	11/13/19 19:13	TL1	TAL SEA
Total/NA	Prep	3510C			316072	11/06/19 08:57	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103		1	316296	11/07/19 22:19	W1T	TAL SEA

Client Sample ID: MW-14

Lab Sample ID: 580-90396-4

Date Collected: 10/23/19 12:05

Matrix: Water

Date Received: 10/28/19 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	315784	11/01/19 22:45	W1T	TAL SEA
Total/NA	Analysis	8260C	DL	50	315865	11/04/19 17:25	APR	TAL SEA
Total/NA	Prep	3510C			315494	10/30/19 09:13	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		10	316289	11/07/19 23:01	E1L	TAL SEA
Total/NA	Prep	3510C	DL		315494	10/30/19 09:13	NRF	TAL SEA
Total/NA	Analysis	8270D SIM	DL	100	316468	11/11/19 16:17	W1T	TAL SEA
Total/NA	Analysis	AK101		1	315586	10/31/19 17:23	DCV	TAL SEA
Total/NA	Prep	3510C	RE		316551	11/12/19 09:20	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103	RE	1	316740	11/13/19 19:35	TL1	TAL SEA
Total/NA	Prep	3510C			316072	11/06/19 08:57	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103		1	316296	11/07/19 22:39	W1T	TAL SEA

Client Sample ID: MW-17

Lab Sample ID: 580-90396-5

Date Collected: 10/23/19 11:30

Matrix: Water

Date Received: 10/28/19 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	315784	11/01/19 23:10	W1T	TAL SEA
Total/NA	Analysis	8260C	RA	1	315865	11/04/19 15:45	APR	TAL SEA
Total/NA	Prep	3510C			315494	10/30/19 09:13	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		5	316289	11/07/19 23:27	E1L	TAL SEA
Total/NA	Analysis	AK101		1	315497	10/30/19 23:07	EML	TAL SEA
Total/NA	Prep	3510C	RE		316551	11/12/19 09:20	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103	RE	1	316740	11/13/19 19:58	TL1	TAL SEA
Total/NA	Prep	3510C			316072	11/06/19 08:57	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103		1	316296	11/07/19 23:00	W1T	TAL SEA

Client Sample ID: MW-19-1

Lab Sample ID: 580-90396-6

Date Collected: 10/23/19 14:20

Matrix: Water

Date Received: 10/28/19 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	315784	11/01/19 23:35	W1T	TAL SEA
Total/NA	Analysis	8260C	DL	50	315865	11/04/19 17:50	APR	TAL SEA
Total/NA	Prep	3510C			315494	10/30/19 09:13	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		10	316289	11/07/19 23:53	E1L	TAL SEA
Total/NA	Prep	3510C	DL		315494	10/30/19 09:13	NRF	TAL SEA
Total/NA	Analysis	8270D SIM	DL	100	316468	11/11/19 16:43	W1T	TAL SEA
Total/NA	Analysis	AK101		1	315586	10/31/19 17:47	DCV	TAL SEA
Total/NA	Prep	3510C	RE		316551	11/12/19 09:20	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103	RE	1	316740	11/13/19 20:20	TL1	TAL SEA
Total/NA	Prep	3510C			316072	11/06/19 08:57	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103		1	316296	11/07/19 23:20	W1T	TAL SEA

Client Sample ID: CRW-2

Lab Sample ID: 580-90396-7

Date Collected: 10/23/19 15:34

Matrix: Water

Date Received: 10/28/19 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	315794	11/02/19 02:07	TL1	TAL SEA
Total/NA	Analysis	8260C	DL	5	315865	11/04/19 19:54	APR	TAL SEA
Total/NA	Prep	3510C			315494	10/30/19 09:13	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		1	316289	11/08/19 00:19	E1L	TAL SEA
Total/NA	Prep	3510C	DL		315494	10/30/19 09:13	NRF	TAL SEA
Total/NA	Analysis	8270D SIM	DL	10	316468	11/11/19 17:09	W1T	TAL SEA
Total/NA	Analysis	AK101		1	315497	10/30/19 23:56	EML	TAL SEA
Total/NA	Prep	3510C			315972	11/05/19 09:25	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103		1	316161	11/06/19 19:57	T1W	TAL SEA
Total/NA	Prep	3510C	RE		316072	11/06/19 08:57	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103	RE	1	316296	11/08/19 00:00	W1T	TAL SEA

