

7-Eleven Store #46754

(Former Speedway Store 5325
- TNS #52)

ADEC File #2265.26.006

July 2022 3Q GWM Event Report

Prepared For



AUTHORIZATION TO SUBMIT REPORT

Stantec has been authorized by the client, 7-Eleven (representative Paula Sime, PG, Manager – Environmental Services) to submit the enclosed report to the Alaska Department of Environmental Conservation. If you have any questions or need additional information concerning this groundwater monitoring report, please contact me at (907) 227-9883 or via email at bob.gilfilian@stantec.com.

Regards,

STANTEC CONSULTING SERVICES, INC.

A handwritten signature in black ink that reads "Robert Gilfilian". The script is cursive and fluid.

Robert (Bob) Gilfilian, P.E.

Project Technical Lead

Principal Senior Civil Engineer

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ACRONYMS AND ABBREVIATIONS

ADEC	Alaska Department of Environmental Conservation
AK	Alaska Test Method
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
DO	dissolved oxygen
DRO	diesel range organics
Chemox	chemical oxidation
CAP	corrective action plan
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
GRO	gasoline range organics
GCL	groundwater cleanup level
mg/L	milligrams per liter
mV	millivolts
ORP	oxidation-reduction potential
PQL	practical quantitation limit
QA	quality assurance
QC	quality control
RDL	reported detection limit
SIM	selective ion method
SC	specific conductance
Stantec	Stantec Consulting Services Inc.
RDL	reported detection limit
Tesoro	Tesoro Refining & Marketing Company
TMB	Trimethylbenzene
$\mu\text{S}/\text{cm}^{\circ}\text{C}$	microSiemens per centimeter $^{\circ}\text{C}$
VOC	volatile organic compounds
VSC	vapor stripping and circulation

1.0 INTRODUCTION

This third quarter 2022 Groundwater Monitoring Event Report was prepared by Stantec Consulting Services Inc. (Stantec) on behalf of 7-Eleven for 7-11 Store 46754 (Speedway 5325- TNS 52), located at 7172 West Parks Highway, Wasilla, Alaska (**Figure 1**). Background and historical information for this site is summarized in **Appendix A**. The methods used for this monitoring event were conducted in accordance with the Alaska Department of Environmental Conservation (ADEC) approved 2022 Corrective Action Plan (CAP) for this site. The 2022 CAP work plan tasks are summarized in **Appendix B**.

This 3Q 2022 groundwater monitoring event was conducted on July 19, 2022, by Stantec environmental staff who included: John Marshall, Environmental Scientist and Jeremiah Malenfant, Geologist-in-Training. In addition, the same Stantec field staff completed the monthly injection of chemical oxidizer (chemox) on July 20, 2022.

2.0 FIELD ACTIVITIES

The following field activities were completed during the third quarter 2022 groundwater monitoring event and chemox injection for groundwater treatment:

- Measured depth to groundwater in wells G-1, G-4, G-5, G-7, former Remediation Well RW 16-1, and MW 16-2.
- Measured field intrinsic water quality parameters in groundwater monitoring wells G-1, G-5, G-7, RW 16-1 and MW 16-2.
- Collected and analyzed groundwater samples from Monitoring Wells G-1, G-5, G-7, MW 16-2, RW 16-1, and a duplicate sample of MW 16-2 (sample locations shown on **Figure 2**).

On July 20, the day following the completion of the groundwater monitoring event, Stantec conducted a monthly injection of chemox into the remediation wells RW 20-1 and RW 20-2.

In addition, monitoring well MW G-3 was planned to be sampled, but was inaccessible due to significant ponding of surface water from the heavy rain fall event. Monitoring well G-3 has historically been one of the most heavily contaminated well on the site.

Field methods and procedures are provided in **Appendix B** and field measurements and notes are provided in **Appendix C**.

3.0 GROUNDWATER MONITORING RESULTS

3.1 GROUNDWATER ELEVATIONS

Table 1 presents groundwater elevations at this site based on the depths to static groundwater levels measured during the monitoring event.

Table 1 Groundwater Elevations
Measured on July 19, 2022

Monitoring Well Identification	Top of Casing Elevation ¹ (feet)	Depth to Water (feet btoc)	Groundwater Elevation (feet)
G-1	99.29	2.29	97.00
G-2	99.25	NM	NC
G-3	99.13	NM	NC
G-4	98.29	28.42	69.87
G-5	101.44	31.49	69.95
G-6	102.32	NM	NC
G-7	99.42	29.53	69.89
RW 16-1	99.44	29.39	70.05
MW 16-2	99.20	29.03	70.17

Key:

1 – G-1, G-2, G-3, G-4, G-5, G-6, G-7, RW16-1, and MW16-2 surveyed on May 17, 2022. Elevations are presented in respect to a local benchmark with 100-foot datum.

btoc – below top of casing.

NM – Not measured.

NC – Not calculated.

The average groundwater gradient across the site was calculated to be approximately 0.0018 feet per foot to the southwest at 226 degrees, as shown in **Table 2**. The direction of flow was similar to historical groundwater flow measurements, but the gradient is much less than previous monitoring events. This may be the result of heavy rainfall at the site previous to this monitoring event. A plot of groundwater elevation contours generated using the SampleServe™ software program is included in **Figure 3**. The pumping water level of well G-1 was recorded but not included in the groundwater contours because surface water had collected in the well nearly to the top of the casing. The static water level in well G-3 could not be measured due to surface water from the parking lot ponding over the well casing caused by the heavy rain event.

Table 2 Historical Groundwater Flow Direction and Gradient

Date	Flow Direction (azimuth)	Gradient (ft/ft)
10/25/2018	175°	0.02
2/26/2019	152°	0.03
4/23/2019	183°	0.02
7/16/2019	300°	0.011
10/17/2019	221°	0.022
8/12/2020	171°	0.018
10/2/2020	191°	0.007
5/18/2021	182°	0.02
7/21/2021	207°	0.021
10/13/2021	171°	0.008
3/18/2022	198°	0.033
5/17/2022	343°	0.011
7/19/2022	226°	0.0018

3.2 FIELD PARAMETERS

Temperature, pH, ORP, and specific conductance (SC) were measured following purging of the sampled wells. DO measurements are taken prior to purging of the well. Monitoring and remediation wells were purged of three well volumes or until purged dry and allowed to recharge prior to sampling. Results of water quality parameter testing are presented in **Table 3**.

Table 3 Field Parameters

Measured on July 19, 2022

Monitoring Well Identification	Purged Volume (gallons)	Temp. (°C)	pH	DO (mg/L)	ORP (mV)	SC (µS/cm°C)
G-1	NA ¹	14.5	4.26	7.36	318.6	130.6
G-2	NA	NM	NM	NM	NM	NM
G-3	NA	NM	NM	NM	NM	NM
G-4	NA	NM	NM	NM	NM	NM
G-5	5	8.1	6.59	2.47	251.2	284.2
G-7	6	11.6	6.52	6.12	255	268.9
RW16-1	5	5.9	6.85	6.81	323	496.1
MW16-2	4.4	7.4	6.8	9.35	360.1	446.2

Key:

°C – degrees Celsius

µS/cm°C – microSiemens per centimeter °C

DO – dissolved oxygen

mg/L – milligrams/liter

mV – millivolts

NA – not applicable

ORP – oxidation-reduction potential

pH – -log [H⁺]

SC – specific conductance

Temp. – temperature

NM – not measured

d – well purged dry, sampling continued after recharge

1 – well not purged due to air lift injection

Warm, moderately acidic water in MW G-1 may indicate intrusion by rainwater from the parking lot, or warmer air from the air lift blower influencing the water in the well. A summary of field measurements and notes generated by the SampleServe™ program are provided in **Appendix C**.

3.3 GROUNDWATER SAMPLE ANALYTICAL RESULTS

Pace Analytical Laboratory performed all analysis of groundwater samples for this sampling event. Historical monitoring data for the active wells scheduled to be monitored in the 2022 Corrective Action Plan for this site are presented in **Appendix D**. Historical data for all other inactive wells shown on the site plan (**Figure 2**) have been reported in previous monitoring reports and can be made available if needed. Laboratory analytical results are summarized in **Table 4**. The laboratory analytical report is provided in **Appendix E**.

Results of the analytical sampling did not show petroleum hydrocarbon contaminant concentrations exceeding the GCLs in any of the sampled wells.

Table 4a Groundwater Analytical Results for BTEX, GRO, and DRO
Samples collected on July 19, 2022

Sample Identification	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)
G-1	U (0.00100)	U (0.00100)	U (0.00100)	U (0.00300)	U (0.100)	0.554
G-2	NM	NM	NM	NM	NM	NM
G-3	NM	NM	NM	NM	NM	NM
G-4	NM	NM	NM	NM	NM	NM
G-5	U (0.00100)	U (0.00100)	U (0.00100)	U (0.00300)	U (0.100)	U (0.800)
G-7	U (0.00100)	U (0.00100)	U (0.00100)	U (0.00300)	U (0.100)	U (0.800)
RW16-1	0.000116 J	0.000280 J	0.00242	0.03391	0.247	0.572 J
MW16-2	U (0.00100)	U (0.00100)	U (0.00100)	U (0.00300)	0.0295 B, J	U (0.800)
DUP-01 (duplicate of MW16-2)	0.000130 J	U (0.00100)	U (0.00100)	U (0.00300)	0.354	U (0.800)
GCLs	0.0046	1.1	0.015	0.19	2.2	1.5

Table 4b Groundwater Analytical Results for Naphthalene, Trimethylbenzene (TMB) and Sodium
Samples collected on July 19, 2022

Sample Identification	Naphthalene ¹ (mg/L)	1,2,4-TMB (mg/L)	1,3,5-TMB (mg/L)	Sodium (mg/L)
G-1	U (0.000250)	U (0.00100)	U (0.00100)	1.96
G-2	NM	NM	NM	NM
G-3	NM	NM	NM	NM
G-4	NM	NM	NM	NM
G-5	U (0.000250)	U (0.00100)	U (0.00100)	8.41
G-7	U (0.000250)	U (0.00100)	U (0.00100)	6.10
RW16-1	0.00104	0.0396	0.0115	33.2
MW16-2	U (0.000250)	0.0203	0.0101	9.06
DUP-01 (duplicate of MW16-2)	U (0.000250)	0.00145	0.000752 J	8.99
GCLs	0.0017	0.056	0.060	NA

Key

J – The identification of the analyte is acceptable; the reported value is an estimate

1 - Analyzed by U.S. Environmental Protection Agency Method 8270D-SIM

DRO – Diesel range organics, analyzed by AK102

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

GRO – Gasoline range organics, analyzed by AK101

mg/L – Milligrams per liter

U – Undetected above practical quantitation limits shown in parentheses

Bold - indicates the concentration exceeds the GCL or, if not detected, the reported detection limit
(RDL) exceeds the GCL.

NM – Not Measured

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

Laboratory QC data and the ADEC Laboratory Data Review Checklist are included with the laboratory report in **Appendix E**.

A duplicate sample set was collected to determine the precision of the field collection and laboratory analysis for the sampling event. Sample Dup-01 is a duplicate of Sample MW 16-2. Data presented in **Table 5** show that the precision for the duplicate sample set was outside the established QA criteria tolerances for all analytes for which it could be calculated. Precision could not be calculated for benzene, toluene, ethylbenzene, and xylenes because they were not detected above the PQL in one or more samples. The holding times for DRO and VOCs were within established criteria. The holding time for analyzing GRO in remediation well RW 16-1 was at 14 days, which is the established hold time.

Table 5 Laboratory Quality Control Objectives

Quality Control Designation	Tolerance	Results for this Event
Holding Times		
DRO/Water/to analyze	40 days	7 days
DRO/Water/to extract	14 days	6 days
GRO/Water/to analyze	14 days	7-14 days
VOCs/Water/to analyze	14 days	5-7 days
PAHs/Water/to extract	7 days	5 days
PAHs/Water/to analyze	40 days	6 days
Field Duplicates – Precision		
Benzene/Water	± 30%	NC
Toluene/Water	± 30%	NC
Ethylbenzene/Water	± 30%	NC
Xylenes/Water	± 30%	NC
GRO/Water	± 30%	169%
DRO/Water	± 30%	NC
1,2,4-TMB/Water	± 30%	173%
1,3,5-TMB/Water	± 30%	172%

Key:

% – percent

± – plus or minus

DRO – diesel range organics

GRO – gasoline range organics

NC – Not calculated because the analyte was not detected above the practical quantitation limit in one or more sample

TMB – trimethylbenzene

VOCs – volatile organic compounds

Bold – indicates the value is above acceptable limits

4.0 REMEDIATION SYSTEM

The on-site groundwater treatment process consists of a VSC (vapor stripping circulation) system and routine injections of a chemox solution into the groundwater table via 2 remediation wells. An airlift well is used for operating the VSC system. The frequency of chemox injections are typically monthly subject to ambient air temperatures being above freezing. The chemox solution consists of a mixture of water and an oxidant product commercially referred to as Klozur One[®], which is a sodium persulfate compound. In 2020, Stantec installed two 4-inch diameter chemox injection wells, RW 20-1 and RW 20-2, located approximately 10-feet northwest and northeast (upgradient) of Remediation Well RW 16-1 (**Figure 2**). These 4-inch diameter wells are used for the chemox injection.

On July 20, 2022, a monthly remediation event was completed that involved the injection of a chemical oxidant (chemox). The chemox injection consisted of 110 pounds of Klozur One[®] product combined with 100 gallons of potable water (from the 7-11 convenience store) injected by gravity into each of the two injection wells (RW 20-1 and RW 20-2) that are shown on **Figure 2**. The chemox solution was hydraulically “pushed” into the formation with additional injection of several hundred gallons of potable water into each of the remediation injection wells.

A month prior to the chemox injection, on June 21, the manhole housing the airlift VSC well was replaced with an insulated 42” diameter manhole. A similar manhole was installed over remediation well RW 20-1 to facilitate a change in plumbing of the groundwater remediation system. On July 5, Stantec installed an insulated 1” diameter plastic HEX piping from the air lift well to the manhole housing RW 20-1. Groundwater is pumped on a continuous basis from the airlift VSC well into RW 20-1. As a means to provide better circulation of groundwater for treatment, Stantec installed a pipe connection to divert a portion (approximate 25%) of the flow from the VSC well to discharge into MW G-1. During the chemox injection event that occurred on July 20, the continuous flow into RW 20-1 was measured at approximately 1 to 2 gallons per minute.

5.0 DISCUSSION OF FINDINGS

Results of the analytical sampling completed during this groundwater monitoring event showed no petroleum hydrocarbon contaminant concentrations exceeded the groundwater cleanup levels (GCLs) for the sampled monitoring wells. Well G-3 is typically contaminated but was not sampled during this event due to water from the parking lot pooling over the casing during heavy rain. Historical results for the current and previous monitoring events are presented in **Appendix D**.

The hydraulic gradient across the site was found to be approximately 0.0018 feet per foot to the southwest at 226 degrees. The direction of flow was similar to historical groundwater flow measurements, but the gradient is much less than previous monitoring events. This may be the result of heavy rainfall at the site previous to this monitoring event.

6.0 CONCLUSIONS AND RECOMMENDATIONS

No anomalies were found during this first quarter 2022 monitoring event that require additional corrective action or changes to the approved year 2022 Corrective Action Work Plan for this site.

7.0 LIMITATIONS

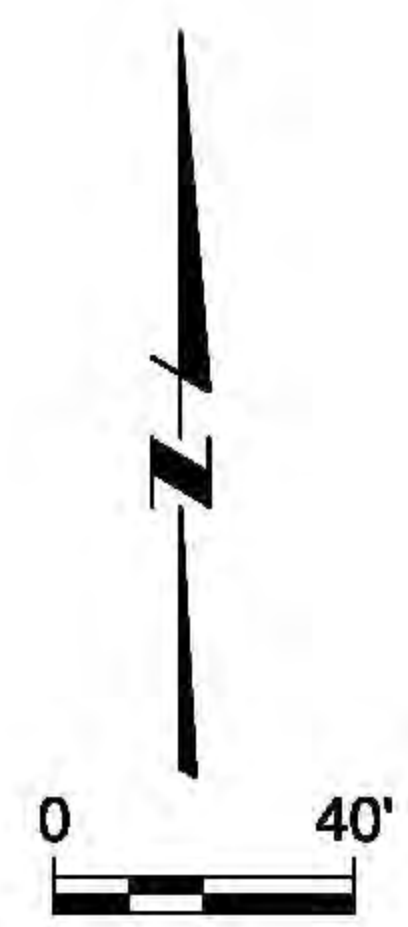
Stantec conducted this monitoring event in accordance with the 2022 Corrective Action Work Plan approved by ADEC, and in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions. All sampling activities were completed 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 take into account 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

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|----------|---|
| Figure 1 | Location and Vicinity Map |
| Figure 2 | Site Plan with Groundwater Analytical Results |
| Figure 3 | Groundwater Elevation Contours |
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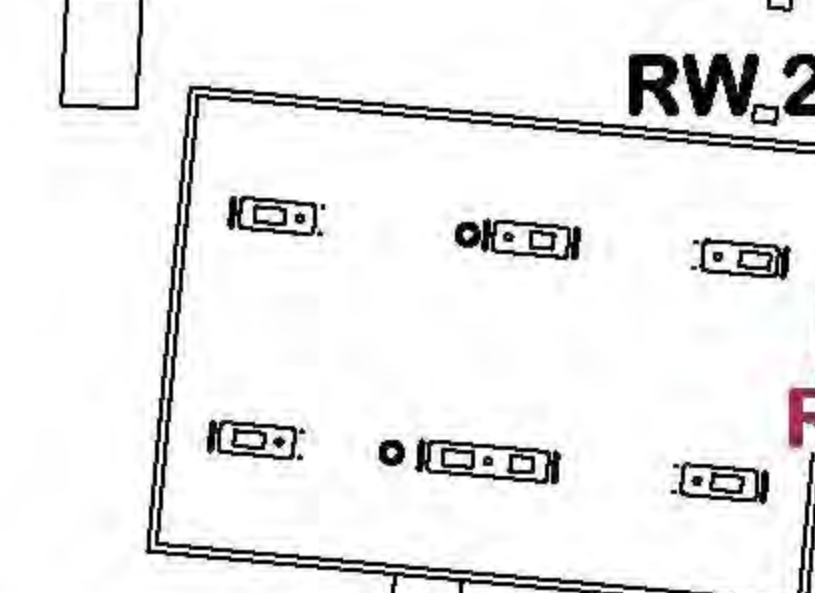




SYLVAN ROAD

GEORGE PARKS HIGHWAY

DRINKING WATER WELL
(RUNION LOTS 1 AND 2)



TESORO
2 GO MART
#52

BUILDING

SEPTIC TANK
SERVING LOTS
1 AND 2 RUNION

DRINKING WATER WELL
(RUNION LOT 4)

WEST ANNA MARIE DRIVE

DRINKING WATER WELL
(RUNION LOT 5)

SCALE IN FEET
0 10

SITE DATA COMPARED TO ADEC Groundwater Cleanup Levels (GCLs)	ND	NOT DETECTED	124-TMB	0.056 mg/L
	--	NOT SAMPLED	135-TMB	0.060 mg/L
	50	SAMPLED & UNDER GCL	BENZENE	0.0046 mg/L
	100	SAMPLED & OVER GCL	DRO	1.5 mg/L
	FP	FREE PRODUCT	ETHYLBENZENE	0.015 mg/L
		DISPLAYED IN mg/L	GRO	2.2 mg/L
			NAPHTHALENE	0.0017 mg/L
			SODIUM	
			TOLUENE	1.1 mg/L
			XYLENE	0.19 mg/L

RW16-1	7/19/22
124-TMB	0.0396
135-TMB	0.0115
BENZENE	0.000116
DRO	0.572
ETHYLBENZENE	0.00242
GRO	0.247
NAPHTHALENE	0.00104
SODIUM	33.2
TOLUENE	0.00028
XYLENE	0.03391

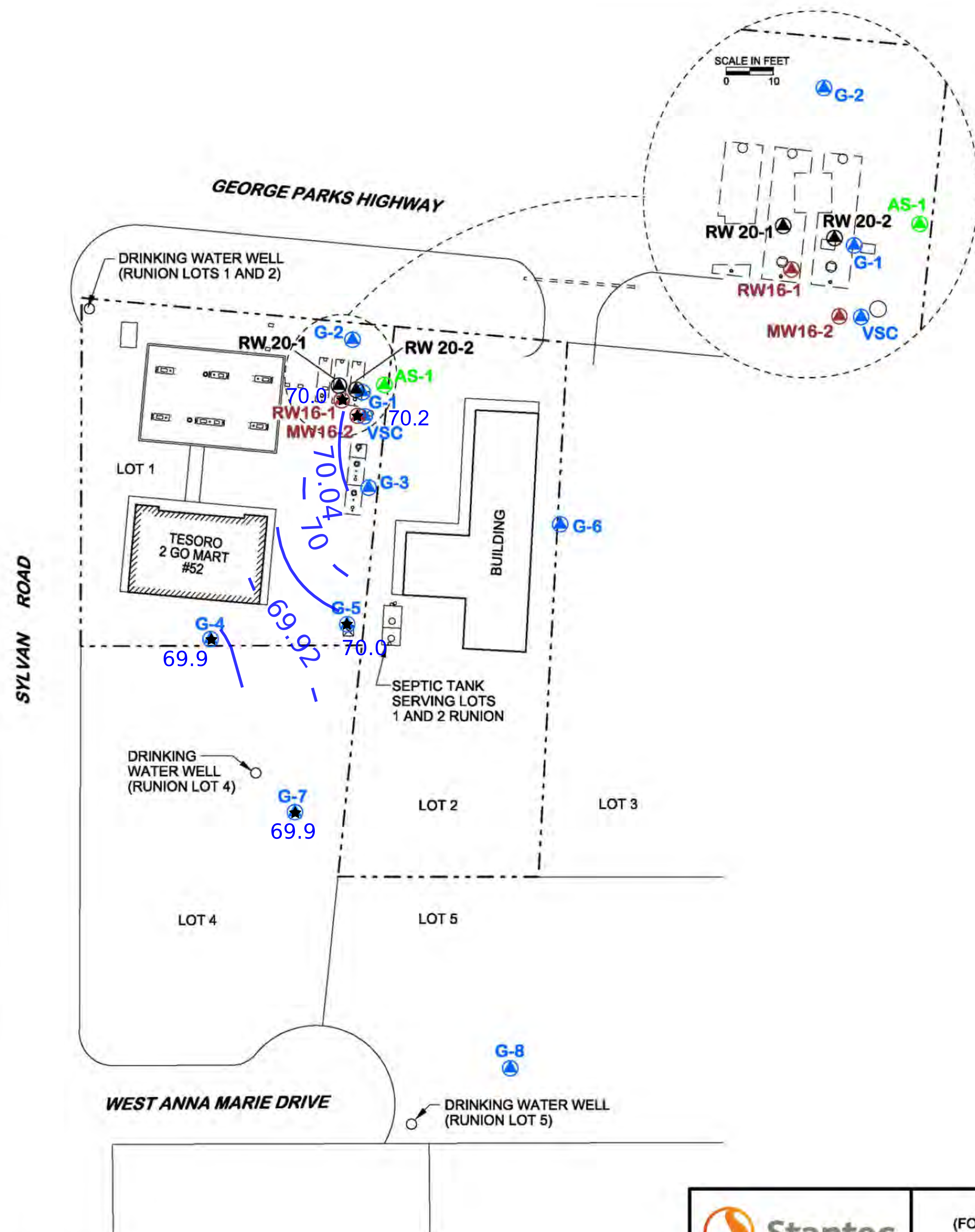
G-1	7/19/22
124-TMB	U(0.00100)
135-TMB	U(0.00100)
BENZENE	U(0.00100)
DRO	0.554
ETHYLBENZENE	U(0.00100)
GRO	U(0.100)
NAPHTHALENE	U(0.0002500)
SODIUM	1.96
TOLUENE	U(0.00100)
XYLENE	U(0.00300)

RW16-2	7/19/22
124-TMB	0.0203
135-TMB	0.0101
BENZENE	0.00013
DRO	U(0.800)
ETHYLBENZENE	U(0.00100)
GRO	0.354
NAPHTHALENE	U(0.000250)
SODIUM	9.06
TOLUENE	U(0.00100)
XYLENE	U(0.00300)

G-7	7/19/22
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(0.0002500)
SODIUM	6.1
TOLUENE	U(0.00100)
XYLENE	U(0.00300)

G-5	7/19/22
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(0.0002500)
SODIUM	8.41
TOLUENE	U(0.00100)
XYLENE	U(0.00300)

- LEGEND:
- PROPERTY LINE
 - 2020 SOIL BORING/MONITORING WELL
 - 2016 SOIL BORING/MONITORING WELL
 - MONITORING WELL
 - AIR SPARGE WELL
 - AS AIR SPARGE
 - DRO DIESEL RANGE ORGANICS
 - GRO GASOLINE RANGE ORGANICS
 - GW Elev GROUNDWATER ELEVATION IN FEET
 - NM NOT MEASURED
 - TMB TRIMETHYLBENZENE
 - U UNDETECTED ABOVE PRACTICAL QUANTITATION LIMIT SHOWN IN PARENTHESES
 - VSC VAPOR STRIPPING AND CIRCULATION



LEGEND:

---	PROPERTY LINE
▲	2020 SOIL BORING/MONITORING WELL
●	2016 SOIL BORING/MONITORING WELL
○	MONITORING WELL
●	AIR SPARGE WELL
AS	AIR SPARGE
DRO	DIESEL RANGE ORGANICS
GRO	GASOLINE RANGE ORGANICS
GW Elev	GROUNDWATER ELEVATION IN FEET
NM	NOT MEASURED
TMB	TRIMETHYLBENZENE
U	UNDETECTED ABOVE PRACTICAL QUANTITATION LIMIT SHOWN IN PARENTHESES
VSC	VAPOR STRIPPING AND CIRCULATION

APPENDIX A

Site Background

APPENDIX A – SITE BACKGROUND

Tesoro 2 Go Mart #52 (Mile 49 Parks Highway, Wasilla, Alaska)
ADEC Facility ID #648; ADEC File #2265.26.006

September 1996. During the removal of the former underground storage tank (UST) fueling system (consisting of several fuel dispensers, two 12,000-gallon gasoline, and one 12,000-gallon diesel USTs) on September 7, 1996, petroleum contamination was encountered in the surrounding soil. Gilfilian Engineering conducted the UST site assessment work. Approximately 240 cubic yards of gasoline and 60 cubic yards of diesel contaminated soil was excavated and treated at Alaska Soil Recycling.

February 1997. The Alaska Department of Environmental Conservation (ADEC) reviewed the UST Closure Site Assessment Report prepared by Gilfilian Engineering. Subsequently, a Release Investigation (RI) Work Plan prepared by Gilfilian Engineering was approved by ADEC.

April 1997. The findings of the RI (later referred to as Phase I RI) showed high levels of diesel contamination under the diesel dispenser islands and gasoline contamination under the unleaded gasoline UST to 36 feet below ground surface (bgs). The RI included drilling five soil borings and installing and sampling one groundwater monitoring well (identified as G-1). Groundwater was also found to be contaminated. Subsequently, an ADEC-approved work plan was prepared by Gilfilian Engineering for Phase II RI.

December 1997. Phase II RI report submitted to ADEC. The RI included drilling soil borings and installing and sampling four groundwater monitoring wells (G-2, G-3, G-4 and G-5).

April 1998. ADEC approved the installation of a Soil Vapor Extraction (SVE) system.

June 1998. Gilfilian Engineering submitted a Well Search report to ADEC. The well search targeted an area of 0.25-mile radius centered on the gas station site.

July 1998. ADEC approved the work plan prepared by Gilfilian Engineering for a Phase III RI.

August 1998. A Phase III RI was completed at the site by Gilfilian Engineering. The RI included installing and sampling three groundwater monitoring wells (G-6, G-7, and G-8).

January 2002. Several “rising and falling head hydraulic conductivity tests” (slug tests using the Hvorslev method) were performed by Gilfilian Engineering on January 9, 2002. The hydraulic conductivity at Monitoring Wells G-4 and G-7 exceeded 171 feet/day. Based on the high hydraulic conductivity values, Gilfilian Engineering recommended a pilot test to determine the effectiveness of treating the groundwater with a vapor stripping and circulation (VSC) well.

March/April 2002. One soil boring was drilled on March 6, 2002, for installation of a VSC well. Benzene, toluene, ethylbenzene, and xylenes (BTEX), gasoline range organics (GRO), and diesel range organics (DRO) tested in soil samples collected from the soil boring were detected above

ADEC soil cleanup levels (SCLs). In addition, a second soil boring was drilled for installation of an air sparge (AS) well that was designated AS-1. Benzene, ethylbenzene, and GRO were detected above SCLs and BTEX and GRO were above the ADEC groundwater cleanup levels (GCLs) in AS-1. Pilot testing conducted in March and April 2002 showed the hydrogeological formation could not provide adequate water to operate a VSC or AS system at this site. Continued operation of the SVE system only was recommended, and the VSC well was subsequently connected to the SVE system.

June 2002. The SVE system was re-started on June 25, 2002 and was set to withdraw vapors from Wells SVE-1, SVE-5, and SVE-6. A significant increase in the volatile contaminant concentrations to 139 parts per million by volume (ppmv) as measured by a photoionization detector (PID), was noted in the SVE system discharge. By July 3, 2002, the volatile levels dropped to 58.5 ppmv, which was possibly related to the significant decrease in the thickness of free product measured in Monitoring Well G-1 (SVE-1).

December 2002. An SVE pilot study using a 5-horsepower FL-707 Rotron blower was conducted on December 19, 2002. The purpose was to determine if the use of a larger capacity blower would increase the recovery of volatile petroleum contaminants. The dramatic rise in PID readings during the second quarter of 2002 is attributed to the addition of SVE Wells 5, 6, and VSC.

October 2003. A 1-horsepower air compressor was installed for operation of the AS system. The AS well (AS-1) was previously installed at the site in 2002. The VSC manhole was reconfigured to enhance SVE system performance.

July 2004. The AS system was converted into a VSC system for pilot testing on July 21, 2004. Down well piping was installed in Monitoring Well VSC and connected to the compressor air supply line. Pilot testing indicated the system could be an effective groundwater treatment option. The AS compressor was removed from the site for maintenance.

September 2, 2004. The VSC system was activated following ADEC approval. The VSC system was treating approximately 1 gallon of contaminated groundwater per minute, or 1,440 gallons per day. The treated water was transferred (pumped by air) from the VSC well to Monitoring Well G-1 for circulation.

October 2007. Ten confirmation soil borings (CSB-1 through CSB-10) were installed on October 3 through 9, 2007, near the former USTs and areas of previous investigations across the site. Benzene, ethylbenzene, xylenes, GRO, and DRO were detected above the SCLs in two or more borings. Toluene was the only analyte not detected above the SCLs in any soil boring.

September 2008. Three chemical oxidation applications were completed by MWH Americas, Inc. (MWH). Sampling of groundwater monitoring wells noted benzene, ethylbenzene, and GRO detected above the GCLs in Monitoring Well G-3.

February 2009. Monitoring Well G-3 showed a consistent trend in increased hydrocarbon concentrations, and a fine sediment with a hydrocarbon odor was found in the bottom of the

monitoring well. MWH recommended that the well be re-developed to remove the sediment build-up.

March 2009. Monitoring Well G-3 was redeveloped to remove the dark colored sediment. The sediment was noted to have a slight petroleum odor and heavy sheen.

January/June/August 2010. MWH performed potassium permanganate chemical oxidation treatments on January 27 and 28, June 11, and August 20, 2010. A solution of 3 percent potassium permanganate (180, 646, and 767 gallons, respectively) was injected into several groundwater monitoring wells.

October 30, 2012. The chemical oxidant Klozur CR[®] was injected into three on-site wells (Monitoring Well G-1 and SVE Wells SVE-5 and SVE-6). The Klozur CR[®] injection process was conducted to test the use of the existing remediation infrastructure for a means of delivering the chemical oxidant into the contaminated groundwater aquifer at the site, as well as evaluating the effectiveness of the chemical oxidant.

October 2012. Groundwater sample results were non-detect in all four monitoring wells sampled. The water table was considerably higher than normal, and the absence of dissolved contaminants was assumed to be associated with the high water table. The last time a high water table was observed was in October 2006, and the concentrations were all non-detects in all monitoring wells except for G-3, which was lower than historical concentrations at that time.

January 30, 2013. DRO was detected in Monitoring Wells G-1, G-3, and G-7, and toluene, ethylbenzene, and xylenes were detected in G-3 – with all analytes below the GCLs. The water table was higher than normal, and the concentrations detected were not believed to be indicative of the groundwater conditions at the site.

December 19, 2013. A chemical oxidation application of Klozur CR[®] was injected into three on-site wells: Monitoring Well G-1 and Remediation Wells SVE-5 and SVE-6.

February 2014. Groundwater sampling showed contaminant levels in all monitoring wells that were sampled remained below the GCLs for the last seven monitoring events.

May 2014. DRO was detected in Monitoring Well G-3 at 3.3 milligrams per liter (mg/L), exceeding the GCL for the first time since February 2011. The remediation system was operating on a full-time basis.

October 2014. Groundwater sampling showed contaminant levels in all monitoring wells were below GCLs. The remediation system was operating on a full-time basis.

February 2015. GRO and DRO were detected at 4.8 and 12 mg/L, respectively, in Monitoring Well G-3. All other analytes were below GCLs. Remediation system operating on full-time basis.

May 2015. GRO was detected at 2.6 mg/L in the duplicate sample collected from Monitoring Well G-3, the primary and all other analytes were below GCLs.

September 2015. Groundwater sampling showed contaminant levels in all monitoring wells were below GCLs. The remediation system was operating on a full-time basis.

October 2015. Three CSBs were installed by MWH to investigate the extent of any remaining soil contamination at the site. Two areas were investigated: the former diesel dispensers and the former gas dispensers and USTs. Soils encountered in the area of the former diesel dispensers had elevated headspace field screening results; however, DRO concentrations were below laboratory practical quantitation limits (PQLs). Soils encountered in the area of the former gas dispensers and USTs had detectable concentrations of GRO and one exceedance above the SCLs established for the site. Soil GRO contamination was limited to below the current groundwater level at the site. Similar observations were documented in 2007. Analytical results collected from the 2015 CSBs indicate that concentrations of petroleum contamination remaining at the site are generally decreasing when compared to the analytical results from the 2007 CSBs. Future management strategies at the site may include targeted chemical oxidation in the area of the former gas dispensers and USTs as represented by CSB 9-3, with no further cleanup action at the former diesel dispensers.

November 2015. GRO was detected at 3.2 mg/L in Monitoring Well G-3. An analytical sample was collected from the VSC well which indicated all analytes were below GCLs for the first time since September 2004. The remediation system was offline upon arrival at the site and remained offline pending groundwater conditions and further analytical sampling.

January 2016. The first quarter 2016 monitoring event was conducted on January 28, 2016. Results of the analytical sampling showed that all analytes were below GCLs, except GRO concentrations in Monitoring Well G-3. One or more analytes were detected above the PQLs in all the monitoring wells sampled, except Monitoring Well G-5. Analytical results from Remediation Well VSC were below PQLs.

May 2016. The second quarter 2016 monitoring event was conducted on May 9, 2016. All analytes were below the GCLs, only Monitoring Well G-3 had analytes detected above PQLs. Monitoring Wells G-2 and G-5 had insufficient water for sampling.

Four CSBs were placed at four locations surrounding the 2015 CSB 9-3, to the north, south, east, and west. Two discrete analytical soil samples were collected from CSB 16-1, CSB 16-2, and CSB 16-4, and one sample from CSB 16-3. These samples were collected from the locations with the highest PID readings, or at the water table interface if no detections were observed in field screened samples.

CSB 16-1 and CSB 16-2 (Samples CSB 16-1 38 and CSB 16-2 39), which were the closest to the former USTs and located to the north and east of 2015 CSB 9-3, respectively, both had GRO exceedances similar to the findings of the nearby 2015 Boring CSB 9-3. All the samples which exceeded SCLs were below the water table that was measured at a depth of 35.48 feet btoc in nearby Monitoring Well G-3 at the time of drilling. Analytical results at the water table interface at three locations were below laboratory PQLs. The CSB 16-3 and CSB 16-4, located at a greater

distance from the former USTs compared to CSB 16-1 and CSB 16-3 and to the south and west of 2015 CSB 9-3, did not have analyte exceedances. Soil Borings CSB 16-1 and CSB 16-2 were completed with PVC riser and screen assemblies to provide future access points for monitoring and/or remediation activities.

October 2016. The third quarter 2016 monitoring event took place on October 24, 2016. All wells listed in the 2016 Work Plan to be sampled in the third quarter had sufficient water for sampling. Monitoring Well G-3 had GRO detected above GCL. New Wells RW16-1 and MW16-2 were sampled for the first time. Remediation Well RW16-1 had all analytes, except benzene and toluene, detected above their GCLs. Monitoring Well MW16-2 had analytes detected above PQLs, but none above GCLs. The VSC system was not operating.

December 2016. The fourth quarter 2016 monitoring event took place on December 9, 2016. All wells listed in the 2016 Work Plan to be sampled in the fourth quarter had sufficient water for sampling. Monitoring Well G-3 had GRO detected above GCL (update effective November 6, 2016). Drinking water samples had no detections above PQLs. The VSC system was not operating.

February 2017. The first quarter 2017 monitoring event took place on February 8, 2017. Monitoring Wells G-1 and G-3 purged dry and did not recover sufficiently to allow for sampling. Monitoring Well G-5 was dry upon arrival at the site. Remediation Well RW16-1 and Monitoring Well MW16-2 were sampled. Ethylbenzene, xylenes, GRO, and DRO were detected above GCLs in both wells. The VSC system remained off-line due to low groundwater conditions and/or frozen circulation line. The SVE treatment system was not operational and will require maintenance to the blower system following spring breakup.

April and May 2017. The second quarter 2017 monitoring event took place on April 25, 2017. Analytes were detected above their GCLs in Monitoring Wells G-3, G-5, and MW16-2, and Remediation Well RW16-1. These wells had exceedances of specific volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) consisting of 1,2,4- and 1,3,5-trimethylbenzene compounds and naphthalene.

Routine maintenance was conducted on the SVE and VSC systems, but due to unresolved electrical power/control issues, both systems are currently not operating until additional corrective action services are provided by an electrician.

Also, representative water samples were collected from the domestic water systems serving the existing buildings on Lots 1, 3 and 4 in Runion Subdivision, and were analyzed for public drinking water VOCs and DRO. No detectable levels of contaminants were found in any of the domestic drinking water wells.

On May 3, 2017, the first phase of the pilot test was initiated with an injection of a chemical oxidant (chemox) consisting of Kloxur CR[®] into the new Remediation Well RW16-1. The pilot test will be continued during the third and fourth quarters of 2017, when the wells will be resampled to determine the impact of the chemox injection. Subject to the findings of the 2017 monitoring events, the pilot test may be continued in 2018 with several more injections of Kloxur CR[®].

October 2017. The fourth quarter 2017 monitoring event took place on October 20, 2017. DRO was detected above the GCL in Monitoring Well G-3. Analytes detected above their GCLs in MW16-2 included: ethylbenzene, GRO, naphthalene, and 1,2,4-trimethylbenzene.

The SVE and VSC treatment systems were not operating due to electrical control systems malfunctions. The treatment systems are scheduled for replacement and/or upgrade in 2018.

The pilot test program for the chemox injection was initiated in May 2017 in accordance with the ADEC approved work plan for the 2017 Work Plan Task 3. The test results for intrinsic parameters measured during the October 2017 monitoring event indicate no unusual findings and will be monitored in future quarterly monitoring events scheduled for 2018 with additional applications of Klozur CR[®] into Remediation Well RW16-1.

February 2018. The first quarter 2018 monitoring event took place on February 13, 2018. Analytes detected above their GCLs included ethylbenzene and GRO in Monitoring Well MW16-2 and DRO in Monitoring Well G-3.

The SVE treatment system was off-line pending repairs. The operation of the VSC system was interrupted in the second quarter of 2017 relating to an issue with the variable frequency drive on the compressor and will be brought back online when the system can be evaluated by a licensed electrician.

Ongoing monitoring of sodium and total organic carbon, relating to the May 2017 chemical oxidation pilot test, showed elevated concentrations of both analytes in Monitoring Well G-3. Conductivity was also found to be elevated in Monitoring Well G-1, which may also indicate the presence of residual chemical oxidant.

August 2018. The third quarter monitoring event took place on August 17, 2018. Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeding the GCLs for: DRO in Monitoring Wells G-1 and G-3; GRO in Monitoring Well 16-2, and ethylbenzene, xylenes, GRO, and DRO in Remediation Well 16-1.

Several analytes for VOCs and polynuclear aromatic hydrocarbons (PAHs) were reported as undetected but had laboratory reporting limits that equaled or exceeded their corresponding GCLs. These undetected analytes were noted in all the wells that were sampled.

Also, representative water samples were collected from the domestic water systems serving the existing buildings on Lots 1&2, 4, and 5 in Runion Subdivision, and were analyzed for public drinking water VOCs. All the domestic drinking water wells were found to have no detectable levels of contaminants of concern.

The SVE and VSC treatment systems are not operating pending future repairs and/or modifications to the electrical systems which will be evaluated by a licensed electrician.

October 2018. The fourth quarter groundwater monitoring event was conducted on October 25, 2018. The monitoring event included measuring depth to water, field intrinsic water quality

parameters, and collecting and analyzing groundwater samples from Monitoring Wells G-1, G-3, G-5, G-7, and MW16-2. Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeding the GCLs for: DRO in Monitoring Well G-3; and 1,2,4-trimethylbenzene in Monitoring Well 16-2.

The VSC treatment system is currently operating and pumping, via the air-lift pump, approximately 2 to 3 gallons per minute on a continuous basis. During the 3rd quarter of 2018, Stantec completed a chemox injection Klozur One[®]. Fifty-five pounds of Klozur One[®] was mixed with approximately 100 gallons of clean water. The chemox solution was injected into Remediation Well RW 16-1.

February 2019. The first quarter 2019 monitoring event took place on February 26, 2019. The monitoring event included measuring depth to water, field intrinsic water quality parameters, and collecting and analyzing groundwater samples from Monitoring Wells G-1, G-3, G-5, G-7, and MW16-2. The depth to water and field intrinsic water quality parameters were also measured in Remediation Well RW16-1. Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeding the GCLs for: DRO in Monitoring Well G-3 and GRO in Monitoring Well 16-2.

The VSC and SVE treatment systems were found to be off (inoperative) upon arrival at the site due to an apparent power surge. Upon restart of the systems, the recirculation line was found to be frozen. The VSC and SVE systems were left off until spring thaw.

April 2019. The second quarter 2019 groundwater monitoring event was conducted on April 23 and 24, 2019. The monitoring event included measuring depth to groundwater and field intrinsic water quality parameters and collecting and analyzing groundwater samples from Monitoring Wells G-1, G-2, G-3, G-4, G-5, G-7, and MW16-2 and Remediation Well RW16-1.

Based on the groundwater depth measurements, the average hydraulic gradient was determined to be flowing to the south at a bearing of 183 degrees with a gradient of 0.02 feet per foot. Groundwater flow direction and gradient was noted to be consistent with the historical results for this site.

Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeded the GCLs for the following monitoring wells:

- Monitoring Well G-3 –DRO, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene
- Monitoring Well MW16-2 –GRO, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene

Representative water samples were also collected from the domestic water systems serving the existing buildings on Lots 1&2, 4, and 5 in Runion Subdivision, and were analyzed for drinking water analyses and DRO. All the domestic drinking water wells were found to have no detectable levels of contaminants of concern.

During this monitoring event, the on-site groundwater remediation system, consisting of a VSC system was inspected to determine its operational condition. The VSC treatment system was found

to be off (in-operative) upon arrival at the site due to an apparent power surge. The VSC system was left off until such time the electrical supply system could be evaluated to determine the cause of the power outages to the VSC compressor.

July 2019. The third quarter 2019 groundwater monitoring event was conducted on July 16, 2019. The monitoring event included measuring depth to groundwater and field intrinsic water quality parameters and collecting and analyzing groundwater samples from Monitoring Wells G-1, G-3, G-5, G-7, and MW16-2. In addition, depth to groundwater was measured at Monitoring Well G-4 and Remediation Well RW16-1 and field intrinsic water quality parameters were measured at Remediation Well RW16-1.

Based on the groundwater depth measurements, the average hydraulic gradient was determined to be flowing to the south at a bearing of 300 degrees with a gradient of 0.011 feet per foot. Groundwater flow direction and gradient were noted to be inconsistent with the historical results for this site. The change in groundwater flow may be a result of elevation changes due to “frost jacking” of the well casings on one or more monitoring wells that were noted during the sampling event. The elevations of the wells will be resurveyed during the 4th quarter monitoring event.

Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeded the GCLs for the following monitoring wells:

- Monitoring Well G-1 –DRO
- Monitoring Well G-3 –DRO
- Monitoring Well MW16-2 –GRO

The VSC groundwater treatment system was found to be off (inoperative) upon arrival at the site due to an apparent power surge. On a subsequent site visit conducted during the week of July 22, the VSC compressor was activated and currently remains operational. On July 25, 2019, Stantec injected a chemox solution consisting of 55 pounds of Klozur One® via a pressurized pump system into the remediation well RW 16-1.

October 2019. The fourth quarter 2019 groundwater monitoring event was conducted on October 17, 2019. The monitoring event included measuring depth to groundwater and field intrinsic water quality parameters and collecting and analyzing groundwater samples from Monitoring Wells G-1, G-3, G-5, G-7, and MW16-2. In addition, depth to groundwater was measured at Monitoring Well G-4.

Based on the groundwater depth measurements, the average hydraulic gradient was determined to be flowing to the southwest at a bearing of 221 degrees with a gradient of 0.022 feet per foot. Groundwater flow direction and gradient were noted to be consistent with the historical results for this site. The elevations of the wells were resurveyed during this monitoring event.

Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeded the GCLs for the following monitoring wells:

- Monitoring Well G-3: DRO
- Monitoring Well MW16-2: 1,2,4-Trimethylbenzene and 1,3,5-Trimethylbenzene

The VSC groundwater treatment system was found to be operating within the normal range of performance with the production of 1 to 2 gallons per minute of recirculated groundwater with an air lift pump in the VSC well. Stantec injected a chemox solution consisting of 55 pounds of Klorur One® via gravity flow into the remediation well RW 16-1.

August 2020. This third quarter 2020 Monitoring Event Report was conducted on August 12, 2020 and included the following tasks: Measuring depth to groundwater, measuring field intrinsic water quality parameters, checking the operation of the in-situ remediation system, and collecting and analyzing groundwater samples from Monitoring Wells G-1, G-3, G-5, MW16-2, and remediation well RW16-1.

Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeded the groundwater cleanup levels (GCLs) for the following monitoring wells:

- Remediation Well RW16-1: Ethylbenzene, xylenes, diesel range organics (DRO), and gasoline range organics (GRO)

Based on the groundwater depth measurements and the elevation survey of the tops of the monitoring wells, the average hydraulic gradient was determined to be flowing to the south-southeast at a bearing of 171 degrees with a gradient of 0.018 feet per foot. Groundwater flow direction and gradient were noted to be consistent with the historical results for this site.

During this monitoring event, the on-site groundwater remediation system, consisting of a vapor stripping and circulation (VSC) system was inspected to determine operational condition. The VSC compressor that operates the air-lift well was not operating due to a recent power outage. The compressor was activated and the flow from the air-lift well was adjusted to provide a constant flow of approximately 1 to 2 gallons per minute of aerated groundwater that is discharged into MW-1 for recirculation.

October 2020. This fourth quarter 2020 Monitoring Event was conducted on October 2, 2020. Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeded the groundwater cleanup levels (GCLs) for the following monitoring well:

- Remediation Well RW16-1: Ethylbenzene, xylenes, diesel range organics (DRO), and gasoline range organics (GRO).

Analytical results by Test Method 545.1 (see **Appendix E**) showed no evidence of contamination for the on-site and nearby drinking water wells serving the following properties: Runion Subdivision Lots 1 and 2, Runion Subdivision Lot 4, and Runion Subdivision Lot 5.

Based on the groundwater depth measurements and the elevation survey of the tops of the monitoring wells, the average hydraulic gradient was determined to be flowing to the south-southwest at a bearing of 191 degrees with a gradient of 0.007 feet per foot. Groundwater flow direction and gradient were noted to be similar with the historical results but slightly lower gradient, as shown on the groundwater flow summary (“rose diagram”) presented on Figure 2.

During this monitoring event, the on-site groundwater remediation system, consisting of a vapor stripping and circulation (VSC) system (see Figure 3) was inspected to determine operational condition. The VSC compressor that operates the air-lift well was operational and providing adequate flow upon arrival on site.

On October 27, 2020 Stantec finished the installation and development of two 4-inch diameter chemox injection wells, RW 20-1 and RW 20-2, located north of Remediation Well RW16-1. On November 27, 2020 Stantec conducted the first 2020 injection of a chemox Klozur One® solution into the new chemox injection remediation wells, RW 20-1 and RW 20-2. The installation of the new wells will be described in a technical memorandum that will be submitted to ADEC.

March 2021. This first quarter 2021 monitoring event was conducted on March 31, 2021. Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeded the groundwater cleanup levels (GCLs) for the following monitoring/remediation wells:

- Remediation Well RW 16-1: Ethylbenzene, xylenes, DRO, and GRO. Benzene practical quantitation limits exceeded ADEC groundwater cleanup levels (GCLs).
- Monitoring Well MW 16-2: GRO.

Due to limited data of groundwater elevations in measured wells and their linear positions across the site, the hydraulic gradient and flow direction of the groundwater table could not be calculated for this monitoring event.

During this monitoring event, the on-site groundwater remediation system, consisting of a vapor stripping and circulation (VSC) system (see Figure 3) was inspected to determine operational condition. The VSC compressor that operates the air-lift well was operational but the air-lift well was not checked to determine if the well was discharging to the recirculation/receiving well (MW G-1). The staff noted there was a significant ice plug at the top of MW G-1 which prevented access to the well.

May 2021. This second quarter 2021 monitoring event was conducted on May 18, 2021. Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeded the groundwater cleanup levels (GCLs) for the following monitoring wells:

- Remediation Well RW 16-1: Ethylbenzene, xylenes, diesel range organics (DRO), gasoline range organics (GRO), 1,2,4 trimethylbenzene, and 1,3,5 trimethylbenzene. Benzene practical quantitation limits exceeded ADEC groundwater cleanup levels (GCLs).
- Monitoring Well MW G-3: DRO.
- The naphthalene practical quantitation limits exceeded ADEC groundwater cleanup levels (GCLs) in all of the wells sampled

The hydraulic gradient across the site was found to be approximately 0.020 feet per foot directed toward the south at 182 degrees; however, the hydraulic flow of the groundwater does not take into account the groundwater level in MW G-1 since this well receives influent pumped from the air-lift well described in the following paragraph. The groundwater gradient and flow direction are generally consistent with past monitoring events.

During this monitoring event, the on-site groundwater remediation system, consisting of a vapor stripping and circulation (VSC) system that includes of an air-lift well (see Figure 3), was inspected to determine operational condition. The VSC compressor that operates the air-lift well was operational and observed to be discharging to the recirculation/receiving well (MW G-1). In addition, a chemox injection into the groundwater table via remediation wells RW 20-1 and RW 20-2 was completed during the monitoring event. A total of 220 pounds of Klozur One® and approximately 500 gallons of clean water from the store's water system was injected.

July 2021. Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeded the groundwater cleanup levels (GCLs) for the following monitoring well:

- Monitoring Well G-3: DRO, naphthalene, and both species of trimethylbenzene (TMB).
- Remediation Well RW 16-1: Benzene, ethylbenzene, xylenes, GRO, DRO, and both species of TMB.
- In addition, the RDL for naphthalene in all wells was above the GCL.

The average groundwater gradient across the site was calculated by triangulation to be 0.021 feet per foot to the south-southwest at 207 degrees, as shown in **Figure 3**. This is consistent with historical groundwater gradient and direction of flow data.

During this monitoring event, the on-site groundwater remediation system, consisting of a vapor stripping and circulation (VSC) system (see **Figure 3**) was inspected to determine operational condition. The VSC compressor that operates the air-lift well was not operational due to mechanical failure in one of the fins.

The remediation event on July 21st, 2021, consisted of a total chemical oxidation (chemox) injection of 220 pounds of Klozur® One product combined with 110 gallons of potable water from Tesoro store into two treatment points (RW 20-1 and RW 20-2). The solution was further pushed into the formation with an additional 420 gallons of water.

October 2021. Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeded the groundwater cleanup levels (GCLs) for the following monitoring well:

- Remediation Well RW 16-1: Benzene, ethylbenzene, xylenes, GRO, DRO, 1,2,4- and 1,3,5-TMB. In addition, the lab RDL for naphthalene in this well was above the GCL.

Analytical results showed no evidence of VOC or DRO contamination for the on-site and nearby drinking water wells serving the following properties: Runion Subdivision Lots 1 and 2, Runion Subdivision Lot 4, and Runion Subdivision Lot 5.

Earlier this year the compressor for the VSC system seized up and was shut down for several months. In September of this year, Stantec ordered a replacement blower that consisted of a Becker compressor model DT-4.10, 0.6 horsepower. The blower was placed into operation on October 4,

2021 and continues to operate the air-lift well to this date on a continuous basis (24-hours per day). The VSC/air-lift well discharges into MW G-1 at an estimated rate of 1 to 2 gpm.

March 2022. Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeded the groundwater cleanup levels (GCLs) for the following monitoring well:

- Remediation Well RW 16-1: Ethylbenzene, xylenes, gasoline range organics (GRO), diesel range organics (DRO), naphthalene, 1,2,4-Trimethylbenzene (TMB), and 1,3,5-TMB. In addition, the lab's reported detection limit (RDL) for benzene and toluene were above the GCL.
 - A duplicate sample was collected from RW16-1, and confirms the exceedances in ethylbenzene, xylenes, GRO, DRO, naphthalene, 1,2,4-TMB, and 1,3,5-TMB, but concentrations of benzene and toluene in the duplicate sample were below GCLs.

The average groundwater gradient across the site was calculated to be approximately 0.033 feet per foot to the south-southeast at 198 degrees. This is consistent with historical groundwater gradient and direction of flow data.

The on-site groundwater remediation system, consisting of a vapor stripping and circulation (VSC) system was not assessed due to the presence of ice in the receiving well, MW G-1. However, it was noted the VSC compressor that operates the air-lift well was operational upon arriving at the site. The air-lift well typically discharges an approximate flow rate of 1 to 2 gallons per minute (gpm) into MW G-1.

The remediation event on March 24, 2022, consisted of a chemical oxidation (chemox) injection of a total of 110 pounds of Kloxur One[®] product mixed with 100 gallons of potable water from Tesoro store into each of the two injection wells (RW 20-1 and RW 20-2). The total amount of 220 pounds of chemox was injected into the groundwater table and an additional several hundred gallons of potable water used to hydraulically "push" the chemox solution into the aquifer.

May 2022. Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeded the groundwater cleanup levels (GCLs) for the following monitoring well:

- Remediation Well RW 16-1: Ethylbenzene, xylenes, gasoline range organics (GRO), diesel range organics (DRO), naphthalene, 1,2,4-Trimethylbenzene (TMB), and 1,3,5-TMB. In addition, the lab's reported detection limit (RDL) for benzene was above the GCL.

The average groundwater gradient across the site was calculated to be approximately 0.011 feet per foot to the west-southwest at 343 degrees. This is further west than historical groundwater gradient and direction of flow data, but is influenced by groundwater elevation data from MW-6, which has not been regularly included in groundwater calculations.

The operation of the on-site groundwater remediation system was assessed during the monitoring event. It was found that the PVC piping used for injecting air into the air-lift well had broken over the winter, making the well inoperable. This was repaired during the monitoring event, and the

blower was restarted at 7.5 psi with water flowing into G-1. Subsequently it was found that the ground surface around the air lift manhole had subsided, creating a pothole in the parking lot. The blower was turned off in June 2022 to ensure it would not exacerbate the subsidence problem.

July 2022: A groundwater monitoring event was conducted on July 19, 2022, and included the following tasks:

- Measured depth to groundwater in wells G-1, G-4, G-5, G-7, RW 16-1, and MW 16-2.
- Measured field intrinsic water quality parameters in groundwater monitoring wells G-1, G-5, G-7, RW 16-1, and MW 16-2.
- Collected and analyzed groundwater samples from Monitoring Wells G-1, G-5, G-7, MW 16-2, former Remediation Well RW 16-1, and a duplicate sample of MW 16-2.

Results of the analytical sampling did not show petroleum hydrocarbon contaminant concentrations exceeding the groundwater cleanup levels (GCLs) in any of the sampled wells.

The average groundwater gradient across the site was calculated to be approximately 0.0018 feet per foot to the southwest at 226 degrees. The direction of flow was similar to historical groundwater flow measurements, but the gradient is much less than previous monitoring events. This may be the result of heavy rainfall at the site previous to this monitoring event. The pumping water level of well G-1 was recorded but not included in the groundwater contours because water had collected in the well nearly to the top of the casing.

On July 20, 2022, a remediation event was completed that consisted of a chemical oxidant (chemox) injection of a total of 110 pounds of Klozur One[®] product combined with 100 gallons of potable water from the 7-11 convenience store into each of the two injection wells (RW 20-1 and RW 20-2). The total amount of 220 pounds of chemox was injected into the groundwater table. The chemox solution was hydraulically “pushed” into the formation with additional injection of several hundred gallons of potable water.

The collapsed manhole housing the airlift VSC well was replaced on June 21, and included placing another manhole the same size over remediation well RW 20-1 to facilitate a change in plumbing of the remediation system. On July 5, Stantec installed buried insulated piping from the outlet of the VSC well to discharge on a continuous basis (24 hours per day) into RW 20-1. Flow discharged from the VSC well is split between MW G-1 and RW 20-1. During the chemox injection on July 20, flow into RW 20-1 was estimated at 1 to 2 gpm.

APPENDIX B

Field Methods and Procedures

APPENDIX B – FIELD METHODS AND PROCEDURES

7-11 Store 46754 (Speedway 5325 – TNS 52)

The following table presents the proposed tasks for the Alaska Department of Environmental Conservation (ADEC) approved 2022 Corrective Action Plan (CAP). The scope of these tasks is based on the results and findings of the monitoring and remediation completed to date at this site.

2022 Work Plan Schedule for 7-11 Store 46754

Work Plan Task 2022		1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
Task 1	Monitoring Wells: G-1, G-3, G-5, and G-7	V, G, D, S & I	V, G, D, S, & I	V, G, D, S & I	V, G, D, P, S & I
	RM 16-1 & MW 16-2	V, G, D, P, S & I	V, G, D, P, S & I	V, G, D, P, S & I	V, G, D, P, S & I
	Monitoring Wells G-2 and G-4				V, G, D, P, S & I
	Drinking Water Wells serving Lots 1 and 2, Lot 4, and Lot 5 in Runion Subdivision				D & E
Task 2	O&M Air-Lift Well Remediation System	✓	✓	✓	✓
Task 3	Chemical Oxidation Treatment	✓	✓	✓	✓

Key:

AK – Alaska Test Method

D – Diesel range organics by AK102.

E – Drinking water parameters by EPA Method 524.1.

G – Gasoline range organics by AK101.

I – Intrinsic indicators include: dissolved oxygen, specific conductance, oxygen-reduction potential, pH, and temperature.

O&M – Operation and Maintenance

V – Volatile organic compounds by EPA Test Method 8260C.

S – Sodium analyzed by Metals (ICP) Method 6010C.

P – Polynuclear aromatic hydrocarbons (PAHs), i.e., semi-volatile organic compounds associated with petroleum fuel, by EPA Test Method 8270D Selective Ion Monitoring (SIM).

The CAP for the year 2022 will be implemented by Stantec on behalf of 7-Eleven. 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, Teflon[®] bailer will be used to sample each well. The first bail of water removed from each well will be examined for petroleum odor, sheen, and any other unique physical features.
- Water 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 2022 Work Plan Schedule shown above.

APPENDIX C

Field Measurements and Notes

Speedway #5325

Date: 07/20/2022

Name(s):

Site Name: TNS52

[illegible]

Name(s): Remi Malenfant

Above / Below Bottom / TOC

Purge water disposal: Pour on ground

[illegible]

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; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for ORP; and $\pm 10\%$ for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; $\pm 10\%$ mg/l Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/l) or 3 readings less than 0.5 mg/l.

Name(s):

Above / Below Bottom / TOC

Sample Collected?	No	Time		Total Pumped from Well?	0	Gal
-------------------	----	------	--	-------------------------	---	-----

- Compromised - Water flowing into casing faster than we can bail

*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; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for ORP; and $\pm 10\%$ for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; $\pm 10\%$ mg/l Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/l) or 3 readings less than 0.5 mg/l.

Name(s): _____

[illegible]

Above / Below Bottom / TOC

[illegible]

Total Pumped from Well? 0 Gal

--

*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; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for ORP; and $\pm 10\%$ for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; $\pm 10\%$ mg/L Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/L) or 3 readings less than 0.5 mg/L.

Name(s): Remi Malenfant

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

Sample Collected?	Yes	Time	11:49	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; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for ORP; and $\pm 10\%$ for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; $\pm 10\%$ mg/l Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/l) or 3 readings less than 0.5 mg/l.

Name(s): Remi Malenfant

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

Sample Collected?	Yes	Time	10:51	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; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for ORP; and $\pm 10\%$ for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; $\pm 10\%$ mV Dissolved Oxygen (when Dissolved Oxygen is above 0.5mV/l) or 3 readings less than 0.5 mV/l.

Name(s): Remi Malenfant

Analytical Parameters	Bottles to be filled
GRO	3 X 40 mL Amber VOAs ✓
Sodium	1 X 250 mL Poly ✓
PAH	2 X 40 mL Amber VOAs ✓
BTEX	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

[illegible]

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; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for ORP; and $\pm 10\%$ for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; $\pm 10\%$ mg/l Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/l) or 3 readings less than 0.5 mg/l.

Name(s): Remi Malenfant

Analytical Parameters	Bottles to be filled
Sodium	1 X 250 mL Poly ✓
DRO	2 X 100 mL Amber Glass ✓
PAH	2 X 40 mL Amber VOAs ✓
BTEX	3 X 40 mL Amber VOAs ✓
GRO	3 X 40 mL Amber VOAs ✓

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

QA/QC: Duplicate #1

[illegible]

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; $\pm 3\%$ for Specific Conductivity and Temperature; ± 10 mv for ORP; and $\pm 10\%$ for Turbidity (when Turbidity is above 5 NTUs) or 3 readings less than 5.0 NTUs; $\pm 10\%$ mg/L Dissolved Oxygen (when Dissolved Oxygen is above 0.5mg/L) or 3 readings less than 0.5 mg/L.

Speedway #5325

Date: 07/21/2022, 8:54 AM

Name(s): Remi Malenfant

Site Name: TNS52

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
G-1	61.5821862902	-149.630815567
Field Data		
Sampler Names:		Sheen/Odor?: No
pH: 4.26		Specific Conductance: 130.6
DO: 7.36		Temperature (C): 14.5
ORP: 318.6		Purge Volume (gal): 0
Notes:		



Speedway #5325
 Site Name: TNS52

Date: 07/20/2022

Name(s): _____

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
G-3	61.5820198468	-149.630777474
Field Data		
Sampler Names:		Sheen/Odor?:
pH:		Specific Conductance:
DO:		Temperature (C):
ORP:		Purge Volume (gal):
Notes:		



Speedway #5325
Site Name: TNS52

Date: 07/19/2022, 11:49 AM

Name(s): Remi Malenfant

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
G-5	61.581788987	-149.630862504
Field Data		
Sampler Names:	Sheen/Odor?: N	
pH: 6.59	Specific Conductance: 284.2	
DO: 2.47	Temperature (C): 8.1	
ORP: 251.2	Purge Volume (gal): 5	
Notes:		



Speedway #5325

Date: 07/19/2022, 10:51 AM

Name(s): Remi Malenfant

Site Name: TNS52

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
G-7	61.581454289	-149.631059783
Field Data		
Sampler Names: R,j		Sheen/Odor?: No
pH: 6.52		Specific Conductance: 268.9
DO: 6.12		Temperature (C): 11.6
ORP: 255		Purge Volume (gal): 6
Notes:		

Speedway #5325

Date: 07/19/2022, 1:32 PM

Name(s): Remi Malenfant

Site Name: TNS52

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
RW16-1	61.5821994	-149.6309133
Field Data		
Sampler Names:		Sheen/Odor?: Light odor
pH: 6.85		Specific Conductance: 496.1
DO: 6.81		Temperature (C): 5.9
ORP: 323		Purge Volume (gal): 5
Notes:		

Speedway #5325

Date: 07/19/2022, 2:14 PM

Name(s): Remi Malenfant

Site Name: TNS52

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
RW16-2	61.5821668	-149.6308637
Field Data		
Sampler Names:		Sheen/Odor?: Both
pH: 6.8		Specific Conductance: 446.2
DO: 9.35		Temperature (C): 7.4
ORP: 360.1		Purge Volume (gal): 4.4
Notes:		

APPENDIX D

Tables of Historical Monitoring Data

Analytical Data Results Table

7-Eleven Store #46754 (former Speedway 5325 TNS 52)
 7-Eleven - Paula Sime
 7172 W Parks Hwy
 Wasilla, Alaska 99623

		Well Screen Interval	Ground Water Elevation	124-TMB	135-TMB	Benzene	DRO	Ethylbenzene	GRO	Naphthalene	Sodium	Toluene	Xylene
Unit	ft	ft	ppm	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
G-1													
04/24/1997	--	--	—	—	3.7	11	12	170	—	—	—	28	64
09/03/1997	--	--	—	—	0.001	12	5.2	85	—	—	—	12	41
12/29/1997	--	--	—	—	0.042	3.3	1.5	34	—	—	—	2	9.3
04/23/1998	--	--	—	—	0.13	8.3	4.1	91	—	—	—	3.9	23
08/03/1998	--	--	—	—	0.14	12	3	76	—	—	—	3.1	19
11/02/1998	--	--	—	—	0.121	5.58	4.76	70	—	—	—	4.59	27.12
02/12/1999	--	--	—	—	0.001	19	4	91	—	—	—	5.4	24
08/30/1999	--	--	—	—	0.001	10	5.6	190	—	—	—	3.1	36
10/29/1999	--	--	—	—	0.001	0.45	0.035	0.89	—	—	—	0.026	0.21
02/08/2000	--	--	—	—	0.001	—	4.4	10	—	—	—	3.3	26
06/08/2000	--	--	—	—	0.001	0.33	0.11	2.3	—	—	—	0.051	0.61
08/30/2000	--	--	—	—	0.001	0.57	0.92	19	—	—	—	0.5	5
11/30/2000	--	--	—	—	0.001	1.9	2.3	42	—	—	—	1.2	11
02/05/2001	--	--	—	—	0.001	5.2	4.7	94	—	—	—	3.4	25
05/10/2001	--	--	—	—	0.001	1.9	2.62	41.1	—	—	—	0.967	15.36
08/16/2001	--	--	—	—	0.013	1.99	0.652	14.3	—	—	—	0.401	6.18
11/09/2001	--	--	—	—	0.013	3.16	1.75	25.4	—	—	—	0.608	9.55
02/15/2002	--	--	—	—	0.036	3.66	3.64	66.1	—	—	—	2.82	21.59
05/30/2002	--	--	—	—	0.001	92.6	9.94	113	—	—	—	5.52	51.8
08/14/2002	--	--	—	—	0.048	11.2	6.15	99.6	—	—	—	2.13	37.27
11/14/2002	--	--	—	—	0.053	1.51	5.37	105	—	—	—	2.35	27.17
01/28/2003	--	--	—	—	U (0.025)	3.83	1.04	24.8	—	—	—	0.462	7.55
04/17/2003	--	--	—	—	0.217	4.7	4.55	117	—	—	—	1.15	26.9
07/17/2003	--	--	—	—	U (0.05)	8.34	6	104	—	—	—	1.81	35.6
10/02/2003	--	--	—	—	0.184	U (0.32)	5.34	137	—	—	—	1.84	33.4
01/20/2004	--	--	—	—	U (0.2)	10.6	5.9	100	—	—	—	2.46	34.8
04/13/2004	--	--	—	—	U (0.1)	6.97	6.37	109	—	—	—	1.49	37.5
07/20/2004	--	--	—	—	U (0.25)	8.09	2.67	87.1	—	—	—	0.612	26.2
09/02/2004	--	--	—	—	U (0.05)	4.94	2.6	48.5	—	—	—	0.38	18.4
10/13/2004	--	--	—	—	U (0.005)	1.9	0.232	5.98	—	—	—	0.615	1.87
01/28/2005	--	--	—	—	U (0.0005)	0.818	0.0843	2.08	—	—	—	0.121	0.582
04/11/2005	--	--	—	—	U (0.0005)	0.78	0.0374	0.963	—	—	—	0.069	0.306
08/12/2005	--	--	—	—	U (0.0005)	0.528	U (0.0005)	U (0.05)	—	—	U (0.0005)	0.0031	
10/07/2005	--	--	—	—	U (0.0005)	U (0.397)	0.0082	0.24	—	—	—	0.0103	0.0713
02/14/2006	--	--	—	—	U (0.0005)	0.676	0.0041	0.141	—	—	—	0.00831	0.0482
04/18/2006	--	--	—	—	0.0147	8.37	0.962	24.8	—	—	—	0.0874	6.64
07/06/2006	--	--	—	—	U (0.0005)	U (0.394)	0.00289	0.153	—	—	—	0.00359	0.0539
10/26/2006	--	--	—	—	U (0.0005)	U (0.391)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)
02/02/2007	--	--	—	—	U (0.0005)	1.04	0.257	7.79	—	—	—	0.21	1.95

Analytical Data Results Table

7-Eleven Store #46754 (former Speedway 5325 TNS 52)
 7-Eleven - Paula Sime
 7172 W Parks Hwy
 Wasilla, Alaska 99623

	Well Screen Interval		Ground Water Elevation		124-TMB	135-TMB	Benzene	DRO	Ethylbenzene	GRO	Naphthalene	Sodium	Toluene	Xylene
Unit	ft	ft	ppm	ppm	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
04/19/2007	--	--	—	—	U (0.0005)	0.894	0.13	4.12	—	—	—	0.165	1.12	—
08/07/2007	--	--	—	—	U (0.0005)	0.582	0.0392	0.891	—	—	—	0.0536	0.277	—
10/23/2007	--	--	—	—	U (0.0005)	U (0.424)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	0.00566	—
02/22/2008	--	--	—	—	U (0.0005)	0.479	0.00712	0.229	—	—	—	0.0129	0.068	—
04/15/2008	--	--	—	—	U (0.0005)	0.667	0.0137	0.45	—	—	—	0.0247	0.116	—
08/27/2008	--	--	—	—	U (0.0005)	U (0.4)	0.00397	0.172	—	—	—	0.00662	0.0477	—
10/22/2008	--	--	—	—	U (0.0005)	U (0.427)	0.0226	0.742	—	—	—	0.032	0.255	—
02/05/2009	--	--	—	—	U (0.0005)	U (0.463)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
04/08/2009	--	--	—	—	U (0.0005)	U (0.424)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	0.0021	—
07/09/2009	--	--	—	—	U (0.0005)	U (0.397)	U (0.001)	0.106	—	—	—	0.00137	0.0188	—
11/04/2009	--	--	—	—	U (0.0005)	U (0.403)	0.00624	0.271	—	—	—	0.00856	0.0639	—
01/27/2010	--	--	—	—	U (0.0005)	0.844	U (0.001)	0.0757	—	—	—	0.00123	0.0168	—
05/27/2010	--	--	—	—	U (0.0005)	0.538	0.0117	0.257	—	—	—	0.0114	0.0923	—
08/19/2010	--	--	—	—	U (0.0005)	U (0.455)	0.000537	0.184	—	—	—	U (0.0005)	0.0189	—
10/26/2010	--	--	—	—	U (0.0005)	0.993	0.00443	0.181	—	—	—	0.00441	0.0574	—
02/17/2011	--	--	—	—	U (0.0005)	0.491	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
06/09/2011	--	--	—	—	U (0.0005)	0.635	0.000945	0.143	—	—	—	0.000913	0.0425	—
09/20/2011	--	--	—	—	U (0.0005)	U (0.431)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	0.00236	—
10/21/2011	--	--	—	—	U (0.0005)	U (0.417)	0.0565	0.851	—	—	—	0.0121	0.345	—
02/17/2012	--	--	—	—	U (0.0005)	0.712	0.00235	0.0787	—	—	—	0.00128	0.041	—
05/17/2012	--	--	—	—	U (0.0005)	0.596	0.025	0.941	—	—	—	0.00572	0.339	—
09/05/2012	--	--	—	—	U (0.0005)	U (0.424)	0.0139	0.404	—	—	—	0.00468	0.145	—
10/30/2012	--	--	—	—	U (0.0005)	U (0.439)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
01/30/2013	--	--	—	—	U (0.0005)	0.461	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
05/10/2013	--	--	—	—	U (0.0005)	U (0.424)	0.014	0.248	—	—	—	0.00067	0.166	—
10/11/2013	--	--	—	—	U (0.0005)	U (0.431)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
12/11/2013	--	--	—	—	U (0.0005)	U (0.403)	U (0.001)	U (0.05)	—	—	—	U (0.001)	U (0.003)	—
02/19/2014	--	--	—	—	U (0.0005)	U (0.403)	U (0.0005)	U (0.05)	—	—	—	0.000667	0.00281	—
05/01/2014	--	--	—	—	U (0.0005)	U (0.41)	0.0038	0.11	—	—	—	U (0.001)	0.028	—
10/30/2014	--	--	—	—	U (0.0005)	U (0.41)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
05/15/2015	--	--	—	—	U (0.002)	0.34	U (0.003)	U (0.05)	—	—	—	U (0.002)	U (0.002)	—
09/02/2015	--	--	—	—	U (0.0002)	U (0.40)	U (0.001)	0.15	—	—	—	U (0.001)	U (0.003)	—
11/12/2015	--	--	—	—	U (0.0020)	0.63	U (0.0030)	U (0.050)	—	—	—	U (0.0020)	U (0.0020)	—
01/28/2016	--	--	—	—	U (0.0020)	0.88	U (0.0030)	U (0.050)	—	—	—	U (0.0020)	U (0.0020)	—
05/09/2016	--	--	—	—	U (0.0002)	U (0.41)	U (0.001)	U (0.1)	—	—	—	U (0.001)	U (0.003)	—
10/24/2016	--	--	—	—	U (0.0002)	U (0.41)	U (0.001)	U (0.1)	—	—	—	U (0.001)	U (0.003)	—
12/09/2016	--	--	—	—	U (0.002)	U (0.11)	U (0.003)	U (0.05)	—	—	—	U (0.002)	U (0.003)	—
04/25/2017	--	--	—	—	U (0.0002)	0.99	U (0.003)	U (1.0)	—	—	—	U (0.002)	U (0.002)	—
10/20/2017	--	--	—	—	U (0.002)	1.4	U (0.003)	U (1.0)	—	—	—	U (0.002)	U (0.003)	—
02/13/2018	--	--	—	—	U (0.002)	0.88	U (0.003)	U (1.0)	—	—	—	U (0.002)	U (0.002)	—
08/17/2018	--	--	—	—	U (0.015)	1.6	U (0.015)	U (0.25)	—	—	—	U (0.01)	U (0.015)	—

Analytical Data Results Table

7-Eleven Store #46754 (former Speedway 5325 TNS 52)
 7-Eleven - Paula Sime
 7172 W Parks Hwy
 Wasilla, Alaska 99623

	Well Screen Interval	Ground Water Elevation	124-TMB	135-TMB	Benzene	DRO	Ethylbenzene	GRO	Naphthalene	Sodium	Toluene	Xylene
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
10/25/2018	--	--	—	—	U (0.003)	U (0.12)	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)
02/26/2019	--	--	—	—	U (0.003)	0.51	0.0066	U (0.25)	—	—	U (0.002)	U (0.003)
04/24/2019	--	--	—	—	U (0.003)	U (0.25)	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)
07/16/2019	--	--	—	—	U (0.003)	1.6	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)
10/17/2019	--	--	—	—	U (0.003)	U (0.12)	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)
08/12/2020	--	--	—	—	U (0.001)	0.242	U (0.001)	U (0.100)	—	23.4	U (0.001)	U (0.003)
10/02/2020	--	--	—	—	U (0.001)	U (0.824)	0.000248	0.0337	—	—	U (0.001)	0.00262
05/18/2021	--	--	U (0.00100)	U (0.00100)	U (0.001)	0.405	U (0.001)	0.0152	—	16.4	U (0.001)	U (0.002)
10/13/2021	--	--	0.000527	0.000151	0.000169	0.518	0.000325	0.182	U (0.000250)	56.7	U (0.001)	0.000554
05/11/2022	--	69.63	U(0.00100)	U(0.00100)	U(0.00100)	1.08	U(0.00100)	U(0.100)	U(0.000250)	23.9	U(0.00100)	U(0.00300)
07/19/2022	--	97.0	U(0.00100)	U(0.00100)	U(0.00100)	0.554	U(0.00100)	U(0.100)	U(0.0002500)	1.96	U(0.00100)	U(0.00300)
G-3												
04/24/1997	--	--	—	—	0.001	5.1	5.4	70	—	—	7.6	26
09/03/1997	--	--	—	—	0.08	7.5	1.4	21	—	—	2	7.7
12/29/1997	--	--	—	—	0.057	3.5	1.5	19	—	—	0.43	4.7
04/23/1998	--	--	—	—	0.001	6.9	3.1	40	—	—	0.49	10
08/03/1998	--	--	—	—	0.14	2	3.3	39	—	—	0.45	10
11/02/1998	--	--	—	—	0.001	2.43	3	30	—	—	0.58	10.27
02/12/1999	--	--	—	—	0.001	8	3.9	48	—	—	0.52	12
05/11/1999	--	--	—	—	0.051	17.6	1.02	14	—	—	0.12	4.16
08/30/1999	--	--	—	—	0.001	4.6	1.6	19	—	—	0.12	3.9
10/29/1999	--	--	—	—	0.0018	0.92	0.017	0.32	—	—	0.0016	0.073
02/08/2000	--	--	—	—	0.007	0	0.47	4	—	—	0.038	0.89
06/08/2000	--	--	—	—	0.001	1.1	0.003	0	—	—	U	0.01
08/30/2000	--	--	—	—	0.001	0.51	0.004	0.12	—	—	0.0018	0.03
11/30/2000	--	--	—	—	0.006	5.5	0.32	2.9	—	—	0.032	0.68
02/05/2001	--	--	—	—	0.006	5.9	0.46	4.3	—	—	0.14	0.9
05/10/2001	--	--	—	—	0.001	12.8	0.003	0	—	—	U	0.009
08/16/2001	--	--	—	—	0.005	8.75	0.39	2.76	—	—	0.0613	0.856
11/09/2001	--	--	—	—	0.034	1.57	0.019	0.57	—	—	0.0828	0.103
02/15/2002	--	--	—	—	0.008	70.7	0.049	0.87	—	—	0.119	0.156
05/30/2002	--	--	—	—	0.021	34.2	0.2	2.25	—	—	0.0809	0.605
08/14/2002	--	--	—	—	0.029	5.68	0.488	5.44	—	—	0.147	1.49
11/14/2002	--	--	—	—	0.0658	4.08	0.804	8.97	—	—	0.186	1.9704
01/28/2003	--	--	—	—	0.0571	7.89	0.319	2.93	—	—	0.0914	0.644
04/17/2003	--	--	—	—	0.00288	4.58	0.0282	0.585	—	—	0.0274	0.082
07/17/2003	--	--	—	—	U (0.0005)	7.48	0.0107	0.233	—	—	0.0165	0.0327
10/02/2003	--	--	—	—	U (0.0005)	1.14	0.000626	U (0.08)	—	—	0.00224	0.00232
01/20/2004	--	--	—	—	U (0.0005)	1.83	0.00399	0.144	—	—	0.0439	0.0127
04/13/2004	--	--	—	—	U (0.005)	2.89	0.0472	0.855	—	—	0.0261	0.148

Analytical Data Results Table

7-Eleven Store #46754 (former Speedway 5325 TNS 52)
 7-Eleven - Paula Sime
 7172 W Parks Hwy
 Wasilla, Alaska 99623

	Well Screen Interval		Ground Water Elevation		124-TMB	135-TMB	Benzene	DRO	Ethylbenzene	GRO	Naphthalene	Sodium	Toluene	Xylene
Unit	ft	ft	ppm	ppm	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
07/20/2004	--	--	—	—	U (0.0005)	19.4	0.0028	0.164	—	—	—	0.0305	0.00853	
10/13/2004	--	--	—	—	U (0.0005)	2.11	U (0.0005)	U (0.08)	—	—	—	0.000537	U (0.001)	
01/28/2005	--	--	—	—	0.000857	3.65	0.00078	0.0973	—	—	—	0.0293	0.0038	
04/11/2005	--	--	—	—	0.00311	2.58	0.00232	0.127	—	—	—	0.0113	0.0253	
08/12/2005	--	--	—	—	U (0.0005)	1.14	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	
10/07/2005	--	--	—	—	U (0.0005)	2.85	U (0.0005)	U (0.05)	—	—	—	0.00234	U (0.0015)	
02/14/2006	--	--	—	—	0.000874	3	0.00129	0.215	—	—	—	0.076	0.0072	
04/18/2006	--	--	—	—	U (0.0005)	7.64	0.000884	0.181	—	—	—	0.0614	0.00356	
07/06/2006	--	--	—	—	U (0.0005)	3.17	U (0.0005)	U (0.05)	—	—	—	0.00252	U (0.0015)	
10/26/2006	--	--	—	—	U (0.0005)	1.06	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	
02/02/2007	--	--	—	—	0.00528	2.27	0.0017	0.236	—	—	—	0.0513	0.0154	
08/07/2007	--	--	—	—	U (0.0005)	0.841	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	
10/23/2007	--	--	—	—	0.00502	1.41	0.02	0.322	—	—	—	0.0358	0.0319	
02/21/2008	--	--	—	—	0.00517	0.93	0.067	0.771	—	—	—	0.0307	0.144	
04/15/2008	--	--	—	—	0.00562	0.604	0.135	1.44	—	—	—	0.04	0.211	
08/27/2008	--	--	—	—	0.0138	0.978	0.842	7.26	—	—	—	0.436	2.88	
10/22/2008	--	--	—	—	0.0124	0.83	0.96	9.55	—	—	—	0.514	3.57	
02/05/2009	--	--	—	—	U (0.01)	0.909	1.17	15.7	—	—	—	0.234	4.73	
02/19/2009	--	--	—	—	0.0071	9.47	0.0834	1.04	—	—	—	0.0493	0.241	
04/08/2009	--	--	—	—	U (0.005)	1.51	0.378	4.2	—	—	—	0.0702	1.43	
07/09/2009	--	--	—	—	U (0.0005)	1.81	1.12	3.01	—	—	—	0.0415	4.32	
11/04/2009	--	--	—	—	U (0.0005)	U (0.400)	0.579	12.7	—	—	—	0.101	2.55	
01/27/2010	--	--	—	—	U (0.0005)	1.12	0.337	6.47	—	—	—	0.0157	2.01	
05/27/2010	--	--	—	—	U (0.0005)	1.01	0.0379	0.936	—	—	—	0.000748	0.137	
08/19/2010	--	--	—	—	U (0.0005)	U (0.403)	0.0336	0.933	—	—	—	0.000756	0.12	
10/26/2010	--	--	—	—	U (0.0025)	U (0.397)	0.153	4.62	—	—	—	U (0.0025)	0.643	
02/17/2011	--	--	—	—	U (0.0005)	4.1	0.0647	2.11	—	—	—	0.00112	0.222	
06/09/2011	--	--	—	—	0.000536	U (0.446)	0.0666	2.26	—	—	—	0.00188	0.232	
09/20/2011	--	--	—	—	U (0.0005)	U (0.400)	0.0235	1.69	—	—	—	0.000718	0.0794	
10/21/2011	--	--	—	—	0.00107	U (0.417)	0.0325	2.51	—	—	—	0.00126	0.105	
02/17/2012	--	--	—	—	0.000809	1.15	0.0536	2.62	—	—	—	0.000792	0.131	
05/17/2012	--	--	—	—	0.00117	0.56	0.0899	5.91	—	—	—	0.00164	0.303	
09/05/2012	--	--	—	—	U (0.0005)	U (0.424)	0.166	0.71	—	—	—	U (0.0005)	0.0486	
10/30/2012	--	--	—	—	U (0.0005)	U (0.431)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	
01/30/2013	--	--	—	—	U (0.0005)	0.67	0.0182	0.818	—	—	—	0.00364	0.0555	
05/10/2013	--	--	—	—	0.00153	U (0.439)	0.0554	1.35	—	—	—	0.00151	0.167	
10/11/2013	--	--	—	—	U (0.0005)	U (0.391)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	
12/11/2013	--	--	—	—	U (0.0005)	U (0.417)	U (0.001)	U (0.05)	—	—	—	U (0.001)	U (0.003)	
02/19/2014	--	--	—	—	U (0.0005)	0.928	0.00066	U (0.05)	—	—	—	U (0.0005)	0.00177	
05/01/2014	--	--	—	—	U (0.0005)	4.8	0.0066	0.3	—	—	—	0.001	0.017	
10/30/2014	--	--	—	—	U (0.0005)	1	0.0097	0.46	—	—	—	U (0.0005)	0.023	

Analytical Data Results Table

7-Eleven Store #46754 (former Speedway 5325 TNS 52)
 7-Eleven - Paula Sime
 7172 W Parks Hwy
 Wasilla, Alaska 99623

		Well Screen Interval	Ground Water Elevation	124-TMB	135-TMB	Benzene	DRO	Ethylbenzene	GRO	Naphthalene	Sodium	Toluene	Xylene
Unit	ft	ft	ppm	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
02/11/2015	--	--	—	—	0.002	<u>12</u>	<u>0.087</u>	<u>4.8</u>	—	—	0.0011	<u>0.24</u>	
05/15/2015	--	--	—	—	U (0.002)	1.3	0.0078	<u>2.6</u>	—	—	U (0.002)	0.015	
09/02/2015	--	--	—	—	U (0.0002)	U (0.40)	0.0079	1.1	—	—	U (0.001)	0.0064	
11/12/2015	--	--	—	—	U (0.0020)	0.26	<u>0.036</u>	<u>3.2</u>	—	—	U (0.0020)	0.069	
01/28/2016	--	--	—	—	U (0.0020)	0.76	<u>0.027</u>	<u>3.2</u>	—	—	U (0.0020)	0.052	
05/09/2016	--	--	—	—	0.0002	0.58	0.0086	1.6	—	—	U (0.001)	0.012	
10/24/2016	--	--	—	—	0.0002	0.37	0.0017	<u>4.4</u>	—	—	U (0.001)	0.0036	
12/09/2016	--	--	—	—	U (0.002)	0.48	0.002	<u>4.2</u>	—	—	U (0.002)	0.0038	
04/25/2017	--	--	—	—	U (0.0002)	<u>4.7</u>	0.0089	<u>2.3</u>	—	—	U (0.002)	0.016	
10/20/2017	--	--	—	—	U (0.002)	<u>3</u>	U (0.003)	U (1.0)	—	—	U (0.002)	U (0.003)	
02/13/2018	--	--	—	—	U (0.002)	<u>6.7</u>	U (0.003)	U (1.0)	—	—	0.0054	0.0047	
08/17/2018	--	--	—	—	U (0.003)	<u>3.2</u>	0.0047	0.99	—	—	0.00091	0.00938	
10/25/2018	--	--	—	—	U (0.003)	<u>2.3</u>	U (0.003)	0.37	—	—	U (0.002)	U (0.003)	
02/26/2019	--	--	—	—	U (0.003)	<u>8.5</u>	0.006	1.7	—	—	U (0.002)	0.013	
04/24/2019	--	--	—	—	U (0.003)	<u>7.7</u>	0.0034	1.6	—	—	U (0.002)	0.0068	
07/16/2019	--	--	—	—	U (0.003)	<u>4.6</u>	0.0033	1.3	—	—	U (0.002)	0.006	
10/17/2019	--	--	—	—	U (0.003)	<u>3.6</u>	U (0.003)	0.58	—	—	U (0.002)	U (0.003)	
08/12/2020	--	--	—	—	U (0.001)	0.339	0.000754	0.173	—	8.35	U (0.001)	0.00159	
10/02/2020	--	--	—	—	U (0.001)	1.45	0.000143	0.12	—	—	U (0.001)	U (0.002)	
03/03/2021	--	--	—	—	U (0.001)	1.47	0.00091	1.01	—	—	U (0.001)	0.00086	
03/31/2021	--	--	—	—	—	—	—	—	—	123	—	—	
05/18/2021	--	--	<u>0.0452</u>	0.0457	U (0.001)	<u>8.48</u>	U (0.001)	1.36	U (0.00500)	32.2	U (0.001)	U (0.002)	
07/21/2021	--	--	<u>0.0599</u>	0.0669	U (0.001)	<u>2.32</u>	0.00163	1.68	<u>0.00206</u>	9.61	0.000279	0.0015	
10/13/2021	--	--	0.000928	0.000365	U (0.001)	0.865	U (0.001)	0.176	U (0.000250)	10.7	U (0.001)	U (0.002)	
05/11/2022	--	67.75	U (0.00100)	U (0.00100)	U (0.00100)	U (0.800)	U (0.00100)	U (0.100)	U (0.000250)	22	U (0.00100)	U (0.00300)	
G-5													
04/24/1997	--	--	—	—	<u>0.032</u>	—	<u>0.91</u>	<u>17</u>	—	—	0.56	<u>5.2</u>	
09/03/1997	--	--	—	—	0.001	<u>4.8</u>	<u>1.1</u>	<u>25</u>	—	—	U	<u>5.4</u>	
12/29/1997	--	--	—	—	<u>0.065</u>	<u>4</u>	<u>1</u>	<u>19</u>	—	—	0.15	<u>4.7</u>	
04/23/1998	--	--	—	—	<u>0.048</u>	<u>2.7</u>	<u>0.38</u>	<u>11</u>	—	—	0.068	<u>1.7</u>	
08/03/1998	--	--	—	—	0.001	0.27	U	0	—	—	U	0.0019	
11/02/1998	--	--	—	—	<u>0.026</u>	<u>1.82</u>	<u>0.12</u>	<u>3.7</u>	—	—	0.01	<u>0.27</u>	
08/31/1999	--	--	—	—	<u>0.011</u>	0.95	<u>0.34</u>	<u>4.6</u>	—	—	0.029	<u>0.9</u>	
10/29/1999	--	--	—	—	<u>0.024</u>	0.4	<u>0.066</u>	<u>2.7</u>	—	—	0.006	0.11	
02/08/2000	--	--	—	—	<u>0.008</u>	—	<u>0.053</u>	<u>4.2</u>	—	—	0.006	0.1	
06/08/2000	--	--	—	—	0.001	0	<u>0.023</u>	0.61	—	—	U	0.04	
08/30/2000	--	--	—	—	0.001	0.001	0.004	0.22	—	—	U	0.008	
11/30/2000	--	--	—	—	<u>0.012</u>	0.49	<u>0.079</u>	<u>3.9</u>	—	—	0.006	0.14	
02/05/2001	--	--	—	—	<u>0.015</u>	0.32	<u>0.016</u>	2.1	—	—	0.008	0.026	
05/10/2001	--	--	—	—	<u>0.007</u>	0.001	<u>0.061</u>	1.62	—	—	U	0.1	

Analytical Data Results Table

7-Eleven Store #46754 (former Speedway 5325 TNS 52)
 7-Eleven - Paula Sime
 7172 W Parks Hwy
 Wasilla, Alaska 99623

	Well Screen Interval	Ground Water Elevation	124-TMB	135-TMB	Benzene	DRO	Ethylbenzene	GRO	Naphthalene	Sodium	Toluene	Xylene
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
08/16/2001	--	--	--	--	0.031	U	0.042	2.74	--	--	0.011	0.065
11/09/2001	--	--	--	--	0.004	U	U	0.258	--	--	U	0.002
08/14/2002	--	--	--	--	0.013	0.552	0.145	2.53	--	--	0.003	0.182
11/14/2002	--	--	--	--	0.00257	U (0.5)	U (0.002)	0.137	--	--	U (0.002)	U (0.002)
01/28/2003	--	--	--	--	0.064	1.2	0.0733	2.4	--	--	U (0.02)	0.0667
04/17/2003	--	--	--	--	0.0181	0.418	0.0834	3.14	--	--	0.002	0.186
07/17/2003	--	--	--	--	U (0.005)	U (0.5)	0.0666	2.72	--	--	U (0.005)	0.184
10/02/2003	--	--	--	--	0.0125	U (0.32)	0.127	4.33	--	--	0.00577	0.217
04/13/2004	--	--	--	--	U (0.0005)	U (0.5)	U (0.0005)	0.0539	--	--	U (0.0005)	U (0.0015)
07/20/2004	--	--	--	--	0.00351	0.484	0.0561	1.7	--	--	U (0.0005)	0.0239
10/13/2004	--	--	--	--	0.009	0.443	0.0893	2.71	--	--	0.00155	0.113
01/28/2005	--	--	--	--	0.0011	0.45	0.0183	1.35	--	--	0.00198	0.02
04/11/2005	--	--	--	--	U (0.0005)	U (0.391)	0.0138	1.06	--	--	0.000845	0.0117
08/12/2005	--	--	--	--	U (0.0005)	U (0.41)	U (0.0005)	U (0.05)	--	--	U (0.0005)	U (0.0015)
10/07/2005	--	--	--	--	U (0.0005)	U (0.407)	U (0.0005)	U (0.05)	--	--	U (0.0005)	U (0.0015)
02/14/2006	--	--	--	--	0.00186	0.475	0.0163	1.34	--	--	0.00136	0.0066
04/18/2006	--	--	--	--	0.0018	0.693	0.153	2.04	--	--	0.000663	0.24
07/06/2006	--	--	--	--	0.00141	U (0.41)	0.0932	1.14	--	--	0.00158	0.103
10/26/2006	--	--	--	--	U (0.0005)	U (0.41)	U (0.0005)	U (0.05)	--	--	U (0.0005)	U (0.0015)
04/19/2007	--	--	--	--	U (0.0005)	U (0.435)	0.0163	0.774	--	--	U (0.0005)	0.0227
08/07/2007	--	--	--	--	0.00147	U (0.407)	0.00611	0.529	--	--	U (0.0005)	0.007
10/23/2007	--	--	--	--	U (0.0005)	U (0.446)	0.00534	0.4	--	--	U (0.0005)	0.00603
02/21/2008	--	--	--	--	0.00231	U (0.417)	0.0592	1.97	--	--	0.000739	0.0523
08/27/2008	--	--	--	--	U (0.0005)	U (0.4)	0.0203	0.506	--	--	U (0.0005)	0.0243
10/22/2008	--	--	--	--	U (0.0005)	U (0.420)	0.00629	0.35	--	--	U (0.0005)	0.00512
02/05/2009	--	--	--	--	0.00093	0.59	0.0898	2.02	--	--	0.00211	0.101
02/19/2009	--	--	--	--	0.00249	0.689	0.129	1.96	--	--	0.00283	0.262
04/08/2009	--	--	--	--	0.0058	U (0.435)	0.26	3.84	--	--	0.169	0.634
07/09/2009	--	--	--	--	0.00267	U (0.410)	0.184	2.51	--	--	0.00452	0.284
11/04/2009	--	--	--	--	0.00365	U (0.397)	0.292	4.13	--	--	0.00739	0.645
01/27/2010	--	--	--	--	0.00385	U (0.427)	0.499	7.17	--	--	0.0313	1.51
05/27/2010	--	--	--	--	0.0022	0.668	0.406	5.19	--	--	0.0218	1.22
08/19/2010	--	--	--	--	0.00105	0.415	0.233	3.27	--	--	0.00307	0.977
10/26/2010	--	--	--	--	U (0.0022)	U (0.403)	0.0449	0.741	--	--	U (0.0005)	0.0723
02/17/2011	--	--	--	--	0.00291	U (0.410)	0.108	3.11	--	--	0.0034	0.472
06/09/2011	--	--	--	--	0.00199	0.436	0.173	5.08	--	--	0.00405	0.856
09/20/2011	--	--	--	--	0.00101	U (0.403)	0.0362	0.975	--	--	0.00133	0.138
10/21/2011	--	--	--	--	U (0.0005)	U (0.439)	0.0121	0.365	--	--	U (0.0005)	0.0303
02/17/2012	--	--	--	--	0.00403	0.726	0.0807	2.8	--	--	0.00497	0.476
05/17/2012	--	--	--	--	0.000704	0.541	0.0125	0.683	--	--	0.000734	0.0378
10/30/2012	--	--	--	--	U (0.0005)	U (0.410)	U (0.0005)	U (0.05)	--	--	U (0.0005)	U (0.0015)

Analytical Data Results Table

7-Eleven Store #46754 (former Speedway 5325 TNS 52)
 7-Eleven - Paula Sime
 7172 W Parks Hwy
 Wasilla, Alaska 99623

		Well Screen Interval	Ground Water Elevation	124-TMB	135-TMB	Benzene	DRO	Ethylbenzene	GRO	Naphthalene	Sodium	Toluene	Xylene
Unit	ft	ft	ppm	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
01/30/2013	--	--	—	—	U (0.0005)	U (0.403)	U (0.0005)	U (0.05)	—	—	U (0.0005)	U (0.0015)	—
05/10/2013	--	--	—	—	0.00052	U (0.400)	U (0.0005)	0.221	—	—	0.000627	0.00194	—
10/11/2013	--	--	—	—	U (0.0005)	U (0.439)	U (0.0005)	U (0.05)	—	—	U (0.0005)	U (0.0015)	—
12/11/2013	--	--	—	—	U (0.0005)	U (0.403)	U (0.001)	U (0.05)	—	—	U (0.001)	U (0.003)	—
02/19/2014	--	--	—	—	U (0.0005)	U (0.400)	U (0.0005)	U (0.05)	—	—	U (0.0005)	U (0.0015)	—
05/01/2014	--	--	—	—	U (0.0005)	U (0.41)	U (0.001)	U (0.05)	—	—	U (0.001)	U (0.001)	—
10/30/2014	--	--	—	—	0.00086	U (0.42)	U (0.0005)	0.19	—	—	U (0.0005)	U (0.0015)	—
02/11/2015	--	--	—	—	U (0.0005)	U (0.42)	0.0031	0.28	—	—	U (0.0005)	0.0031	—
11/12/2015	--	--	—	—	U (0.0020)	U (0.21)	U (0.0030)	0.32	—	—	U (0.0020)	U (0.0020)	—
01/28/2016	--	--	—	—	U (0.0020)	U (0.11)	U (0.0030)	U (0.050)	—	—	U (0.0020)	U (0.0020)	—
10/24/2016	--	--	—	—	U (0.0002)	U (0.41)	U (0.001)	U (0.1)	—	—	U (0.001)	U (0.003)	—
12/09/2016	--	--	—	—	U (0.002)	U (0.12)	0.0063	0.17	—	—	U (0.001)	0.0034	—
04/24/2017	--	--	—	—	U (0.0002)	0.22	0.085	1.4	—	—	U (0.001)	0.44	—
10/20/2017	--	--	—	—	U (0.002)	U (0.110)	U (0.003)	U (1.0)	—	—	U (0.002)	U (0.003)	—
02/13/2018	--	--	—	—	U (0.002)	U (0.13)	U (0.003)	U (1.0)	—	—	U (0.002)	U (0.002)	—
08/17/2018	--	--	—	—	U (0.003)	U (0.12)	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)	—
10/25/2018	--	--	—	—	U (0.003)	U (0.12)	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)	—
02/26/2019	--	--	—	—	U (0.003)	0.12	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)	—
04/24/2019	--	--	—	—	U (0.003)	U (0.27)	0.0086	U (0.25)	—	—	U (0.002)	0.0068	—
07/16/2019	--	--	—	—	U (0.003)	U (0.12)	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)	—
10/17/2019	--	--	—	—	U (0.003)	U (0.12)	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)	—
08/12/2020	--	--	—	—	U (0.001)	U (0.864)	U (0.001)	U (0.100)	—	10.6	U (0.001)	U (0.003)	—
10/02/2020	--	--	—	—	0.000236	0.406	U (0.001)	0.0189	—	—	U (0.001)	U (0.002)	—
05/18/2021	--	--	U (0.00100)	0.000191	U (0.001)	U (0.800)	0.0017	0.0693	U (0.00500)	13.9	U (0.001)	U (0.002)	—
07/21/2021	--	--	0.000612	0.000507	U (0.001)	0.34	U (0.001)	0.0478	U (0.00500)	14.2	U (0.001)	U (0.003)	—
10/13/2021	--	--	U (0.00100)	U (0.00100)	0.000267	0.402	U (0.001)	0.0776	U (0.000250)	20.3	U (0.001)	U (0.002)	—
03/18/2022	--	62.05	U (0.00100)	U (0.00100)	0.000264	U (0.800)	0.000484	0.0858	U (0.000250)	17.3	U (0.00100)	U (0.00300)	—
05/11/2022	--	67.47	U (0.00100)	U (0.00100)	U (0.00100)	U (0.800)	U (0.00100)	0.0345	U (0.000250)	20.2	U (0.00100)	U (0.00300)	—
07/19/2022	--	69.95	U (0.00100)	U (0.00100)	U (0.00100)	U (0.800)	U (0.00100)	U (0.100)	U (0.0002500)	8.41	U (0.00100)	U (0.00300)	—
G-7													
08/03/1998	--	--	—	—	U	U	U	U	—	—	U	U	—
11/02/1998	--	--	—	—	U	U	0.012	0.16	—	—	0.005	0.058	—
02/12/1999	--	--	—	—	U	0.79	U	U	—	—	U	U	—
05/10/1999	--	--	—	—	U	0.45	U	U	—	—	U	U	—
08/30/1999	--	--	—	—	U	U	U	U	—	—	U	U	—
10/29/1999	--	--	—	—	U	U	U	U	—	—	U	U	—
06/08/2000	--	--	—	—	U	U	U	U	—	—	U	U	—
11/30/2000	--	--	—	—	U	U	U	U	—	—	U	U	—
05/10/2001	--	--	—	—	U	U	U	U	—	—	U	U	—
11/09/2001	--	--	—	—	U	U	U	U	—	—	U	U	—

Analytical Data Results Table

7-Eleven Store #46754 (former Speedway 5325 TNS 52)
 7-Eleven - Paula Sime
 7172 W Parks Hwy
 Wasilla, Alaska 99623

	Well Screen Interval		Ground Water Elevation		124-TMB	135-TMB	Benzene	DRO	Ethylbenzene	GRO	Naphthalene	Sodium	Toluene	Xylene
Unit	ft	ft	ppm	ppm	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
05/30/2002	--	--	—	—	U	2.47	U	U	—	—	—	—	U	U
04/17/2003	--	--	—	—	U (0.0005)	U (0.25)	U (0.0005)	U (0.08)	—	—	—	U (0.0005)	U (0.001)	—
04/13/2004	--	--	—	—	U (0.0005)	U (0.5)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
04/11/2005	--	--	—	—	U (0.0005)	U (0.435)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
04/18/2006	--	--	—	—	U (0.0005)	U (0.397)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
04/19/2007	--	--	—	—	U (0.0005)	U (0.42)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
04/15/2008	--	--	—	—	U (0.0005)	0.673	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
02/19/2009	--	--	—	—	U (0.0005)	U (0.455)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
01/27/2010	--	--	—	—	U (0.0005)	U (0.397)	U (0.001)	U (0.05)	—	—	—	U (0.001)	U (0.003)	—
05/27/2010	--	--	—	—	U (0.0005)	U (0.439)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
08/19/2010	--	--	—	—	U (0.0005)	U (0.410)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
10/26/2010	--	--	—	—	U (0.0005)	U (0.407)	U (0.0005)	U (0.08)	—	—	—	U (0.0005)	U (0.001)	—
02/17/2011	--	--	—	—	U (0.0005)	U (0.403)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
06/09/2011	--	--	—	—	U (0.0005)	U (0.439)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
09/20/2011	--	--	—	—	U (0.0005)	U (0.391)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
10/21/2011	--	--	—	—	U (0.0005)	U (0.413)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
02/17/2012	--	--	—	—	U (0.0005)	0.584	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
05/17/2012	--	--	—	—	U (0.0005)	0.628	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
07/18/2012	--	--	—	—	U (0.0005)	U (0.403)	U (0.0010)	U (0.05)	—	—	—	U (0.0010)	U (0.0030)	—
09/05/2012	--	--	—	—	U (0.0005)	U (0.400)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
10/30/2012	--	--	—	—	U (0.0005)	U (0.397)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
01/30/2013	--	--	—	—	U (0.0005)	0.531	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
02/15/2013	--	--	—	—	U (0.0005)	U (0.403)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
05/10/2013	--	--	—	—	U (0.0005)	U (0.417)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
10/11/2013	--	--	—	—	U (0.0005)	U (0.410)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
12/11/2013	--	--	—	—	U (0.0005)	U (0.410)	U (0.001)	U (0.05)	—	—	—	U (0.001)	U (0.003)	—
02/19/2014	--	--	—	—	U (0.0005)	U (0.407)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
05/01/2014	--	--	—	—	U (0.0005)	U (0.39)	U (0.001)	U (0.05)	—	—	—	U (0.001)	U (0.001)	—
10/30/2014	--	--	—	—	U (0.0005)	U (0.39)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
02/11/2015	--	--	—	—	U (0.0005)	U (0.42)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
05/15/2015	--	--	—	—	U (0.0005)	U (0.42)	U (0.0005)	U (0.05)	—	—	—	U (0.0005)	U (0.0015)	—
09/02/2015	--	--	—	—	U (0.0020)	U (0.42)	U (0.001)	0.16	—	—	—	U (0.001)	U (0.001)	—
11/12/2015	--	--	—	—	U (0.0020)	U (0.20)	U (0.0030)	U (0.050)	—	—	—	U (0.0020)	U (0.0020)	—
01/28/2016	--	--	—	—	U (0.0020)	0.23	U (0.0030)	U (0.050)	—	—	—	U (0.0020)	U (0.0020)	—
05/09/2016	--	--	—	—	U (0.0002)	U (0.41)	U (0.001)	U (0.1)	—	—	—	U (0.001)	U (0.003)	—
10/24/2016	--	--	—	—	U (0.0002)	U (0.41)	U (0.001)	U (0.1)	—	—	—	U (0.001)	U (0.003)	—
12/09/2016	--	--	—	—	U (0.002)	U (0.11)	U (0.003)	U (0.05)	—	—	—	U (0.002)	U (0.003)	—
02/08/2017	--	--	—	—	U (0.002)	U (0.11)	U (0.003)	U (0.05)	—	—	—	U (0.002)	U (0.002)	—
04/25/2017	--	--	—	—	U (0.0002)	U (0.11)	U (0.001)	U (1.0)	—	—	—	U (0.001)	U (0.003)	—
10/20/2017	--	--	—	—	U (0.002)	U (0.110)	U (0.003)	U (1.0)	—	—	—	U (0.002)	U (0.003)	—
02/13/2018	--	--	—	—	U (0.002)	U (0.12)	U (0.003)	U (1.0)	—	—	—	U (0.002)	U (0.002)	—

Analytical Data Results Table

7-Eleven Store #46754 (former Speedway 5325 TNS 52)
 7-Eleven - Paula Sime
 7172 W Parks Hwy
 Wasilla, Alaska 99623

		Well Screen Interval	Ground Water Elevation	124-TMB	135-TMB	Benzene	DRO	Ethylbenzene	GRO	Naphthalene	Sodium	Toluene	Xylene
Unit	ft	ft	ppm	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
08/17/2018	--	--	—	—	U (0.003)	U (0.12)	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)	—
10/25/2018	--	--	—	—	U (0.003)	U (0.12)	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)	—
02/26/2019	--	--	—	—	U (0.003)	U (0.13)	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)	—
04/24/2019	--	--	—	—	U (0.003)	U (0.26)	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)	—
07/16/2019	--	--	—	—	U (0.003)	U (0.12)	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)	—
10/17/2019	--	--	—	—	U (0.003)	U (0.12)	U (0.003)	U (0.25)	—	—	U (0.002)	U (0.003)	—
10/02/2020	--	--	—	—	U (0.001)	U (0.888)	U (0.001)	U (0.100)	—	—	U (0.001)	U (0.002)	—
05/18/2021	--	--	U (0.00100)	U (0.00100)	U (0.001)	U (0.800)	U (0.001)	0.032	U (0.00500)	9.55	U (0.001)	U (0.002)	—
07/21/2021	--	--	U (0.00100)	U (0.00100)	U (0.001)	0.251	U (0.001)	U (0.100)	U (0.00500)	13.1	U (0.001)	U (0.003)	—
10/13/2021	--	--	U (0.00100)	U (0.00100)	U (0.001)	0.358	U (0.001)	0.0507	U (0.000250)	5.05	U (0.001)	U (0.002)	—
03/18/2022	--	59.2	U (0.00100)	U (0.00100)	U (0.00100)	U (0.800)	U (0.00100)	U (0.100)	U (0.000250)	14.3	U (0.00100)	U (0.00300)	—
05/11/2022	--	67.15	U (0.00100)	U (0.00100)	U (0.00100)	U (0.800)	U (0.00100)	U (0.100)	U (0.000250)	5.09	U (0.00100)	U (0.00300)	—
07/19/2022	--	69.89	U (0.00100)	U (0.00100)	U (0.00100)	U (0.800)	U (0.00100)	U (0.100)	U (0.000250)	6.1	U (0.00100)	U (0.00300)	—
RW16-1													
10/24/2016	--	--	—	—	U (0.0002)	4.6	1.7	30	—	—	0.019	10.1	—
02/08/2017	--	--	—	—	U (0.002)	2.7	7.9	25	—	—	0.0048	8.9	—
04/25/2017	--	--	—	—	U (0.002)	2.4	U (0.750)	12	—	—	U (0.001)	4.83	—
08/17/2018	--	--	—	—	U (0.003)	7.9	1.2	24	—	—	0.0018	8.5	—
08/12/2020	--	--	—	—	0.00092	2	1.58	5.85	—	65.8	0.00558	8.26	—
10/02/2020	--	--	—	—	U (0.020)	3.58	0.373	3.99	—	—	0.0174	1.721	—
03/31/2021	--	--	—	—	U (0.020)	4.72	1.33	14	—	64	U (0.020)	5.28	—
05/18/2021	--	--	2.5	0.53	U (0.200)	7.24	0.761	3.38	U (1.00)	24.1	U (0.200)	4.8	—
07/21/2021	--	--	2.9	0.597	U (0.200)	9.6	1.36	7.22	U (1.00)	16.7	U (0.200)	7.69	—
10/13/2021	--	--	1.83	0.28	U (0.200)	7.89	1.11	7.99	U (1.00)	11.3	U (0.200)	4.826	—
03/18/2022	--	65.51	4.04	0.868	U (0.200)	4.36	0.939	23.2	0.0486	39.9	U (0.200)	5.548	—
05/11/2022	--	68.0	3.88	0.756	U (0.0500)	5.82	0.533	17.7	0.0612	56.9	U (0.0500)	2.773	—
07/19/2022	--	70.05	0.0396	0.0115	0.000116	0.572	0.00242	0.247	0.00104	33.2	0.00028	0.03391	—
RW16-2													
12/09/2016	--	--	—	—	U (0.0002)	0.25	0.022	2	—	—	U (0.001)	0.429	—
02/08/2017	--	--	—	—	U (0.002)	2.1	0.44	19	—	—	0.0078	3.3	—
04/25/2017	--	--	—	—	U (0.0002)	0.86	U (0.30)	8.7	—	—	U (0.002)	1	—
10/20/2017	--	--	—	—	U (0.002)	0.26	0.042	2.2	—	—	U (0.002)	0.125	—
02/13/2018	--	--	—	—	U (0.002)	0.59	0.051	6.1	—	—	U (0.002)	0.177	—
08/17/2018	--	--	—	—	U (0.003)	0.63	0.015	2.4	—	—	U (0.002)	0.0771	—
10/25/2018	--	--	—	—	U (0.003)	0.31	0.0036	1	—	—	U (0.002)	0.013	—
02/26/2019	--	--	—	—	U (0.003)	1.1	0.0066	4.6	—	—	U (0.002)	0.023	—
04/24/2019	--	--	—	—	U (0.003)	0.58	0.0065	4.2	—	—	U (0.002)	0.027	—
07/16/2019	--	--	—	—	U (0.003)	0.67	0.0066	3.4	—	—	U (0.002)	0.031	—
10/17/2019	--	--	—	—	U (0.003)	0.3	0.0052	2.1	—	—	U (0.002)	0.023	—
08/12/2020	--	--	—	—	U (0.001)	0.419	0.00166	1.65	—	21.7	U (0.001)	0.00735	—

Analytical Data Results Table

7-Eleven Store #46754 (former Speedway 5325 TNS 52)
 7-Eleven - Paula Sime
 7172 W Parks Hwy
 Wasilla, Alaska 99623

		Well Screen Interval	Ground Water Elevation	124-TMB	135-TMB	Benzene	DRO	Ethylbenzene	GRO	Naphthalene	Sodium	Toluene	Xylene
Unit	ft	ft	ppm	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
10/02/2020	--	--	—	—	U (0.001)	0.25	0.00072	0.967	—	—	U (0.001)	0.002772	
03/31/2021	--	--	—	—	U (0.001)	0.585	0.001	2.86	—	4.42	U (0.001)	0.00276	
05/18/2021	--	--	0.011	0.0103	U (0.001)	U (0.800)	U (0.001)	0.419	U (0.00500)	4.72	U (0.001)	U (0.002)	
07/21/2021	--	--	0.0145	0.0126	U (0.001)	0.441	0.000569	0.724	U (0.00500)	5.58	U (0.001)	0.00135	
10/13/2021	--	--	U (0.00100)	U (0.00100)	U (0.001)	0.819	U (0.001)	0.765	U (0.000250)	71.7	U (0.001)	U (0.002)	
03/18/2022	--	65.86	0.0341	0.0231	U(0.00100)	0.643	0.00032	1.95	0.000106	6.93	U(0.00100)	U(0.00300)	
05/11/2022	--	67.88	0.0124	0.00631	0.000105	0.49	U(0.00100)	0.658	U(0.000250)	21.6	U(0.00100)	U(0.00300)	
07/19/2022	--	70.17	<u>0.0203</u>	0.0101	0.00013	U(0.800)	U(0.00100)	0.354	U(0.000250)	9.06	U(0.00100)	U(0.00300)	

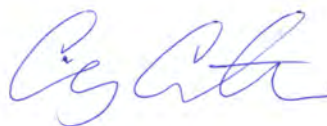
APPENDIX E

PACE Laboratory Analytical Report and ADEC Laboratory Data Review Checklist

Stantec - 7-11

Sample Delivery Group: L1517490
Samples Received: 07/21/2022
Project Number: 185705772
Description: Speedway 5325
Site: 0005325
Report To: Mr. John Marshall
725 E Fireweed Lane
Suite 200
Anchorage, AK 99503

Entire Report Reviewed By:



Craig Cothron
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

SAMPLE SUMMARY

G-01 L1517490-01 GW

				Collected by John Marshall	Collected date/time 07/19/22 12:56	Received date/time 07/21/22 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1904742	1	08/03/22 11:58	08/04/22 01:04	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method AK101	WG1900790	1	07/26/22 10:17	07/26/22 10:17	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1900112	1	07/24/22 21:54	07/24/22 21:54	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1899404	1	07/25/22 10:36	07/26/22 09:23	MWS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1900010	1	07/24/22 17:04	07/25/22 14:36	DSH	Mt. Juliet, TN

G-05 L1517490-02 GW

				Collected by John Marshall	Collected date/time 07/19/22 11:49	Received date/time 07/21/22 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1904742	1	08/03/22 11:58	08/04/22 01:07	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method AK101	WG1900790	1	07/26/22 10:44	07/26/22 10:44	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1900112	1	07/24/22 22:14	07/24/22 22:14	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1899404	1	07/25/22 10:36	07/26/22 09:44	MWS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1900010	1	07/24/22 17:04	07/25/22 10:55	DSH	Mt. Juliet, TN

G-07 L1517490-03 GW

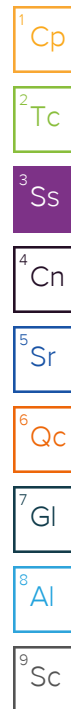
				Collected by John Marshall	Collected date/time 07/19/22 10:51	Received date/time 07/21/22 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1904742	1	08/03/22 11:58	08/04/22 01:15	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method AK101	WG1900790	1	07/26/22 11:10	07/26/22 11:10	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1900112	1	07/24/22 22:34	07/24/22 22:34	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1899404	1	07/25/22 10:36	07/26/22 10:04	MWS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1900010	1	07/24/22 17:04	07/25/22 11:15	DSH	Mt. Juliet, TN

MW16-02 L1517490-04 GW

				Collected by John Marshall	Collected date/time 07/19/22 14:14	Received date/time 07/21/22 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1904742	1	08/03/22 11:58	08/04/22 01:18	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method AK101	WG1900790	1	07/26/22 11:37	07/26/22 11:37	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1900112	1	07/24/22 22:55	07/24/22 22:55	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1899404	1	07/25/22 10:36	07/26/22 10:24	MWS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1900010	1	07/24/22 17:04	07/25/22 14:56	DSH	Mt. Juliet, TN

DUP1 L1517490-05 GW

				Collected by John Marshall	Collected date/time 07/19/22 00:00	Received date/time 07/21/22 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1904742	1	08/03/22 11:58	08/04/22 01:21	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method AK101	WG1900790	1	07/26/22 12:03	07/26/22 12:03	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1900112	1	07/24/22 23:16	07/24/22 23:16	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1899404	1	07/25/22 10:36	07/26/22 10:44	MWS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1900010	1	07/24/22 17:04	07/25/22 15:16	DSH	Mt. Juliet, TN



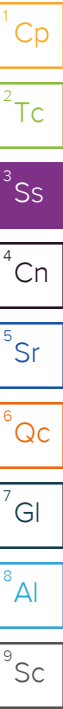
SAMPLE SUMMARY

TRIP BLANK L1517490-06 GW

				Collected by John Marshall	Collected date/time 07/19/22 12:00	Received date/time 07/21/22 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1900112	1	07/24/22 19:10	07/24/22 19:10	JAH	Mt. Juliet, TN

RW16-01 L1517490-07 GW

				Collected by John Marshall	Collected date/time 07/19/22 13:32	Received date/time 07/21/22 09:15
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1904742	1	08/03/22 11:58	08/04/22 01:24	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method AK101	WG1904530	1	08/03/22 06:49	08/03/22 06:49	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1900649	1	07/26/22 00:11	07/26/22 00:11	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1899404	1	07/25/22 10:36	07/26/22 11:04	MWS	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1900010	1	07/24/22 17:04	07/25/22 15:36	DSH	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



Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sodium	1.96	<u>J</u>	0.504	3.00	1	08/04/2022 01:04	WG1904742

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	U		0.0287	0.100	1	07/26/2022 10:17	WG1900790
(S) a,a,a-Trifluorotoluene(FID)	90.8			50.0-150		07/26/2022 10:17	WG1900790
(S) a,a,a-Trifluorotoluene(PID)	0.000	<u>J2</u>		79.0-125		07/26/2022 10:17	WG1900790

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

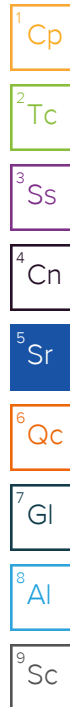
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	1	07/24/2022 21:54	WG1900112
n-Butylbenzene	U		0.000157	0.00100	1	07/24/2022 21:54	WG1900112
sec-Butylbenzene	U		0.000125	0.00100	1	07/24/2022 21:54	WG1900112
tert-Butylbenzene	U		0.000127	0.00100	1	07/24/2022 21:54	WG1900112
Ethylbenzene	U		0.000137	0.00100	1	07/24/2022 21:54	WG1900112
Isopropylbenzene	U		0.000105	0.00100	1	07/24/2022 21:54	WG1900112
Naphthalene	U		0.00100	0.00500	1	07/24/2022 21:54	WG1900112
Toluene	U		0.000278	0.00100	1	07/24/2022 21:54	WG1900112
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	07/24/2022 21:54	WG1900112
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	07/24/2022 21:54	WG1900112
m&p-Xylene	U		0.000430	0.00200	1	07/24/2022 21:54	WG1900112
o-Xylene	U		0.000174	0.00100	1	07/24/2022 21:54	WG1900112
(S) Toluene-d8	99.9			80.0-120		07/24/2022 21:54	WG1900112
(S) 4-Bromofluorobenzene	81.1			77.0-126		07/24/2022 21:54	WG1900112
(S) 1,2-Dichloroethane-d4	97.0			70.0-130		07/24/2022 21:54	WG1900112

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	0.554	<u>J</u>	0.229	0.800	1	07/26/2022 09:23	WG1899404
(S) o-Terphenyl	92.6			50.0-150		07/26/2022 09:23	WG1899404

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0000190	0.0000500	1	07/25/2022 14:36	WG1900010
Acenaphthene	U		0.0000190	0.0000500	1	07/25/2022 14:36	WG1900010
Acenaphthylene	U		0.0000171	0.0000500	1	07/25/2022 14:36	WG1900010
Benzo(a)anthracene	U		0.0000203	0.0000500	1	07/25/2022 14:36	WG1900010
Benzo(a)pyrene	U		0.0000184	0.0000500	1	07/25/2022 14:36	WG1900010
Benzo(b)fluoranthene	U		0.0000168	0.0000500	1	07/25/2022 14:36	WG1900010
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	1	07/25/2022 14:36	WG1900010
Benzo(k)fluoranthene	U		0.0000202	0.0000500	1	07/25/2022 14:36	WG1900010
Chrysene	U		0.0000179	0.0000500	1	07/25/2022 14:36	WG1900010
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	1	07/25/2022 14:36	WG1900010
Fluoranthene	U		0.0000270	0.000100	1	07/25/2022 14:36	WG1900010
Fluorene	U		0.0000169	0.0000500	1	07/25/2022 14:36	WG1900010
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	1	07/25/2022 14:36	WG1900010
Naphthalene	U		0.0000917	0.000250	1	07/25/2022 14:36	WG1900010
Phenanthrene	0.0000238	<u>J</u>	0.0000180	0.0000500	1	07/25/2022 14:36	WG1900010
Pyrene	0.0000330	<u>J</u>	0.0000169	0.0000500	1	07/25/2022 14:36	WG1900010



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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1-Methylnaphthalene	U		0.0000687	0.000250	1	07/25/2022 14:36	WG1900010
2-Methylnaphthalene	U		0.0000674	0.000250	1	07/25/2022 14:36	WG1900010
(S) Nitrobenzene-d5	78.0			31.0-160		07/25/2022 14:36	WG1900010
(S) 2-Fluorobiphenyl	73.5			48.0-148		07/25/2022 14:36	WG1900010
(S) p-Terphenyl-d14	81.0			37.0-146		07/25/2022 14:36	WG1900010

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sodium	8.41		0.504	3.00	1	08/04/2022 01:07	WG1904742

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	U		0.0287	0.100	1	07/26/2022 10:44	WG1900790
(S) a,a,a-Trifluorotoluene(FID)	94.3			50.0-150		07/26/2022 10:44	WG1900790
(S) a,a,a-Trifluorotoluene(PID)	0.000	J2		79.0-125		07/26/2022 10:44	WG1900790

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	1	07/24/2022 22:14	WG1900112
n-Butylbenzene	U		0.000157	0.00100	1	07/24/2022 22:14	WG1900112
sec-Butylbenzene	U		0.000125	0.00100	1	07/24/2022 22:14	WG1900112
tert-Butylbenzene	U		0.000127	0.00100	1	07/24/2022 22:14	WG1900112
Ethylbenzene	U		0.000137	0.00100	1	07/24/2022 22:14	WG1900112
Isopropylbenzene	U		0.000105	0.00100	1	07/24/2022 22:14	WG1900112
Naphthalene	U		0.00100	0.00500	1	07/24/2022 22:14	WG1900112
Toluene	U		0.000278	0.00100	1	07/24/2022 22:14	WG1900112
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	07/24/2022 22:14	WG1900112
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	07/24/2022 22:14	WG1900112
m&p-Xylene	U		0.000430	0.00200	1	07/24/2022 22:14	WG1900112
o-Xylene	U		0.000174	0.00100	1	07/24/2022 22:14	WG1900112
(S) Toluene-d8	102			80.0-120		07/24/2022 22:14	WG1900112
(S) 4-Bromofluorobenzene	84.1			77.0-126		07/24/2022 22:14	WG1900112
(S) 1,2-Dichloroethane-d4	97.4			70.0-130		07/24/2022 22:14	WG1900112

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	U		0.229	0.800	1	07/26/2022 09:44	WG1899404
(S) o-Terphenyl	84.1			50.0-150		07/26/2022 09:44	WG1899404

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0000190	0.0000500	1	07/25/2022 10:55	WG1900010
Acenaphthene	U		0.0000190	0.0000500	1	07/25/2022 10:55	WG1900010
Acenaphthylene	U		0.0000171	0.0000500	1	07/25/2022 10:55	WG1900010
Benzo(a)anthracene	U		0.0000203	0.0000500	1	07/25/2022 10:55	WG1900010
Benzo(a)pyrene	U		0.0000184	0.0000500	1	07/25/2022 10:55	WG1900010
Benzo(b)fluoranthene	U		0.0000168	0.0000500	1	07/25/2022 10:55	WG1900010
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	1	07/25/2022 10:55	WG1900010
Benzo(k)fluoranthene	U		0.0000202	0.0000500	1	07/25/2022 10:55	WG1900010
Chrysene	U		0.0000179	0.0000500	1	07/25/2022 10:55	WG1900010
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	1	07/25/2022 10:55	WG1900010
Fluoranthene	U		0.0000270	0.000100	1	07/25/2022 10:55	WG1900010
Fluorene	U		0.0000169	0.0000500	1	07/25/2022 10:55	WG1900010
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	1	07/25/2022 10:55	WG1900010
Naphthalene	U		0.0000917	0.000250	1	07/25/2022 10:55	WG1900010
Phenanthrene	U		0.0000180	0.0000500	1	07/25/2022 10:55	WG1900010
Pyrene	U		0.0000169	0.0000500	1	07/25/2022 10:55	WG1900010

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1-Methylnaphthalene	U		0.0000687	0.000250	1	07/25/2022 10:55	WG1900010
2-Methylnaphthalene	U		0.0000674	0.000250	1	07/25/2022 10:55	WG1900010
(S) Nitrobenzene-d5	85.0			31.0-160		07/25/2022 10:55	WG1900010
(S) 2-Fluorobiphenyl	85.0			48.0-148		07/25/2022 10:55	WG1900010
(S) p-Terphenyl-d14	90.5			37.0-146		07/25/2022 10:55	WG1900010

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sodium	6.10		0.504	3.00	1	08/04/2022 01:15	WG1904742

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	U		0.0287	0.100	1	07/26/2022 11:10	WG1900790
(S) a,a,a-Trifluorotoluene(FID)	88.7			50.0-150		07/26/2022 11:10	WG1900790
(S) a,a,a-Trifluorotoluene(PID)	0.000	J2		79.0-125		07/26/2022 11:10	WG1900790

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

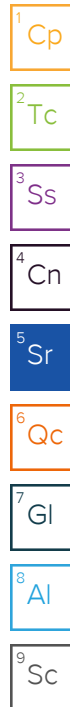
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	1	07/24/2022 22:34	WG1900112
n-Butylbenzene	U		0.000157	0.00100	1	07/24/2022 22:34	WG1900112
sec-Butylbenzene	U		0.000125	0.00100	1	07/24/2022 22:34	WG1900112
tert-Butylbenzene	U		0.000127	0.00100	1	07/24/2022 22:34	WG1900112
Ethylbenzene	U		0.000137	0.00100	1	07/24/2022 22:34	WG1900112
Isopropylbenzene	U		0.000105	0.00100	1	07/24/2022 22:34	WG1900112
Naphthalene	U		0.00100	0.00500	1	07/24/2022 22:34	WG1900112
Toluene	U		0.000278	0.00100	1	07/24/2022 22:34	WG1900112
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	07/24/2022 22:34	WG1900112
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	07/24/2022 22:34	WG1900112
m&p-Xylene	U		0.000430	0.00200	1	07/24/2022 22:34	WG1900112
o-Xylene	U		0.000174	0.00100	1	07/24/2022 22:34	WG1900112
(S) Toluene-d8	99.9			80.0-120		07/24/2022 22:34	WG1900112
(S) 4-Bromofluorobenzene	82.3			77.0-126		07/24/2022 22:34	WG1900112
(S) 1,2-Dichloroethane-d4	98.1			70.0-130		07/24/2022 22:34	WG1900112

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	U		0.229	0.800	1	07/26/2022 10:04	WG1899404
(S) o-Terphenyl	95.5			50.0-150		07/26/2022 10:04	WG1899404

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0000190	0.0000500	1	07/25/2022 11:15	WG1900010
Acenaphthene	U		0.0000190	0.0000500	1	07/25/2022 11:15	WG1900010
Acenaphthylene	U		0.0000171	0.0000500	1	07/25/2022 11:15	WG1900010
Benzo(a)anthracene	U		0.0000203	0.0000500	1	07/25/2022 11:15	WG1900010
Benzo(a)pyrene	U		0.0000184	0.0000500	1	07/25/2022 11:15	WG1900010
Benzo(b)fluoranthene	U		0.0000168	0.0000500	1	07/25/2022 11:15	WG1900010
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	1	07/25/2022 11:15	WG1900010
Benzo(k)fluoranthene	U		0.0000202	0.0000500	1	07/25/2022 11:15	WG1900010
Chrysene	U		0.0000179	0.0000500	1	07/25/2022 11:15	WG1900010
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	1	07/25/2022 11:15	WG1900010
Fluoranthene	U		0.0000270	0.000100	1	07/25/2022 11:15	WG1900010
Fluorene	U		0.0000169	0.0000500	1	07/25/2022 11:15	WG1900010
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	1	07/25/2022 11:15	WG1900010
Naphthalene	U		0.0000917	0.000250	1	07/25/2022 11:15	WG1900010
Phenanthrene	U		0.0000180	0.0000500	1	07/25/2022 11:15	WG1900010
Pyrene	U		0.0000169	0.0000500	1	07/25/2022 11:15	WG1900010



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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1-Methylnaphthalene	U		0.0000687	0.000250	1	07/25/2022 11:15	WG1900010
2-Methylnaphthalene	U		0.0000674	0.000250	1	07/25/2022 11:15	WG1900010
(S) Nitrobenzene-d5	81.0			31.0-160		07/25/2022 11:15	WG1900010
(S) 2-Fluorobiphenyl	78.5			48.0-148		07/25/2022 11:15	WG1900010
(S) p-Terphenyl-d14	79.5			37.0-146		07/25/2022 11:15	WG1900010

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sodium	9.06		0.504	3.00	1	08/04/2022 01:18	WG1904742

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	0.0295	B J	0.0287	0.100	1	07/26/2022 11:37	WG1900790
(S) a,a,a-Trifluorotoluene(FID)	94.9			50.0-150		07/26/2022 11:37	WG1900790
(S) a,a,a-Trifluorotoluene(PID)	0.000	J2		79.0-125		07/26/2022 11:37	WG1900790

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

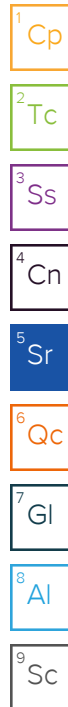
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	1	07/24/2022 22:55	WG1900112
n-Butylbenzene	U		0.000157	0.00100	1	07/24/2022 22:55	WG1900112
sec-Butylbenzene	0.000385	J	0.000125	0.00100	1	07/24/2022 22:55	WG1900112
tert-Butylbenzene	U		0.000127	0.00100	1	07/24/2022 22:55	WG1900112
Ethylbenzene	U		0.000137	0.00100	1	07/24/2022 22:55	WG1900112
Isopropylbenzene	0.00145		0.000105	0.00100	1	07/24/2022 22:55	WG1900112
Naphthalene	U		0.00100	0.00500	1	07/24/2022 22:55	WG1900112
Toluene	U		0.000278	0.00100	1	07/24/2022 22:55	WG1900112
1,2,4-Trimethylbenzene	0.0203		0.000322	0.00100	1	07/24/2022 22:55	WG1900112
1,3,5-Trimethylbenzene	0.0101		0.000104	0.00100	1	07/24/2022 22:55	WG1900112
m&p-Xylene	U		0.000430	0.00200	1	07/24/2022 22:55	WG1900112
o-Xylene	U		0.000174	0.00100	1	07/24/2022 22:55	WG1900112
(S) Toluene-d8	104			80.0-120		07/24/2022 22:55	WG1900112
(S) 4-Bromofluorobenzene	83.4			77.0-126		07/24/2022 22:55	WG1900112
(S) 1,2-Dichloroethane-d4	99.2			70.0-130		07/24/2022 22:55	WG1900112

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	U		0.229	0.800	1	07/26/2022 10:24	WG1899404
(S) o-Terphenyl	70.8			50.0-150		07/26/2022 10:24	WG1899404

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0000190	0.0000500	1	07/25/2022 14:56	WG1900010
Acenaphthene	U		0.0000190	0.0000500	1	07/25/2022 14:56	WG1900010
Acenaphthylene	U		0.0000171	0.0000500	1	07/25/2022 14:56	WG1900010
Benzo(a)anthracene	U		0.0000203	0.0000500	1	07/25/2022 14:56	WG1900010
Benzo(a)pyrene	U		0.0000184	0.0000500	1	07/25/2022 14:56	WG1900010
Benzo(b)fluoranthene	U		0.0000168	0.0000500	1	07/25/2022 14:56	WG1900010
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	1	07/25/2022 14:56	WG1900010
Benzo(k)fluoranthene	U		0.0000202	0.0000500	1	07/25/2022 14:56	WG1900010
Chrysene	U		0.0000179	0.0000500	1	07/25/2022 14:56	WG1900010
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	1	07/25/2022 14:56	WG1900010
Fluoranthene	U		0.0000270	0.000100	1	07/25/2022 14:56	WG1900010
Fluorene	U		0.0000169	0.0000500	1	07/25/2022 14:56	WG1900010
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	1	07/25/2022 14:56	WG1900010
Naphthalene	U		0.0000917	0.000250	1	07/25/2022 14:56	WG1900010
Phenanthrene	U		0.0000180	0.0000500	1	07/25/2022 14:56	WG1900010
Pyrene	U		0.0000169	0.0000500	1	07/25/2022 14:56	WG1900010



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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1-Methylnaphthalene	U		0.0000687	0.000250	1	07/25/2022 14:56	WG1900010
2-Methylnaphthalene	U		0.0000674	0.000250	1	07/25/2022 14:56	WG1900010
(S) Nitrobenzene-d5	75.0			31.0-160		07/25/2022 14:56	WG1900010
(S) 2-Fluorobiphenyl	71.5			48.0-148		07/25/2022 14:56	WG1900010
(S) p-Terphenyl-d14	75.0			37.0-146		07/25/2022 14:56	WG1900010

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sodium	8.99		0.504	3.00	1	08/04/2022 01:21	WG1904742

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	0.354		0.0287	0.100	1	07/26/2022 12:03	WG1900790
(S) a,a,a-Trifluorotoluene(FID)	94.2			50.0-150		07/26/2022 12:03	WG1900790
(S) a,a,a-Trifluorotoluene(PID)	0.000	J2		79.0-125		07/26/2022 12:03	WG1900790

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.000130	J	0.0000941	0.00100	1	07/24/2022 23:16	WG1900112
n-Butylbenzene	U		0.000157	0.00100	1	07/24/2022 23:16	WG1900112
sec-Butylbenzene	U		0.000125	0.00100	1	07/24/2022 23:16	WG1900112
tert-Butylbenzene	U		0.000127	0.00100	1	07/24/2022 23:16	WG1900112
Ethylbenzene	U		0.000137	0.00100	1	07/24/2022 23:16	WG1900112
Isopropylbenzene	0.000111	J	0.000105	0.00100	1	07/24/2022 23:16	WG1900112
Naphthalene	U		0.00100	0.00500	1	07/24/2022 23:16	WG1900112
Toluene	U		0.000278	0.00100	1	07/24/2022 23:16	WG1900112
1,2,4-Trimethylbenzene	0.00145		0.000322	0.00100	1	07/24/2022 23:16	WG1900112
1,3,5-Trimethylbenzene	0.000752	J	0.000104	0.00100	1	07/24/2022 23:16	WG1900112
m&p-Xylene	U		0.000430	0.00200	1	07/24/2022 23:16	WG1900112
o-Xylene	U		0.000174	0.00100	1	07/24/2022 23:16	WG1900112
(S) Toluene-d8	99.6			80.0-120		07/24/2022 23:16	WG1900112
(S) 4-Bromofluorobenzene	78.1			77.0-126		07/24/2022 23:16	WG1900112
(S) 1,2-Dichloroethane-d4	99.6			70.0-130		07/24/2022 23:16	WG1900112

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	U		0.229	0.800	1	07/26/2022 10:44	WG1899404
(S) o-Terphenyl	71.7			50.0-150		07/26/2022 10:44	WG1899404

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0000190	0.0000500	1	07/25/2022 15:16	WG1900010
Acenaphthene	U		0.0000190	0.0000500	1	07/25/2022 15:16	WG1900010
Acenaphthylene	U		0.0000171	0.0000500	1	07/25/2022 15:16	WG1900010
Benzo(a)anthracene	U		0.0000203	0.0000500	1	07/25/2022 15:16	WG1900010
Benzo(a)pyrene	U		0.0000184	0.0000500	1	07/25/2022 15:16	WG1900010
Benzo(b)fluoranthene	U		0.0000168	0.0000500	1	07/25/2022 15:16	WG1900010
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	1	07/25/2022 15:16	WG1900010
Benzo(k)fluoranthene	U		0.0000202	0.0000500	1	07/25/2022 15:16	WG1900010
Chrysene	U		0.0000179	0.0000500	1	07/25/2022 15:16	WG1900010
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	1	07/25/2022 15:16	WG1900010
Fluoranthene	U		0.0000270	0.000100	1	07/25/2022 15:16	WG1900010
Fluorene	0.0000232	J	0.0000169	0.0000500	1	07/25/2022 15:16	WG1900010
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	1	07/25/2022 15:16	WG1900010
Naphthalene	U		0.0000917	0.000250	1	07/25/2022 15:16	WG1900010
Phenanthrene	U		0.0000180	0.0000500	1	07/25/2022 15:16	WG1900010
Pyrene	U		0.0000169	0.0000500	1	07/25/2022 15:16	WG1900010



DUP1

SAMPLE RESULTS - 05

Collected date/time: 07/19/22 00:00

L1517490

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1-Methylnaphthalene	U		0.0000687	0.000250	1	07/25/2022 15:16	WG1900010
2-Methylnaphthalene	U		0.0000674	0.000250	1	07/25/2022 15:16	WG1900010
(S) Nitrobenzene-d5	86.5			31.0-160		07/25/2022 15:16	WG1900010
(S) 2-Fluorobiphenyl	80.0			48.0-148		07/25/2022 15:16	WG1900010
(S) p-Terphenyl-d14	89.5			37.0-146		07/25/2022 15:16	WG1900010

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	1	07/24/2022 19:10	WG1900112
n-Butylbenzene	U		0.000157	0.00100	1	07/24/2022 19:10	WG1900112
sec-Butylbenzene	U		0.000125	0.00100	1	07/24/2022 19:10	WG1900112
tert-Butylbenzene	U		0.000127	0.00100	1	07/24/2022 19:10	WG1900112
Ethylbenzene	U		0.000137	0.00100	1	07/24/2022 19:10	WG1900112
Isopropylbenzene	U		0.000105	0.00100	1	07/24/2022 19:10	WG1900112
Naphthalene	U		0.00100	0.00500	1	07/24/2022 19:10	WG1900112
Toluene	U		0.000278	0.00100	1	07/24/2022 19:10	WG1900112
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	07/24/2022 19:10	WG1900112
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	07/24/2022 19:10	WG1900112
m&p-Xylene	U		0.000430	0.00200	1	07/24/2022 19:10	WG1900112
o-Xylene	U		0.000174	0.00100	1	07/24/2022 19:10	WG1900112
(S) Toluene-d8	104			80.0-120		07/24/2022 19:10	WG1900112
(S) 4-Bromofluorobenzene	82.9			77.0-126		07/24/2022 19:10	WG1900112
(S) 1,2-Dichloroethane-d4	99.0			70.0-130		07/24/2022 19:10	WG1900112

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sodium	33.2		0.504	3.00	1	08/04/2022 01:24	WG1904742

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	0.247		0.0287	0.100	1	08/03/2022 06:49	WG1904530
(S) a,a,a-Trifluorotoluene(FID)	91.5			50.0-150		08/03/2022 06:49	WG1904530
(S) a,a,a-Trifluorotoluene(PID)	0.000	J2		79.0-125		08/03/2022 06:49	WG1904530

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

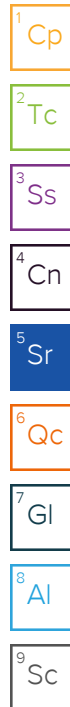
Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.000116	J	0.0000941	0.00100	1	07/26/2022 00:11	WG1900649
n-Butylbenzene	U		0.000157	0.00100	1	07/26/2022 00:11	WG1900649
sec-Butylbenzene	0.000182	J	0.000125	0.00100	1	07/26/2022 00:11	WG1900649
tert-Butylbenzene	U		0.000127	0.00100	1	07/26/2022 00:11	WG1900649
Ethylbenzene	0.00242		0.000137	0.00100	1	07/26/2022 00:11	WG1900649
Isopropylbenzene	0.00172		0.000105	0.00100	1	07/26/2022 00:11	WG1900649
Naphthalene	U	C3	0.00100	0.00500	1	07/26/2022 00:11	WG1900649
Toluene	0.000280	J	0.000278	0.00100	1	07/26/2022 00:11	WG1900649
1,2,4-Trimethylbenzene	0.0396		0.000322	0.00100	1	07/26/2022 00:11	WG1900649
1,3,5-Trimethylbenzene	0.0115		0.000104	0.00100	1	07/26/2022 00:11	WG1900649
m&p-Xylene	0.0285		0.000430	0.00200	1	07/26/2022 00:11	WG1900649
o-Xylene	0.00541		0.000174	0.00100	1	07/26/2022 00:11	WG1900649
(S) Toluene-d8	99.9			80.0-120		07/26/2022 00:11	WG1900649
(S) 4-Bromofluorobenzene	104			77.0-126		07/26/2022 00:11	WG1900649
(S) 1,2-Dichloroethane-d4	90.4			70.0-130		07/26/2022 00:11	WG1900649

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	0.572	J	0.229	0.800	1	07/26/2022 11:04	WG1899404
(S) o-Terphenyl	88.4			50.0-150		07/26/2022 11:04	WG1899404

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0000190	0.0000500	1	07/25/2022 15:36	WG1900010
Acenaphthene	U		0.0000190	0.0000500	1	07/25/2022 15:36	WG1900010
Acenaphthylene	U		0.0000171	0.0000500	1	07/25/2022 15:36	WG1900010
Benzo(a)anthracene	U		0.0000203	0.0000500	1	07/25/2022 15:36	WG1900010
Benzo(a)pyrene	U		0.0000184	0.0000500	1	07/25/2022 15:36	WG1900010
Benzo(b)fluoranthene	U		0.0000168	0.0000500	1	07/25/2022 15:36	WG1900010
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	1	07/25/2022 15:36	WG1900010
Benzo(k)fluoranthene	U		0.0000202	0.0000500	1	07/25/2022 15:36	WG1900010
Chrysene	U		0.0000179	0.0000500	1	07/25/2022 15:36	WG1900010
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	1	07/25/2022 15:36	WG1900010
Fluoranthene	U		0.0000270	0.000100	1	07/25/2022 15:36	WG1900010
Fluorene	0.0000447	J	0.0000169	0.0000500	1	07/25/2022 15:36	WG1900010
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	1	07/25/2022 15:36	WG1900010
Naphthalene	0.00104		0.0000917	0.000250	1	07/25/2022 15:36	WG1900010
Phenanthrene	U		0.0000180	0.0000500	1	07/25/2022 15:36	WG1900010
Pyrene	U		0.0000169	0.0000500	1	07/25/2022 15:36	WG1900010



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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
1-Methylnaphthalene	0.000386		0.0000687	0.000250	1	07/25/2022 15:36	WG1900010
2-Methylnaphthalene	0.000718		0.0000674	0.000250	1	07/25/2022 15:36	WG1900010
(S) Nitrobenzene-d5	102			31.0-160		07/25/2022 15:36	WG1900010
(S) 2-Fluorobiphenyl	90.0			48.0-148		07/25/2022 15:36	WG1900010
(S) p-Terphenyl-d14	110			37.0-146		07/25/2022 15:36	WG1900010

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Method Blank (MB)

(MB) R3822422-1 08/04/22 00:07

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Sodium	U		0.504	3.00

Laboratory Control Sample (LCS)

(LCS) R3822422-2 08/04/22 00:09

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	mg/l	mg/l	%	%	
Sodium	10.0	9.66	96.6	80.0-120	

L1517334-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1517334-01 08/04/22 00:12 • (MS) R3822422-4 08/04/22 00:18 • (MSD) R3822422-5 08/04/22 00:20

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Sodium	10.0	2.98	12.3	12.5	93.0	95.3	1	75.0-125			1.85	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3821802-3 07/26/22 06:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPHGAK C6 to C10	0.0300	J	0.0287	0.100
(S) a,a,a-Trifluorotoluene(FID)	87.8			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) R3821802-1 07/26/22 04:40 • (LCSD) R3821802-2 07/26/22 05:06

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	4.88	4.95	97.6	99.0	60.0-120			1.42	20
(S) a,a,a-Trifluorotoluene(FID)				98.0	101	60.0-120				
(S) a,a,a-Trifluorotoluene(PID)				0.000	0.000	79.0-125	J2	J2		

L1517323-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1517323-03 07/26/22 09:09 • (MS) R3821802-4 07/26/22 13:36 • (MSD) R3821802-5 07/26/22 14:03

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 %
TPHGAK C6 to C10	3.50	U	3.29	2.50	94.0	71.4	1	70.0-130		J3	27.3	20
(S) a,a,a-Trifluorotoluene(FID)					95.5	95.8		50.0-150				
(S) a,a,a-Trifluorotoluene(PID)					0.000	0.000		79.0-125	J2	J2		

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R3822145-3 08/03/22 06:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPHGAK C6 to C10	U		0.0287	0.100
(S) a,a,a-Trifluorotoluene(FID)	89.3			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) R3822145-1 08/03/22 04:30 • (LCSD) R3822145-2 08/03/22 05:20

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	3.77	4.59	75.4	91.8	60.0-120			19.6	20
(S) a,a,a-Trifluorotoluene(FID)				82.3	101	60.0-120				
(S) a,a,a-Trifluorotoluene(PID)				0.000	0.000	79.0-125	J2	J2		

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Method Blank (MB)

(MB) R3818932-2 07/24/22 17:18

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
m&p-Xylenes	U		0.000430	0.00200
o-Xylene	U		0.000174	0.00100
(S) Toluene-d8	102			80.0-120
(S) 4-Bromofluorobenzene	83.3			77.0-126
(S) 1,2-Dichloroethane-d4	98.2			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3818932-1 07/24/22 16:38

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00541	108	70.0-123	
n-Butylbenzene	0.00500	0.00513	103	73.0-125	
sec-Butylbenzene	0.00500	0.00525	105	75.0-125	
tert-Butylbenzene	0.00500	0.00526	105	76.0-124	
Ethylbenzene	0.00500	0.00484	96.8	79.0-123	
Isopropylbenzene	0.00500	0.00530	106	76.0-127	
Naphthalene	0.00500	0.00551	110	54.0-135	
Toluene	0.00500	0.00543	109	79.0-120	
1,2,4-Trimethylbenzene	0.00500	0.00533	107	76.0-121	
1,3,5-Trimethylbenzene	0.00500	0.00554	111	76.0-122	
m&p-Xylenes	0.0100	0.0110	110	80.0-122	
o-Xylene	0.00500	0.00535	107	80.0-122	
(S) Toluene-d8			99.7	80.0-120	
(S) 4-Bromofluorobenzene			82.9	77.0-126	
(S) 1,2-Dichloroethane-d4			97.4	70.0-130	

Method Blank (MB)

(MB) R3819859-2 07/25/22 22:43

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
m&p-Xylenes	U		0.000430	0.00200
o-Xylene	U		0.000174	0.00100
(S) Toluene-d8	103			80.0-120
(S) 4-Bromofluorobenzene	103			77.0-126
(S) 1,2-Dichloroethane-d4	93.3			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3819859-1 07/25/22 22:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00563	113	70.0-123	
n-Butylbenzene	0.00500	0.00529	106	73.0-125	
sec-Butylbenzene	0.00500	0.00580	116	75.0-125	
tert-Butylbenzene	0.00500	0.00580	116	76.0-124	
Ethylbenzene	0.00500	0.00530	106	79.0-123	
Isopropylbenzene	0.00500	0.00550	110	76.0-127	
Naphthalene	0.00500	0.00309	61.8	54.0-135	
Toluene	0.00500	0.00539	108	79.0-120	
1,2,4-Trimethylbenzene	0.00500	0.00528	106	76.0-121	
1,3,5-Trimethylbenzene	0.00500	0.00540	108	76.0-122	
m&p-Xylenes	0.0100	0.0105	105	80.0-122	
o-Xylene	0.00500	0.00509	102	80.0-122	
(S) Toluene-d8			103	80.0-120	
(S) 4-Bromofluorobenzene			104	77.0-126	
(S) 1,2-Dichloroethane-d4			94.1	70.0-130	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3819337-1 07/26/22 07:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
AK102 DRO C10-C25	U		0.229	0.800
(S) o-Terphenyl	100			60.0-120

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

(LCS) R3819337-2 07/26/22 07:22 • (LCSD) R3819337-3 07/26/22 07:42

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	6.12	5.88	102	98.0	75.0-125			4.00	20
(S) o-Terphenyl				123	108	60.0-120	J1			

L1514935-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1514935-01 07/26/22 08:23 • (MS) R3819337-4 07/26/22 08:43 • (MSD) R3819337-5 07/26/22 09:03

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	6.00	3.58	8.69	9.41	85.2	97.2	1	75.0-125			7.96	20
(S) o-Terphenyl					100	109		50.0-150				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3819100-3 07/25/22 09:54

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	80.0			31.0-160
(S) 2-Fluorobiphenyl	79.5			48.0-148
(S) p-Terphenyl-d14	95.5			37.0-146

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

(LCS) R3819100-1 07/25/22 09:11 • (LCSD) R3819100-2 07/25/22 09:34

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	0.00188	0.00168	94.0	84.0	67.0-150			11.2	20
Acenaphthene	0.00200	0.00188	0.00162	94.0	81.0	65.0-138			14.9	20
Acenaphthylene	0.00200	0.00183	0.00159	91.5	79.5	66.0-140			14.0	20
Benzo(a)anthracene	0.00200	0.00182	0.00163	91.0	81.5	61.0-140			11.0	20
Benzo(a)pyrene	0.00200	0.00201	0.00180	100	90.0	60.0-143			11.0	20
Benzo(b)fluoranthene	0.00200	0.00174	0.00159	87.0	79.5	58.0-141			9.01	20
Benzo(g,h,i)perylene	0.00200	0.00173	0.00170	86.5	85.0	52.0-153			1.75	20
Benzo(k)fluoranthene	0.00200	0.00197	0.00169	98.5	84.5	58.0-148			15.3	20
Chrysene	0.00200	0.00209	0.00191	105	95.5	64.0-144			9.00	20
Dibenz(a,h)anthracene	0.00200	0.00177	0.00169	88.5	84.5	52.0-155			4.62	20
Fluoranthene	0.00200	0.00189	0.00174	94.5	87.0	69.0-153			8.26	20
Fluorene	0.00200	0.00198	0.00169	99.0	84.5	64.0-136			15.8	20

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

(LCS) R3819100-1 07/25/22 09:11 • (LCSD) R3819100-2 07/25/22 09:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Indeno(1,2,3-cd)pyrene	0.00200	0.00189	0.00174	94.5	87.0	54.0-153			8.26	20
Naphthalene	0.00200	0.00168	0.00144	84.0	72.0	61.0-137			15.4	20
Phenanthrene	0.00200	0.00183	0.00165	91.5	82.5	62.0-137			10.3	20
Pyrene	0.00200	0.00202	0.00184	101	92.0	60.0-142			9.33	20
1-Methylnaphthalene	0.00200	0.00177	0.00152	88.5	76.0	66.0-142			15.2	20
2-Methylnaphthalene	0.00200	0.00178	0.00152	89.0	76.0	62.0-136			15.8	20
(S) Nitrobenzene-d5				96.5	83.5	31.0-160				
(S) 2-Fluorobiphenyl				90.5	76.0	48.0-148				
(S) p-Terphenyl-d14				106	96.5	37.0-146				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

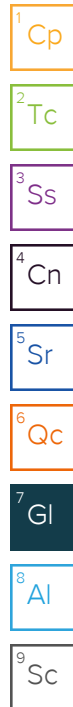
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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.
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.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
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.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122


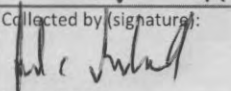
Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	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	LA000356
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 - 7-11 725 E Fireweed Lane Suite 200 Anchorage, AK 99503 Report to: Mr. John Marshall				Billing Information: Paula Sime P.O. Box 711 - Loc. 0148 Dallas, TX 75221 Email To: john.marshall@stantec.com				Chain of Custody Page 1 of 1 <div style="text-align: center;">  MT JULIET, TN <small>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/hubs/pas-standard-terms.pdf</small> </div>																	
Project Description: Speedway 5325				City/State Collected: Wasilla, AK				Please Circle: PT MT CT ET																	
Phone: 907-266-1108				Client Project # 185705772				Lab Project # 711STANTEC-5325AK																	
Collected by (print): John Marshall				Site/Facility ID # 0005325				P.O. #																	
Collected by (signature): 				Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day				Quote # Standard				No. of Cntrs													
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>																									
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time																			
G-01		6	GW	-	7/19/22	1256	11	X	X	X	X	X					01								
G-03		X	GW	-	-	-	11	X	X	X	X	X					Not collected								
G-05		6	GW	-	7/19/22	1149	11	X	X	X	X	X					62								
G-07		↓	GW	-	7/19/22	1051	11	X	X	X	X	X					63								
MW16-02		↓	GW	-	7/19/22	1414	11	X	X	X	X	X					64								
DUP1		↓	GW	-	7/19/22	-	11	X	X	X	X	X					65								
TRIP BLANK		↓	GW	-	7/19/22	1200	1						X					66							
RW16-01		↓	GW	-	7/19/22	1332	11	X	X	X	X	X					67								

* Matrix:

SS - Soil AIR - Air F - Filter

GW - Groundwater B - Bioassay

WW - Wastewater

DW - Drinking Water

OT - Other

Remarks:

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier

Tracking # **5882 7540 7480**

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

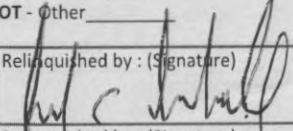
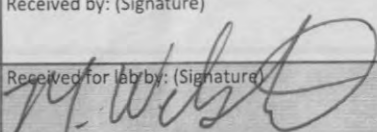
Sufficient volume sent: ☐ Y ☐ N

If Applicable

VOA Zero Headspace: ☐ Y ☐ N

Preservation Correct/Checked: ☐ Y ☐ N

RAD Screen <0.5 mR/hr: ☒ Y ☐ N

Relinquished by: (Signature) 		Date: 7/20/22	Time: 0817	Received by: (Signature) 		Trip Blank Received: Yes / No HCL / MeOH TBR	
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Temp: °C 13.0 ± 0.3	
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Temp: °C 6.6	
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Temp: °C 9.5	

Hold:

Condition:
NCF / OK

Laboratory Data Review Checklist

Completed By:

Jeremiah Malenfant

Title:

Geologist-In-Training

Date:

6/14/2022

Consultant Firm:

Stantec Consulting Services Inc.

Laboratory Name:

Pace Analytical

Laboratory Report Number:

L1493952

Laboratory Report Date:

5/14/2022

CS Site Name:

Speedway 5325 (Former T2GM #52)

ADEC File Number:

2265.26.006

Hazard Identification Number:

23769

L1493952

Laboratory Report Date:

5/14/2022

CS Site Name:

Speedway 5325 (Former T2GM #52)

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

1. Laboratory

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

Yes ☒ No ☐ N/A ☐ Comments:

- b. If the samples were transferred to another “network” laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes ☐ No ☐ N/A ☒ Comments:

Samples not transferred

2. Chain of Custody (CoC)

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

Yes ☒ No ☐ N/A ☐ Comments:

- b. Correct analyses requested?

Yes ☒ No ☐ N/A ☐ Comments:

3. Laboratory Sample Receipt Documentation

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

Yes ☒ No ☐ N/A ☐ Comments:

0.4 °C

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

Yes ☒ No ☐ N/A ☐ Comments:

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CS Site Name:

Speedway 5325 (Former T2GM #52)

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

Yes ☒ No ☐ N/A ☐ Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes ☐ No ☐ N/A ☒ Comments:

No discrepancies documented.

e. Data quality or usability affected?

Comments:

No.

4. Case Narrative

a. Present and understandable?

Yes ☒ No ☐ N/A ☐ Comments:

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

Yes ☐ No ☒ N/A ☐ Comments:

Case narrative documents no errors or discrepancies “unless qualified or notated within report”

c. Were all corrective actions documented?

Yes ☐ No ☐ N/A ☒ Comments:

No corrective actions taken.

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

Comments:

No effect on data quality/usability.

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5. Samples Results

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

Yes ☒ No ☐ N/A ☐ Comments:

b. All applicable holding times met?

Yes ☒ No ☐ N/A ☐ Comments:

GRO analyzed at 14 days, PAHs extracted at 7 days

c. All soils reported on a dry weight basis?

Yes ☐ No ☐ N/A ☒ Comments:

No soil samples submitted to lab.

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

Yes ☐ No ☒ N/A ☐ Comments:

Benzene LOQ in sample RW16-1 was 0.0500 mg/L, above the cleanup level of 0.0046. This could be the result of high dilution in this sample (50x).

e. Data quality or usability affected?

Non-detection with an LOQ above GCL treated as an exceedance; other contaminants above GCLs in well suggest actual value above GCL as well.

6. QC Samples

a. Method Blank

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Yes ☒ No ☐ N/A ☐ Comments:

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CS Site Name:

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

Comments:

None.

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

Yes ☐ No ☐ N/A ☒ Comments:

No samples affected.

v. Data quality or usability affected?

Comments:

No.

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

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes ☒ No ☐ N/A ☐ Comments:

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Comments:

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

Comments:

No.

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

Note: Leave blank if not required for project

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Yes ☒ No ☐ N/A ☐ Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes ☐ No ☒ N/A ☐ Comments:

n-Butylbenzene and isopropylbenzene by method 8260C had recoveries above the accepted limits.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.

Yes ☐ No ☒ N/A ☐ Comments:

Benzene and 1,3,5-TMB by method 8260C had RPDs above the accepted limits.

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Speedway 5325 (Former T2GM #52)

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

Comments:

n-Butylbenzene and isopropylbenzene are not typically reported analytes, benzene was not detected in samples G-3, G-7, and MW16-2 (affected samples), and 1,3,5-TMB was not detected in G-3 and G-7. The 1,3,5-TMB detection in MW16-2 was not flagged in the lab report.

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

Yes ☐ No ☒ N/A ☐

Comments:

See above.

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

Comments:

No; 1,3,5-TMB detection in MW16-2 is an order of magnitude below GCL. Other affected samples were non-detections.

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 included.

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)

Yes ☐ No ☐ N/A ☒

Comments:

Not included.

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 included.

iv. Data quality or usability affected?

Comments:

No affected samples.

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Speedway 5325 (Former T2GM #52)

e. Trip Blanks

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

Yes ☒ No ☐ N/A ☐ Comments:

- ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC?
(If not, a comment explaining why must be entered below)

Yes ☒ No ☐ N/A ☐ Comments:

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Comments:

No affected samples.

- v. Data quality or usability affected?

Comments:

No affected samples.

f. Field Duplicate

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

Yes ☒ No ☐ N/A ☐ Comments:

- ii. Submitted blind to lab?

Yes ☒ No ☐ N/A ☐ Comments:

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CS Site Name:

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

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

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes ☒ No ☐ N/A ☐ Comments:

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

Comments:

No.

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

Yes ☐ No ☐ N/A ☒ Comments:

All disposable equipment.

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

Yes ☐ No ☐ N/A ☒ Comments:

All disposable equipment.

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

Comments:

None.

iii. Data quality or usability affected?

Comments:

No.

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CS Site Name:

Speedway 5325 (Former T2GM #52)

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

a. Defined and appropriate?

Yes ☒ No ☐ N/A ☐

Comments: