Annual 2024 GWM Report for MPC Site #157575 (Former Tesoro 2GO Mart #101/IFC) ADEC File #: 100.26.022 November 20, 2024

Stantec

AUTHORIZATION TO SUBMIT REPORT

Stantec has been authorized by the client, Tesoro Refining & Marketing Company LLC (Tesoro) c/o Marathon Petroleum Company LP (MPC - representative Eric Swaisgood, Advanced HES Professional, ES&S-Waste and Remediation) to submit the enclosed report titled "Annual 2024 GWM Report for MPC Site 1577575 (Former Tesoro 2Go Mart 101/IFC, ADEC File #100.26.022) dated November 2024 to the Alaska Department of Environmental Conservation (Attn: Pete Campbell, PE). If you have any questions or need additional information concerning this report, please contact me at (907) 227-9883 or via email at bob.gilfilian@stantec.com.

Regards,

STANTEC CONSULTING SERVICES, INC.

Bob Gilfilian

Robert (Bob) Gilfilian, P.E.

Project Technical Lead

Principal Senior Civil Engineer

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ACRONYMS AND ABBREVIATIONS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AK	Alaska Test Method
amsl	above mean sea level
BTEX	benzene, toluene, ethylbenzene, and xylenes
Chemox	chemical oxidation
DO	dissolved oxygen
DRO	diesel range organics
EDB	ethylene dibromide
EPA	U.S. Environmental Protection Agency
GCLs	groundwater cleanup levels
GRO	gasoline range organics
mg/L	milligrams per liter
MPC	Marathon Petroleum Company
MW	monitoring well
NuWell®	pelletized sulfamic acid used to break down mineral buildup for well cleaning
PAH	polycyclic aromatic hydrocarbon
PE	Professional Engineer
ORP	oxidation-reduction potential
QA	quality assurance
QC	quality control
RW	remediation well
SPC	Specific Conductivity
Stantec	Stantec Consulting Services, Inc.
Tesoro	Tesoro Refining and Marketing Company
UST	underground storage tank
VOC	Volatile Organic Compounds

1.0 INTRODUCTION

This 2024 annual groundwater monitoring event report was prepared by Stantec Consulting Services Inc. (Stantec) on behalf of Tesoro Refining and Marketing Company (Tesoro) c/o Marathon Petroleum Company (MPC) for MPC Site #157575 (Former Tesoro 2Go 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 used for this annual monitoring event were conducted in accordance with the 2024 Alaska Department of Environmental Conservation (ADEC) approved Work Plan for this site.

2.0 SITE BACKGROUND

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

3.0 FIELD ACTIVITIES

The annual groundwater monitoring event was conducted on September 3, 2024, by Stantec personnel Geoff Moorhead, Professional Engineer (PE) and Remi Malenfant, Geologist-in-Training (GIT). The monitoring event included the following tasks:

- Measured the depth to groundwater in Monitoring and Remediation Wells MW-4, MW-8, MW-14, MW-17, ERW, OMW-3, CRW, CRW-2, Drainfield Aeration Tank, and WRW 2020.
- Collected water samples from Monitoring and Remediation Wells MW-4, MW-8, MW-14, MW-17, CRW, CRW-2, OMW-3, ERW, and WRW2020 as well as the effluent from the drainfield Aeration Tank that is discharged from the 1,500-gallon aeration treatment 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 specific conductivity (SPC).
- Collected groundwater samples were submitted for laboratory analysis of the following test parameters: Gasoline Range Organics (GRO) by Alaska Test Method (AK)101; Diesel Range Organics (DRO) by AK102; Alaska expanded list of Volatile Organic Compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Method 8260C, reporting benzene, toluene, ethylbenzene, total xylenes, 1,2,4-trimethylbenzene (TMB), and 1,3,5-TMB; Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270D Selective Ion Monitoring (SIM), reporting naphthalene. Field methods and procedures for this site are included in **Appendix B**.

4.0 GROUNDWATER MONITORING RESULTS

4.1 GROUNDWATER LEVELS

Table 1 presents groundwater elevations at this site based on the depths to static water levels measured during the monitoring event on September 3, 2024. Depth to groundwater was measured in 9 wells. Wells MW-3, MW19-1, and MW19-2 contained free product at depths of 5.78 feet, 9.5 feet, and 9.3 feet respectively. The direction of groundwater flow across the site was influenced

by the pumping of the water from CRW-2 well that is used for free product recovery as it appears groundwater flow is predominantly altered towards CRW-2.

Table 1 Groundwater Elevations
Measurements taken on September 3, 2024

Monitoring Well Identification	Top of Casing Elevation (feet)[1]	Depth to Groundwater (feet)	Groundwater Elevation (feet)
MW-3*	439.45	5.8	433.65
MW-4	442.64	9.22	433.42
MW-8	445.23	11.65	433.58
MW-14	441.13	8.16	432.97
MW-17	441.42	7.94	433.48
MW19-1*	442.52	9.8	432.72
MW19-2*	432.93	9.35	423.58
ERW	444.48	14.16	430.32
OMW-3	445.40	12.00	433.40
OMW-4	NM	NM	NM
CRW	444.71	NM	NM
CRW-2	445.45	NM	NM
Drainfield Aeration Tank	443.12	NM	NM
WRW2020	443.53	NM	NM

Key:
1 Based on a vertical control survey completed on October 13, 2023
NM Not measured
* Well contained free product

4.2 WATER SAMPLE INTRINSIC FIELD PARAMETERS

The results of intrinsic water quality parameters (temperature, pH, DO, ORP, and SPC) collected during this monitoring event are presented in **Table 2**. ORP concentrations were highest in MW-14. The pH levels were slightly acidic, consistent with normal groundwater, in all monitoring wells. Field methods and procedures are provided in **Appendix B**. All field measurements and notes are provided in **Appendix C**.

Table 2 Field Tested Intrinsic Water Quality Parameters
Measured on September 3, 2024

Monitoring Well Identification	pH	SPC (µs/cm°C)	Dissolved Oxygen (mg/L)	Temperature (ºC)	ORP (mV)
MW-4	6.51	537.3	3.67	6.9	80.4
MW-8	7.13	528.9	0.17	9.8	-165.8
MW-14	6.9	725.1	2.69	7.5	101.1
MW-17	NM	NM	NM	NM	NM
OMW-3	7.22	515.9	3.51	7.4	69.2
ERW	8.42	509.8	0.17	5.9	-227.2
CRW	7.52	521.7	3.4	8.0	64.2
CRW-2	7.54	506.6	4.15	40.5	48.3
WRW 2020	7.48	513.4	4.12	10.9	65.3
Drainfield Aeration Tank (Effluent)	7.59	484	3.56	11.1	47.5

Key:
ºC degrees Celsius
µs/cm°C microSiemens per centimeter degrees Celsius
mg/L milligrams per liter
mV millivolts
DO Dissolved Oxygen
NM Not measured
ORP oxidation-reduction potential
pH log [H^+]
SPC specific conductance corrected to 25 ºC

4.3 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, DRO, naphthalene, 1,2,4-TMB, and 1,3,5-TMB are summarized in **Tables 3a and 3b**. Wells MW-4, the drainfield Aeration Tank, ERW, and OMW-3 had no analytes above groundwater clearance levels (GCLs). Other VOCs and PAHs are in the laboratory analytical report provided in **Appendix E.** All monitoring/remediation wells and the effluent from the aeration tank were sampled in accordance with the 2024 Corrective Action Work Plan.

Table 3a Groundwater Analytical Results
Samples collected on September 3, 2024

ID	Benzene	Toluene	Ethylbenzene	Total Xylenes	GRO	DRO
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-4	U(0.00100)	U(0.00100)	U(0.00100)	U(0.00300)	U(0.100)	U(0.800)
DUP 2 (of MW-4)	U(0.00100)	U(0.00100)	U(0.00100)	U(0.00300)	U(1.00)	U(0.800)
MW-8	U(0.00100)	U(0.00100)	0.00297	0.0472	0.511	**2.75 B**
MW-14	**0.0300**	0.0105	**0.299**	**2.00**	**6.36**	**5.91**
MW-17	U(0.00100)	U(0.00100)	U(0.00100)	U(0.00300)	0.159 B	**4.81**
CRW	0.00125	U(0.00100)	0.00798	0.0330	0.208 B	**2.01 B**
CRW-2	0.00202	0.00448	**0.0267**	**0.256**	0.857	1.23 B
WRW 2020	0.00128	U(0.00100)	**0.0219**	0.130	0.853	1.48 B
DUP 1 (of WRW2020)	0.00124	U(0.00100)	**0.0267**	0.161	0.703 B	**1.58 B**
Aeration Tank	U(0.00100)	U(0.00100)	0.00183	0.0141	0.104 B	0.995 B
ERW	U(0.00100)	U(0.00100)	U(0.00100)	U(0.00300)	U(0.100)	U(0.800)
OMW-3	U(0.00100)	U(0.00100)	U(0.00100)	U(0.00300)	U(0.100)	U(0.800)
GCLS	**0.0046**	**1.1**	**0.015**	**0.19**	**2.2**	**1.5**

Table 3b Groundwater Analytical Results
Samples collected on September 3, 2024

ID	1,2,4-TMB	1,3,5-TMB	Naphthalene[1]
Units	mg/L	mg/L	mg/L
MW-4	U(0.00100)	U(0.00100)	U(0.000500)
DUP 2 (of MW-4)	U(0.00100)	U(0.00100)	U(0.000500)
MW-8	**0.0769**	0.0220	**0.0139**
MW-14	**0.323**	**0.145**	**0.223**
MW-17	U(0.00100)	U(0.00100)	U(0.000500)
CRW	0.0203	0.00634	**0.00368**
CRW-2	**0.0670**	**0.262**	**0.0233**
WRW 2020	**0.0633**	0.0209	**0.0139**
DUP 1 (of WRW2020)	**0.0663**	0.0216	**0.0161**
Aeration Tank	0.00527	0.00182	U(0.000250)
ERW	0.00231	U(0.00100)	0.000798
OMW-3	U(0.00100)	U(0.00100)	U(0.000250)
GCLS	**0.056**	**0.06**	**0.0017**

Key:

1	Results from VOC Method 8270 D	GCLs	Groundwater cleanup levels, 18 AAC 75.345, Table C, (9/18/2019)
B	Analyte found in associated blank.	GRO	Gasoline range organics analyzed by AK101.
Bold	Concentration or estimated quantitation limit exceeds the GCL	J	The identification of the analyte is acceptable; reported value estimated.
TMB	Trimethylbenzene	J3	The associated batch QC was outside the established quality control range for precision.
EDB	Ethylene Dibromide analyzed by EPA 8011	DUP	Duplicate sample of the preceding sample
DRO	Diesel Range Organics analyzed by AK 102		
NM	Not measured		

4.4 QUALITY ASSURANCE (QA)/QUALITY CONTROL (QC) REVIEW

Pace Analytical, Inc. did 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 E**.

Sample duplicate (DUP) 1 is a duplicate of sample WRW2020. Sample DUP 2 is a duplicate of sample MW-4. DUP 2 precision could not be calculated for any analyte because no analytes were detected above cleanup levels in the primary or duplicate sample. The duplicate sample sets were collected to determine the precision of the field collection and laboratory analysis for this monitoring event. Data presented in **Table 4** show that holding times were within the established criteria.

Table 4 Laboratory Quality Control Objectives

Quality Control Designation	Tolerance	Results for September Event	
Holding Times			
DRO/Water/to analyze	40 days	14 days	14 days
GRO/Water/to analyze	14 days	13 days	13 days
VOCs/Water/to analyze	14 days	12 days	12 days
PAHs/Water/to analyze	40 days	13 days	13 days
Field Duplicates – Precision		**DUP 1**	**DUP 2**
Benzene/Water	±30%	3.2 %	NC
Toluene/Water	±30%	NC	NC
Ethylbenzene/Water	±30%	19.6%	NC
Xylenes/Water	±30%	21.3%	NC
GRO/Water	±30%	19.3%	NC
DRO/Water	±30%	6.5%	NC
1,2,4-TMB/Water	±30%	4.6%	NC
1,3,5-TMB/Water	±30%	3.3%	NC
Naphthalene/Water	±30%	14.7%	NC

Key:

%	Percentage of variance in absolute value	GRO	gasoline range organics
BOLD	Exceeds precision tolerance	NC	cannot be calculated, undetected in duplicate and/or primary sample
EDB	Ethylene Dibromide	PAH	polynuclear aromatic hydrocarbon
TMB	trimethylbenzene	VOC	volatile organic compound
DRO	diesel range organics		

5.0 REMEDIATION SYSTEM OPERATION AND PERFORMANCE MONITORING

5.1 FREE PRODUCT RECOVERY

Free product accumulation in CRW-2, RW2020, MW19-1 and MW19-2 was monitored monthly and periodically removed with a peristaltic pump using a line attached to a water level meter to verify the free product presence above the water interface. The free product collected with the peristaltic pump from the above referenced wells is currently being stored on-site in a 55-gallon drum that is contained in an over-pack drum (secondary containment) until it can be properly disposed of.

5.2 CRW-2 DRAWDOWN SYSTEM

The 1.0-horsepower (hp) submersible drawdown pump in CRW-2 has been operating on a continuous basis (24-hours per day). The free product collected in CRW-2 is periodically removed with the peristaltic pump and then temporarily stored on-site in a 55-gallon drum. The drawdown pump has a constant discharge rate of 1.7 gallons per minute. In the summer of 2022, CRW-2 well was dosed with NuWell® pellets to treat the iron precipitates that were accumulating in the well which improved groundwater flow into the well.

5.3 WRW 2020 DRAWDOWN SYSTEM

A ½-hp submersible pump is used to drawdown the groundwater table in the WRW2020 well to control groundwater flow in the general area in the right-of-way north of the Speedway store property. The flow from the drawdown pump is discharged to the 1,500-gallon IFC aeration tank for treatment. The drawdown pump operates with a flow of 1.5-2 gallons per minute (gpm) on a continuous basis (24-hours per day).

5.4 SITE TREATMENT SYSTEM

The drawdown pumps CRW-2 and WRW 2020 discharge into separate insulated/heat traced water lines into the 1,500-gallon, double compartment drainfield Aeration Treatment Tank. The aerated, treated effluent from the aeration treatment tank discharges by gravity to an on-site drain field that is located upgradient of the groundwater interceptor trench. A replacement FUJI ½-hp regenerative blower that is used to aerate the treatment tank was installed in mid-August 2022. The blower delivers up to 98 cubic feet per minute of air to the tank and operates on a continuous basis (24-hour per day).

During August of 2022, Stantec hired US Ecology Alaska, LLC to pump out the contents (approximately 1,000 gallons) of the aeration tank, which was found to be nearly 1/3 full of iron precipitates. US Ecology Alaska, LLC transported the tank contents to their facility in North Pole

for treatment and disposal. The cleaning of the aeration tank should minimize carry-over of the iron sludge into the on-site drain field.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Results of the analytical sampling showed analytes were present at concentrations exceeding ADEC GCLs as listed in Alaska Administrative Code (AAC) 18AAC 75.345 Table C (updated September 18, 2019). Monitoring wells and the respective analytes in exceedance of ADEC GCLs included:

- MW-8: DRO, naphthalene, and 1,2,4-TMB.
- MW-14: Benzene, ethylbenzene, total xylenes, GRO, DRO, 1,2,4-TMB, 1,3,5-TMB, and naphthalene.
- MW-17: DRO.
- CRW: DRO and naphthalene.
- CRW-2: Ethylbenzene, total xylenes, 1,2,4-TMB, 1,3,5-TMB, and naphthalene.
- WRW2020: Ethylbenzene, naphthalene, and 1,2,4-TMB.

Monitoring Wells MW-3, MW19-1, and MW19-2 were not sampled due to the presence of free product.

The direction of groundwater flow across the site is generally towards the infiltration trench and pumping well CRW-2. A third pumping recovery well was installed in remediation well CRW on the Crowley (former IFC) property and is discussed in a separate report. Free product collecting in wells MW19-1 and -2 indicate that the underground barrier is successfully preventing infiltration of free product while allowing the recovery wells to depress the water table.

For the past three years, Stantec has maintained the iMonnit telemetry equipment to monitor via the internet the operation of the following equipment: groundwater drawdown pumps in WRW 2020 and CRW-2, and the regenerative blower that provides aeration to the aeration treatment tank.

6.1 RECOMMENDATIONS AND PROPOSED ACTIVITIES

No anomalies were found during the 2024 monitoring events that would require additional corrective action or changes to the approved year 2024 Corrective Action Work Plan for this site.

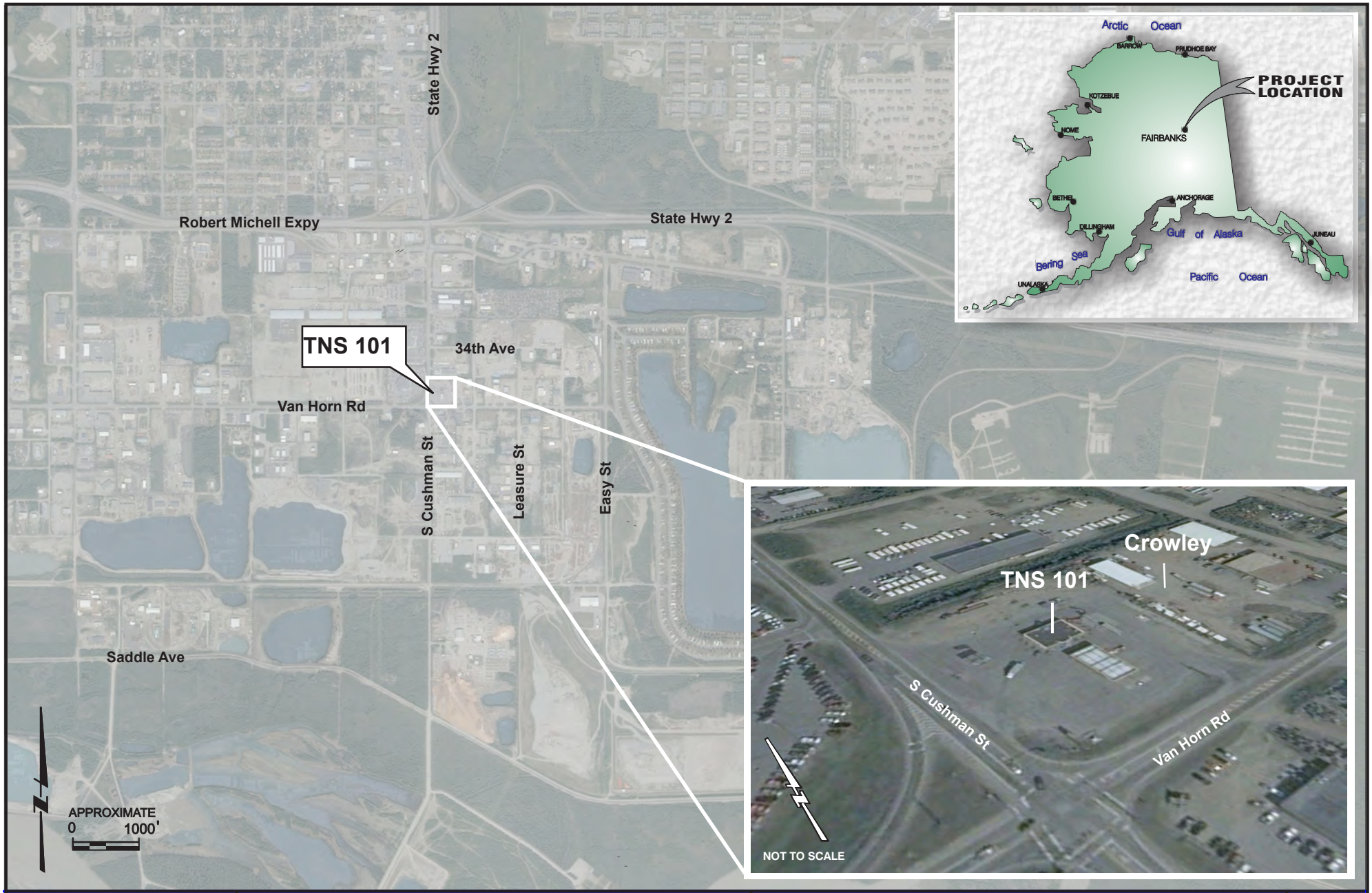
7.0 LIMITATIONS

Stantec conducted this monitoring event in accordance with the 2023 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* (March 22, 2017). The conclusions in this report are Stantec's

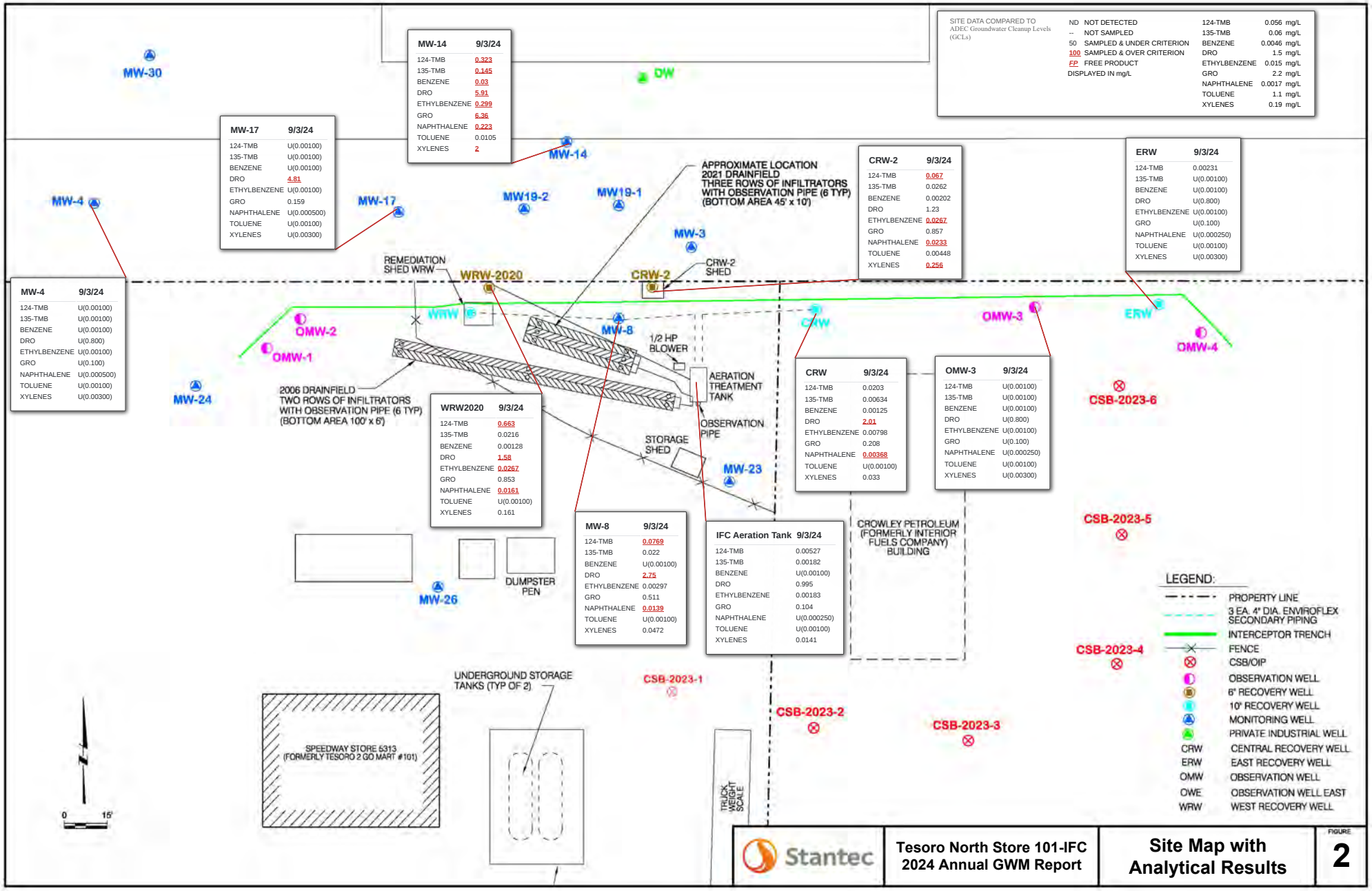
professional opinion, as of the time of the report, and concerning the scope described in the report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not consider any subsequent changes. This report relates solely to the specific project for which Stantec was retained and the stated purpose for which the report was prepared. The report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

This report is intended solely for use by the client in accordance with Stantec's contract with the client. While the report may be provided to applicable authorities having jurisdiction and others for whom the client is responsible, Stantec does not warrant the services to any third party. The report may not be relied upon by any other party without the express written consent of Stantec, which may be withheld at Stantec's discretion.

FIGURES



Stantec	Tesoro North Store 101-IFC 2024 Annual GWM Report	LOCATION AND VICINITY MAP	FIGURE 1


SITE DATA COMPARED TO ADEC Groundwater Cleanup Levels (GCLs)
ND NOT DETECTED
-- NOT SAMPLED
50 SAMPLED & UNDER CRITERION
100 SAMPLED & OVER CRITERION
FP FREE PRODUCT
DISPLAYED IN mg/L
124-TMB 0.056 mg/L
135-TMB 0.06 mg/L
BENZENE 0.0046 mg/L
DRO 1.5 mg/L
ETHYLBENZENE 0.015 mg/L
GRO 2.2 mg/L
NAPHTHALENE 0.0017 mg/L
TOLUENE 1.1 mg/L
XYLENES 0.19 mg/L
MW-30
MW-14 9/3/24
124-TMB 0.323
135-TMB 0.145
BENZENE 0.03
DRO 5.91
ETHYLBENZENE 0.299
GRO 6.36
NAPHTHALENE 0.223
TOLUENE 0.0105
XYLENES 2
DW
MW-17 9/3/24
124-TMB U(0.00100)
135-TMB U(0.00100)
BENZENE U(0.00100)
DRO 4.81
ETHYLBENZENE U(0.00100)
GRO 0.159
NAPHTHALENE U(0.000500)
TOLUENE U(0.00100)
XYLENES U(0.00300)
MW-14
APPROXIMATE LOCATION 2021 DRAINFIELD THREE ROWS OF INFILTRATORS WITH OBSERVATION PIPE (6 TYP) (BOTTOM AREA 45' x 10')
CRW-2 9/3/24
124-TMB 0.067
135-TMB 0.0262
BENZENE 0.00202
DRO 1.23
ETHYLBENZENE 0.0267
GRO 0.857
NAPHTHALENE 0.0233
TOLUENE 0.00448
XYLENES 0.256
ERW 9/3/24
124-TMB 0.00231
135-TMB U(0.00100)
BENZENE U(0.00100)
DRO U(0.800)
ETHYLBENZENE U(0.00100)
GRO U(0.100)
NAPHTHALENE U(0.000250)
TOLUENE U(0.00100)
XYLENES U(0.00300)
MW-4
MW-17
MW19-2
MW19-1
MW-3
REMEDIATION SHED WRW
WRW-2020
CRW-2
CRW-2 SHED
MW-4 9/3/24
124-TMB U(0.00100)
135-TMB U(0.00100)
BENZENE U(0.00100)
DRO U(0.800)
ETHYLBENZENE U(0.00100)
GRO U(0.100)
NAPHTHALENE U(0.000500)
TOLUENE U(0.00100)
XYLENES U(0.00300)
OMW-2
OMW-1
WRW
MW-8
1/2 HP BLOWER
CRW
OMW-3
ERW
OMW-4
MW-24
2006 DRAINFIELD TWO ROWS OF INFILTRATORS WITH OBSERVATION PIPE (6 TYP) (BOTTOM AREA 100' x 6')
WRW2020 9/3/24
124-TMB 0.663
135-TMB 0.0216
BENZENE 0.00128
DRO 1.58
ETHYLBENZENE 0.0267
GRO 0.853
NAPHTHALENE 0.0161
TOLUENE U(0.00100)
XYLENES 0.161
AERATION TREATMENT TANK
OBSERVATION PIPE
STORAGE SHED
MW-23
CRW 9/3/24
124-TMB 0.0203
135-TMB 0.00634
BENZENE 0.00125
DRO 2.01
ETHYLBENZENE 0.00798
GRO 0.208
NAPHTHALENE 0.00368
TOLUENE U(0.00100)
XYLENES 0.033
OMW-3 9/3/24
124-TMB U(0.00100)
135-TMB U(0.00100)
BENZENE U(0.00100)
DRO U(0.800)
ETHYLBENZENE U(0.00100)
GRO U(0.100)
NAPHTHALENE U(0.000250)
TOLUENE U(0.00100)
XYLENES U(0.00300)
CSB-2023-6
CSB-2023-5
MW-8 9/3/24
124-TMB 0.0769
135-TMB 0.022
BENZENE U(0.00100)
DRO 2.75
ETHYLBENZENE 0.00297
GRO 0.511
NAPHTHALENE 0.0139
TOLUENE U(0.00100)
XYLENES 0.0472
IFC Aeration Tank 9/3/24
124-TMB 0.00527
135-TMB 0.00182
BENZENE U(0.00100)
DRO 0.995
ETHYLBENZENE 0.00183
GRO 0.104
NAPHTHALENE U(0.000250)
TOLUENE U(0.00100)
XYLENES 0.0141
CROWLEY PETROLEUM (FORMERLY INTERIOR FUELS COMPANY) BUILDING
DUMPSTER PEN
MW-26
CSB-2023-4
CSB-2023-1
CSB-2023-2
CSB-2023-3
UNDERGROUND STORAGE TANKS (TYP OF 2)
SPEEDWAY STORE 5313 (FORMERLY TESORO 2 GO MART #101)
TRUCK WEIGHT SCALE
0
15'
LEGEND:
PROPERTY LINE
3 EA. 4" DIA. ENVIROFLEX SECONDARY PIPING
INTERCEPTOR TRENCH
FENCE
CSB/OIP
OBSERVATION WELL
6" RECOVERY WELL
10" RECOVERY WELL
MONITORING WELL
PRIVATE INDUSTRIAL WELL
CRW CENTRAL RECOVERY WELL
ERW EAST RECOVERY WELL
OMW OBSERVATION WELL
OWE OBSERVATION WELL EAST
WRW WEST RECOVERY WELL
Stantec
Tesoro North Store 101-IFC
2024 Annual GWM Report
Site Map with Analytical Results
FIGURE
2

APPENDIX A

Site Background

APPENDIX A – SITE BACKGROUND

Tesoro North Store #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 – acquired GE2T in 2002) 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 23,999 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. 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. 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. The free product skimmer and groundwater drawdown pump in CRW-2 are operating on a year-round basis.

January thru July 2020. The free product skimmer and groundwater drawdown pump in CRW-2 were initially operating on a year-round basis. When large particulates of iron oxide blocked the skimmer screen, the skimmer was taken offline until maintenance could be completed. The site blower stopped working between April and June of 2020. Once the depth of free product in the

well exceeded 4’ at the end of June, the drawdown pump was shut off until the skimmer could be pulled and completely cleaned.

Installation of WRW-2020 occurred on July 14, 2020 and has been previously document in November 24, 2020 Technical Memo “Speedway Store 5313 (Former Tesoro 2Go Mart 101/IFC) - Installation of 6” Diameter Product Recovery Well WRW 2020”. Skimmer was turned off when the system was once again obstructed with iron oxide.

August and September 2020. The skimmer was removed in August and a repurposed blower was installed next to the aeration remediation tank in September 2020. During site review, free product was found in MW 19-1 and MW 19-2. The free product from CRW-2, MW 19-1 and MW 19-2 was monitored and removed periodically with a peristaltic pump. The repurposed blower stopped working and new blower was installed. A temporary influent line was installed from WRW-2020 to with minor adjustments of flow during regular site monitoring to balance the treatment system.

October 2020. The annual groundwater 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, and MW-17, as well as Drainfield (Aeration Tank effluent) and both Remediation Wells CRW-2 and WRW-2020(**Figure 2**). Monitoring Well MW 19-1 and 19-2 was not sampled due to the presence of free product in the well.

September 2021: The groundwater monitoring event was conducted on September 27, 2021, by Stantec personnel Engineer-In-Training (EIT) staff members Leslie Petre and Geoff Moorhead. In response to a verbal request from the ADEC, a representative sample was collected and analyzed from MW-30. A peristaltic pump is used to remove/extract free product from the wells. No measurable free product was detected in the wells except for a thin layer (0.01-feet thick) in MW 19-2.

An aeration system is currently used for treating groundwater that is pumped from the groundwater drawdown pumps in Free Product Recovery Wells CRW-2 and WRW-2020. The drawdown pumps discharge at a combined rate of 3-4 gpm. The aerated effluent from the 1,500 gallon, double compartment Aeration Treatment Tank discharges to an on-site drainfield Infiltrator System) that is located upgradient of the groundwater interceptor trench. Following the completion of the annual groundwater monitoring event, Stantec increased the size of the drainfield by adding a 450-square foot bottom area drainfield. **Figure 2** shows the layout of the site improvements consisting of the 100-foot long (600-square foot) drainfield installed in 2006, 450-square foot drainfield installed in 2021 and the groundwater interceptor trench installed in 2001.

September 2022: The groundwater monitoring event was conducted on September 19, 2022, by Stantec personnel Engineer-In-Training (EIT) Leslie Petre and EIT Geoff Moorhead. The analytical results for the monitoring wells sampled during the September 2022 monitoring event differed from those from the September 2021 annual monitoring event.

Free product accumulation in CRW-2, MW 19-1 and MW 19-2 was monitored on a monthly basis and periodically removed with a peristaltic pump using a line attached to a water level meter to verify the free product presence above the water interface. The free product collected with the peristaltic pump from the above referenced wells is temporarily stored on-site in a 55-gallon drum that is contained in an over-pack drum (secondary containment). On September 19, 2022, US Ecology Alaska, LLC, picked up the 55 gallon drum of free product from the site and brought it to their North Pole facility for proper disposal.

During August of this year Stantec hired US Ecology Alaska, LLC to pump out the contents (1,000 gallons) of the aeration tank which was found to be nearly 1/3 full of iron precipitates. US Ecology Alaska, LLC transported the tank contents to their facility in North Pole for treatment and disposal. The cleaning of the aeration tank should minimize carry-over of the iron sludge into the new drainfield.

October 2023: As previously noted, the entire free product recovery system was shut down for one month from June 21, 2023, to July 21, 2023, due to an issue with the electrical power company. After power was restored at the site, Stantec was able to resume operation of the free product recovery system without any major problems. However, Stantec has noted a significant reduction (estimated at less than 0.5 gpm) in the flow from the drawdown pump in WRW-2020 free product recovery well during the past several months. Stantec plans to renovate the pump and its discharge piping system next month - it is assumed the pump and water line are clogging up with precipitated iron deposits.

2024: The direction of groundwater flow across the site is generally towards the infiltration trenches and pumping well CRW-2. A third pumping recovery well was installed on the Crowley property and is discussed in a separate report. Free product collecting in wells MW19-1 and -2 indicate that the underground barrier is successfully preventing infiltration of free product while allowing the recovery wells to depress the water table.

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 2024 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 Speedway Store 5313 [formally Tesoro 2 Go Mart #101/Interior Fuels Company (IFC) (ADEC Facility ID #2960; ADEC File #100.26.022)].

2024 Work Plan Schedule for Speedway Store 5313 (former T2GM 101/IFC)

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, MW19-1, MW19-2, and Aeration Treatment Tank (effluent discharged to the drainfield)			V, G, D, P & I	
Task 2	O&M Free Product Recovery Systems in wells CRW-2 and WRW2020. In addition, free product will be monitored and removed when found in MW19-1 and MW19-2.	✓	✓	✓	✓
Task 3	Install and operate a submersible pump in remediation well CRW.		✓	✓	✓

Key:
D – Diesel range organics by AK102.
G – Gasoline range organics by AK101.
I – Indicators, parameters tested include: dissolved oxygen, specific conductance, oxygen-reduction potential, pH, and temperature.
O&M – Operation and Maintenance
P – Polynuclear aromatic hydrocarbons (PAHs), i.e., semi-volatile organic compounds, by EPA Test Method 8270D Selective Ion Monitoring.
V – Volatile organic compounds by EPA Test Method 8260C.

- *Task 1 – Groundwater Monitoring*

  Annual monitoring of the groundwater wells and the free product recovery wells will be conducted. Sampling locations and analyses for the groundwater monitoring wells and free product recovery wells are listed on the 2024 Work Plan Schedule shown above. The number of wells to be monitored in 2023 increased in number compared to past annual groundwater monitoring events and include the following four wells located upgradient of the existing Interceptor Trench on the Crowley property (former IFC) as shown on the attached site plan: CRW, ERW, OMW-3, and OMW-4.

- *Task 2 – O&M Remediation System*

  Perform monthly maintenance on the free product recovery wells CRW-2 and WRW2020. The O&M work will include monthly maintenance on the free product recovery wells, the

groundwater drawdown pump, the aeration blower, the iMonnit sensors and extraction of free product with a peristaltic pump as necessary. The submersible drawdown pumps in wells CRW-2 and WRW 2020 are operated on a continuous basis (24 hours per day). The drawdown water from both wells discharges to the on-site 1,500 gallon, 2 compartment aeration treatment tank that flows into the onsite drainfield Infiltrator® system for additional treatment. The free product recovered from remediation wells CRW-2 and WRW 2020 and groundwater monitoring wells MW 19-1 and MW 19-2 will be collected with a peristaltic pump and temporarily stored on-site in a double-walled drum. The volume of the stored free product will be measured and properly disposed of at an ADEC approved off-site treatment facility.

- *Task 3 – Install and seasonally operate a submersible pump in remediation well CRW for discharge and treatment in the 1,500-gallon aeration treatment tank.*

  The purpose of this task is to capture and treat fuel contaminated groundwater on the former IFC property (currently owned by Crowley) that was discovered during the 2023 annual groundwater monitoring event. This task consists of installing a 0.5 HP submersible pump in remediation well CRW – an 8" diameter remediation well located in northwest corner of Crowley property (former IFC). The pump will be seasonally operated and connected to the existing 1,500-gallon aeration treatment tank. The well will be sampled monthly for the same chemicals listed for Task 1 to determine if the concentration of dissolved contaminates is being degraded. Prior to implementing this task, Stantec will prepare a work plan for the installation of the submersible pump and piping system for discharge to the aeration tank and submit the work plan to ADEC for review and approval.

The Corrective Action Work Plan for the year 2024 will be implemented by Stantec on behalf of Tesoro c/o MPC. 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 (March 22, 2017). 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, PET 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 samples will be collected in laboratory-supplied sample containers. The samples will be delivered to 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 listed in the 2024 Work Plan Schedule shown above.

APPENDIX C

Field Measurements and Notes

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024 Name(s): Geoff Moorhead

Well ID	Time of Day	Depth to Product	Depth to Water	Depth to Bottom	Product Thickness	Well Diameter	Well Material	Comment(s) on Condition of Well
CRW	9/3/24 12:41					8.0	Steel	
CRW-2	9/3/24 11:47							
ERW	9/3/24 13:16		14.16					
IFC Aeration Tank	9/3/24 11:48							
MW19-1	9/3/24 12:02	9.50						Compromised Free product
MW19-2	9/3/24 12:01	9.30						Compromised Free product
MW-3	9/3/24 14:59	5.78	5.80	12.60	0.02			Compromised Free product
MW-4	9/3/24 13:52		9.22	14.68				
MW-8	9/3/24 09:38		11.65			6		
MW-14	9/3/24 14:44		8.16					
MW-17	9/3/24 14:12		7.94	12.88				
OMW-3	9/3/24 13:15		12.00	13.70				
OMW-4	9/3/24 12:30			8.00				Compromised Dry at 8 feet
WRW2020	9/3/24 11:28							

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 12:41 PM Name(s): Geoff Moorhead

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
CRW	N/A		
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
	8.0		Steel
Latitude (decimal)		Longitude (decimal)	Weather
64.8140565		-147.7085163	

Type/Model Meter Used: _____

Calibrated: (date) _____ (time) _____ Cell Vol: _____

Type/Model Pump Used: _____

Pump Intake? _____ ft

Above / Below Bottom / TOC

Analytical Parameters	Bottles to be filled
PAH	2 X 40 mL Amber VOAs ✔
BTEX/Fuel	3 X 40 mL Amber VOAs ✔
GRO	3 X 40 mL Amber VOAs ✔
DRO	2 X 100 mL Amber Glass ✔

Purge water disposal: Other

Time	Depth to Water (ft)	Flow Rate (ml/Min)	pH		Conductivity (ms/cm)		Turbidity (NTU)		Dissolved O2 (mg/l)		Temp. (Celsius)		Oxygen Reduction Potential (ORP) mv	
12:41			Reading	Change* (±0.1)	Reading	Change* (±3%)	Reading	Change* (±10% or <5)	Reading	Change* (±10% or <0.5)	Reading	Change* (±3%)	Reading	Change* (±10mv)
16:00	**--**	**--**	**7.52**		**521.70**		**--**		**3.40**		**8.00**		**64.2**	

Sample Collected? Yes Time 12:41 Total Pumped from Well? 0.0 L

NOTES / COMMENTS:

*Minimum pumping time 15 Mins. - Collect data every 3 mins once flow through cell is full or once every volume of the flow through cell based on flow rate, which ever is longest. Indicator Parameters Have Stabilized When 3 Consecutive Readings Are Within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for ORP; and ± 10% for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; ± 10% mg/l Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/l) or 3 readings less than 0.5 mg/l.

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 11:47 AM Name(s): Geoff Moorhead

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
CRW-2	N/A		
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
Latitude (decimal)		Longitude (decimal)	Weather
64.8141037		-147.7088123	

Type/Model Meter Used: _____
Calibrated: (date) _____ (time) _____ Cell Vol: _____
Type/Model Pump Used: _____
Pump Intake? _____ ft
Above / Below Bottom / TOC

Analytical Parameters	Bottles to be filled
PAH	2 X 40 mL Amber VOAs ✔
BTEX/Fuel	3 X 40 mL Amber VOAs ✔
GRO	3 X 40 mL Amber VOAs ✔
DRO	2 X 100 mL Amber Glass ✔

Purge water disposal: Other

Time	Depth to Water (ft)	Flow Rate (ml/Min)	pH		Conductivity (ms/cm)		Turbidity (NTU)		Dissolved O2 (mg/l)		Temp. (Celsius)		Oxygen Reduction Potential (ORP) mv	
11:47			Reading	Change* (±0.1)	Reading	Change* (±3%)	Reading	Change* (±10% or <5)	Reading	Change* (±10% or <0.5)	Reading	Change* (±3%)	Reading	Change* (±10mv)
16:00	**--**	**--**	**7.54**		**506.60**		**--**		**4.15**		**10.50**		**48.3**	

Sample Collected? Yes Time 11:47 Total Pumped from Well? 0.0 L

NOTES / COMMENTS:

*Minimum pumping time 15 Mins. - Collect data every 3 mins once flow through cell is full or once every volume of the flow through cell based on flow rate, which ever is longest. Indicator Parameters Have Stabilized When 3 Consecutive Readings Are Within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for ORP; and ± 10% for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; ± 10% mg/l Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/l) or 3 readings less than 0.5 mg/l.

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 1:21 PM Name(s): Geoff Moorhead

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
ERW	N/A	14.16	
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
Latitude (decimal)		Longitude (decimal)	Weather
64.8140766		-147.7078058	

Type/Model Meter Used: Other
Calibrated: (date) _____ (time) _____
Cell Vol: None
Type/Model Pump Used: Peristaltic
Pump Intake? None ft
Above / ✔ Below Bottom / ✔ TOC

Analytical Parameters	Bottles to be filled
PAH	2 X 40 mL Amber VOAs ✔
BTEX/Fuel	3 X 40 mL Amber VOAs ✔
GRO	3 X 40 mL Amber VOAs ✔
DRO	2 X 100 mL Amber Glass ✔

Purge water disposal: Other

Time	Depth to Water (ft)	Flow Rate (ml/Min)	pH		Conductivity (ms/cm)		Turbidity (NTU)		Dissolved O2 (mg/l)		Temp. (Celsius)		Oxygen Reduction Potential (ORP) mv	
13:16	14.16	X	Reading	Change* (±0.1)	Reading	Change* (±3%)	Reading	Change* (±10% or <5)	Reading	Change* (±10% or <0.5)	Reading	Change* (±3%)	Reading	Change* (±10mv)

Sample Collected? Yes Time 13:21 Total Pumped from Well? 0.0 L

NOTES / COMMENTS:

*Minimum pumping time 15 Mins. - Collect data every 3 mins once flow through cell is full or once every volume of the flow through cell based on flow rate, which ever is longest. Indicator Parameters Have Stabilized When 3 Consecutive Readings Are Within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for ORP; and ± 10% for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; ± 10% mg/l Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/l) or 3 readings less than 0.5 mg/l.

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 11:51 AM Name(s): Geoff Moorhead

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
IFC Aeration Tank	N/A		
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
Latitude (decimal)		Longitude (decimal)	Weather
64.8140049		-147.7088078	

Analytical Parameters	Bottles to be filled
PAH	2 X 40 mL Amber VOAs ✔
BTEX/Fuel	3 X 40 mL Amber VOAs ✔
GRO	3 X 40 mL Amber VOAs ✔
DRO	2 X 100 mL Amber Glass ✔

Purge water disposal: Other

Type/Model Meter Used: _____

Calibrated: (date) _____ (time) _____ Cell Vol: _____

Type/Model Pump Used: _____

Pump Intake? _____ ft

Above / Below Bottom / TOC

Time	Depth to Water (ft)	Flow Rate (ml/Min)	pH		Conductivity (ms/cm)		Turbidity (NTU)		Dissolved O2 (mg/l)		Temp. (Celsius)		Oxygen Reduction Potential (ORP) mv	
11:48			Reading	Change* (±0.1)	Reading	Change* (±3%)	Reading	Change* (±10% or <5)	Reading	Change* (±10% or <0.5)	Reading	Change* (±3%)	Reading	Change* (±10mv)
16:00	**--**	**--**	**7.59**		**484.00**		**--**		**3.56**		**11.10**		**47.5**	

Sample Collected? Yes Time 11:51 Total Pumped from Well? 0 Gal

NOTES / COMMENTS:

*Minimum pumping time 15 Mins. - Collect data every 3 mins once flow through cell is full or once every volume of the flow through cell based on flow rate, which ever is longest. Indicator Parameters Have Stabilized When 3 Consecutive Readings Are Within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for ORP; and ± 10% for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; ± 10% mg/l Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/l) or 3 readings less than 0.5 mg/l.

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 1:54 PM Name(s): Geoff Moorhead

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
MW-4	N/A	9.22	14.68
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
Latitude (decimal)		Longitude (decimal)	Weather
64.8141656		-147.7101713	

Type/Model Meter Used: _____
Calibrated: (date) _____ (time) _____ Cell Vol: _____
Type/Model Pump Used: _____
Pump Intake? _____ ft
Above / Below Bottom / TOC

Analytical Parameters	Bottles to be filled
PAH	2 X 40 mL Amber VOAs ✔
BTEX/Fuel	3 X 40 mL Amber VOAs ✔
GRO	3 X 40 mL Amber VOAs ✔
DRO	2 X 100 mL Amber Glass ✔

Purge water disposal: Other QA/QC:Duplicate #2

Time	Depth to Water (ft)	Flow Rate (ml/Min)	pH		Conductivity (ms/cm)		Turbidity (NTU)		Dissolved O2 (mg/l)		Temp. (Celsius)		Oxygen Reduction Potential (ORP) mv	
13:52	9.22	X	Reading	Change* (±0.1)	Reading	Change* (±3%)	Reading	Change* (±10% or <5)	Reading	Change* (±10% or <0.5)	Reading	Change* (±3%)	Reading	Change* (±10mv)

Sample Collected? Yes Time 13:54 Total Pumped from Well? 0 Gal

NOTES / COMMENTS:

*Minimum pumping time 15 Mins. - Collect data every 3 mins once flow through cell is full or once every volume of the flow through cell based on flow rate, which ever is longest. Indicator Parameters Have Stabilized When 3 Consecutive Readings Are Within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for ORP; and ± 10% for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; ± 10% mg/l Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/l) or 3 readings less than 0.5 mg/l.

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) **Date:** 09/03/2024, 10:57 AM **Name(s):** Geoff Moorhead

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
MW-8	N/A	11.65	
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
	6		
Latitude (decimal)		Longitude (decimal)	Weather
64.8140326		-147.7089645	

Analytical Parameters	Bottles to be filled
PAH	2 X 40 mL Amber VOAs ✔
BTEX/Fuel	3 X 40 mL Amber VOAs ✔
GRO	3 X 40 mL Amber VOAs ✔
DRO	2 X 100 mL Amber Glass ✔

Purge water disposal: Other

Type/Model Meter Used: Other
Calibrated: (date) _____ (time) _____
Cell Vol: None
Type/Model Pump Used: Peristaltic
Pump Intake? None ft
Above / ✔ Below Bottom / ✔ TOC

Time	Depth to Water (ft)	Flow Rate (ml/Min)	pH		Conductivity (ms/cm)		Turbidity (NTU)		Dissolved O2 (mg/l)		Temp. (Celsius)		Oxygen Reduction Potential (ORP) mv	
09:38	11.65	X	Reading	Change* (±0.1)	Reading	Change* (±3%)	Reading	Change* (±10% or <5)	Reading	Change* (±10% or <0.5)	Reading	Change* (±3%)	Reading	Change* (±10mv)

Sample Collected? Yes Time 10:57 Total Pumped from Well? 0.0 L

NOTES / COMMENTS:

*Minimum pumping time 15 Mins. - Collect data every 3 mins once flow through cell is full or once every volume of the flow through cell based on flow rate, which ever is longest. Indicator Parameters Have Stabilized When 3 Consecutive Readings Are Within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for ORP; and ± 10% for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; ± 10% mg/l Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/l) or 3 readings less than 0.5 mg/l.

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 2:47 PM Name(s): Geoff Moorhead

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
MW-14	N/A	8.16	
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
Latitude (decimal)		Longitude (decimal)	Weather
64.8142108		-147.7090692	

Analytical Parameters	Bottles to be filled
PAH	2 X 40 mL Amber VOAs ✔
BTEX/Fuel	3 X 40 mL Amber VOAs ✔
GRO	3 X 40 mL Amber VOAs ✔
DRO	2 X 100 mL Amber Glass ✔

Purge water disposal: Other

Type/Model Meter Used: _____
Calibrated: (date) _____ (time) _____ Cell Vol: _____
Type/Model Pump Used: _____
Pump Intake? _____ ft
Above / Below Bottom / TOC

Time	Depth to Water (ft)	Flow Rate (ml/Min)	pH		Conductivity (ms/cm)		Turbidity (NTU)		Dissolved O2 (mg/l)		Temp. (Celsius)		Oxygen Reduction Potential (ORP) mv	
14:44	8.16		Reading	Change* (±0.1)	Reading	Change* (±3%)	Reading	Change* (±10% or <5)	Reading	Change* (±10% or <0.5)	Reading	Change* (±3%)	Reading	Change* (±10mv)

Sample Collected? Yes Time 14:47 Total Pumped from Well? 0 Gal

NOTES / COMMENTS:

*Minimum pumping time 15 Mins. - Collect data every 3 mins once flow through cell is full or once every volume of the flow through cell based on flow rate, which ever is longest. Indicator Parameters Have Stabilized When 3 Consecutive Readings Are Within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for ORP; and ± 10% for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; ± 10% mg/l Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/l) or 3 readings less than 0.5 mg/l.

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 2:12 PM Name(s): Geoff Moorhead

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
MW-17	N/A	7.94	12.88
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
Latitude (decimal)		Longitude (decimal)	Weather
64.8141725		-147.7094723	

Analytical Parameters	Bottles to be filled
PAH	2 X 40 mL Amber VOAs ✔
BTEX/Fuel	3 X 40 mL Amber VOAs ✔
GRO	3 X 40 mL Amber VOAs ✔
DRO	2 X 100 mL Amber Glass ✔

Type/Model Meter Used: _____
Calibrated: (date) _____ (time) _____ Cell Vol: _____
Type/Model Pump Used: _____
Pump Intake? _____ ft
Above / Below Bottom / TOC

Purge water disposal: Other

Time	Depth to Water (ft)	Flow Rate (ml/Min)	pH		Conductivity (ms/cm)		Turbidity (NTU)		Dissolved O2 (mg/l)		Temp. (Celsius)		Oxygen Reduction Potential (ORP) mv	
14:12	7.94	X	Reading	Change* (±0.1)	Reading	Change* (±3%)	Reading	Change* (±10% or <5)	Reading	Change* (±10% or <0.5)	Reading	Change* (±3%)	Reading	Change* (±10mv)

Sample Collected? Yes Time 14:12 Total Pumped from Well? 0 Gal

NOTES / COMMENTS:

*Minimum pumping time 15 Mins. - Collect data every 3 mins once flow through cell is full or once every volume of the flow through cell based on flow rate, which ever is longest. Indicator Parameters Have Stabilized When 3 Consecutive Readings Are Within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for ORP; and ± 10% for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; ± 10% mg/l Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/l) or 3 readings less than 0.5 mg/l.

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 1:15 PM Name(s): Geoff Moorhead

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
OMW-3	N/A	12.00	13.70
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
Latitude (decimal)		Longitude (decimal)	Weather
64.8140706		-147.7080771	

Analytical Parameters	Bottles to be filled
PAH	2 X 40 mL Amber VOAs ✔
BTEX/Fuel	3 X 40 mL Amber VOAs ✔
GRO	3 X 40 mL Amber VOAs ✔
DRO	2 X 100 mL Amber Glass ✔

Purge water disposal: Other

Type/Model Meter Used: _____
Calibrated: (date) _____ (time) _____ Cell Vol: _____
Type/Model Pump Used: _____
Pump Intake? _____ ft
Above / Below Bottom / TOC

Time	Depth to Water (ft)	Flow Rate (ml/Min)	pH		Conductivity (ms/cm)		Turbidity (NTU)		Dissolved O2 (mg/l)		Temp. (Celsius)		Oxygen Reduction Potential (ORP) mv	
13:15	12	X	Reading	Change* (±0.1)	Reading	Change* (±3%)	Reading	Change* (±10% or <5)	Reading	Change* (±10% or <0.5)	Reading	Change* (±3%)	Reading	Change* (±10mv)

Sample Collected? Yes Time 13:15 Total Pumped from Well? 0 Gal

NOTES / COMMENTS:

*Minimum pumping time 15 Mins. - Collect data every 3 mins once flow through cell is full or once every volume of the flow through cell based on flow rate, which ever is longest. Indicator Parameters Have Stabilized When 3 Consecutive Readings Are Within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for ORP; and ± 10% for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; ± 10% mg/l Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/l) or 3 readings less than 0.5 mg/l.

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 11:32 AM Name(s): Geoff Moorhead

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
WRW2020	N/A		
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
Latitude (decimal)		Longitude (decimal)	Weather
64.8141059		-147.7091733	

Type/Model Meter Used: _____
Calibrated: (date) _____ (time) _____ Cell Vol: _____
Type/Model Pump Used: _____
Pump Intake? _____ ft
Above / Below Bottom / TOC

Analytical Parameters	Bottles to be filled
PAH	2 X 40 mL Amber VOAs ✔
BTEX/Fuel	3 X 40 mL Amber VOAs ✔
GRO	3 X 40 mL Amber VOAs ✔
DRO	2 X 100 mL Amber Glass ✔

Purge water disposal: Other QA/QC:Duplicate #1

Time	Depth to Water (ft)	Flow Rate (ml/Min)	pH		Conductivity (ms/cm)		Turbidity (NTU)		Dissolved O2 (mg/l)		Temp. (Celsius)		Oxygen Reduction Potential (ORP) mv	
11:28			Reading	Change* (±0.1)	Reading	Change* (±3%)	Reading	Change* (±10% or <5)	Reading	Change* (±10% or <0.5)	Reading	Change* (±3%)	Reading	Change* (±10mv)
16:00	**--**	**--**	**7.48**		**513.40**		**--**		**4.12**		**10.90**		**65.3**	

Sample Collected? Yes Time 11:32 Total Pumped from Well? 0.0 L

NOTES / COMMENTS:

*Minimum pumping time 15 Mins. - Collect data every 3 mins once flow through cell is full or once every volume of the flow through cell based on flow rate, which ever is longest. Indicator Parameters Have Stabilized When 3 Consecutive Readings Are Within: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for ORP; and ± 10% for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; ± 10% mg/l Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/l) or 3 readings less than 0.5 mg/l.

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 12:41 PM Name(s): Geoff Moorhead

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
CRW	64.8140565	-147.7085163

Field Intrinsics	
Sampler Names: Geoff	Sheen/Odor?: Dead fish odor
pH: 7.52	Specific Conductance: 521.7
DO: 3.40	Temperature (C): 8.0
ORP: 64.2	Purge Volume (gal): 0
Notes: Decommissioned for the next couple months	

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 11:47 AM Name(s): Geoff Moorhead

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
CRW-2	64.8141037	-147.7088123

Field Intrinsics	
Sampler Names: Geoff	Sheen/Odor?: Odor, wispy sheen
pH: 7.54	Specific Conductance: 506.6
DO: 4.15	Temperature (C): 10.5
ORP: 48.3	Purge Volume (gal): 0
Notes: Black sediment	

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 1:21 PM Name(s): Geoff Moorhead

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
ERW	64.8140766	-147.7078058

Field Intrinsics	
Sampler Names: Remi	Sheen/Odor?:
pH:	Specific Conductance:
DO:	Temperature (C):
ORP:	Purge Volume (gal):
Notes: Low flow due to case size 8in	

SampleServe

Site Name: TNS #101 & IFC (MPC #157575)

Date: 09/03/2024, 11:51 AM

Name(s): Geoff Moorhead

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
IFC Aeration Tank	64.8140049	-147.7088078

Field Intrinsics	
Sampler Names: Geoff	Sheen/Odor?: No
pH: 7.59	Specific Conductance: 484.0
DO: 3.56	Temperature (C): 11.1
ORP: 47.5	Purge Volume (gal): 2
Notes: Dark orange sediment	

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 1:54 PM Name(s): Geoff Moorhead

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
MW-4	64.8141656	-147.7101713

Field Intrinsics	
Sampler Names: Geoff	Sheen/Odor?: None
pH: 6.51	Specific Conductance: 537.3
DO: 3.67	Temperature (C): 6.9
ORP: 80.4	Purge Volume (gal): 2.5
Notes: Clear to light brown	

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 10:57 AM Name(s): Geoff Moorhead

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
MW-8	64.8140326	-147.7089645

Field Intrinsics	
Sampler Names: Remi	Sheen/Odor?: Diesel odor
pH:	Specific Conductance:
DO:	Temperature (C):
ORP:	Purge Volume (gal): 38
Notes: Low flow due to 6in casing	

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 2:47 PM Name(s): Geoff Moorhead

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
MW-14	64.8142108	-147.7090692

Field Intrinsics	
Sampler Names: Geoff, Remi	Sheen/Odor?: Odor
pH: 6.90	Specific Conductance: 724.1
DO: 2.69	Temperature (C): 7.5
ORP: 101.1	Purge Volume (gal): 1
Notes: Light tan	

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 2:12 PM Name(s): Geoff Moorhead

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
MW-17	64.8141725	-147.7094723

Field Intrinsics	
Sampler Names: Remi	Sheen/Odor?: Sheen. Fuel odor
pH:	Specific Conductance:
DO:	Temperature (C):
ORP:	Purge Volume (gal): 2.5
Notes: Purged dry at one gallon. Not enough water for intrinsics. Black sediment	

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 1:15 PM Name(s): Geoff Moorhead

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
OMW-3	64.8140706	-147.7080771

Field Intrinsics	
Sampler Names: Geoff	Sheen/Odor?: No
pH: 7.22	Specific Conductance: 515.9
DO: 3.51	Temperature (C): 7.4
ORP: 69.2	Purge Volume (gal): 0.75
Notes: Clear. Purged dry at	

SampleServe

Site Name: TNS #101 & IFC (MPC #157575) Date: 09/03/2024, 11:32 AM Name(s): Geoff Moorhead

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
WRW2020	64.8141059	-147.7091733

Field Intrinsics	
Sampler Names: Remi	Sheen/Odor?: Wispy sheen
pH: 7.48	Specific Conductance: 513.4
DO: 4.12	Temperature (C): 10.9
ORP: 65.3	Purge Volume (gal): 0
Notes: Black sediment	

APPENDIX D

Tables of Historical Monitoring Data

TNS #101 & IFC (MPC #157575)
MPC - Eric Swaisgood
3569 S Cushman St
Fairbanks, Alaska 99701

	Well Screen Interval	Ground Water Elevation	124-TMB	135-TMB	Benzene	DRO	Ethylbenzene	GRO	Naphthalene	Sodium	Toluene	Xylenes
Unit	**ft**	**ft**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**
GW Human Health Cleanup			0.056	0.06	0.0046	1.5	0.015	2.2	0.0017		1.1	0.19
CRW												
10/05/2023	--	--	0.07730	0.0220	0.0051500	2.01	0.02950	0.541	0.01510	10.5	0.000488000	0.176
05/22/2024	--	--	0.05680	0.01780	0.0031400	0.45	0.01910	0.329	0.0210	9.40	U(0.00100)	0.108
09/03/2024	--	--	0.02030	0.0063400	0.0012500	2.01	0.0079800	0.208	0.0036800	—	U(0.00100)	0.0330
CRW-2												
09/24/2013	--	--	—	—	U (0.0005)	U (0.439)	—	U (0.05)	—	—	—	—
05/07/2014	--	--	—	—	0.001400	1.20	—	0.0500	—	—	—	—
09/07/2017	--	--	—	—	0.0160	0.96	—	0.35	—	—	—	—
09/07/2018	--	--	—	—	0.0130	2.80	—	0.91	—	—	—	—
10/23/2019	--	--	—	—	0.0110	1.40	—	0.99	—	—	—	—
10/22/2020	--	--	—	—	0.0073900	1.51	—	0.385	—	—	—	—
09/19/2022	--	--	0.105	0.03050	0.000936000	2.35	0.03350	0.602	0.0059600	—	0.000641000	0.155
10/05/2023	*FP*	*FP*	*FP*	*FP*	*FP*	*FP*	*FP*	*FP*	*FP*	*FP*	*FP*	*FP*
09/03/2024	--	--	0.0670	0.02620	0.0020200	1.23	0.02670	0.857	0.02330	—	0.0044800	0.256
ERW												
10/05/2023	--	--	U(0.00100)	U(0.00100)	U(0.00100)	0.398	U(0.00100)	U(0.100)	U(0.000250)	9.35	U(0.00100)	0.000521000
09/03/2024	--	--	0.0023100	U(0.00100)	U(0.00100)	U(0.800)	U(0.00100)	U(0.100)	U(0.000250)	—	U(0.00100)	U(0.00300)
IFC Aeration Tank												
05/24/2012	--	--	—	—	0.0048600	0.478	—	0.532	—	—	—	—
05/26/2015	--	--	—	—	0.006500	21.0	—	0.59	—	—	—	—
05/12/2016	--	--	—	—	0.00500	U (0.43)	—	0.21	—	—	—	—
09/07/2017	--	--	—	—	U (0.00040)	0.74	—	U (0.150)	—	—	—	—
09/07/2018	--	--	—	—	U (0.00040)	0.28	—	U (0.150)	—	—	—	—
10/23/2019	--	--	—	—	U (0.003)	0.37	—	U (0.25)	—	—	—	—
10/22/2020	--	--	—	—	0.000701000	0.988	—	0.08610	—	—	—	—
09/19/2022	--	--	0.0079600	0.0025600	0.000169000	1.51	0.0029200	0.07120	U(0.000250)	—	U(0.00100)	0.01590
10/05/2023	--	--	0.0065700	0.0027800	0.000175000	5.52	0.0015100	0.07740	U(0.000250)	10.8	0.000358000	0.01210
09/03/2024	--	--	0.0052700	0.0018200	U(0.00100)	0.995	0.0018300	0.104	U(0.000250)	—	U(0.00100)	0.01410
MW-4												
11/04/1991	--	--	—	—	U (0.0005)	—	—	—	—	—	—	—

TNS #101 & IFC (MPC #157575)
MPC - Eric Swaisgood
3569 S Cushman St
Fairbanks, Alaska 99701

Unit	Well Screen Interval ft	Ground Water Elevation ft	124-TMB ppm	135-TMB ppm	Benzene ppm	DRO ppm	Ethylbenzene ppm	GRO ppm	Naphthalene ppm	Sodium ppm	Toluene ppm	Xylenes ppm
GW Human Health Cleanup			0.056	0.06	0.0046	1.5	0.015	2.2	0.0017		1.1	0.19
01/28/1992	--	--	—	—	—	—	—	U	—	—	—	—
04/23/1992	--	--	—	—	—	U	—	—	—	—	—	—
07/16/1992	--	--	—	—	U (0.0005)	—	—	—	—	—	—	—
08/11/1992	--	--	—	—	—	—	—	0.308	—	—	—	—
09/10/1992	--	--	—	—	—	0.581	—	—	—	—	—	—
10/07/1992	--	--	—	—	U (0.0005)	—	—	—	—	—	—	—
12/21/1992	--	--	—	—	—	—	—	U (0.05)	—	—	—	—
03/09/1993	--	--	—	—	—	U (0.417)	—	—	—	—	—	—
09/23/1994	--	--	—	—	U (0.0005)	—	—	—	—	—	—	—
03/12/1995	--	--	—	—	—	—	—	U (0.05)	—	—	—	—
04/13/1995	--	--	—	—	—	U (0.455)	—	—	—	—	—	—
07/19/1995	--	--	—	—	U (0.0005)	—	—	—	—	—	—	—
10/25/1995	--	--	—	—	—	—	—	U (0.05)	—	—	—	—
05/22/1996	--	--	—	—	—	0.439	—	—	—	—	—	—
11/06/1996	--	--	—	—	U (0.0005)	—	—	—	—	—	—	—
03/19/1997	--	--	—	—	—	—	—	U (0.05)	—	—	—	—
11/17/1997	--	--	—	—	—	0.565	—	—	—	—	—	—
04/29/1998	--	--	—	—	U (0.0005)	—	—	—	—	—	—	—
10/13/1998	--	--	—	—	—	—	—	U (0.05)	—	—	—	—
11/05/1999	--	--	—	—	—	U (0.400)	—	—	—	—	—	—
06/04/2001	--	--	—	—	U (0.0005)	—	—	—	—	—	—	—
11/30/2001	--	--	—	—	—	—	—	U (0.05)	—	—	—	—
08/20/2002	--	--	—	—	—	U (0.41)	—	—	—	—	—	—
08/04/2003	--	--	—	—	U (0.001)	—	—	—	—	—	—	—
05/03/2004	--	--	—	—	—	—	—	U (0.05)	—	—	—	—
05/16/2006	--	--	—	—	—	U (0.21)	—	—	—	—	—	—
09/14/2006	--	--	—	—	U (0.0020)	—	—	—	—	—	—	—
05/14/2007	--	--	—	—	—	—	—	U (0.1)	—	—	—	—
06/04/2008	--	--	—	—	—	0.78	—	—	—	—	—	—
05/13/2009	--	--	—	—	U (0.00040)	—	—	—	—	—	—	—
06/15/2010	--	--	—	—	—	—	—	U (0.150)	—	—	—	—
05/26/2011	--	--	—	—	—	0.59	—	—	—	—	—	—
05/24/2012	--	--	—	—	U (0.00040)	—	—	—	—	—	—	—
08/12/2013	--	--	—	—	—	—	—	U (0.150)	—	—	—	—
05/06/2014	--	--	—	—	—	U (0.28)	—	—	—	—	—	—
05/26/2015	--	--	—	—	U (0.003)	—	—	—	—	—	—	—
05/12/2016	--	--	—	—	—	—	—	U (0.25)	—	—	—	—
09/07/2017	--	--	—	—	—	0.33 H	—	—	—	—	—	—
09/07/2018	--	--	—	—	U(0.001)	—	—	—	—	—	—	—

TNS #101 & IFC (MPC #157575)
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3569 S Cushman St
Fairbanks, Alaska 99701

Unit	Well Screen Interval ft	Ground Water Elevation ft	124-TMB ppm	135-TMB ppm	Benzene ppm	DRO ppm	Ethylbenzene ppm	GRO ppm	Naphthalene ppm	Sodium ppm	Toluene ppm	Xylenes ppm
GW Human Health Cleanup			**0.056**	**0.06**	**0.0046**	**1.5**	**0.015**	**2.2**	**0.0017**		**1.1**	**0.19**
10/23/2019	--	--	—	—	—	—	—	0.595	—	—	—	—
10/21/2020	--	--	—	—	—	0.95	—	—	—	—	—	—
09/19/2022	--	--	U(0.00100)	U(0.00100)	U(0.00100)	U(0.840)	U(0.00100)	0.04330	U(0.000250)	—	0.01220	U(0.00300)
10/05/2023	--	--	U(0.00100)	U(0.00100)	U(0.00100)	0.905	U(0.00100)	U(0.100)	U(0.000750)	—	0.000797000	U(0.00300)
09/03/2024	--	--	U(0.00100)	U(0.00100)	U(0.00100)	U(0.800)	U(0.00100)	U(0.100)	U(0.000500)	—	U(0.00100)	U(0.00300)
MW-8												
08/30/2004	--	--	—	—	**0.0051600**	**1.69**	—	0.329	—	—	—	—
09/27/2005	--	--	—	—	U (0.0005)	U (0.4)	—	U (0.05)	—	—	—	—
05/16/2006	--	--	—	—	0.000695000	**4.12**	—	0.07660	—	—	—	—
09/14/2006	--	--	—	—	**0.0064500**	0.956	—	0.284	—	—	—	—
06/04/2008	--	--	—	—	0.0018800	**5.81**	—	0.45	—	—	—	—
05/13/2009	--	--	—	—	0.0023800	**12.6**	—	0.74	—	—	—	—
06/15/2010	--	--	—	—	**0.0046700**	**2.45**	—	1.39	—	—	—	—
05/26/2011	--	--	—	—	0.0018800	**13.1**	—	1.10	—	—	—	—
05/24/2012	--	--	—	—	0.0013400	**1.88**	—	0.524	—	—	—	—
05/07/2014	--	--	—	—	0.00067000	**43.0**	—	2.20	—	—	—	—
05/26/2015	--	--	—	—	0.002500	**65.0**	—	**2.80**	—	—	—	—
05/12/2016	--	--	—	—	0.00087000	**12.0**	—	0.86	—	—	—	—
09/07/2017	--	--	—	—	**0.0160**	**27.0**	—	0.39	—	—	—	—
09/07/2018	--	--	—	—	0.00067000	**20.0**	—	0.28	—	—	—	—
10/23/2019	--	--	—	—	U (0.003)	**12.0**	—	0.45	—	—	—	—
10/21/2020	--	--	—	—	0.000695000	**8.97**	—	0.126	—	—	—	—
09/19/2022	--	--	**0.245**	**0.116**	U(0.00500)	**11.3**	**0.02690**	1.50	**0.05090**	—	0.0040700	**0.456**
10/05/2023	--	--	**0.257**	**0.124**	U(0.00100)	**38.3**	0.01310	1.49	**0.05670**	11.5	0.02840	**0.31**
09/03/2024	--	--	**0.07690**	0.0220	U(0.00100)	**2.75**	0.0029700	0.511	**0.01390**	—	U(0.00100)	0.04720
MW-14												
04/01/2005	--	--	—	—	**0.01620**	**22.0**	—	2.16	—	—	—	—
09/27/2005	--	--	—	—	**0.01940**	**4.34**	—	1.07	—	—	—	—
09/14/2006	--	--	—	—	0.0032300	**1.51**	—	0.457	—	—	—	—
06/04/2008	--	--	—	—	**0.01280**	**3.02**	—	0.964	—	—	—	—
05/13/2009	--	--	—	—	**0.02670**	**1.77**	—	2.18	—	—	—	—
06/15/2010	--	--	—	—	**0.01190**	**1.89**	—	1.15	—	—	—	—
05/26/2011	--	--	—	—	**0.01030**	**3.78**	—	1.23	—	—	—	—
05/24/2012	--	--	—	—	0.0027100	**2.72**	—	0.284	—	—	—	—
08/12/2013	--	--	—	—	**0.04420**	**120**	—	**3.77**	—	—	—	—
05/06/2014	--	--	—	—	**0.0270**	**67.0**	—	**12.0**	—	—	—	—
05/26/2015	--	--	—	—	**0.0200**	**6.40**	—	**3.60**	—	—	—	—
09/07/2017	--	--	—	—	**0.0500**	**14.0**	—	**6.50**	—	—	—	—

TNS #101 & IFC (MPC #157575)
MPC - Eric Swaisgood
3569 S Cushman St
Fairbanks, Alaska 99701

Unit	Well Screen Interval ft	Ground Water Elevation ft	124-TMB ppm	135-TMB ppm	Benzene ppm	DRO ppm	Ethylbenzene ppm	GRO ppm	Naphthalene ppm	Sodium ppm	Toluene ppm	Xylenes ppm
GW Human Health Cleanup			0.056	0.06	0.0046	1.5	0.015	2.2	0.0017		1.1	0.19
09/07/2018	--	--	—	—	0.0740	26.0	—	U (7.5)	—	—	—	—
10/23/2019	--	--	—	—	0.0540	15 H	—	12.0	—	—	—	—
10/21/2020	--	--	—	—	0.05850	4.75	—	6.68	—	—	—	—
09/19/2022	--	--	0.565	0.174	0.03490	2.72	0.532	6.86	0.331	—	0.0300	3.37
10/05/2023	--	--	0.555	0.185	0.04930	3.04	0.384	6.26	0.219	—	0.02690	2.68
09/03/2024	--	--	0.323	0.145	0.0300	5.91	0.299	6.36	0.223	—	0.01050	2.00
MW-17												
07/27/2000	--	--	—	—	0.0700	57.6	—	6.80	—	—	—	—
08/04/2003	--	--	—	—	0.001600	4.50	—	0.535	—	—	—	—
05/03/2004	--	--	—	—	0.08230	65.2	—	1.14	—	—	—	—
04/01/2005	--	--	—	—	0.01480	118	—	5.37	—	—	—	—
09/27/2005	--	--	—	—	0.0042200	6.53	—	0.204	—	—	—	—
05/16/2006	--	--	—	—	0.000652000	51.2	—	0.633	—	—	—	—
09/14/2006	--	--	—	—	0.0063400	9.33	—	0.642	—	—	—	—
05/14/2007	--	--	—	—	0.0018200	74.1	—	0.467	—	—	—	—
06/04/2008	--	--	—	—	0.00054000	3.49	—	0.213	—	—	—	—
05/13/2009	--	--	—	—	U (0.0005)	1.11	—	U (0.05)	—	—	—	—
06/15/2010	--	--	—	—	0.0038400	3.70	—	0.148	—	—	—	—
05/26/2011	--	--	—	—	U (0.0005)	0.963	—	U (0.05)	—	—	—	—
05/24/2012	--	--	—	—	U (0.0005)	1.05	—	0.122	—	—	—	—
08/12/2013	--	--	—	—	U (0.0005)	114	—	1.68	—	—	—	—
05/06/2014	--	--	—	—	U (0.0005)	28.0	—	1.20	—	—	—	—
05/26/2015	--	--	—	—	U (0.0010)	32.0	—	3.90	—	—	—	—
05/12/2016	--	--	—	—	U (0.00026)	74.0	—	3.30	—	—	—	—
09/07/2017	--	--	—	—	0.005900	47.0	—	2.40	—	—	—	—
09/07/2018	--	--	—	—	0.006400	24.0	—	2.90	—	—	—	—
10/23/2019	--	--	—	—	0.007700	14.0	—	0.38	—	—	—	—
10/21/2020	--	--	—	—	0.07320	17.7	—	3.20	—	—	—	—
09/19/2022	--	--	0.0016300	0.000709000	0.000136000	3.40	0.000494000	0.226	0.000355000	—	0.002600	0.0032700
10/05/2023	--	--	0.04340	0.01160	0.0034200	3.39	0.02880	0.285	U(0.000250)	—	0.0011200	0.186
09/03/2024	--	--	U(0.00100)	U(0.00100)	U(0.00100)	4.81	U(0.00100)	0.159	U(0.000500)	—	U(0.00100)	U(0.00300)
OMW-3												
10/05/2023	--	--	U(0.00100)	U(0.00100)	U(0.00100)	0.766	U(0.00100)	U(0.100)	U(0.000250)	9.85	U(0.00100)	U(0.00300)
09/03/2024	--	--	U(0.00100)	U(0.00100)	U(0.00100)	U(0.800)	U(0.00100)	U(0.100)	U(0.000250)	—	U(0.00100)	U(0.00300)
WRW2020												
07/16/2020	--	--	—	—	10.6	—	—	—	—	—	—	—
10/22/2020	--	--	—	—	0.0033900	1.05	—	0.588	—	—	—	—
09/19/2022	--	--	0.07150	0.0220	0.0021700	0.237	0.03970	0.563	0.01590	—	U(0.00100)	0.171

TNS #101 & IFC (MPC #157575)
MPC - Eric Swaisgood
3569 S Cushman St
Fairbanks, Alaska 99701

	Well Screen Interval	Ground Water Elevation	124-TMB	135-TMB	Benzene	DRO	Ethylbenzene	GRO	Naphthalene	Sodium	Toluene	Xylenes
Unit	**ft**	**ft**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**
GW Human Health Cleanup			**0.056**	**0.06**	**0.0046**	**1.5**	**0.015**	**2.2**	**0.0017**		**1.1**	**0.19**
10/05/2023	--	--	**0.06620**	0.01990	0.0011200	1.22	**0.02880**	0.11	0.000201000	—	U(0.00100)	0.13
09/03/2024	--	--	**0.663**	0.02160	0.0012800	**1.58**	**0.02670**	0.853	**0.01610**	—	U(0.00100)	0.161

APPENDIX E

PACE Laboratory Analytical Report and ADEC Laboratory Data Review Checklist

ANALYTICAL REPORT

September 24, 2024

Stantec - Anchorage, AK

Sample Delivery Group:	L1775196
Samples Received:	09/06/2024
Project Number:	203723629
Description:	TNS101/SW5313

Report To:

Ms. Sydney Souza
725 E Fireweed Lane
Anchorage, AK 99503

Entire Report Reviewed By:

Craig Cothron
Project Manager

TABLE OF CONTENTS

MW-8 L1775196-01 GW

Collected by | Collected date/time 09/03/24 10:57 | Received date/time 09/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG2363562	1	09/17/24 01:36	09/17/24 01:36	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2359367	1	09/10/24 17:06	09/10/24 17:06	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2361727	1	09/13/24 21:01	09/15/24 01:25	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2359170	1	09/10/24 15:48	09/11/24 13:46	ALM	Mt. Juliet, TN

WRW2020 L1775196-02 GW

Collected by | Collected date/time 09/03/24 11:32 | Received date/time 09/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG2358732	1	09/10/24 06:19	09/10/24 06:19	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2359367	1	09/10/24 17:28	09/10/24 17:28	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2361727	1	09/13/24 21:01	09/15/24 01:45	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2359170	1	09/10/24 15:48	09/11/24 14:03	ALM	Mt. Juliet, TN

CRW-2 L1775196-03 GW

Collected by | Collected date/time 09/03/24 11:47 | Received date/time 09/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG2358732	1	09/10/24 06:41	09/10/24 06:41	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2359367	1	09/10/24 17:50	09/10/24 17:50	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2361727	1	09/13/24 21:01	09/15/24 02:06	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2359170	1	09/10/24 15:48	09/11/24 14:21	ALM	Mt. Juliet, TN

IFC AERATION TANK L1775196-04 GW

Collected by | Collected date/time 09/03/24 11:51 | Received date/time 09/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG2360466	1	09/11/24 14:40	09/11/24 14:40	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2359367	1	09/10/24 18:12	09/10/24 18:12	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2361727	1	09/13/24 21:01	09/15/24 02:26	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2359170	1	09/10/24 15:48	09/11/24 14:39	ALM	Mt. Juliet, TN

CRW L1775196-05 GW

Collected by | Collected date/time 09/03/24 12:41 | Received date/time 09/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG2360466	1	09/11/24 15:03	09/11/24 15:03	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2359505	1	09/10/24 17:10	09/10/24 17:10	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2361727	1	09/13/24 21:01	09/15/24 02:47	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2359170	1	09/10/24 15:48	09/11/24 14:56	ALM	Mt. Juliet, TN

OMW-3 L1775196-06 GW

Collected by | Collected date/time 09/03/24 13:15 | Received date/time 09/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG2360466	1	09/11/24 15:25	09/11/24 15:25	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2359505	1	09/10/24 17:33	09/10/24 17:33	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2361727	1	09/13/24 21:01	09/15/24 03:07	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2359170	1	09/10/24 15:48	09/11/24 15:14	ALM	Mt. Juliet, TN

ERW L1775196-07 GW

Collected by | Collected date/time 09/03/24 13:21 | Received date/time 09/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG2360466	1	09/11/24 15:48	09/11/24 15:48	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2359505	1	09/10/24 17:55	09/10/24 17:55	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2361727	1	09/13/24 21:01	09/15/24 03:27	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2359170	1	09/10/24 15:48	09/11/24 16:07	ALM	Mt. Juliet, TN

MW-4 L1775196-08 GW

Collected by | Collected date/time 09/03/24 13:54 | Received date/time 09/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG2360466	1	09/11/24 16:11	09/11/24 16:11	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2359505	1	09/10/24 18:17	09/10/24 18:17	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2362474	1	09/17/24 15:45	09/18/24 19:25	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2359170	2	09/10/24 15:48	09/11/24 16:24	ALM	Mt. Juliet, TN

DUP 1 L1775196-09 GW

Collected by | Collected date/time 09/03/24 00:00 | Received date/time 09/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG2360466	1	09/11/24 16:33	09/11/24 16:33	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2359505	1	09/10/24 18:39	09/10/24 18:39	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2362474	1	09/17/24 15:45	09/18/24 19:46	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2359170	1	09/10/24 15:48	09/11/24 15:31	ALM	Mt. Juliet, TN

DUP 2 L1775196-10 GW

Collected by | Collected date/time 09/03/24 00:00 | Received date/time 09/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG2360466	10	09/11/24 21:50	09/11/24 21:50	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2359505	1	09/10/24 19:02	09/10/24 19:02	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2362474	1	09/17/24 15:45	09/18/24 20:06	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2359170	2	09/10/24 15:48	09/11/24 16:42	ALM	Mt. Juliet, TN

MW-17 L1775196-11 GW

Collected by | Collected date/time 09/03/24 14:12 | Received date/time 09/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG2360466	1	09/11/24 16:56	09/11/24 16:56	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2359505	1	09/10/24 19:24	09/10/24 19:24	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2362474	1.11	09/17/24 15:45	09/18/24 20:47	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2359170	2	09/10/24 15:48	09/11/24 17:00	ALM	Mt. Juliet, TN

MW-14 L1775196-12 GW

Collected by | Collected date/time 09/03/24 14:47 | Received date/time 09/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG2360466	1	09/11/24 17:18	09/11/24 17:18	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2359505	1	09/10/24 19:46	09/10/24 19:46	DYW	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2361644	20	09/13/24 02:05	09/13/24 02:05	JTO	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2362474	1	09/17/24 15:45	09/18/24 20:26	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2359170	1	09/10/24 15:48	09/11/24 15:49	ALM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2359170	10	09/10/24 15:48	09/13/24 07:56	JRM	Mt. Juliet, TN

TRIP BLANK (W/ COC) L1775196-13 GW

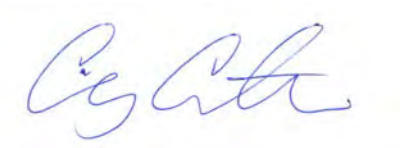
			Collected by	Collected date/time	Received date/time	
				09/03/24 00:00	09/06/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2360903	1	09/12/24 00:50	09/12/24 00:50	DYW	Mt. Juliet, TN

TRIP BLANK (W/O COC) L1775196-14 GW

			Collected by	Collected date/time	Received date/time	
				09/03/24 00:00	09/06/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2360903	1	09/12/24 01:10	09/12/24 01:10	DYW	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Craig Cothron
Project Manager

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	0.511		0.100	1	09/17/2024 01:36	WG2363562
(S) a,a,a-Trifluorotoluene(FID)	*102*		*50.0-150*		*09/17/2024 01:36*	WG2363562
(S) a,a,a-Trifluorotoluene(PID)	*0.000*	J2	*79.0-125*		*09/17/2024 01:36*	WG2363562

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/10/2024 17:06	WG2359367
n-Butylbenzene	0.00381		0.00100	1	09/10/2024 17:06	WG2359367
sec-Butylbenzene	0.00497		0.00100	1	09/10/2024 17:06	WG2359367
tert-Butylbenzene	ND		0.00100	1	09/10/2024 17:06	WG2359367
Ethylbenzene	0.00297		0.00100	1	09/10/2024 17:06	WG2359367
Isopropylbenzene	0.00332		0.00100	1	09/10/2024 17:06	WG2359367
Naphthalene	0.0299		0.00500	1	09/10/2024 17:06	WG2359367
Toluene	ND		0.00100	1	09/10/2024 17:06	WG2359367
1,2,4-Trimethylbenzene	0.0769		0.00100	1	09/10/2024 17:06	WG2359367
1,3,5-Trimethylbenzene	0.0220		0.00100	1	09/10/2024 17:06	WG2359367
Total Xylenes	0.0472		0.00300	1	09/10/2024 17:06	WG2359367
(S) Toluene-d8	*91.9*		*80.0-120*		*09/10/2024 17:06*	WG2359367
(S) 4-Bromofluorobenzene	*91.9*		*77.0-126*		*09/10/2024 17:06*	WG2359367
(S) 1,2-Dichloroethane-d4	*96.5*		*70.0-130*		*09/10/2024 17:06*	WG2359367

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	2.75	B	0.800	1	09/15/2024 01:25	WG2361727
(S) o-Terphenyl	*75.0*		*50.0-150*		*09/15/2024 01:25*	WG2361727

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0000500	1	09/11/2024 13:46	WG2359170
Acenaphthene	0.000534		0.0000500	1	09/11/2024 13:46	WG2359170
Acenaphthylene	0.000209		0.0000500	1	09/11/2024 13:46	WG2359170
Benzo(a)anthracene	ND		0.0000500	1	09/11/2024 13:46	WG2359170
Benzo(a)pyrene	ND		0.0000500	1	09/11/2024 13:46	WG2359170
Benzo(b)fluoranthene	ND		0.0000500	1	09/11/2024 13:46	WG2359170
Benzo(g,h,i)perylene	ND		0.0000500	1	09/11/2024 13:46	WG2359170
Benzo(k)fluoranthene	ND		0.0000500	1	09/11/2024 13:46	WG2359170
Chrysene	ND		0.0000500	1	09/11/2024 13:46	WG2359170
Dibenz(a,h)anthracene	ND		0.0000500	1	09/11/2024 13:46	WG2359170
Fluoranthene	ND		0.000100	1	09/11/2024 13:46	WG2359170
Fluorene	0.00145		0.0000500	1	09/11/2024 13:46	WG2359170
Indeno(1,2,3-cd)pyrene	ND		0.0000500	1	09/11/2024 13:46	WG2359170
Naphthalene	0.0139		0.000250	1	09/11/2024 13:46	WG2359170
Phenanthrene	0.000772		0.0000500	1	09/11/2024 13:46	WG2359170
Pyrene	ND		0.0000500	1	09/11/2024 13:46	WG2359170
1-Methylnaphthalene	0.0392		0.000250	1	09/11/2024 13:46	WG2359170
2-Methylnaphthalene	0.0308		0.000250	1	09/11/2024 13:46	WG2359170
(S) Nitrobenzene-d5	*59.5*		*31.0-160*		*09/11/2024 13:46*	WG2359170
(S) 2-Fluorobiphenyl	*77.9*		*48.0-148*		*09/11/2024 13:46*	WG2359170
(S) p-Terphenyl-d14	*72.1*		*37.0-146*		*09/11/2024 13:46*	WG2359170

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	0.853		0.100	1	09/10/2024 06:19	WG2358732
(S) a,a,a-Trifluorotoluene(FID)	*95.6*		*50.0-150*		*09/10/2024 06:19*	WG2358732
(S) a,a,a-Trifluorotoluene(PID)	*107*		*79.0-125*		*09/10/2024 06:19*	WG2358732

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00128		0.00100	1	09/10/2024 17:28	WG2359367
n-Butylbenzene	0.00601		0.00100	1	09/10/2024 17:28	WG2359367
sec-Butylbenzene	0.00897		0.00100	1	09/10/2024 17:28	WG2359367
tert-Butylbenzene	ND		0.00100	1	09/10/2024 17:28	WG2359367
Ethylbenzene	0.0219		0.00100	1	09/10/2024 17:28	WG2359367
Isopropylbenzene	0.00850		0.00100	1	09/10/2024 17:28	WG2359367
Naphthalene	0.0289		0.00500	1	09/10/2024 17:28	WG2359367
Toluene	ND		0.00100	1	09/10/2024 17:28	WG2359367
1,2,4-Trimethylbenzene	0.0633		0.00100	1	09/10/2024 17:28	WG2359367
1,3,5-Trimethylbenzene	0.0209		0.00100	1	09/10/2024 17:28	WG2359367
Total Xylenes	0.130		0.00300	1	09/10/2024 17:28	WG2359367
(S) Toluene-d8	*88.4*		*80.0-120*		*09/10/2024 17:28*	WG2359367
(S) 4-Bromofluorobenzene	*80.4*		*77.0-126*		*09/10/2024 17:28*	WG2359367
(S) 1,2-Dichloroethane-d4	*93.9*		*70.0-130*		*09/10/2024 17:28*	WG2359367

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	1.48	B	0.800	1	09/15/2024 01:45	WG2361727
(S) o-Terphenyl	*72.8*		*50.0-150*		*09/15/2024 01:45*	WG2361727

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0000500	1	09/11/2024 14:03	WG2359170
Acenaphthene	0.000442		0.0000500	1	09/11/2024 14:03	WG2359170
Acenaphthylene	0.000153		0.0000500	1	09/11/2024 14:03	WG2359170
Benzo(a)anthracene	ND		0.0000500	1	09/11/2024 14:03	WG2359170
Benzo(a)pyrene	ND		0.0000500	1	09/11/2024 14:03	WG2359170
Benzo(b)fluoranthene	ND		0.0000500	1	09/11/2024 14:03	WG2359170
Benzo(g,h,i)perylene	ND		0.0000500	1	09/11/2024 14:03	WG2359170
Benzo(k)fluoranthene	ND		0.0000500	1	09/11/2024 14:03	WG2359170
Chrysene	ND		0.0000500	1	09/11/2024 14:03	WG2359170
Dibenz(a,h)anthracene	ND		0.0000500	1	09/11/2024 14:03	WG2359170
Fluoranthene	ND		0.000100	1	09/11/2024 14:03	WG2359170
Fluorene	0.00111		0.0000500	1	09/11/2024 14:03	WG2359170
Indeno(1,2,3-cd)pyrene	ND		0.0000500	1	09/11/2024 14:03	WG2359170
Naphthalene	0.0139		0.000250	1	09/11/2024 14:03	WG2359170
Phenanthrene	0.000169		0.0000500	1	09/11/2024 14:03	WG2359170
Pyrene	ND		0.0000500	1	09/11/2024 14:03	WG2359170
1-Methylnaphthalene	0.0234		0.000250	1	09/11/2024 14:03	WG2359170
2-Methylnaphthalene	0.00776		0.000250	1	09/11/2024 14:03	WG2359170
(S) Nitrobenzene-d5	*81.1*		*31.0-160*		*09/11/2024 14:03*	WG2359170
(S) 2-Fluorobiphenyl	*80.5*		*48.0-148*		*09/11/2024 14:03*	WG2359170
(S) p-Terphenyl-d14	*84.2*		*37.0-146*		*09/11/2024 14:03*	WG2359170

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	0.857		0.100	1	09/10/2024 06:41	WG2358732
(S) a,a,a-Trifluorotoluene(FID)	*93.5*		*50.0-150*		*09/10/2024 06:41*	WG2358732
(S) a,a,a-Trifluorotoluene(PID)	*109*		*79.0-125*		*09/10/2024 06:41*	WG2358732

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00202		0.00100	1	09/10/2024 17:50	WG2359367
n-Butylbenzene	0.00177		0.00100	1	09/10/2024 17:50	WG2359367
sec-Butylbenzene	0.00237		0.00100	1	09/10/2024 17:50	WG2359367
tert-Butylbenzene	ND		0.00100	1	09/10/2024 17:50	WG2359367
Ethylbenzene	0.0267		0.00100	1	09/10/2024 17:50	WG2359367
Isopropylbenzene	0.00497		0.00100	1	09/10/2024 17:50	WG2359367
Naphthalene	0.0402		0.00500	1	09/10/2024 17:50	WG2359367
Toluene	0.00448		0.00100	1	09/10/2024 17:50	WG2359367
1,2,4-Trimethylbenzene	0.0670		0.00100	1	09/10/2024 17:50	WG2359367
1,3,5-Trimethylbenzene	0.0262		0.00100	1	09/10/2024 17:50	WG2359367
Total Xylenes	0.256		0.00300	1	09/10/2024 17:50	WG2359367
(S) Toluene-d8	*96.3*		*80.0-120*		*09/10/2024 17:50*	WG2359367
(S) 4-Bromofluorobenzene	*94.9*		*77.0-126*		*09/10/2024 17:50*	WG2359367
(S) 1,2-Dichloroethane-d4	*95.4*		*70.0-130*		*09/10/2024 17:50*	WG2359367

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	1.23	B	0.800	1	09/15/2024 02:06	WG2361727
(S) o-Terphenyl	*87.5*		*50.0-150*		*09/15/2024 02:06*	WG2361727

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0000500	1	09/11/2024 14:21	WG2359170
Acenaphthene	0.000226		0.0000500	1	09/11/2024 14:21	WG2359170
Acenaphthylene	ND		0.0000500	1	09/11/2024 14:21	WG2359170
Benzo(a)anthracene	ND		0.0000500	1	09/11/2024 14:21	WG2359170
Benzo(a)pyrene	ND		0.0000500	1	09/11/2024 14:21	WG2359170
Benzo(b)fluoranthene	ND		0.0000500	1	09/11/2024 14:21	WG2359170
Benzo(g,h,i)perylene	ND		0.0000500	1	09/11/2024 14:21	WG2359170
Benzo(k)fluoranthene	ND		0.0000500	1	09/11/2024 14:21	WG2359170
Chrysene	ND		0.0000500	1	09/11/2024 14:21	WG2359170
Dibenz(a,h)anthracene	ND		0.0000500	1	09/11/2024 14:21	WG2359170
Fluoranthene	ND		0.000100	1	09/11/2024 14:21	WG2359170
Fluorene	0.000625		0.0000500	1	09/11/2024 14:21	WG2359170
Indeno(1,2,3-cd)pyrene	ND		0.0000500	1	09/11/2024 14:21	WG2359170
Naphthalene	0.0233		0.000250	1	09/11/2024 14:21	WG2359170
Phenanthrene	0.000303		0.0000500	1	09/11/2024 14:21	WG2359170
Pyrene	ND		0.0000500	1	09/11/2024 14:21	WG2359170
1-Methylnaphthalene	0.0183		0.000250	1	09/11/2024 14:21	WG2359170
2-Methylnaphthalene	0.0155		0.000250	1	09/11/2024 14:21	WG2359170
(S) Nitrobenzene-d5	*83.7*		*31.0-160*		*09/11/2024 14:21*	WG2359170
(S) 2-Fluorobiphenyl	*72.6*		*48.0-148*		*09/11/2024 14:21*	WG2359170
(S) p-Terphenyl-d14	*68.9*		*37.0-146*		*09/11/2024 14:21*	WG2359170

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	0.104	B	0.100	1	09/11/2024 14:40	WG2360466
(S) a,a,a-Trifluorotoluene(FID)	*93.3*		*50.0-150*		*09/11/2024 14:40*	WG2360466
(S) a,a,a-Trifluorotoluene(PID)	*104*		*79.0-125*		*09/11/2024 14:40*	WG2360466

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/10/2024 18:12	WG2359367
n-Butylbenzene	ND		0.00100	1	09/10/2024 18:12	WG2359367
sec-Butylbenzene	ND		0.00100	1	09/10/2024 18:12	WG2359367
tert-Butylbenzene	ND		0.00100	1	09/10/2024 18:12	WG2359367
Ethylbenzene	0.00183		0.00100	1	09/10/2024 18:12	WG2359367
Isopropylbenzene	ND		0.00100	1	09/10/2024 18:12	WG2359367
Naphthalene	0.00615		0.00500	1	09/10/2024 18:12	WG2359367
Toluene	ND		0.00100	1	09/10/2024 18:12	WG2359367
1,2,4-Trimethylbenzene	0.00527		0.00100	1	09/10/2024 18:12	WG2359367
1,3,5-Trimethylbenzene	0.00182		0.00100	1	09/10/2024 18:12	WG2359367
Total Xylenes	0.0141		0.00300	1	09/10/2024 18:12	WG2359367
(S) Toluene-d8	*103*		*80.0-120*		*09/10/2024 18:12*	WG2359367
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*09/10/2024 18:12*	WG2359367
(S) 1,2-Dichloroethane-d4	*91.6*		*70.0-130*		*09/10/2024 18:12*	WG2359367

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	0.995	B	0.800	1	09/15/2024 02:26	WG2361727
(S) o-Terphenyl	*86.9*		*50.0-150*		*09/15/2024 02:26*	WG2361727

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0000500	1	09/11/2024 14:39	WG2359170
Acenaphthene	ND		0.0000500	1	09/11/2024 14:39	WG2359170
Acenaphthylene	ND		0.0000500	1	09/11/2024 14:39	WG2359170
Benzo(a)anthracene	ND		0.0000500	1	09/11/2024 14:39	WG2359170
Benzo(a)pyrene	ND		0.0000500	1	09/11/2024 14:39	WG2359170
Benzo(b)fluoranthene	ND		0.0000500	1	09/11/2024 14:39	WG2359170
Benzo(g,h,i)perylene	ND		0.0000500	1	09/11/2024 14:39	WG2359170
Benzo(k)fluoranthene	ND		0.0000500	1	09/11/2024 14:39	WG2359170
Chrysene	ND		0.0000500	1	09/11/2024 14:39	WG2359170
Dibenz(a,h)anthracene	ND		0.0000500	1	09/11/2024 14:39	WG2359170
Fluoranthene	ND		0.000100	1	09/11/2024 14:39	WG2359170
Fluorene	ND		0.0000500	1	09/11/2024 14:39	WG2359170
Indeno(1,2,3-cd)pyrene	ND		0.0000500	1	09/11/2024 14:39	WG2359170
Naphthalene	ND		0.000250	1	09/11/2024 14:39	WG2359170
Phenanthrene	ND		0.0000500	1	09/11/2024 14:39	WG2359170
Pyrene	ND		0.0000500	1	09/11/2024 14:39	WG2359170
1-Methylnaphthalene	ND		0.000250	1	09/11/2024 14:39	WG2359170
2-Methylnaphthalene	ND		0.000250	1	09/11/2024 14:39	WG2359170
(S) Nitrobenzene-d5	*99.5*		*31.0-160*		*09/11/2024 14:39*	WG2359170
(S) 2-Fluorobiphenyl	*78.9*		*48.0-148*		*09/11/2024 14:39*	WG2359170
(S) p-Terphenyl-d14	*75.3*		*37.0-146*		*09/11/2024 14:39*	WG2359170

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	0.208	B	0.100	1	09/11/2024 15:03	WG2360466
(S) a,a,a-Trifluorotoluene(FID)	*90.3*		*50.0-150*		*09/11/2024 15:03*	WG2360466
(S) a,a,a-Trifluorotoluene(PID)	*104*		*79.0-125*		*09/11/2024 15:03*	WG2360466

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00125		0.00100	1	09/10/2024 17:10	WG2359505
n-Butylbenzene	ND	J3	0.00100	1	09/10/2024 17:10	WG2359505
sec-Butylbenzene	0.00116		0.00100	1	09/10/2024 17:10	WG2359505
tert-Butylbenzene	ND		0.00100	1	09/10/2024 17:10	WG2359505
Ethylbenzene	0.00798		0.00100	1	09/10/2024 17:10	WG2359505
Isopropylbenzene	0.00458		0.00100	1	09/10/2024 17:10	WG2359505
Naphthalene	0.00991	C3	0.00500	1	09/10/2024 17:10	WG2359505
Toluene	ND		0.00100	1	09/10/2024 17:10	WG2359505
1,2,4-Trimethylbenzene	0.0203		0.00100	1	09/10/2024 17:10	WG2359505
1,3,5-Trimethylbenzene	0.00634		0.00100	1	09/10/2024 17:10	WG2359505
Total Xylenes	0.0330		0.00300	1	09/10/2024 17:10	WG2359505
(S) Toluene-d8	*102*		*80.0-120*		*09/10/2024 17:10*	WG2359505
(S) 4-Bromofluorobenzene	*94.9*		*77.0-126*		*09/10/2024 17:10*	WG2359505
(S) 1,2-Dichloroethane-d4	*111*		*70.0-130*		*09/10/2024 17:10*	WG2359505

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	2.01	B	0.800	1	09/15/2024 02:47	WG2361727
(S) o-Terphenyl	*82.6*		*50.0-150*		*09/15/2024 02:47*	WG2361727

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0000500	1	09/11/2024 14:56	WG2359170
Acenaphthene	0.0000926		0.0000500	1	09/11/2024 14:56	WG2359170
Acenaphthylene	ND		0.0000500	1	09/11/2024 14:56	WG2359170
Benzo(a)anthracene	ND		0.0000500	1	09/11/2024 14:56	WG2359170
Benzo(a)pyrene	ND		0.0000500	1	09/11/2024 14:56	WG2359170
Benzo(b)fluoranthene	ND		0.0000500	1	09/11/2024 14:56	WG2359170
Benzo(g,h,i)perylene	ND		0.0000500	1	09/11/2024 14:56	WG2359170
Benzo(k)fluoranthene	ND		0.0000500	1	09/11/2024 14:56	WG2359170
Chrysene	ND		0.0000500	1	09/11/2024 14:56	WG2359170
Dibenz(a,h)anthracene	ND		0.0000500	1	09/11/2024 14:56	WG2359170
Fluoranthene	ND		0.000100	1	09/11/2024 14:56	WG2359170
Fluorene	0.000105		0.0000500	1	09/11/2024 14:56	WG2359170
Indeno(1,2,3-cd)pyrene	ND		0.0000500	1	09/11/2024 14:56	WG2359170
Naphthalene	0.00368		0.000250	1	09/11/2024 14:56	WG2359170
Phenanthrene	ND		0.0000500	1	09/11/2024 14:56	WG2359170
Pyrene	ND		0.0000500	1	09/11/2024 14:56	WG2359170
1-Methylnaphthalene	0.00296		0.000250	1	09/11/2024 14:56	WG2359170
2-Methylnaphthalene	0.000533		0.000250	1	09/11/2024 14:56	WG2359170
(S) Nitrobenzene-d5	*100*		*31.0-160*		*09/11/2024 14:56*	WG2359170
(S) 2-Fluorobiphenyl	*96.8*		*48.0-148*		*09/11/2024 14:56*	WG2359170
(S) p-Terphenyl-d14	*77.9*		*37.0-146*		*09/11/2024 14:56*	WG2359170

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	ND		0.100	1	09/11/2024 15:25	WG2360466
(S) a,a,a-Trifluorotoluene(FID)	*91.3*		*50.0-150*		*09/11/2024 15:25*	WG2360466
(S) a,a,a-Trifluorotoluene(PID)	*105*		*79.0-125*		*09/11/2024 15:25*	WG2360466

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/10/2024 17:33	WG2359505
n-Butylbenzene	ND	J3	0.00100	1	09/10/2024 17:33	WG2359505
sec-Butylbenzene	ND		0.00100	1	09/10/2024 17:33	WG2359505
tert-Butylbenzene	ND		0.00100	1	09/10/2024 17:33	WG2359505
Ethylbenzene	ND		0.00100	1	09/10/2024 17:33	WG2359505
Isopropylbenzene	ND		0.00100	1	09/10/2024 17:33	WG2359505
Naphthalene	ND	C3	0.00500	1	09/10/2024 17:33	WG2359505
Toluene	ND		0.00100	1	09/10/2024 17:33	WG2359505
1,2,4-Trimethylbenzene	ND		0.00100	1	09/10/2024 17:33	WG2359505
1,3,5-Trimethylbenzene	ND		0.00100	1	09/10/2024 17:33	WG2359505
Total Xylenes	ND		0.00300	1	09/10/2024 17:33	WG2359505
(S) Toluene-d8	*105*		*80.0-120*		*09/10/2024 17:33*	WG2359505
(S) 4-Bromofluorobenzene	*98.7*		*77.0-126*		*09/10/2024 17:33*	WG2359505
(S) 1,2-Dichloroethane-d4	*108*		*70.0-130*		*09/10/2024 17:33*	WG2359505

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	ND		0.800	1	09/15/2024 03:07	WG2361727
(S) o-Terphenyl	*83.0*		*50.0-150*		*09/15/2024 03:07*	WG2361727

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0000500	1	09/11/2024 15:14	WG2359170
Acenaphthene	ND		0.0000500	1	09/11/2024 15:14	WG2359170
Acenaphthylene	ND		0.0000500	1	09/11/2024 15:14	WG2359170
Benzo(a)anthracene	ND		0.0000500	1	09/11/2024 15:14	WG2359170
Benzo(a)pyrene	ND		0.0000500	1	09/11/2024 15:14	WG2359170
Benzo(b)fluoranthene	ND		0.0000500	1	09/11/2024 15:14	WG2359170
Benzo(g,h,i)perylene	ND		0.0000500	1	09/11/2024 15:14	WG2359170
Benzo(k)fluoranthene	ND		0.0000500	1	09/11/2024 15:14	WG2359170
Chrysene	ND		0.0000500	1	09/11/2024 15:14	WG2359170
Dibenz(a,h)anthracene	ND		0.0000500	1	09/11/2024 15:14	WG2359170
Fluoranthene	ND		0.000100	1	09/11/2024 15:14	WG2359170
Fluorene	ND		0.0000500	1	09/11/2024 15:14	WG2359170
Indeno(1,2,3-cd)pyrene	ND		0.0000500	1	09/11/2024 15:14	WG2359170
Naphthalene	ND		0.000250	1	09/11/2024 15:14	WG2359170
Phenanthrene	ND		0.0000500	1	09/11/2024 15:14	WG2359170
Pyrene	ND		0.0000500	1	09/11/2024 15:14	WG2359170
1-Methylnaphthalene	ND		0.000250	1	09/11/2024 15:14	WG2359170
2-Methylnaphthalene	ND		0.000250	1	09/11/2024 15:14	WG2359170
(S) Nitrobenzene-d5	*98.9*		*31.0-160*		*09/11/2024 15:14*	WG2359170
(S) 2-Fluorobiphenyl	*81.1*		*48.0-148*		*09/11/2024 15:14*	WG2359170
(S) p-Terphenyl-d14	*81.1*		*37.0-146*		*09/11/2024 15:14*	WG2359170

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	ND		0.100	1	09/11/2024 15:48	WG2360466
(S) a,a,a-Trifluorotoluene(FID)	*93.3*		*50.0-150*		*09/11/2024 15:48*	WG2360466
(S) a,a,a-Trifluorotoluene(PID)	*104*		*79.0-125*		*09/11/2024 15:48*	WG2360466

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/10/2024 17:55	WG2359505
n-Butylbenzene	ND	J3	0.00100	1	09/10/2024 17:55	WG2359505
sec-Butylbenzene	ND		0.00100	1	09/10/2024 17:55	WG2359505
tert-Butylbenzene	ND		0.00100	1	09/10/2024 17:55	WG2359505
Ethylbenzene	ND		0.00100	1	09/10/2024 17:55	WG2359505
Isopropylbenzene	ND		0.00100	1	09/10/2024 17:55	WG2359505
Naphthalene	ND	C3	0.00500	1	09/10/2024 17:55	WG2359505
Toluene	ND		0.00100	1	09/10/2024 17:55	WG2359505
1,2,4-Trimethylbenzene	0.00231		0.00100	1	09/10/2024 17:55	WG2359505
1,3,5-Trimethylbenzene	ND		0.00100	1	09/10/2024 17:55	WG2359505
Total Xylenes	ND		0.00300	1	09/10/2024 17:55	WG2359505
(S) Toluene-d8	*109*		*80.0-120*		*09/10/2024 17:55*	WG2359505
(S) 4-Bromofluorobenzene	*99.6*		*77.0-126*		*09/10/2024 17:55*	WG2359505
(S) 1,2-Dichloroethane-d4	*106*		*70.0-130*		*09/10/2024 17:55*	WG2359505

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	ND		0.800	1	09/15/2024 03:27	WG2361727
(S) o-Terphenyl	*78.0*		*50.0-150*		*09/15/2024 03:27*	WG2361727

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0000500	1	09/11/2024 16:07	WG2359170
Acenaphthene	ND		0.0000500	1	09/11/2024 16:07	WG2359170
Acenaphthylene	ND		0.0000500	1	09/11/2024 16:07	WG2359170
Benzo(a)anthracene	ND		0.0000500	1	09/11/2024 16:07	WG2359170
Benzo(a)pyrene	ND		0.0000500	1	09/11/2024 16:07	WG2359170
Benzo(b)fluoranthene	ND		0.0000500	1	09/11/2024 16:07	WG2359170
Benzo(g,h,i)perylene	ND		0.0000500	1	09/11/2024 16:07	WG2359170
Benzo(k)fluoranthene	ND		0.0000500	1	09/11/2024 16:07	WG2359170
Chrysene	ND		0.0000500	1	09/11/2024 16:07	WG2359170
Dibenz(a,h)anthracene	ND		0.0000500	1	09/11/2024 16:07	WG2359170
Fluoranthene	ND		0.000100	1	09/11/2024 16:07	WG2359170
Fluorene	0.000109		0.0000500	1	09/11/2024 16:07	WG2359170
Indeno(1,2,3-cd)pyrene	ND		0.0000500	1	09/11/2024 16:07	WG2359170
Naphthalene	0.000798		0.000250	1	09/11/2024 16:07	WG2359170
Phenanthrene	0.0000681		0.0000500	1	09/11/2024 16:07	WG2359170
Pyrene	ND		0.0000500	1	09/11/2024 16:07	WG2359170
1-Methylnaphthalene	0.00209		0.000250	1	09/11/2024 16:07	WG2359170
2-Methylnaphthalene	0.00178		0.000250	1	09/11/2024 16:07	WG2359170
(S) Nitrobenzene-d5	*95.8*		*31.0-160*		*09/11/2024 16:07*	WG2359170
(S) 2-Fluorobiphenyl	*82.1*		*48.0-148*		*09/11/2024 16:07*	WG2359170
(S) p-Terphenyl-d14	*78.9*		*37.0-146*		*09/11/2024 16:07*	WG2359170

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	ND		0.100	1	09/11/2024 16:11	WG2360466
(S) a,a,a-Trifluorotoluene(FID)	*90.8*		*50.0-150*		*09/11/2024 16:11*	WG2360466
(S) a,a,a-Trifluorotoluene(PID)	*103*		*79.0-125*		*09/11/2024 16:11*	WG2360466

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/10/2024 18:17	WG2359505
n-Butylbenzene	ND	J3	0.00100	1	09/10/2024 18:17	WG2359505
sec-Butylbenzene	ND		0.00100	1	09/10/2024 18:17	WG2359505
tert-Butylbenzene	ND		0.00100	1	09/10/2024 18:17	WG2359505
Ethylbenzene	ND		0.00100	1	09/10/2024 18:17	WG2359505
Isopropylbenzene	ND		0.00100	1	09/10/2024 18:17	WG2359505
Naphthalene	ND	C3	0.00500	1	09/10/2024 18:17	WG2359505
Toluene	ND		0.00100	1	09/10/2024 18:17	WG2359505
1,2,4-Trimethylbenzene	ND		0.00100	1	09/10/2024 18:17	WG2359505
1,3,5-Trimethylbenzene	ND		0.00100	1	09/10/2024 18:17	WG2359505
Total Xylenes	ND		0.00300	1	09/10/2024 18:17	WG2359505
(S) Toluene-d8	*111*		*80.0-120*		*09/10/2024 18:17*	WG2359505
(S) 4-Bromofluorobenzene	*99.5*		*77.0-126*		*09/10/2024 18:17*	WG2359505
(S) 1,2-Dichloroethane-d4	*103*		*70.0-130*		*09/10/2024 18:17*	WG2359505

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	ND		0.800	1	09/18/2024 19:25	WG2362474
(S) o-Terphenyl	*61.3*		*50.0-150*		*09/18/2024 19:25*	WG2362474

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.000100	2	09/11/2024 16:24	WG2359170
Acenaphthene	ND		0.000100	2	09/11/2024 16:24	WG2359170
Acenaphthylene	ND		0.000100	2	09/11/2024 16:24	WG2359170
Benzo(a)anthracene	ND		0.000100	2	09/11/2024 16:24	WG2359170
Benzo(a)pyrene	ND		0.000100	2	09/11/2024 16:24	WG2359170
Benzo(b)fluoranthene	ND		0.000100	2	09/11/2024 16:24	WG2359170
Benzo(g,h,i)perylene	ND		0.000100	2	09/11/2024 16:24	WG2359170
Benzo(k)fluoranthene	ND		0.000100	2	09/11/2024 16:24	WG2359170
Chrysene	ND		0.000100	2	09/11/2024 16:24	WG2359170
Dibenz(a,h)anthracene	ND		0.000100	2	09/11/2024 16:24	WG2359170
Fluoranthene	ND		0.000200	2	09/11/2024 16:24	WG2359170
Fluorene	ND		0.000100	2	09/11/2024 16:24	WG2359170
Indeno(1,2,3-cd)pyrene	ND		0.000100	2	09/11/2024 16:24	WG2359170
Naphthalene	ND		0.000500	2	09/11/2024 16:24	WG2359170
Phenanthrene	ND		0.000100	2	09/11/2024 16:24	WG2359170
Pyrene	ND		0.000100	2	09/11/2024 16:24	WG2359170
1-Methylnaphthalene	ND		0.000500	2	09/11/2024 16:24	WG2359170
2-Methylnaphthalene	ND		0.000500	2	09/11/2024 16:24	WG2359170
(S) Nitrobenzene-d5	*81.1*		*31.0-160*		*09/11/2024 16:24*	WG2359170
(S) 2-Fluorobiphenyl	*53.7*		*48.0-148*		*09/11/2024 16:24*	WG2359170
(S) p-Terphenyl-d14	*35.7*	J2	*37.0-146*		*09/11/2024 16:24*	WG2359170

Sample Narrative:

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	

L1775196-08 WG2359170: Dilution due to matrix impact during extraction procedure. Surrogate failure due to matrix.

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	0.703	B	0.100	1	09/11/2024 16:33	WG2360466
(S) a,a,a-Trifluorotoluene(FID)	*92.3*		*50.0-150*		*09/11/2024 16:33*	WG2360466
(S) a,a,a-Trifluorotoluene(PID)	*105*		*79.0-125*		*09/11/2024 16:33*	WG2360466

Sample Narrative:

L1775196-09 WG2360466: Lowest possible dilution due to sample foaming.

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00124		0.00100	1	09/10/2024 18:39	WG2359505
n-Butylbenzene	0.00588	J3	0.00100	1	09/10/2024 18:39	WG2359505
sec-Butylbenzene	0.00841		0.00100	1	09/10/2024 18:39	WG2359505
tert-Butylbenzene	ND		0.00100	1	09/10/2024 18:39	WG2359505
Ethylbenzene	0.0267		0.00100	1	09/10/2024 18:39	WG2359505
Isopropylbenzene	0.0106		0.00100	1	09/10/2024 18:39	WG2359505
Naphthalene	0.0317	C3	0.00500	1	09/10/2024 18:39	WG2359505
Toluene	ND		0.00100	1	09/10/2024 18:39	WG2359505
1,2,4-Trimethylbenzene	0.0663		0.00100	1	09/10/2024 18:39	WG2359505
1,3,5-Trimethylbenzene	0.0216		0.00100	1	09/10/2024 18:39	WG2359505
Total Xylenes	0.161		0.00300	1	09/10/2024 18:39	WG2359505
(S) Toluene-d8	*109*		*80.0-120*		*09/10/2024 18:39*	WG2359505
(S) 4-Bromofluorobenzene	*107*		*77.0-126*		*09/10/2024 18:39*	WG2359505
(S) 1,2-Dichloroethane-d4	*105*		*70.0-130*		*09/10/2024 18:39*	WG2359505

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	1.58	B	0.800	1	09/18/2024 19:46	WG2362474
(S) o-Terphenyl	*74.5*		*50.0-150*		*09/18/2024 19:46*	WG2362474

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0000500	1	09/11/2024 15:31	WG2359170
Acenaphthene	0.000458		0.0000500	1	09/11/2024 15:31	WG2359170
Acenaphthylene	ND		0.0000500	1	09/11/2024 15:31	WG2359170
Benzo(a)anthracene	ND		0.0000500	1	09/11/2024 15:31	WG2359170
Benzo(a)pyrene	ND		0.0000500	1	09/11/2024 15:31	WG2359170
Benzo(b)fluoranthene	ND		0.0000500	1	09/11/2024 15:31	WG2359170
Benzo(g,h,i)perylene	ND		0.0000500	1	09/11/2024 15:31	WG2359170
Benzo(k)fluoranthene	ND		0.0000500	1	09/11/2024 15:31	WG2359170
Chrysene	ND		0.0000500	1	09/11/2024 15:31	WG2359170
Dibenz(a,h)anthracene	ND		0.0000500	1	09/11/2024 15:31	WG2359170
Fluoranthene	ND		0.000100	1	09/11/2024 15:31	WG2359170
Fluorene	0.00107		0.0000500	1	09/11/2024 15:31	WG2359170
Indeno(1,2,3-cd)pyrene	ND		0.0000500	1	09/11/2024 15:31	WG2359170
Naphthalene	0.0161		0.000250	1	09/11/2024 15:31	WG2359170
Phenanthrene	0.000206		0.0000500	1	09/11/2024 15:31	WG2359170
Pyrene	ND		0.0000500	1	09/11/2024 15:31	WG2359170
1-Methylnaphthalene	0.0246		0.000250	1	09/11/2024 15:31	WG2359170
2-Methylnaphthalene	0.00997		0.000250	1	09/11/2024 15:31	WG2359170
(S) Nitrobenzene-d5	*85.8*		*31.0-160*		*09/11/2024 15:31*	WG2359170
(S) 2-Fluorobiphenyl	*82.1*		*48.0-148*		*09/11/2024 15:31*	WG2359170

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
(S) p-Terphenyl-d14	*81.6*		*37.0-146*		*09/11/2024 15:31*	WG2359170

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	ND		1.00	10	09/11/2024 21:50	WG2360466
(S) a,a,a-Trifluorotoluene(FID)	*77.4*		*50.0-150*		*09/11/2024 21:50*	WG2360466
(S) a,a,a-Trifluorotoluene(PID)	*105*		*79.0-125*		*09/11/2024 21:50*	WG2360466

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/10/2024 19:02	WG2359505
n-Butylbenzene	ND	J3	0.00100	1	09/10/2024 19:02	WG2359505
sec-Butylbenzene	ND		0.00100	1	09/10/2024 19:02	WG2359505
tert-Butylbenzene	ND		0.00100	1	09/10/2024 19:02	WG2359505
Ethylbenzene	ND		0.00100	1	09/10/2024 19:02	WG2359505
Isopropylbenzene	ND		0.00100	1	09/10/2024 19:02	WG2359505
Naphthalene	ND	C3	0.00500	1	09/10/2024 19:02	WG2359505
Toluene	ND		0.00100	1	09/10/2024 19:02	WG2359505
1,2,4-Trimethylbenzene	ND		0.00100	1	09/10/2024 19:02	WG2359505
1,3,5-Trimethylbenzene	ND		0.00100	1	09/10/2024 19:02	WG2359505
Total Xylenes	ND		0.00300	1	09/10/2024 19:02	WG2359505
(S) Toluene-d8	*114*		*80.0-120*		*09/10/2024 19:02*	WG2359505
(S) 4-Bromofluorobenzene	*104*		*77.0-126*		*09/10/2024 19:02*	WG2359505
(S) 1,2-Dichloroethane-d4	*106*		*70.0-130*		*09/10/2024 19:02*	WG2359505

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	ND		0.800	1	09/18/2024 20:06	WG2362474
(S) o-Terphenyl	*61.2*		*50.0-150*		*09/18/2024 20:06*	WG2362474

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.000100	2	09/11/2024 16:42	WG2359170
Acenaphthene	ND		0.000100	2	09/11/2024 16:42	WG2359170
Acenaphthylene	ND		0.000100	2	09/11/2024 16:42	WG2359170
Benzo(a)anthracene	ND		0.000100	2	09/11/2024 16:42	WG2359170
Benzo(a)pyrene	ND		0.000100	2	09/11/2024 16:42	WG2359170
Benzo(b)fluoranthene	ND		0.000100	2	09/11/2024 16:42	WG2359170
Benzo(g,h,i)perylene	ND		0.000100	2	09/11/2024 16:42	WG2359170
Benzo(k)fluoranthene	ND		0.000100	2	09/11/2024 16:42	WG2359170
Chrysene	ND		0.000100	2	09/11/2024 16:42	WG2359170
Dibenz(a,h)anthracene	ND		0.000100	2	09/11/2024 16:42	WG2359170
Fluoranthene	ND		0.000200	2	09/11/2024 16:42	WG2359170
Fluorene	ND		0.000100	2	09/11/2024 16:42	WG2359170
Indeno(1,2,3-cd)pyrene	ND		0.000100	2	09/11/2024 16:42	WG2359170
Naphthalene	ND		0.000500	2	09/11/2024 16:42	WG2359170
Phenanthrene	ND		0.000100	2	09/11/2024 16:42	WG2359170
Pyrene	ND		0.000100	2	09/11/2024 16:42	WG2359170
1-Methylnaphthalene	ND		0.000500	2	09/11/2024 16:42	WG2359170
2-Methylnaphthalene	ND		0.000500	2	09/11/2024 16:42	WG2359170
(S) Nitrobenzene-d5	*85.3*		*31.0-160*		*09/11/2024 16:42*	WG2359170
(S) 2-Fluorobiphenyl	*60.0*		*48.0-148*		*09/11/2024 16:42*	WG2359170
(S) p-Terphenyl-d14	*41.6*		*37.0-146*		*09/11/2024 16:42*	WG2359170

Sample Narrative:

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	

L1775196-10 WG2359170: Dilution due to matrix impact during extraction procedure. Surrogate failure due to matrix.

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	0.159	B	0.100	1	09/11/2024 16:56	WG2360466
(S) a,a,a-Trifluorotoluene(FID)	*89.9*		*50.0-150*		*09/11/2024 16:56*	WG2360466
(S) a,a,a-Trifluorotoluene(PID)	*107*		*79.0-125*		*09/11/2024 16:56*	WG2360466

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/10/2024 19:24	WG2359505
n-Butylbenzene	ND	J3	0.00100	1	09/10/2024 19:24	WG2359505
sec-Butylbenzene	ND		0.00100	1	09/10/2024 19:24	WG2359505
tert-Butylbenzene	ND		0.00100	1	09/10/2024 19:24	WG2359505
Ethylbenzene	ND		0.00100	1	09/10/2024 19:24	WG2359505
Isopropylbenzene	ND		0.00100	1	09/10/2024 19:24	WG2359505
Naphthalene	ND	C3	0.00500	1	09/10/2024 19:24	WG2359505
Toluene	ND		0.00100	1	09/10/2024 19:24	WG2359505
1,2,4-Trimethylbenzene	ND		0.00100	1	09/10/2024 19:24	WG2359505
1,3,5-Trimethylbenzene	ND		0.00100	1	09/10/2024 19:24	WG2359505
Total Xylenes	ND		0.00300	1	09/10/2024 19:24	WG2359505
(S) Toluene-d8	*111*		*80.0-120*		*09/10/2024 19:24*	WG2359505
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*09/10/2024 19:24*	WG2359505
(S) 1,2-Dichloroethane-d4	*105*		*70.0-130*		*09/10/2024 19:24*	WG2359505

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	4.81		0.888	1.11	09/18/2024 20:47	WG2362474
(S) o-Terphenyl	*54.4*		*50.0-150*		*09/18/2024 20:47*	WG2362474

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.000100	2	09/11/2024 17:00	WG2359170
Acenaphthene	ND		0.000100	2	09/11/2024 17:00	WG2359170
Acenaphthylene	ND		0.000100	2	09/11/2024 17:00	WG2359170
Benzo(a)anthracene	ND		0.000100	2	09/11/2024 17:00	WG2359170
Benzo(a)pyrene	ND		0.000100	2	09/11/2024 17:00	WG2359170
Benzo(b)fluoranthene	ND		0.000100	2	09/11/2024 17:00	WG2359170
Benzo(g,h,i)perylene	ND		0.000100	2	09/11/2024 17:00	WG2359170
Benzo(k)fluoranthene	ND		0.000100	2	09/11/2024 17:00	WG2359170
Chrysene	ND		0.000100	2	09/11/2024 17:00	WG2359170
Dibenz(a,h)anthracene	ND		0.000100	2	09/11/2024 17:00	WG2359170
Fluoranthene	ND		0.000200	2	09/11/2024 17:00	WG2359170
Fluorene	ND		0.000100	2	09/11/2024 17:00	WG2359170
Indeno(1,2,3-cd)pyrene	ND		0.000100	2	09/11/2024 17:00	WG2359170
Naphthalene	ND		0.000500	2	09/11/2024 17:00	WG2359170
Phenanthrene	ND		0.000100	2	09/11/2024 17:00	WG2359170
Pyrene	ND		0.000100	2	09/11/2024 17:00	WG2359170
1-Methylnaphthalene	ND		0.000500	2	09/11/2024 17:00	WG2359170
2-Methylnaphthalene	ND		0.000500	2	09/11/2024 17:00	WG2359170
(S) Nitrobenzene-d5	*78.4*		*31.0-160*		*09/11/2024 17:00*	WG2359170
(S) 2-Fluorobiphenyl	*72.1*		*48.0-148*		*09/11/2024 17:00*	WG2359170
(S) p-Terphenyl-d14	*61.6*		*37.0-146*		*09/11/2024 17:00*	WG2359170

Sample Narrative:

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	

L1775196-11 WG2359170: Dilution due to matrix impact during extraction procedure. Surrogate failure due to matrix.

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	6.36		0.100	1	09/11/2024 17:18	WG2360466
(S) a,a,a-Trifluorotoluene(FID)	*100*		*50.0-150*		*09/11/2024 17:18*	WG2360466
(S) a,a,a-Trifluorotoluene(PID)	*104*		*79.0-125*		*09/11/2024 17:18*	WG2360466

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0300		0.00100	1	09/10/2024 19:46	WG2359505
n-Butylbenzene	0.0108	J3	0.00100	1	09/10/2024 19:46	WG2359505
sec-Butylbenzene	0.0153		0.00100	1	09/10/2024 19:46	WG2359505
tert-Butylbenzene	0.00175		0.00100	1	09/10/2024 19:46	WG2359505
Ethylbenzene	0.299		0.0200	20	09/13/2024 02:05	WG2361644
Isopropylbenzene	0.0819		0.00100	1	09/10/2024 19:46	WG2359505
Naphthalene	0.258		0.100	20	09/13/2024 02:05	WG2361644
Toluene	0.0105		0.00100	1	09/10/2024 19:46	WG2359505
1,2,4-Trimethylbenzene	0.323		0.0200	20	09/13/2024 02:05	WG2361644
1,3,5-Trimethylbenzene	0.145		0.00100	1	09/10/2024 19:46	WG2359505
Total Xylenes	2.00		0.0600	20	09/13/2024 02:05	WG2361644
(S) Toluene-d8	*98.8*		*80.0-120*		*09/10/2024 19:46*	WG2359505
(S) Toluene-d8	*104*		*80.0-120*		*09/13/2024 02:05*	WG2361644
(S) 4-Bromofluorobenzene	*106*		*77.0-126*		*09/10/2024 19:46*	WG2359505
(S) 4-Bromofluorobenzene	*98.6*		*77.0-126*		*09/13/2024 02:05*	WG2361644
(S) 1,2-Dichloroethane-d4	*101*		*70.0-130*		*09/10/2024 19:46*	WG2359505
(S) 1,2-Dichloroethane-d4	*102*		*70.0-130*		*09/13/2024 02:05*	WG2361644

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	5.91		0.800	1	09/18/2024 20:26	WG2362474
(S) o-Terphenyl	*36.5*	J2	*50.0-150*		*09/18/2024 20:26*	WG2362474

Sample Narrative:

L1775196-12 WG2362474: Sample produced total emulsion during Extraction process, low surr/spike recoveries due to matrix.

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0000500	1	09/11/2024 15:49	WG2359170
Acenaphthene	0.000460		0.0000500	1	09/11/2024 15:49	WG2359170
Acenaphthylene	ND		0.0000500	1	09/11/2024 15:49	WG2359170
Benzo(a)anthracene	ND		0.0000500	1	09/11/2024 15:49	WG2359170
Benzo(a)pyrene	ND		0.0000500	1	09/11/2024 15:49	WG2359170
Benzo(b)fluoranthene	ND		0.0000500	1	09/11/2024 15:49	WG2359170
Benzo(g,h,i)perylene	ND		0.0000500	1	09/11/2024 15:49	WG2359170
Benzo(k)fluoranthene	ND		0.0000500	1	09/11/2024 15:49	WG2359170
Chrysene	ND		0.0000500	1	09/11/2024 15:49	WG2359170
Dibenz(a,h)anthracene	ND		0.0000500	1	09/11/2024 15:49	WG2359170
Fluoranthene	ND		0.000100	1	09/11/2024 15:49	WG2359170
Fluorene	0.000624		0.0000500	1	09/11/2024 15:49	WG2359170
Indeno(1,2,3-cd)pyrene	ND		0.0000500	1	09/11/2024 15:49	WG2359170
Naphthalene	0.223		0.00250	10	09/13/2024 07:56	WG2359170
Phenanthrene	0.000191		0.0000500	1	09/11/2024 15:49	WG2359170
Pyrene	ND		0.0000500	1	09/11/2024 15:49	WG2359170
1-Methylnaphthalene	0.0957		0.00250	10	09/13/2024 07:56	WG2359170

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
2-Methylnaphthalene	0.106		0.00250	10	09/13/2024 07:56	WG2359170
(S) Nitrobenzene-d5	*94.2*		*31.0-160*		*09/13/2024 07:56*	WG2359170
(S) Nitrobenzene-d5	*129*		*31.0-160*		*09/11/2024 15:49*	WG2359170
(S) 2-Fluorobiphenyl	*81.6*		*48.0-148*		*09/13/2024 07:56*	WG2359170
(S) 2-Fluorobiphenyl	*81.1*		*48.0-148*		*09/11/2024 15:49*	WG2359170
(S) p-Terphenyl-d14	*74.7*		*37.0-146*		*09/13/2024 07:56*	WG2359170
(S) p-Terphenyl-d14	*78.4*		*37.0-146*		*09/11/2024 15:49*	WG2359170

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/12/2024 00:50	WG2360903
n-Butylbenzene	ND		0.00100	1	09/12/2024 00:50	WG2360903
sec-Butylbenzene	ND		0.00100	1	09/12/2024 00:50	WG2360903
tert-Butylbenzene	ND		0.00100	1	09/12/2024 00:50	WG2360903
Ethylbenzene	ND		0.00100	1	09/12/2024 00:50	WG2360903
Isopropylbenzene	ND		0.00100	1	09/12/2024 00:50	WG2360903
Naphthalene	ND		0.00500	1	09/12/2024 00:50	WG2360903
Toluene	ND		0.00100	1	09/12/2024 00:50	WG2360903
1,2,4-Trimethylbenzene	ND		0.00100	1	09/12/2024 00:50	WG2360903
1,3,5-Trimethylbenzene	ND		0.00100	1	09/12/2024 00:50	WG2360903
Total Xylenes	ND		0.00300	1	09/12/2024 00:50	WG2360903
(S) Toluene-d8	*93.1*		*80.0-120*		*09/12/2024 00:50*	WG2360903
(S) 4-Bromofluorobenzene	*90.4*		*77.0-126*		*09/12/2024 00:50*	WG2360903
(S) 1,2-Dichloroethane-d4	*118*		*70.0-130*		*09/12/2024 00:50*	WG2360903

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/12/2024 01:10	WG2360903
n-Butylbenzene	ND		0.00100	1	09/12/2024 01:10	WG2360903
sec-Butylbenzene	ND		0.00100	1	09/12/2024 01:10	WG2360903
tert-Butylbenzene	ND		0.00100	1	09/12/2024 01:10	WG2360903
Ethylbenzene	ND		0.00100	1	09/12/2024 01:10	WG2360903
Isopropylbenzene	ND		0.00100	1	09/12/2024 01:10	WG2360903
Naphthalene	ND		0.00500	1	09/12/2024 01:10	WG2360903
Toluene	ND		0.00100	1	09/12/2024 01:10	WG2360903
1,2,4-Trimethylbenzene	ND		0.00100	1	09/12/2024 01:10	WG2360903
1,3,5-Trimethylbenzene	ND		0.00100	1	09/12/2024 01:10	WG2360903
Total Xylenes	ND		0.00300	1	09/12/2024 01:10	WG2360903
(S) Toluene-d8	*92.1*		*80.0-120*		*09/12/2024 01:10*	WG2360903
(S) 4-Bromofluorobenzene	*90.2*		*77.0-126*		*09/12/2024 01:10*	WG2360903
(S) 1,2-Dichloroethane-d4	*115*		*70.0-130*		*09/12/2024 01:10*	WG2360903

Method Blank (MB)

(MB) R4120358-2 09/09/24 21:05

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPHGAK C6 to C10	0.0571	J	0.0287	0.100
(S) a,a,a-Trifluorotoluene(FID)	*90.1*			*60.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*105*			*79.0-125*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4120358-1 09/09/24 19:35 • (LCSD) R4120358-3 09/10/24 02:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHGAK C6 to C10	5.00	5.18	5.11	104	102	60.0-120			1.36	20
(S) a,a,a-Trifluorotoluene(FID)				*107*	*110*	*60.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*119*	*119*	*79.0-125*				

Method Blank (MB)

(MB) R4120386-3 09/11/24 13:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPHGAK C6 to C10	0.0859	J	0.0287	0.100
(S) a,a,a-Trifluorotoluene(FID)	*92.6*			*60.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*103*			*79.0-125*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4120386-1 09/11/24 12:47 • (LCSD) R4120386-2 09/11/24 13:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHGAK C6 to C10	5.00	4.69	4.71	93.8	94.2	60.0-120			0.426	20
(S) a,a,a-Trifluorotoluene(FID)				*109*	*98.0*	*60.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*116*	*118*	*79.0-125*				

Method Blank (MB)

(MB) R4120814-3 09/16/24 14:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPHGAK C6 to C10	0.0428	J	0.0287	0.100
(S) a,a,a-Trifluorotoluene(FID)	*89.1*			*60.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*0.000*	J2		*79.0-125*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4120814-1 09/16/24 12:52 • (LCSD) R4120814-2 09/16/24 13:16

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHGAK C6 to C10	5.00	4.63	4.49	92.6	89.8	60.0-120			3.07	20
(S) a,a,a-Trifluorotoluene(FID)				*100*	*96.1*	*60.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*0.000*	*0.000*	*79.0-125*	J2	J2		

Method Blank (MB)

(MB) R4119143-3 09/10/24 10:20

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
n-Butylbenzene	U		0.000157	0.00100
sec-Butylbenzene	U		0.000125	0.00100
tert-Butylbenzene	U		0.000127	0.00100
Ethylbenzene	U		0.000137	0.00100
Isopropylbenzene	U		0.000105	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000278	0.00100
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
Total Xylenes	U		0.000174	0.00300
(S) Toluene-d8	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*94.3*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*97.5*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4119143-1 09/10/24 09:14 • (LCSD) R4119143-2 09/10/24 09:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00458	0.00397	91.6	79.4	70.0-123			14.3	20
n-Butylbenzene	0.00500	0.00472	0.00415	94.4	83.0	73.0-125			12.9	20
sec-Butylbenzene	0.00500	0.00478	0.00425	95.6	85.0	75.0-125			11.7	20
tert-Butylbenzene	0.00500	0.00500	0.00434	100	86.8	76.0-124			14.1	20
Ethylbenzene	0.00500	0.00461	0.00408	92.2	81.6	79.0-123			12.2	20
Isopropylbenzene	0.00500	0.00464	0.00403	92.8	80.6	76.0-127			14.1	20
Naphthalene	0.00500	0.00515	0.00427	103	85.4	54.0-135			18.7	20
Toluene	0.00500	0.00491	0.00410	98.2	82.0	79.0-120			18.0	20
1,2,4-Trimethylbenzene	0.00500	0.00467	0.00408	93.4	81.6	76.0-121			13.5	20
1,3,5-Trimethylbenzene	0.00500	0.00477	0.00425	95.4	85.0	76.0-122			11.5	20
Total Xylenes	0.0150	0.0141	0.0123	94.0	82.0	79.0-123			13.6	20
(S) Toluene-d8				*102*	*102*	*80.0-120*				
(S) 4-Bromofluorobenzene				*94.3*	*92.6*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*97.8*	*97.6*	*70.0-130*				

Method Blank (MB)

(MB) R4119252-3 09/10/24 12:43

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
n-Butylbenzene	U		0.000157	0.00100
sec-Butylbenzene	U		0.000125	0.00100
tert-Butylbenzene	U		0.000127	0.00100
Ethylbenzene	U		0.000137	0.00100
Isopropylbenzene	U		0.000105	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000278	0.00100
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
Total Xylenes	U		0.000174	0.00300
(S) Toluene-d8	*112*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.6*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4119252-1 09/10/24 11:37 • (LCSD) R4119252-2 09/10/24 11:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00500	0.00517	100	103	70.0-123			3.34	20
n-Butylbenzene	0.00500	0.00427	0.00529	85.4	106	73.0-125		J3	21.3	20
sec-Butylbenzene	0.00500	0.00459	0.00529	91.8	106	75.0-125			14.2	20
tert-Butylbenzene	0.00500	0.00457	0.00532	91.4	106	76.0-124			15.2	20
Ethylbenzene	0.00500	0.00480	0.00506	96.0	101	79.0-123			5.27	20
Isopropylbenzene	0.00500	0.00472	0.00506	94.4	101	76.0-127			6.95	20
Naphthalene	0.00500	0.00340	0.00353	68.0	70.6	54.0-135			3.75	20
Toluene	0.00500	0.00507	0.00505	101	101	79.0-120			0.395	20
1,2,4-Trimethylbenzene	0.00500	0.00447	0.00502	89.4	100	76.0-121			11.6	20
1,3,5-Trimethylbenzene	0.00500	0.00478	0.00522	95.6	104	76.0-122			8.80	20
Total Xylenes	0.0150	0.0141	0.0152	94.0	101	79.0-123			7.51	20
(S) Toluene-d8				*108*	*105*	*80.0-120*				
(S) 4-Bromofluorobenzene				*97.9*	*97.6*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*104*	*101*	*70.0-130*				

Method Blank (MB)

(MB) R4119275-2 09/11/24 22:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
n-Butylbenzene	U		0.000157	0.00100
sec-Butylbenzene	U		0.000125	0.00100
tert-Butylbenzene	U		0.000127	0.00100
Ethylbenzene	U		0.000137	0.00100
Isopropylbenzene	U		0.000105	0.00100
Naphthalene	U		0.00100	0.00500
Toluene	U		0.000278	0.00100
1,2,4-Trimethylbenzene	U		0.000322	0.00100
1,3,5-Trimethylbenzene	U		0.000104	0.00100
Total Xylenes	U		0.000174	0.00300
(S) Toluene-d8	*91.9*			*80.0-120*
(S) 4-Bromofluorobenzene	*93.4*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*116*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R4119275-1 09/11/24 21:50

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00502	100	70.0-123	
n-Butylbenzene	0.00500	0.00432	86.4	73.0-125	
sec-Butylbenzene	0.00500	0.00445	89.0	75.0-125	
tert-Butylbenzene	0.00500	0.00428	85.6	76.0-124	
Ethylbenzene	0.00500	0.00495	99.0	79.0-123	
Isopropylbenzene	0.00500	0.00509	102	76.0-127	
Naphthalene	0.00500	0.00402	80.4	54.0-135	
Toluene	0.00500	0.00445	89.0	79.0-120	
1,2,4-Trimethylbenzene	0.00500	0.00435	87.0	76.0-121	
1,3,5-Trimethylbenzene	0.00500	0.00453	90.6	76.0-122	
Total Xylenes	0.0150	0.0148	98.7	79.0-123	
(S) Toluene-d8			*92.9*	*80.0-120*	
(S) 4-Bromofluorobenzene			*94.9*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*113*	*70.0-130*	

Method Blank (MB)

(MB) R4119405-2 09/12/24 20:20

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ethylbenzene	U		0.000137	0.00100
Naphthalene	U		0.00100	0.00500
1,2,4-Trimethylbenzene	U		0.000322	0.00100
Total Xylenes	U		0.000174	0.00300
(S) Toluene-d8	*106*			*80.0-120*
(S) 4-Bromofluorobenzene	*97.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4119405-1 09/12/24 19:38 • (LCSD) R4119405-3 09/12/24 20:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	0.00500	0.00519	0.00524	104	105	79.0-123			0.959	20
Naphthalene	0.00500	0.00473	0.00436	94.6	87.2	54.0-135			8.14	20
1,2,4-Trimethylbenzene	0.00500	0.00457	0.00462	91.4	92.4	76.0-121			1.09	20
Total Xylenes	0.0150	0.0159	0.0158	106	105	79.0-123			0.631	20
(S) Toluene-d8				*106*	*105*	*80.0-120*				
(S) 4-Bromofluorobenzene				*97.6*	*98.3*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*104*	*105*	*70.0-130*				

Method Blank (MB)

(MB) R4120114-1 09/14/24 17:13

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
AK102 DRO C10-C25	0.538	J	0.170	0.800
(S) o-Terphenyl	*70.3*			*60.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4120114-2 09/14/24 17:33 • (LCSD) R4120114-3 09/14/24 17:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
AK102 DRO C10-C25	6.00	6.63	6.29	111	105	75.0-125			5.26	20
(S) o-Terphenyl				*109*	*102*	*60.0-120*				

L1773221-08 Original Sample (OS) • Matrix Spike (MS)

(OS) L1773221-08 09/14/24 18:55 • (MS) R4120114-6 09/14/24 19:15

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
AK102 DRO C10-C25	6.00	ND	6.25	96.5	1	75.0-125	
(S) o-Terphenyl				*95.6*		*50.0-150*	

Method Blank (MB)

(MB) R4121358-1 09/18/24 12:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
AK102 DRO C10-C25	0.385	J	0.170	0.800
(S) o-Terphenyl	*81.6*			*60.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4121358-2 09/18/24 12:40 • (LCSD) R4121358-3 09/18/24 16:43

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
AK102 DRO C10-C25	6.00	5.00	5.76	83.3	96.0	75.0-125			14.1	20
(S) o-Terphenyl				*83.1*	*92.3*	*60.0-120*				

L1774969-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1774969-05 09/18/24 17:44 • (MS) R4121358-6 09/18/24 18:04 • (MSD) R4121358-7 09/18/24 18:25

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
AK102 DRO C10-C25	6.66	ND	4.58	4.31	62.8	58.7	1.11	75.0-125	J6	J6	6.07	20
(S) o-Terphenyl					*49.6*	*59.4*		*50.0-150*	J2			

Sample Narrative:

OS: Dilution due to sample volume.

Method Blank (MB)

(MB) R4118875-3 09/11/24 11:07

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Anthracene	U		0.0000190	0.0000500
Acenaphthene	U		0.0000190	0.0000500
Acenaphthylene	U		0.0000171	0.0000500
Benzo(a)anthracene	U		0.0000203	0.0000500
Benzo(a)pyrene	U		0.0000184	0.0000500
Benzo(b)fluoranthene	U		0.0000168	0.0000500
Benzo(g,h,i)perylene	U		0.0000184	0.0000500
Benzo(k)fluoranthene	U		0.0000202	0.0000500
Chrysene	U		0.0000179	0.0000500
Dibenz(a,h)anthracene	U		0.0000160	0.0000500
Fluoranthene	U		0.0000270	0.000100
Fluorene	U		0.0000169	0.0000500
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500
Naphthalene	U		0.0000917	0.000250
Phenanthrene	U		0.0000180	0.0000500
Pyrene	U		0.0000169	0.0000500
1-Methylnaphthalene	U		0.0000687	0.000250
2-Methylnaphthalene	U		0.0000674	0.000250
(S) Nitrobenzene-d5	*83.0*			*31.0-160*
(S) 2-Fluorobiphenyl	*67.5*			*48.0-148*
(S) p-Terphenyl-d14	*66.0*			*37.0-146*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4118875-1 09/11/24 10:32 • (LCSD) R4118875-2 09/11/24 10:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	0.00200	0.00146	0.00149	73.0	74.5	67.0-150			2.03	20
Acenaphthene	0.00200	0.00137	0.00142	68.5	71.0	65.0-138			3.58	20
Acenaphthylene	0.00200	0.00154	0.00160	77.0	80.0	66.0-140			3.82	20
Benzo(a)anthracene	0.00200	0.00142	0.00146	71.0	73.0	61.0-140			2.78	20
Benzo(a)pyrene	0.00200	0.00137	0.00135	68.5	67.5	60.0-143			1.47	20
Benzo(b)fluoranthene	0.00200	0.00130	0.00127	65.0	63.5	58.0-141			2.33	20
Benzo(g,h,i)perylene	0.00200	0.00126	0.00124	63.0	62.0	52.0-153			1.60	20
Benzo(k)fluoranthene	0.00200	0.00121	0.00123	60.5	61.5	58.0-148			1.64	20
Chrysene	0.00200	0.00149	0.00150	74.5	75.0	64.0-144			0.669	20
Dibenz(a,h)anthracene	0.00200	0.00134	0.00134	67.0	67.0	52.0-155			0.000	20
Fluoranthene	0.00200	0.00164	0.00173	82.0	86.5	69.0-153			5.34	20
Fluorene	0.00200	0.00157	0.00162	78.5	81.0	64.0-136			3.13	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4118875-1 09/11/24 10:32 • (LCSD) R4118875-2 09/11/24 10:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Indeno(1,2,3-cd)pyrene	0.00200	0.00136	0.00135	68.0	67.5	54.0-153			0.738	20
Naphthalene	0.00200	0.00154	0.00160	77.0	80.0	61.0-137			3.82	20
Phenanthrene	0.00200	0.00144	0.00154	72.0	77.0	62.0-137			6.71	20
Pyrene	0.00200	0.00144	0.00152	72.0	76.0	60.0-142			5.41	20
1-Methylnaphthalene	0.00200	0.00173	0.00183	86.5	91.5	66.0-142			5.62	20
2-Methylnaphthalene	0.00200	0.00157	0.00159	78.5	79.5	62.0-136			1.27	20
(S) Nitrobenzene-d5				*86.5*	*88.0*	*31.0-160*				
(S) 2-Fluorobiphenyl				*70.0*	*70.5*	*48.0-148*				
(S) p-Terphenyl-d14				*64.5*	*63.0*	*37.0-146*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Stantec - Anchorage, AK

725 E Fireweed Lane
Anchorage, AK 99503

Billing Information:
Ms. Sydney Souza
725 E Fireweed Lane
Anchorage, AK 99503

Pres Chk

Report to:
Ms. Sydney Souza

Email To: **craig.cothron@pacelabs.com**

Project Description:
TNS101/SW5313 (MPC)

City/State Collected: Fairbanks, AK

Please Circle: PT MT CT ET (AKT)

Phone: **907-229-1514**

Client Project # **203723629**

Lab Project # **STANTECAAK-5313**

Collected by (print): Remi Malenfant

Site/Facility ID # TNS 101

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: Standard

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

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MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1754[illegible]
G183

Tab

Acctnum: **STANTECAAK**
Template: **T259327**
Prelogin: **P1097802**
PM: **034 - Craig Cothron**
PB: 8 8 24-24
Shipped Via: **FedEX Priority**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	AK101 40mlAmb HCl	AK102 100ml Amb HCl	PAHSIMLVID 40mlAmb-NoPres-WT	V8260C 40mlAmb-HCl	V8260C 40mlAmb-HCl-Blk					Remarks	Sample # (lab only)
MW-8	G	GW	—	9/3/24	1057	10	X	X	X	X							-01
WRW 2020	G	GW	—		1132	10	X	X	X	X							-02
CRW-2	G	GW	—		1147	10	X	X	X	X							-03
IFC Aeration Tank	G	GW	—		1151	10	X	X	X	X							-04
CRW	G	GW	—		1241	10	X	X	X	X							-05
OMW-3	G	GW	—		1315	10	X	X	X	X							-06
ERW	G	GW	—		1321	10	X	X	X	X							-07
MW-4	G	GW	—		1354	10	X	X	X	X							-08
DUP 1	G	GW	—		—	10	X	X	X	X							-09
DUP 2	G	GW	—	"	—	10	X	X	X	X							-10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
	9/5/24	0935		2	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 120	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 09/06/2024 Time: 0900	Hold: Condition: NCF / OK

Company Name/Address:
Stantec - Anchorage, AK

725 E Fireweed Lane
Anchorage, AK 99503

Billing Information:
Ms. Sydney Souza
725 E Fireweed Lane
Anchorage, AK 99503

Pres Chk

Report to:
Ms. Sydney Souza

Email To: **craig.cothron@pacelabs.com**

Project Description: **TNS101/SW5313** (MPC)

City/State Collected: Fairbanks, AK

Please Circle: PT MT CT ET (AKT)

Phone: **907-229-1514**

Client Project # **203723629**

Lab Project # **STANTECAAK-5313**

Collected by (print): Remi Malenfant

Site/Facility ID # TNS 101

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed: Standard

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	AK101 40mlAmb HCl	AK102 100ml Amb HCl	PAHSIMLVID 40mlAmb-NoPres-WT	V8260C 40mlAmb-HCl	V8260C 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
MW-17	G	GW	—	9/3/24	1412	10	X	X	X	X			-11
MW-14	G	GW	—	9/3/24	1447	10	X	X	X	X			-12
Trip Blank (cooler w/ coc)	—	GW	—	—	—	~~10~~ 1	~~X~~	~~X~~	~~X~~	~~X~~	X		-13
TRIP BLANK (cooler w/o coc)	—	GW	—	—	—	1					X		-14
		~~GW~~				~~10~~	~~X~~	~~X~~	~~X~~	~~X~~			
		~~GW~~				~~10~~	~~X~~	~~X~~	~~X~~	~~X~~			
		~~GW~~				~~10~~	~~X~~	~~X~~	~~X~~	~~X~~			

Chain of Custody Page 2 of 2

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1754916

Table #

Acctnum: **STANTECAAK**

Template: **T259327**

Prelogin: **P1097802**

PM: **034 - Craig Cothron**

PB: JC 8-29-24

Shipped Via: **FedEX Priority**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
3 samples Anticipated not sampled due to FP

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

	Date:	Time:		
Relinquished by : (Signature)	9/5/24	0930	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 120 — If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 09/06/2024 Time: 0900 — Hold: — Condition: NCF / OK

Fed Ex tracking #	Gun ID	Temperature
4041 0478 9498	TAG	3.4+0.3=3.7
4041 0478 9487	TAG	5.1+0.3=5.4

Ashley Bates
Name

09/06/2024
Date

U77596

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Sydney Souza	**CS Site Name:**	TNS 101/IFC	**Lab Name:**	Pace Analytical
Title:	Environmental Geologist	**ADEC File No.:**	100.26.022	**Lab Report No.:**	L1775196
Consulting Firm:	Stantec Consulting Services Inc.	**Hazard ID No.:**	224	**Lab Report Date:**	September 24, 2024

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

1. **Laboratory**

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?
   Yes ☒ No ☐ N/A ☐
   Comments: Click or tap here to enter text.

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses CS-LAP approved?
   Yes ☐ No ☐ N/A ☒
   Comments: Samples were not transferred

2. **Chain of Custody (CoC)**

   a. Is the CoC information completed, signed, and dated (including released/received by)?
   Yes ☒ No ☐ N/A ☐
   Comments: Click or tap here to enter text.

   b. Were the correct analyses requested?
   Yes ☒ No ☐ N/A ☐
   Analyses requested: Click or tap here to enter text.
   Comments: Click or tap here to enter text.

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☐ No ☐ N/A ☒
   Cooler temperature(s): ° C
   Comments: Cooler temperature not documented on CoC

b. Is the sample preservation acceptable – acidified waters, methanol preserved soil (GRO, BTEX, VOCs, etc.)?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

c. Is the sample condition documented – broken, leaking, zero headspace (VOA vials); canister vacuum/pressure checked and no open valves, etc.?
Yes ☒ No ☐ N/A ☐
Comments: Sample condition documented as OK

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, canister not holding a vacuum, etc.?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

e. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

4. Case Narrative

a. Is the case narrative present and understandable?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

b. Are there discrepancies, errors, or QC failures identified by the lab?
Yes ☐ No ☒ N/A ☐
Comments: Case narrative documents no errors or discrepancies “unless qualified or notated within report”

c. Were all the corrective actions documented?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

d. What is the effect on data quality/usability according to the case narrative?
Comments: No effect on data quality/usability

5. Sample Results

a. Are the correct analyses performed/reported as requested on CoC?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐

Comments: Click or tap here to enter text.

c. Are all soils reported on a dry weight basis?
Yes ☐ No ☐ N/A ☒
Comments: No soil samples submitted to the lab

d. Are the reported limits of quantitation (LoQ) or limits of detections (LOD), or reporting limits (RL) less than the Cleanup Level or the action level for the project?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

e. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

6. QC Samples

a. Method Blank

i. Was one method blank reported per matrix, analysis, and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all method blank results less than LOQ (or RL)?
Yes ☒ No ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, what samples are affected?
Comments: Click or tap here to enter text.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments:

v. Data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – Are 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: Click or tap here to enter text.

ii. Metals/Inorganics – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are 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: Click or tap here to enter text.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the 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: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: N/A

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: No affected samples

vii. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

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

i. Organics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Metals/Inorganics – Are one MS/MSD reported per matrix, analysis and 20 samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iv. Precision – Are 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.
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments: N/A

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

vii. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

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: Not required

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☐ No ☐ N/A ☒
Comments: Not required

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: Not required

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒

Comments: Not required

e. Trip Blanks

i. Is one trip blank reported per matrix, analysis, and for each cooler containing volatile samples? Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Are all results less than LoQ or RL?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iii. If above LoQ or RL, what samples are affected?
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: No affected samples

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis, and 10 project samples?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

ii. Was the duplicate submitted blind to lab?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

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

$$RPD\ (\%) = \left| \frac{R_1 - R_2}{\left(\frac{R_1 + R_2}{2}\right)} \right| X\ 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Is the data quality or usability affected? (Explain)

Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iv. Is the data quality or usability affected? (Explain)
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

g. Decontamination or Equipment Blanks

i. Were decontamination or equipment blanks collected?
Yes ☐ No ☐ N/A ☒
Comments: Used disposable equipment

ii. Are all results less than LoQ or RL?
Yes ☐ No ☐ N/A ☒
Comments: Used disposable equipment

iii. If above LoQ or RL, specify what samples are affected.
Comments: Click or tap here to enter text.

iv. Are data quality or usability affected?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

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

a. Are they defined and appropriate?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.