Client Sample ID: DRAIN FIELD

Lab Sample ID: 580-90396-8

Date Collected: 10/23/19 15:10

Matrix: Water

Date Received: 10/28/19 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	315794	11/02/19 02:32	TL1	TAL SEA
Total/NA	Prep	3510C			315494	10/30/19 09:13	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		1	316289	11/08/19 00:45	E1L	TAL SEA
Total/NA	Analysis	AK101		1	315497	10/31/19 00:20	EML	TAL SEA
Total/NA	Prep	3510C			315972	11/05/19 09:25	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103		1	316161	11/06/19 20:18	T1W	TAL SEA
Total/NA	Prep	3510C	RE		316072	11/06/19 08:57	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103	RE	1	316296	11/08/19 00:20	W1T	TAL SEA

Client Sample ID: 2GM101DUP

Lab Sample ID: 580-90396-9

Date Collected: 10/23/19 14:22

Matrix: Water

Date Received: 10/28/19 13:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C	DL2	50	315991	11/05/19 20:05	W1T	TAL SEA
Total/NA	Analysis	8260C		1	315794	11/02/19 02:56	TL1	TAL SEA
Total/NA	Analysis	8260C	DL	10	315865	11/04/19 18:39	APR	TAL SEA
Total/NA	Prep	3510C			315494	10/30/19 09:13	NRF	TAL SEA
Total/NA	Analysis	8270D SIM		10	316289	11/08/19 01:11	E1L	TAL SEA
Total/NA	Prep	3510C	DL		315494	10/30/19 09:13	NRF	TAL SEA
Total/NA	Analysis	8270D SIM	DL	250	316789	11/14/19 15:14	W1T	TAL SEA
Total/NA	Analysis	AK101		1	315586	10/31/19 18:11	DCV	TAL SEA
Total/NA	Prep	3510C	REDL		316551	11/12/19 09:20	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103	REDL	25	316859	11/15/19 02:28	JCM	TAL SEA
Total/NA	Prep	3510C			315972	11/05/19 09:25	NRF	TAL SEA
Total/NA	Analysis	AK102 & 103		1	316161	11/06/19 20:38	T1W	TAL SEA

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Client Sample ID: TRIP BLANK

Date Collected: 10/23/19 12:00
Date Received: 10/28/19 13:25

Lab Sample ID: 580-90396-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	315794	11/02/19 00:51	TL1	TAL SEA
Total/NA	Analysis	AK101		1	315497	10/30/19 20:18	EML	TAL SEA

Laboratory References:

TAL SEA = Eurofins TestAmerica, Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Stantec Consulting Services Inc
Job ID: 580-90396-1
Project/Site: IFC/101

Laboratory: Eurofins TestAmerica, Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-024	01-19-22
ANAB	Dept. of Defense ELAP	L2236	01-19-22
ANAB	ISO/IEC 17025	L2236	01-19-22
Montana (UST)	State	NA	04-13-21
Oregon	NELAP	WA100007	11-06-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00039	02-10-20
Washington	State	C553	02-17-20

Sample Summary

Client: Stantec Consulting Services Inc
Project/Site: IFC/101

Job ID: 580-90396-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
580-90396-1	MW-3	Water	10/23/19 14:53	10/28/19 13:25	
580-90396-2	MW-4	Water	10/23/19 10:55	10/28/19 13:25	
580-90396-3	MW-8	Water	10/23/19 13:03	10/28/19 13:25	
580-90396-4	MW-14	Water	10/23/19 12:05	10/28/19 13:25	
580-90396-5	MW-17	Water	10/23/19 11:30	10/28/19 13:25	
580-90396-6	MW-19-1	Water	10/23/19 14:20	10/28/19 13:25	
580-90396-7	CRW-2	Water	10/23/19 15:34	10/28/19 13:25	
580-90396-8	DRAIN FIELD	Water	10/23/19 15:10	10/28/19 13:25	
580-90396-9	2GM101DUP	Water	10/23/19 14:22	10/28/19 13:25	
580-90396-10	TRIP BLANK	Water	10/23/19 12:00	10/28/19 13:25	

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Chain of Custody Record

249749

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THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Mike Zeck	Site Contact:	Date: 10/24/19	COC No:
Company Name: Stantec	Tel/Fax:	Lab Contact:	Carrier:	1 of 1 COCs
Address: 725 E Fireweed LN Suite 800	Analysis Turnaround Time			Sampler: JM
City/State/Zip: Anchorage, AK 99503	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 907-266-9108	TAT if different from Below ____			Walk-in Client:
Fax:	☒ 2 weeks			Lab Sampling:
Project Name:	☐ 1 week			
Site: FFC/101	☐ 2 days			Job / SDG No.:
PO # Send to Anne.Duarte@Speedway	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	AK101 / 8260 VOC	AK102	8270 PAH	Sample Specific Notes:
MW-3	10/23/19	1453	G	W	10			X	X	X	
MW-4	10/22/19	1055			10			X	X	X	
MW-8	10/23/19	1303			10			X	X	X	
MW-14	10/23/19	1205			10			X	X	X	
MW-17	10/23/19	1130			10			X	X	X	
MW19-1	10/23/19	1420			10			X	X	X	
CRW-2	10/23/19	1534			10			X	X	X	
DrainField	10/23/19	1510			10			X	X	X	
26M101 Dup	10/23/19	1422			10			X	X	X	
Trip Blank	10/23/19	1200			6			X			

580-90396 Chain of Custody

Therm. ID: #1 Cor: 1.3 ° Unc: 1.4 °
Cooler Dsc: Ice Blue
Packing: Bub
Cust. Seal: Yes X No
Blue Ice, Wet, Dry, None
FedEx:
UPS:
Lab Courr:
Other: GS.

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other 2 2 -

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:
Please Report Full Fuel list for 8260

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____		Therm ID No.: ____
Relinquished by: John Marshall	Company: Stantec	Date/Time: 10/24/19 2100	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: SEA TA	Date/Time: 10-28-19 1325

Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc

Job Number: 580-90396-1

Login Number: 90396
List Number: 1
Creator: Vallelunga, Diana L

List Source: Eurofins TestAmerica, Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Laboratory Data Review Checklist

Completed By:

Erin O'Malley

Title:

Environmental Engineer

Date:

December 10, 2019

Consultant Firm:

Stantec Consulting Services Inc.

Laboratory Name:

Eurofins TestAmerica, Seattle

Laboratory Report Number:

580-90396-1

Laboratory Report Date:

November 15, 2019

CS Site Name:

2Go Mart 101/IFC

ADEC File Number:

100.26.022

Hazard Identification Number:

26295

580-90396-1

Laboratory Report Date:

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CS Site Name:

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Note: Any N/A or No box checked must have an explanation in the comments box.

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

   Yes☒ No☐ N/A☐ 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☐ N/A☐ Comments:

2. Chain of Custody (CoC)

   a. CoC information completed, signed, and dated (including released/received by)?

   Yes☒ No☐ N/A☐ Comments:

   b. Correct analyses requested?

   Yes☒ No☐ N/A☐ Comments:

3. Laboratory Sample Receipt Documentation

   a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

   Yes☒ No☐ N/A☐ Comments:

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

   Yes☒ No☐ N/A☐ Comments:

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c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes☒ No☐ N/A☐ 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☐ N/A☐ Comments:

e. Data quality or usability affected?

Comments:

No.

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

c. Were all corrective actions documented?

Yes☒ No☐ N/A☐ Comments:

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

Comments:

See below sections.

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5. Samples Results

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

Yes☒ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes☐ No☒ N/A☐ Comments:

Method AK102 & 103: The following samples were re-extracted outside of holding time and re-analyzed due to QC failure in the initial extraction or analysis: MW-3 (580-90396-1), MW-4 (580-90396-2), MW-8 (580-90396-3), MW-14 (580-90396-4), MW-17 (580-90396-5), MW-19-1 (580-90396-6), CRW-2 (580-90396-7), DRAIN FIELD (580-90396-8), and 2GM101DUP (580-90396-9). QC failure in the re-extraction and re-analysis were reported. Both sets of data for these samples are reported.

Quality control issues further described below.

c. All soils reported on a dry weight basis?

Yes☐ No☐ N/A☒ Comments:

No soil samples.

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

Yes☐ No☒ N/A☐ Comments:

There are a number of LOQs that exceed the GCLs for all samples. See Appendix E.

e. Data quality or usability affected?

All non-detect results where the LOQ exceeds the GCL are affected.

The DRO results where the samples were extracted outside of analytical holding time are affected. However, both sets of DRO data were reported and the highest concentration for each sample was used in the project report. These concentrations are consistent with historical DRO data for each individual location.

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6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

ii. All method blank results less than limit of quantitation (LOQ) or project specified objectives?

Yes☒ No☐ N/A☐ Comments:

iii. If above LOQ or project specified objectives, what samples are affected?

Comments:

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

Yes☐ No☐ N/A☒ Comments:

No samples affected.

v. Data quality or usability affected?

Comments:

No.

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☐ N/A☐ Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes☐ No☐ N/A☒ Comments:

No metal/inorganics analyzed.

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iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☐ No☒ N/A☐ Comments:

Method 8260C: The following analyte recovered outside control limits for the LCSD associated with analytical batch 580-315794: 1,1-Dichloropropene.

Method AK102 & 103: The following samples were re-extracted outside of holding time and re-analyzed due to QC failure in the initial extraction or analysis: MW-3 (580-90396-1), MW-4 (580-90396-2), MW-8 (580-90396-3), MW-14 (580-90396-4), MW-17 (580-90396-5), MW-19-1 (580-90396-6), CRW-2 (580-90396-7), DRAIN FIELD (580-90396-8), and 2GM101DUP (580-90396-9). QC failure in the re-extraction and re-analysis were reported. Both sets of data for these samples are reported.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from LCS/LCSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes☐ No☒ N/A☐ Comments:

Method AK102 & 103: The following samples were re-extracted outside of holding time and re-analyzed due to QC failure in the initial extraction or analysis: MW-3 (580-90396-1), MW-4 (580-90396-2), MW-8 (580-90396-3), MW-14 (580-90396-4), MW-17 (580-90396-5), MW-19-1 (580-90396-6), CRW-2 (580-90396-7), DRAIN FIELD (580-90396-8), and 2GM101DUP (580-90396-9). QC failure in the re-extraction and re-analysis were reported. Both sets of data for these samples are reported.

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

Comments:

MW-3 (580-90396-1), MW-4 (580-90396-2), MW-8 (580-90396-3), MW-14 (580-90396-4), MW-17 (580-90396-5), MW-19-1 (580-90396-6), CRW-2 (580-90396-7), DRAIN FIELD (580-90396-8), and 2GM101DUP (580-90396-9)

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

Yes☒ No☐ N/A☐ Comments:

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

Comments:

No.

Method AK102 & 103: Data usable as qualified based on the LCS/LCSD and RPD issues. Out of hold time extraction causes the data usability issues. However, the highest of the two sampling results for DRO is consistent with historical data for each individual location.

Method 8260C: 1,1-Dichloropropene LCSD recovery outside control limits in analytical batch 580-315794 is not indicative of a systematic control problem because this was a random marginal exceedance. Data usable as qualified.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Note: Leave blank if not required for project

i. Organics – One MS/MSD reported per matrix, analysis and 20 samples?

Yes☐ No☐ N/A☐ Comments:

ii. Metals/Inorganics – one MS and one MSD reported per matrix, analysis and 20 samples?

Yes☐ No☐ N/A☐ Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☐ No☐ N/A☐ Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes☐ No☐ N/A☐ Comments:

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

Comments:

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

Yes☐ No☐ N/A☐ Comments:

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

Comments:

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC and laboratory samples?

Yes☒ No☐ N/A☐ Comments:

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ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes☐ No☒ N/A☐ Comments:

Method 8270D SIM: Terphenyl-d14 surrogate recovery for the method blank associated with preparation batch 580-315494 and analytical batch 580-316468 was below lower limits by 4%.

Method 8270D SIM: Surrogate recovery for the following samples were outside control limits: MW-4 (580-90396-2), MW-8 (580-90396-3), MW-17 (580-90396-5), CRW-2 (580-90396-7) and 2GM101DUP (580-90396-9).

Method AK101: Surrogate 4-Bromofluorobenzene (Surr) recovery for the following samples were outside control limits: MW-14 (580-90396-4), MW-19-1 (580-90396-6) and 2GM101DUP (580-90396-9).

Method AK102 & 103: The following samples were re-extracted outside of holding time and re-analyzed due to QC failure in the initial extraction or analysis: MW-3 (580-90396-1), MW-4 (580-90396-2), MW-8 (580-90396-3), MW-14 (580-90396-4), MW-17 (580-90396-5), MW-19-1 (580-90396-6), CRW-2 (580-90396-7), DRAIN FIELD (580-90396-8), and 2GM101DUP (580-90396-9). QC failure in the re-extraction and re-analysis were reported. Both sets of data for these samples are reported.

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?

Yes☒ No☐ N/A☐ Comments:

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iv. Data quality or usability affected?

Comments:

No. Data usable as qualified.

Method 8270D SIM: Terphenyl-d14 surrogate recovery for the method blank was below lower limits by only 4%. The CCV %Drift is biased low to an extent that the method blank recovery is within control limits when accounting for the bias. All other associated QC and samples are within acceptance criteria for this surrogate. Therefore, the data is qualified and reported. (CCVIS 580-316468/3) and (MB 580-315494/1-A).

Method 8270D SIM and Method AK101: Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method AK102 & 103: Data usable as qualified based on the surrogate recovery issues. Out of hold time extraction causes the data usability issues. However, the highest of the two sampling results for DRO is consistent with historical data for each individual location.

e. Trip Blanks

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

Yes☒ No☐ N/A☐ 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☐ N/A☐ Comments:

iii. All results less than LOQ and project specified objectives?

Yes☒ No☐ N/A☐ Comments:

iv. If above LOQ or project specified objectives, what samples are affected?

Comments:

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v. Data quality or usability affected?

Comments:

No.

f. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes☒ No☐ N/A☐ Comments:

ii. Submitted blind to lab?

Yes☒ No☐ N/A☐ Comments:

2GM101DUP is a duplicate of MW 19-1.

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☒ N/A☐ Comments:

RPD met the DQOs for all detected analytes above GCLs, except 1-Methylnaphthalene and 2-Methylnaphthalene.

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

Comments:

No. Reported concentrations were consistently above the GCL for 1-Methylnaphthalene and 2-Methylnaphthalene in both primary and duplicate samples.

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

Yes☐ No☐ N/A☒ Comments:

No decontamination or equipment blanks were required for this project because no reusable (only disposable) equipment was used.

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i. All results less than LOQ and project specified objectives?

Yes☐ No☐ N/A☒ Comments:

No decontamination or equipment blanks submitted.

ii. If above LOQ or project specified objectives, what samples are affected?

Comments:

No decontamination or equipment blanks submitted.

iii. Data quality or usability affected?

Comments:

No decontamination or equipment blanks submitted.

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

a. Defined and appropriate?

Yes☒ No☐ N/A☐ Comments: