7-Eleven Store #46754

Tesoro North Store 52
(Former Speedway Store 5325)
ADEC File #2265.26.006

March 2023 1Q GWM Event Report

Prepared For

Stantec

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.

Robert Gilfilian

Robert (Bob) Gilfilian, P.E.

Project Technical Lead

Principal Senior Civil

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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
LOQ	laboratory limit of quantization
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
TNS	Tesoro North Store
TMB	Trimethylbenzene
μS/cm°C	microSiemens per centimeter ^{o}C
VOC	volatile organic compounds
VSC	vapor stripping and circulation

1.0 INTRODUCTION

This first quarter 2023 Groundwater Monitoring Event Report was prepared by Stantec Consulting Services Inc. (Stantec) on behalf of 7-Eleven for Tesoro North Store 52 (7-Eleven Store 46754, Speedway 5325), 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 2023 Corrective Action Plan (CAP) for this site. The 2023 CAP tasks are summarized in **Appendix B**.

This 1Q 2023 groundwater monitoring event was conducted on March 8th, 2023, by Stantec environmental staff who included: Sydney Souza, Environmental Geologist; and Jeremiah Malenfant, Geologist-in-Training. In addition, the Stantec field staff completed the monthly chemical oxidation (chemox) injection event on March 29, 2023.

2.0 FIELD ACTIVITIES

The following field activities were completed during the first quarter 2023 groundwater monitoring event and chemox injection for groundwater treatment:

- Measured depth to groundwater in wells 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-5, G-7, and MW 16-2.
    - Intrinsics were planned to be measured in RW 16-1 as well, but the well purged dry.
- Collected water samples from Monitoring Wells G-5, G-7, RW 16-1 (with a duplicate sample), and MW 16-2 (sample locations shown on **Figure 2**) and analyzed for the following groundwater contaminants:
    - Volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, and total xylenes (BTEX) by US Environmental Protection Agency (EPA) method 8260C; gasoline range organics (GRO) by Alaska test method (AK)101; diesel range organics (DRO) by AK102, naphthalene by EPA method 8270D with selective ion monitoring (SIM); and sodium to assess the extent of chemox treatment.
- Wells G-1 and G-3 were inaccessible.

On March 29th, Stantec conducted a monthly injection of chemox into the remediation wells RW 20-1 and RW 20-2.

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 March 8th, 2023

Monitoring Well Identification	Top of Casing Elevation[1] (feet)	Depth to Water (feet btoc)	Groundwater Elevation (feet)
G-5	101.44	35.57	65.87
G-7	99.42	33.53	65.89
RW 16-1	99.44	32.8	66.64
MW 16-2	99.20	32.51	66.69

Key:
1 – Well casing elevations surveyed on May 17, 2022. Elevations are presented in respect to a local benchmark with 100-foot datum.
btoc – below top of casing.

The average groundwater gradient across the site was calculated to be approximately 0.015 feet per foot to the southwest at 165 degrees, as shown in **Table 2**. The direction of flow and elevation gradient are comparable to historical measurements. A plot of groundwater elevation contours generated using the SampleServe® software program is included in **Figure 3**. The program uses a combination of kriging and nearest-neighbor analysis to generate the contours.

All static water levels were measured with the groundwater recirculation system not running. The compressor which operates the air lift well was taken offsite for maintenance on March 8th after it was discovered to not be generating enough pressure to circulate water in the air lift well due to the low groundwater elevation onsite. The compressor was reinstalled on April 4th, after replacing the graphite fins. The compressor was turned on and was running at a maximum of 4 psi.

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
10/12/2022	232°	0.0024
3/8/2023	165°	0.015

3.2 FIELD PARAMETERS

Temperature, pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), and specific conductance (SC) were measured following purging of the sampled wells. 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 March 8th, 2023

Monitoring Well Identification	Purged Volume (gallons)	Temp. (°C)	pH	DO (mg/L)	ORP (mV)	SC (µs/cm°C)
G-5	6	2.9	6.75	6.25	156.7	625
G-7	6	2.6	7.12	15.36	147.8	592
RW16-1[1]	6	NM	NM	NM	NM	NM
MW16-2	6	7.48	7.21	7.48	119.3	1445

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
1 – well purged dry, intrinsics not measured.

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 all the wells associated with this site are presented in **Appendix D**. Laboratory analytical results are summarized in **Table 4**. The laboratory analytical report is provided in **Appendix E**.

Results of the analytical sampling did show petroleum hydrocarbon contaminant concentrations exceeding the GCLs in well RW 16-1 and MW 16-2. These exceedances could be due to parking lot runoff during the winter season. The analytes detected above laboratory limits of quantization (LOQs) are shown in **Table 4a and 4b**.

Table 4a Groundwater Analytical Results for BTEX, GRO, and DRO
Samples collected on March 8th, 2023

Sample Identification	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	GRO (mg/L)	DRO (mg/L)
G-5	0.000319 J	U (0.00100)	U (0.00100)	U (0.00300)	U (0.100)	U (0.800)
G-7	0.000124 J	U (0.00100)	U (0.00100)	U (0.00300)	0.0493 J	0.280 J
RW16-1	U (0.00100)	U (0.00100)	**0.661**	**0.531**	**2.61**	**5.76**
DUP-01 (duplicate of RW16-1)	0.00174	0.00443	**0.191**	0.154	**2.45**	**4.41**
MW16-2	0.000293 J	0.000420 J	0.000899 J	0.000326 J	1.61	1.46
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 March 8th, 2023

Sample Identification	Naphthalene[1] (mg/L)	1,2,4-TMB (mg/L)	1,3,5-TMB (mg/L)	Sodium (mg/L)
G-5	U (0.000250)	U (0.00100)	U (0.00100)	9.82
G-7	U (0.000250)	U (0.00100)	U (0.00100)	4.35
RW16-1	**0.00943**	**2.47**	**0.328**	267
DUP-01 (duplicate of RW16-1)	**0.0317**	**0.430**	**0.110**	274
MW16-2	0.000116 J	**0.0938**	**0.0664**	180
GCLs	**0.0017**	**0.056**	**0.060**	**NA**

Key:

1 – Analyzed by EPA Method 8270D-SIM

2 – Analyzed by EPA Method 524.2/8260C (except G-6)

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

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

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 RW 16-1. Data presented in **Table 5** show that the precision for the duplicate sample set was outside the established QA criteria tolerances for 8260 BTEX analytes that could be calculated, but inside QA criteria for DRO and GRO. Samples RW 16-1 and Dup-01 had a low sample volume for VOCs and naphthalene, which could explain the low precision in those samples. The holding times for all analytes were within established criteria.

Table 5 Laboratory Quality Control Objectives

Quality Control Designation	Tolerance	Results for this Event
Holding Times		
DRO/Water/to analyze	40 days	14 days
DRO/Water/to extract	14 days	3 days
GRO/Water/to analyze	14 days	7 days
VOCs/Water/to analyze	14 days	7 days
PAHs/Water/to extract	7 days	3 days
PAHs/Water/to analyze	40 days	8 days
Field Duplicates – Precision		
Benzene/Water	± 30%	NC
Toluene/Water	± 30%	NC
Ethylbenzene/Water	± 30%	**110%**
Xylenes/Water	± 30%	**110%**
GRO/Water	± 30%	6.3%
DRO/Water	± 30%	27%
1,2,4-TMB/Water	± 30%	**140%**
1,3,5-TMB/Water	± 30%	**100%**

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 Vapor Stripping Circulation system (VSC) 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 is 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 March 29th, 2023, a monthly remediation event was completed that involved the injection of chemox. The chemox injection consisted of 100 pounds of Klozur One® product combined with 110 gallons of potable water (from the 7-Eleven 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.

In July of 2022, the air lift VSC well was plumbed to split flow between G-1 and RW 20-1. On March 8th, the Becker blower, which operates the air lift VSC well, was taken out of commission to replace graphite fins. The blower was re-installed on April 4th with new fins installed. It is anticipated that the graphite fins on the blower will need to be replaced every 6-12 months, depending on the consistency of operation of the blower.

5.0 DISCUSSION OF FINDINGS

The laboratory analytical sample results showed petroleum associated analytes were present at concentrations exceeding ADEC GCLs as listed in Alaska Administrative Code (AAC) 18AAC 75.345 Table C (9/18/2019) for the following monitoring wells:

- Monitoring Well MW 16-2: 1,2,4- and 1,3,5-TMB.
- Former Remediation Well RW 16-1: Ethylbenzene, total xylenes, GRO, DRO, naphthalene, 1,2,4- and 1,3,5-TMB.

The average groundwater gradient across the site was calculated to be approximately 0.015 feet per foot to the southeast at 165 degrees. The direction of flow and elevation gradient are comparable to historical measurements. Low groundwater gradients measured in late 2022 may be the result of higher-than-average rainfall in the second half of the summer. All static water levels were measured with the groundwater recirculation system not running.

6.0 CONCLUSIONS AND RECOMMENDATIONS

No anomalies were found during this first quarter 2023 monitoring event that require additional corrective action or changes to the approved year 2023 Corrective Action Work Plan for this site. Stantec recommends continuation of the treatment process for the remainder of this year (2023) for confirmation of reaching consistent monitoring results below ADEC GCLs for closure of the site.

7.0 LIMITATIONS

Stantec conducted this monitoring event in accordance with the 2023 Corrective Action Work Plan approved by ADEC, and in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions. All sampling activities were completed in accordance with the ADEC *Underground Storage Tanks Procedures Manual – Standard Sampling Procedures* (March 22, 2017). The conclusions in this report are Stantec's professional opinion, as of the time of the report, and concerning the scope described in the report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not 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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7-ELEVEN STORE 46754
(formerly SPEEDWAY STORE 5325 - TNS 52)
1Q -MARCH 2023 GWM EVENT REPORT

LOCATION AND VICINITY MAP

FIGURE
1
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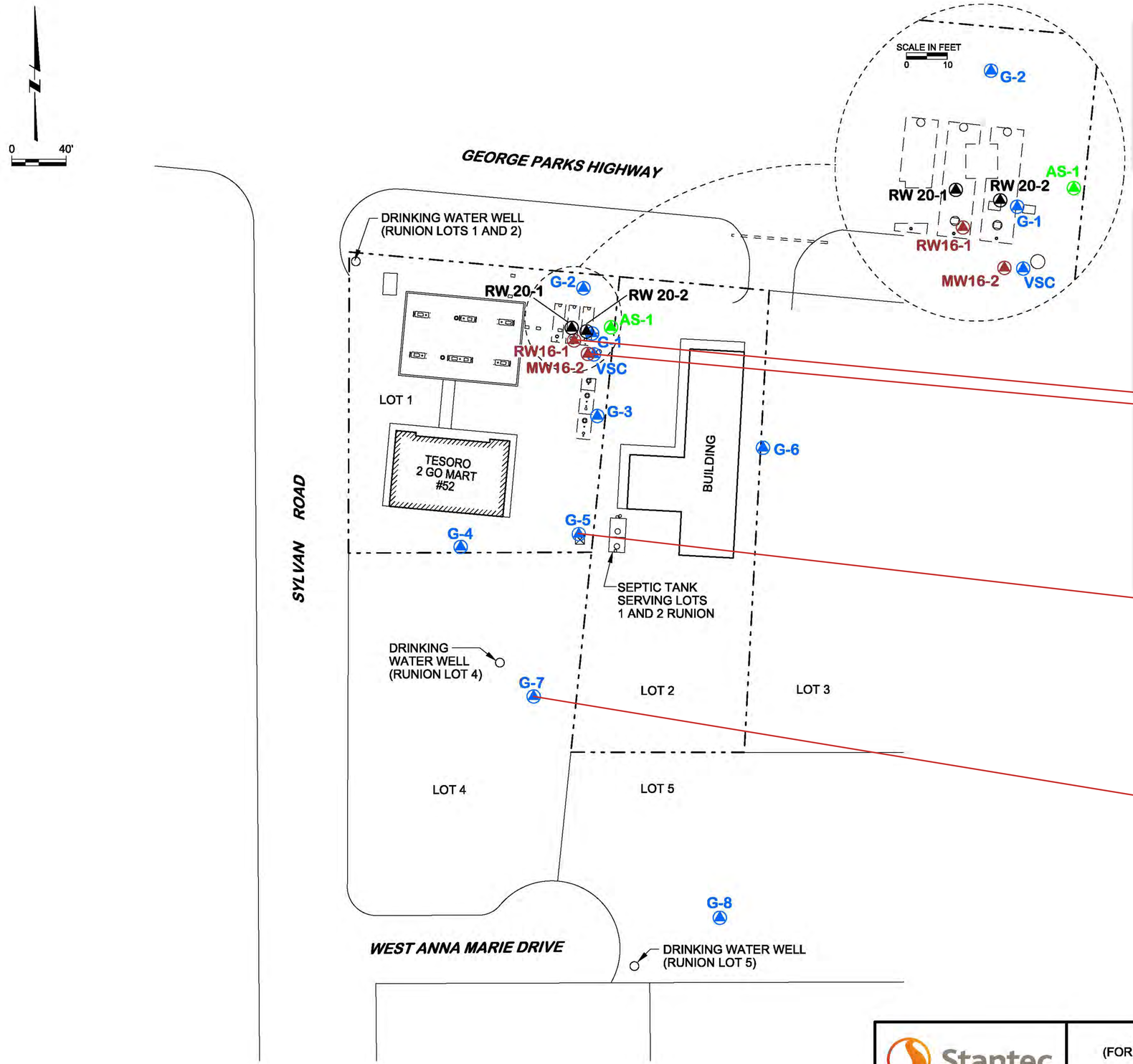

SITE DATA COMPARED TO "ADEC GW CLEANUP LEVELS"				
ND	NOT DETECTED	124-TMB	0.056	mg/L
--	NOT SAMPLED	135-TMB	0.06	mg/L
50	SAMPLED & UNDER CRITERION	BENZENE	0.0046	mg/L
100	SAMPLED & OVER CRITERION	DRO	1.5	mg/L
FP	FREE PRODUCT	ETHYLBENZENE	0.015	mg/L
DISPLAYED IN mg/L		GRO	2.2	mg/L
		NAPHTHALENE	0.0017	mg/L
		SODIUM		
		TOLUENE	1.1	mg/L
		XYLENE	0.19	mg/L

RW16-1	3/8/23
124-TMB	2.47
135-TMB	0.328
BENZENE	0.00174
DRO	5.76
ETHYLBENZENE	0.661
GRO	2.61
NAPHTHALENE	0.0317
SODIUM	274
TOLUENE	0.00443
XYLENE	0.531

RW16-2	3/8/23
124-TMB	0.0938
135-TMB	0.0664
BENZENE	0.00293
DRO	1.46
ETHYLBENZENE	0.000899
GRO	1.61
NAPHTHALENE	0.000116
SODIUM	180
TOLUENE	0.00042
XYLENE	0.000326

G-5	3/8/23
124-TMB	U(0.00100)
135-TMB	U(0.00100)
BENZENE	0.00319
DRO	U(0.170)
ETHYLBENZENE	U(0.00100)
GRO	U(0.100)
NAPHTHALENE	U(0.000250)
SODIUM	9.82
TOLUENE	U(0.00100)
XYLENE	U(0.00300)

G-7	3/8/23
124-TMB	U(0.00100)
135-TMB	U(0.00100)
BENZENE	0.000124
DRO	0.28
ETHYLBENZENE	U(0.00100)
GRO	0.0493
NAPHTHALENE	U(0.000250)
SODIUM	4.35
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

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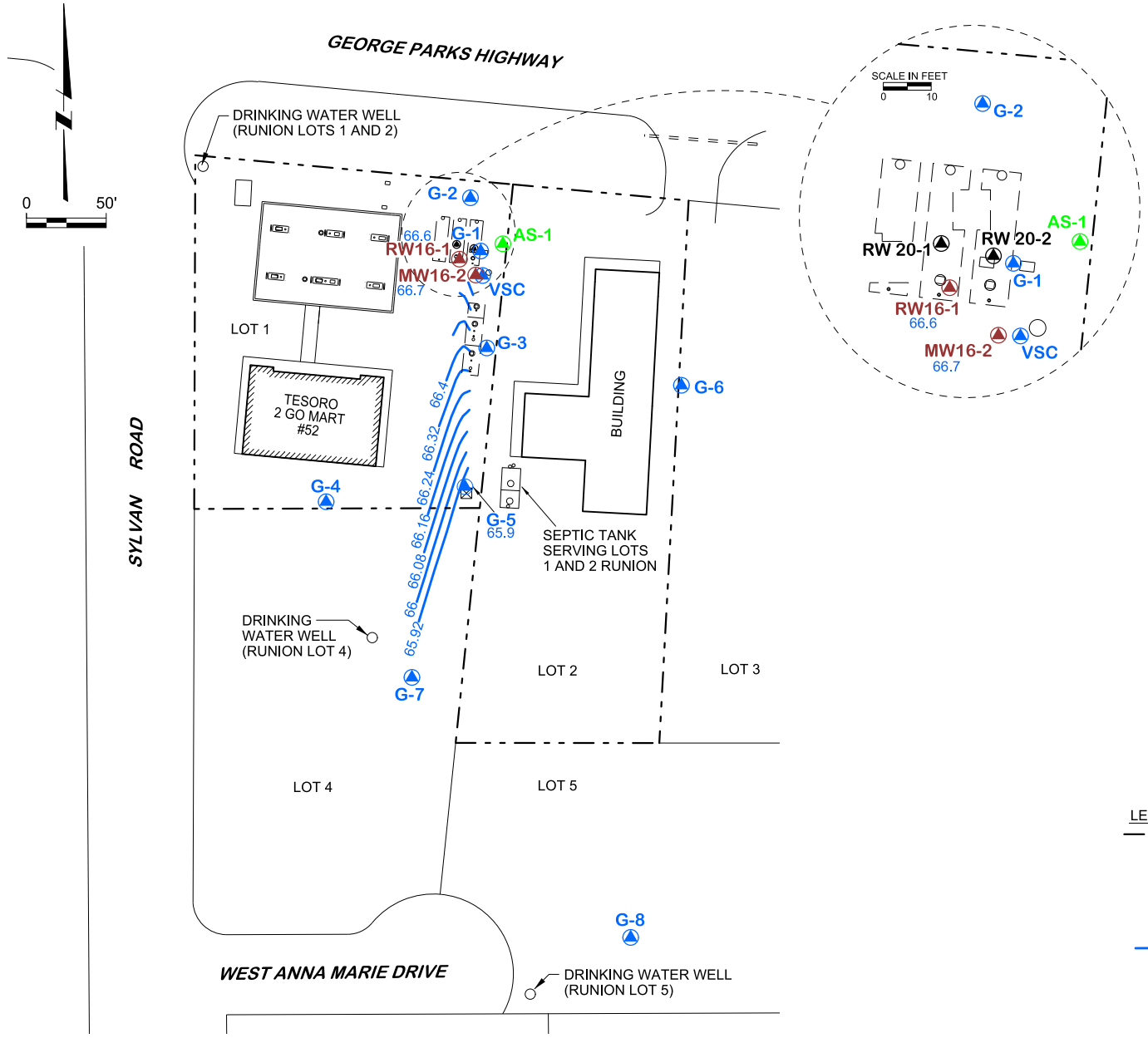
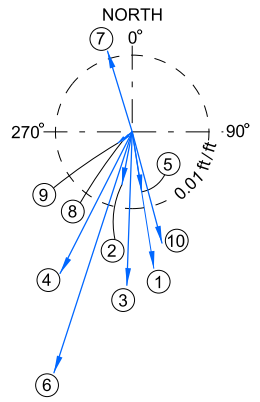
SPEEDWAY STORE 5325
(FORMER TESORO 2 GO MART #52)

SITE MAP WITH ANALYTICAL DATA RESULTS

FIGURE
2
185705772

TIME: 10-APR-2023 18:21 FILE: C:\D\CAD\Proj\Speedway_Tesoro\Speedway 5325 (TGMart052)_203723073\MonEvent\2023\Q1_April 2023\FIG03_Groundwater Contours.dgn





GROUNDWATER FLOW SUMMARY

	DATE	BEARING	GRADIENT (ft/ft)
1	AUG.12, 2020	171°	0.018
2	OCT. 2, 2020	191°	0.007
3	MAY 18, 2021	182°	0.02
4	JULY 21, 2021	207°	0.0207
5	OCT. 13, 2021	171°	0.008
6	MARCH 18,2022	198°	0.033
7	MAY 17, 2022	343°	0.011
8	JULY 19, 2022	226°	0.0018
9	OCT. 12, 2022	232°	0.0024
10	MARCH 8, 2023	165°	0.015

LEGEND:

- PROPERTY LINE
- 2020 SOIL BORING/MONITORING WELL
- 2016 SOIL BORING/MONITORING WELL
- MONITORING WELL
- AIR SPARGE WELL
- GROUNDWATER ELEVATION CONTOURS (feet)
- AS AIR SPARGE

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SPEEDWAY STORE 5325
(FORMER TESORO 2 GO MART #52)
Q1 GWM EVENT REPORT

GROUNDWATER ELEVATION CONTOURS

FIGURE
3
203723073

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 Klozur 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 Klozur 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 Klozur 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 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 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 consider 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 Klozur 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.

October 2022: The groundwater monitoring event was conducted on October 12, 2022. 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. Wells G-3 and RW 16-2 are historically contaminated and were the only wells in which analytes were detected above laboratory LOQs. In addition, no contaminants of concern were detected by EPA Test Method 524.2 in the drinking water samples collected from the drinking water wells located on Runion Lots 1 and 2, Runion Lot 4, and Runion Lot 5.

The average groundwater gradient across the site was calculated to be approximately 0.0024 feet per foot to the southwest at 232 degrees. The direction of flow was similar to historical groundwater flow measurements, but the gradient measured in this event and in the 3Q monitoring event are much less than in previous events. This may be the result of heavy rainfall at the site in the second half of the summer. All static water levels were measured with the groundwater recirculation system not running.

On September 28, 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-Eleven convenience store) injected by gravity into each of the two injection wells RW 20-1 and RW 20-2. 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.

In July 2022, the air lift VSC well was plumbed to split flow between G-1 and RW 20-1. Currently, excess flow from G-1 is diverted to RW 20-1 at a rate of approximately 1.5 gallons per minute. On September 28, the Becker blower which operates the air lift VSC well was taken out of commission for maintenance, including replacement of filters and graphite fins. The blower was re-installed on October 12 after the groundwater monitoring event. It is anticipated that the graphite fins on the blower will need to be replaced every 12 months, depending on the consistency of operation of the blower. During the chemox injection event the new manholes that were installed June 21 of this year were insulated, and the VSC system is expected to be operation through the winter.

March 2023: The laboratory analytical sample results showed petroleum associated analytes were present at concentrations exceeding ADEC GCLs for the following monitoring wells:

- Monitoring Well MW 16-2: 1,2,4- and 1,3,5-TMB.
- Former Remediation Well RW 16-1: Ethylbenzene, total xylenes, GRO, DRO, naphthalene, 1,2,4- and 1,3,5-TMB.

The average groundwater gradient across the site was calculated to be approximately 0.015 feet per foot to the southeast at 165 degrees. The direction of flow and elevation gradient are comparable to historical measurements. Low groundwater gradients measured in late 2022 may be the result of higher-than-average rainfall in the second half of the summer. All static water levels were measured with the groundwater recirculation system not running.

On March 29th, 2023, 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-Eleven convenience store) injected by gravity into each of the two injection wells RW 20-1 and RW 20-2. 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.

On March 8th, 2023, the Becker blower was removed and taken out of commission for maintenance. Graphite fins in the blower were replaced and the blower was reinstalled on April 4th, 2023. It is anticipated that the graphite fins on the blower will need to be replaced every 12 months, depending on the consistency of operation of the blower.

APPENDIX B

Field Methods and Procedures

APPENDIX B – FIELD METHODS AND PROCEDURES

Tesoro North Store #52 (Speedway 5325 – 7-11 Store 46754)

The following table presents the proposed tasks for the Alaska Department of Environmental Conservation (ADEC) approved 2023 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.

2023 Work Plan Schedule for Tesoro North Store #52

Work Plan Task 2023		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Task 1	Monitoring Wells: G-1, G-3, G-5, G-7, MW 16-2, and RW 16-1	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 2023 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, poly 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 2023 Work Plan Schedule shown above.

APPENDIX C

Field Measurements and Notes

TNS #52 (Current Site Name: Speedway #5325)

Date: 03/08/2023

Name(s):

Well ID	Time of Day	Depth to Product	Depth to Water	Depth to Bottom	Product Thickness	Well Diameter	Well Material	Comment(s) on Condition of Well
G-4								Compromised Snow piled into ice on margin. Could not locate.
RW16-2	13:07		32.51					
G-1								Compromised Ice plug at least 8 in thick about 1 ft from TOC. Unable to chip through with breaker bar.
G-7	09:53		33.53			2.0	pvc	
RW16-1	13:56		32.8					
G-5	10:57		35.57					
G-3								Compromised 2in hardback. Schonstadt not able to identify because of prox to tanks

Site Name: TNS #52 (Current Speedway #5325)

Date: 03/08/2023

Name(s):

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
G-1	N/A		
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
99.29	4.0		PVC
Latitude (decimal)		Longitude (decimal)	Weather
61.5821862902		-149.630815567	

Type/Model Meter Used: _____

Calibrated: (date) _____ (time) _____

Cell Vol: _____

Type/Model Pump Used: _____

Pump Intake? _____ ft

Above / Below Bottom / TOC

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

Purge water disposal: Pour on ground

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

Sample Collected? No

Time _____

Total Pumped from Well? 0 Gal

NOTES / COMMENTS:

- Compromised - Ice plug at least 8 in thick about 1 ft from TOC. Unable to chip through with breaker bar.

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

Site Name: TNS #52 (Current Speedway #5325)

Date: 03/08/2023

Name(s):

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
G-3	N/A		
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
99.13			
Latitude (decimal)		Longitude (decimal)	Weather
61.5820198468		-149.630777474	

Type/Model Meter Used: _____

Calibrated: (date) _____ (time) _____

Cell Vol: _____

Type/Model Pump Used: _____

Pump Intake? _____ ft

Above / Below Bottom / TOC

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

Purge water disposal: Pour on ground

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

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

NOTES / COMMENTS:

- Compromised - 2in hardback. Schonstadt not able to identify because of prox to tanks

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

Site Name: TNS #52 (Current Speedway #5325)

Date: 03/08/2023

Name(s): _____

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
G-4	N/A		
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
98.29			
Latitude (decimal)		Longitude (decimal)	Weather
61.5817561273		-149.631357438	

Analytical Parameters	Bottles to be filled
N/A	

Purge water disposal: Pour on ground

Type/Model Meter Used: _____

Calibrated: (date) _____ (time) _____

Cell Vol: _____

Type/Model Pump Used: _____

Pump Intake? _____ ft

Above / Below Bottom / TOC

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

Sample Collected? No Time _____ Total Pumped from Well? 0.0 L

NOTES / COMMENTS:

- Compromised - Snow piled into ice on margin. Could not locate.

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

TNS #52 (Current Site Name: Speedway #5325) Date: 03/08/2023, 11:10 AM Name(s): Remi Malenfant

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
G-5	N/A	35.57	
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
101.44			
Latitude (decimal)		Longitude (decimal)	Weather
61.581788987		-149.630862504	

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

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



Purge water disposal: Pour on ground

Time	Depth to Water (ft)	Flow Rate (ml/Min)	pH		Conductivity (ms/cm)		Turbidity (NTU)		Dissolved O2 (mg/l)		Temp. (Celsius)		Oxygen Reduction Potential (ORP) mv	
10:57	35.57	X	Reading	Change* (±0.1)	Reading	Change* (±3%)	Reading	Change* (±10% or <5)	Reading	Change* (±10% or <0.5)	Reading	Change* (±3%)	Reading	Change* (±10mv)

Sample Collected? Yes Time 11:10 Total Pumped from Well? 0 Gal

NOTES / COMMENTS:

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

TNS #52 (Current Site Name: Speedway #5325) Date: 03/08/2023, 10:20 AM Name(s): Remi Malenfant

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
G-7	N/A	33.53	
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
99.42	2.0		pvc
Latitude (decimal)		Longitude (decimal)	Weather
61.581454289		-149.631059783	

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

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

Purge water disposal: Pour on ground

Time	Depth to Water (ft)	Flow Rate (ml/Min)	pH		Conductivity (ms/cm)		Turbidity (NTU)		Dissolved O2 (mg/l)		Temp. (Celsius)		Oxygen Reduction Potential (ORP) mv	
09:53	33.53	X	Reading	Change* (±0.1)	Reading	Change* (±3%)	Reading	Change* (±10% or <5)	Reading	Change* (±10% or <0.5)	Reading	Change* (±3%)	Reading	Change* (±10mv)

Sample Collected? Yes Time 10:20 Total Pumped from Well? 0 Gal

NOTES / COMMENTS:

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

TNS #52 (Current Site Name: Speedway #5325) Date: 03/08/2023, 2:20 PM Name(s): Remi Malenfant

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
RW16-1	N/A	32.8	
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
99.44			
Latitude (decimal)		Longitude (decimal)	Weather
61.5821994		-149.6309133	

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

Purge water disposal: Pour on ground **QA/QC: Duplicate #1**

Time	Depth to Water (ft)	Flow Rate (ml/Min)	pH		Conductivity (ms/cm)		Turbidity (NTU)		Dissolved O2 (mg/l)		Temp. (Celsius)		Oxygen Reduction Potential (ORP) mv	
13:56	32.8	X	Reading	Change* (±0.1)	Reading	Change* (±3%)	Reading	Change* (±10% or <5)	Reading	Change* (±10% or <0.5)	Reading	Change* (±3%)	Reading	Change* (±10mv)

Sample Collected? Yes Time 14:20 Total Pumped from Well? 0 Gal

NOTES / COMMENTS:

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

Site Name: TNS #52 (Current Speedway #5325) **Date:** 03/08/2023, 1:30 PM **Name(s):** Remi Malenfant

Well ID	Free Product (ft)	Water (ft)	Bottom (ft)
RW16-2	N/A	32.51	
TOC	Well Dia. (in)	Screen Length (ft)	Well Material
99.2			
Latitude (decimal)		Longitude (decimal)	Weather
61.5821668		-149.6308637	

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

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

Purge water disposal: Pour on ground **QA/QC: Duplicate #1**

Time	Depth to Water (ft)	Flow Rate (ml/Min)	pH		Conductivity (ms/cm)		Turbidity (NTU)		Dissolved O2 (mg/l)		Temp. (Celsius)		Oxygen Reduction Potential (ORP) mv	
13:07	32.51		Reading	Change* (±0.1)	Reading	Change* (±3%)	Reading	Change* (±10% or <5)	Reading	Change* (±10% or <0.5)	Reading	Change* (±3%)	Reading	Change* (±10mv)

Sample Collected? Yes Time 13:30 Total Pumped from Well? 0 Gal

NOTES / COMMENTS:

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

Site Name: TNS #52 (Current Speedway #5325) Date: 03/08/2023 Name(s):

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
G-1	61.5821862902	-149.630815567

Field Data	
Sampler Names:	Sheen/Odor?:
pH:	Specific Conductance:
DO:	Temperature (C):
ORP:	Purge Volume (gal):
Notes:	

Site Name: TNS #52 (Current Speedway #5325)

Date: 03/08/2023

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:	

TNS #52 (Current Site Name: Speedway #5325)

Date: 03/08/2023, 11:10 AM

Name(s): Remi Malenfant

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
G-5	61.581788987	-149.630862504

Field Data	
Sampler Names: Rm, ss	Sheen/Odor?: No
pH: 6.75	Specific Conductance: 625
DO: 6.25	Temperature (C): 2.9
ORP: 156.7	Purge Volume (gal): 3.5
Notes: Dark orange-brown	

Site Name: TNS #52 (Current Speedway #5325) **Date:** 03/08/2023, 10:20 AM **Name(s):** Remi Malenfant

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
G-7	61.581454289	-149.631059783

Field Data	
Sampler Names: Rm, ss	Sheen/Odor?: No
pH: 7.12	Specific Conductance: 592
DO: 15.36	Temperature (C): 2.6
ORP: 147.8	Purge Volume (gal): 4.5
Notes: Light transparent brown	

TNS #52 (Current Site Name: Speedway #5325) **Date: 03/08/2023, 2:20 PM** **Name(s): Remi Malenfant**

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
RW16-1	61.5821994	-149.6309133

Field Data	
Sampler Names: Rm,ss	Sheen/Odor?:
pH:	Specific Conductance:
DO:	Temperature (C):
ORP:	Purge Volume (gal): 1.5
Notes: Purged dry at 1.5. Recharged and sampled	

Site Name: TNS #52 (Current Speedway #5325)

Date: 03/08/2023, 1:30 PM

Name(s): Remi Malenfant

Location ID	GPS Latitude (decimal)	GPS Longitude (decimal)
RW16-2	61.5821668	-149.6308637

Field Data	
Sampler Names: Rm, ss	Sheen/Odor?: Odor
pH: 7.21	Specific Conductance: 1445
DO: 7.48	Temperature (C): 4.7
ORP: 119.3	Purge Volume (gal): 2.5
Notes: Dark grey	

APPENDIX D

Tables of Historical Monitoring Data

TNS #52 (Current Speedway #5325)
7-Eleven - Paula Sime
7172 W Parks Hwy

Unit	Well Screen Interval ft	Ground Water Elevation ft	124-TMB ppm	135-TMB ppm	Benzene ppm	DRO ppm	Ethylbenzene ppm	GRO ppm	Naphthalene ppm	Sodium ppm	Toluene ppm	Xylene 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	--	--	—	—	3.70	11.0	12.0	170	—	—	28.0	64.0
09/03/1997	--	--	—	—	0.00100	12.0	5.20	85.0	—	—	12.0	41.0
12/29/1997	--	--	—	—	0.0420	3.30	1.50	34.0	—	—	2.00	9.30
04/23/1998	--	--	—	—	0.13	8.30	4.10	91.0	—	—	3.90	23.0
08/03/1998	--	--	—	—	0.14	12.0	3.00	76.0	—	—	3.10	19.0
11/02/1998	--	--	—	—	0.121	5.58	4.76	70.0	—	—	4.59	27.12
02/12/1999	--	--	—	—	0.00100	19.0	4.00	91.0	—	—	5.40	24.0
08/30/1999	--	--	—	—	0.00100	10.0	5.60	190	—	—	3.10	36.0
10/29/1999	--	--	—	—	0.00100	0.45	0.0350	0.89	—	—	0.0260	0.21
02/08/2000	--	--	—	—	0.00100	—	4.40	10.0	—	—	3.30	26.0
06/08/2000	--	--	—	—	0.00100	0.33	0.11	2.30	—	—	0.0510	0.61
08/30/2000	--	--	—	—	0.00100	0.57	0.92	19.0	—	—	0.50	5.00
11/30/2000	--	--	—	—	0.00100	1.90	2.30	42.0	—	—	1.20	11.0
02/05/2001	--	--	—	—	0.00100	5.20	4.70	94.0	—	—	3.40	25.0
05/10/2001	--	--	—	—	0.00100	1.90	2.62	41.1	—	—	0.967	15.36
08/16/2001	--	--	—	—	0.0130	1.99	0.652	14.3	—	—	0.401	6.18
11/09/2001	--	--	—	—	0.0130	3.16	1.75	25.4	—	—	0.608	9.55
02/15/2002	--	--	—	—	0.0360	3.66	3.64	66.1	—	—	2.82	21.59
05/30/2002	--	--	—	—	0.00100	92.6	9.94	113	—	—	5.52	51.8
08/14/2002	--	--	—	—	0.0480	11.2	6.15	99.6	—	—	2.13	37.27
11/14/2002	--	--	—	—	0.0530	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	4.70	4.55	117	—	—	1.15	26.9
07/17/2003	--	--	—	—	U (0.05)	8.34	6.00	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	5.90	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	2.60	48.5	—	—	0.38	18.4
10/13/2004	--	--	—	—	U (0.005)	1.90	0.232	5.98	—	—	0.615	1.87
01/28/2005	--	--	—	—	U (0.0005)	0.818	0.08430	2.08	—	—	0.121	0.582
04/11/2005	--	--	—	—	U (0.0005)	0.78	0.03740	0.963	—	—	0.0690	0.306
08/12/2005	--	--	—	—	U (0.0005)	0.528	U (0.0005)	U (0.05)	—	—	U (0.0005)	0.003100
10/07/2005	--	--	—	—	U (0.0005)	U (0.397)	0.008200	0.24	—	—	0.01030	0.07130
02/14/2006	--	--	—	—	U (0.0005)	0.676	0.004100	0.141	—	—	0.0083100	0.04820
04/18/2006	--	--	—	—	0.01470	8.37	0.962	24.8	—	—	0.08740	6.64
07/06/2006	--	--	—	—	U (0.0005)	U (0.394)	0.0028900	0.153	—	—	0.0035900	0.05390
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

TNS #52 (Current Speedway #5325)
7-Eleven - Paula Sime
7172 W Parks Hwy

Unit	Well Screen Interval ft	Ground Water Elevation ft	124-TMB ppm	135-TMB ppm	Benzene ppm	DRO ppm	Ethylbenzene ppm	GRO ppm	Naphthalene ppm	Sodium ppm	Toluene ppm	Xylene 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	**0.03920**	0.891	—	—	0.05360	**0.277**
10/23/2007	--	--	—	—	U (0.0005)	U (0.424)	U (0.0005)	U (0.05)	—	—	U (0.0005)	0.0056600
02/22/2008	--	--	—	—	U (0.0005)	0.479	0.0071200	0.229	—	—	0.01290	0.0680
04/15/2008	--	--	—	—	U (0.0005)	0.667	0.01370	0.45	—	—	0.02470	0.116
08/27/2008	--	--	—	—	U (0.0005)	U (0.4)	0.0039700	0.172	—	—	0.0066200	0.04770
10/22/2008	--	--	—	—	U (0.0005)	U (0.427)	**0.02260**	0.742	—	—	0.0320	**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)	0.002100
07/09/2009	--	--	—	—	U (0.0005)	U (0.397)	U (0.001)	0.106	—	—	0.0013700	0.01880
11/04/2009	--	--	—	—	U (0.0005)	U (0.403)	0.0062400	0.271	—	—	0.0085600	0.06390
01/27/2010	--	--	—	—	U (0.0005)	0.844	U (0.001)	0.07570	—	—	0.0012300	0.01680
05/27/2010	--	--	—	—	U (0.0005)	0.538	0.01170	0.257	—	—	0.01140	0.09230
08/19/2010	--	--	—	—	U (0.0005)	U (0.455)	0.000537000	0.184	—	—	U (0.0005)	0.01890
10/26/2010	--	--	—	—	U (0.0005)	0.993	0.0044300	0.181	—	—	0.0044100	0.05740
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	0.000945000	0.143	—	—	0.000913000	0.04250
09/20/2011	--	--	—	—	U (0.0005)	U (0.431)	U (0.0005)	U (0.05)	—	—	U (0.0005)	0.0023600
10/21/2011	--	--	—	—	U (0.0005)	U (0.417)	**0.05650**	0.851	—	—	0.01210	**0.345**
02/17/2012	--	--	—	—	U (0.0005)	0.712	0.0023500	0.07870	—	—	0.0012800	0.0410
05/17/2012	--	--	—	—	U (0.0005)	0.596	**0.0250**	0.941	—	—	0.0057200	**0.339**
09/05/2012	--	--	—	—	U (0.0005)	U (0.424)	0.01390	0.404	—	—	0.0046800	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)	0.0140	0.248	—	—	0.00067000	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)	—	—	0.000667000	0.0028100
05/01/2014	--	--	—	—	U (0.0005)	U (0.41)	0.003800	0.11	—	—	U (0.001)	0.0280
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)	1.40	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)	**1.60**	U (0.015)	U (0.25)	—	—	U (0.01)	U (0.015)

TNS #52 (Current Speedway #5325)
7-Eleven - Paula Sime
7172 W Parks Hwy

	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	0.006600	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)	1.60	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	--	93.3	—	—	U (0.001)	0.242	U (0.001)	U (0.100)	—	23.4	U (0.001)	U (0.003)
10/02/2020	--	97.11	—	—	U (0.001)	U (0.824)	0.000248000	0.03370	—	—	U (0.001)	0.0026200
05/18/2021	--	97.04	U (0.00100)	U (0.00100)	U (0.001)	0.405	U (0.001)	0.01520	U (0.00500)	16.4	U (0.001)	U (0.002)
10/13/2021	--	--	0.000527000	0.000151000	0.000169000	0.518	0.000325000	0.182	U (0.000250)	56.7	U (0.001)	0.000554000
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)
10/12/2022	--	80.2	U(0.00100)	U(0.00100)	U(0.00100)	0.565	U(0.00100)	U(0.100)	U(0.000250)	7.81	U(0.00100)	U(0.00300)
G-3												
04/24/1997	--	--	—	—	0.00100	5.10	5.40	70.0	—	—	7.60	26.0
09/03/1997	--	--	—	—	0.0800	7.50	1.40	21.0	—	—	2.00	7.70
12/29/1997	--	--	—	—	0.0570	3.50	1.50	19.0	—	—	0.43	4.70
04/23/1998	--	--	—	—	0.00100	6.90	3.10	40.0	—	—	0.49	10.0
08/03/1998	--	--	—	—	0.14	2.00	3.30	39.0	—	—	0.45	10.0
11/02/1998	--	--	—	—	0.00100	2.43	3.00	30.0	—	—	0.58	10.27
02/12/1999	--	--	—	—	0.00100	8.00	3.90	48.0	—	—	0.52	12.0
05/11/1999	--	--	—	—	0.0510	17.6	1.02	14.0	—	—	0.12	4.16
08/30/1999	--	--	—	—	0.00100	4.60	1.60	19.0	—	—	0.12	3.90
10/29/1999	--	--	—	—	0.001800	0.92	0.0170	0.32	—	—	0.001600	0.0730
02/08/2000	--	--	—	—	0.00700	0	0.47	4.00	—	—	0.0380	0.89
06/08/2000	--	--	—	—	0.00100	1.10	0.00300	0	—	—	U	0.0100
08/30/2000	--	--	—	—	0.00100	0.51	0.00400	0.12	—	—	0.001800	0.0300
11/30/2000	--	--	—	—	0.00600	5.50	0.32	2.90	—	—	0.0320	0.68
02/05/2001	--	--	—	—	0.00600	5.90	0.46	4.30	—	—	0.14	0.90
05/10/2001	--	--	—	—	0.00100	12.8	0.00300	0	—	—	U	0.00900
08/16/2001	--	--	—	—	0.00500	8.75	0.39	2.76	—	—	0.06130	0.856
11/09/2001	--	--	—	—	0.0340	1.57	0.0190	0.57	—	—	0.08280	0.103
02/15/2002	--	--	—	—	0.00800	70.7	0.0490	0.87	—	—	0.119	0.156
05/30/2002	--	--	—	—	0.0210	34.2	0.20	2.25	—	—	0.08090	0.605
08/14/2002	--	--	—	—	0.0290	5.68	0.488	5.44	—	—	0.147	1.49
11/14/2002	--	--	—	—	0.06580	4.08	0.804	8.97	—	—	0.186	1.9704
01/28/2003	--	--	—	—	0.05710	7.89	0.319	2.93	—	—	0.09140	0.644
04/17/2003	--	--	—	—	0.0028800	4.58	0.02820	0.585	—	—	0.02740	0.0820
07/17/2003	--	--	—	—	U (0.0005)	7.48	0.01070	0.233	—	—	0.01650	0.03270
10/02/2003	--	--	—	—	U (0.0005)	1.14	0.000626000	U (0.08)	—	—	0.0022400	0.0023200
01/20/2004	--	--	—	—	U (0.0005)	1.83	0.0039900	0.144	—	—	0.04390	0.01270

TNS #52 (Current Speedway #5325)
7-Eleven - Paula Sime
7172 W Parks Hwy

Unit	Well Screen Interval ft	Ground Water Elevation ft	124-TMB ppm	135-TMB ppm	Benzene ppm	DRO ppm	Ethylbenzene ppm	GRO ppm	Naphthalene ppm	Sodium ppm	Toluene ppm	Xylene ppm
GW Human Health Cleanup			0.056	0.06	0.0046	1.5	0.015	2.2	0.0017		1.1	0.19
04/13/2004	--	--	—	—	U (0.005)	**2.89**	**0.04720**	0.855	—	—	0.02610	0.148
07/20/2004	--	--	—	—	U (0.0005)	**19.4**	0.002800	0.164	—	—	0.03050	0.0085300
10/13/2004	--	--	—	—	U (0.0005)	**2.11**	U (0.0005)	U (0.08)	—	—	0.000537000	U (0.001)
01/28/2005	--	--	—	—	0.000857000	**3.65**	0.00078000	0.09730	—	—	0.02930	0.003800
04/11/2005	--	--	—	—	0.0031100	**2.58**	0.0023200	0.127	—	—	0.01130	0.02530
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)	—	—	0.0023400	U (0.0015)
02/14/2006	--	--	—	—	0.000874000	**3.00**	0.0012900	0.215	—	—	0.0760	0.007200
04/18/2006	--	--	—	—	U (0.0005)	**7.64**	0.000884000	0.181	—	—	0.06140	0.0035600
07/06/2006	--	--	—	—	U (0.0005)	**3.17**	U (0.0005)	U (0.05)	—	—	0.0025200	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	--	--	—	—	**0.0052800**	**2.27**	0.001700	0.236	—	—	0.05130	0.01540
08/07/2007	--	--	—	—	U (0.0005)	0.841	U (0.0005)	U (0.05)	—	—	U (0.0005)	U (0.0015)
10/23/2007	--	--	—	—	**0.0050200**	1.41	**0.0200**	0.322	—	—	0.03580	0.03190
02/21/2008	--	--	—	—	**0.0051700**	0.93	**0.0670**	0.771	—	—	0.03070	0.144
04/15/2008	--	--	—	—	**0.0056200**	0.604	**0.135**	1.44	—	—	0.0400	**0.211**
08/27/2008	--	--	—	—	**0.01380**	0.978	**0.842**	**7.26**	—	—	0.436	**2.88**
10/22/2008	--	--	—	—	**0.01240**	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	--	--	—	—	**0.007100**	**9.47**	**0.08340**	1.04	—	—	0.04930	**0.241**
04/08/2009	--	--	—	—	U (0.005)	**1.51**	**0.378**	**4.20**	—	—	0.07020	**1.43**
07/09/2009	--	--	—	—	U (0.0005)	**1.81**	**1.12**	**3.01**	—	—	0.04150	**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**	—	—	0.01570	**2.01**
05/27/2010	--	--	—	—	U (0.0005)	1.01	**0.03790**	0.936	—	—	0.000748000	0.137
08/19/2010	--	--	—	—	U (0.0005)	U (0.403)	**0.03360**	0.933	—	—	0.000756000	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)	**4.10**	**0.06470**	2.11	—	—	0.0011200	**0.222**
06/09/2011	--	--	—	—	0.000536000	U (0.446)	**0.06660**	**2.26**	—	—	0.0018800	**0.232**
09/20/2011	--	--	—	—	U (0.0005)	U (0.400)	**0.02350**	1.69	—	—	0.000718000	0.07940
10/21/2011	--	--	—	—	0.0010700	U (0.417)	**0.03250**	**2.51**	—	—	0.0012600	0.105
02/17/2012	--	--	—	—	0.000809000	1.15	**0.05360**	**2.62**	—	—	0.000792000	0.131
05/17/2012	--	--	—	—	0.0011700	0.56	**0.08990**	**5.91**	—	—	0.0016400	**0.303**
09/05/2012	--	--	—	—	U (0.0005)	U (0.424)	**0.166**	0.71	—	—	U (0.0005)	0.04860
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	**0.01820**	0.818	—	—	0.0036400	0.05550
05/10/2013	--	--	—	—	0.0015300	U (0.439)	**0.05540**	1.35	—	—	0.0015100	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	0.00066000	U (0.05)	—	—	U (0.0005)	0.0017700
05/01/2014	--	--	—	—	U (0.0005)	**4.80**	0.006600	0.30	—	—	0.00100	0.0170

TNS #52 (Current Speedway #5325)
7-Eleven - Paula Sime
7172 W Parks Hwy

Unit	Well Screen Interval ft	Ground Water Elevation ft	124-TMB ppm	135-TMB ppm	Benzene ppm	DRO ppm	Ethylbenzene ppm	GRO ppm	Naphthalene ppm	Sodium ppm	Toluene ppm	Xylene ppm
GW Human Health Cleanup			0.056	0.06	0.0046	1.5	0.015	2.2	0.0017		1.1	0.19
10/30/2014	--	--	—	—	U (0.0005)	1.00	0.009700	0.46	—	—	U (0.0005)	0.0230
02/11/2015	--	--	—	—	0.00200	**12.0**	**0.0870**	**4.80**	—	—	0.001100	**0.24**
05/15/2015	--	--	—	—	U (0.002)	1.30	0.007800	**2.60**	—	—	U (0.002)	0.0150
09/02/2015	--	--	—	—	U (0.0002)	U (0.40)	0.007900	1.10	—	—	U (0.001)	0.006400
11/12/2015	--	--	—	—	U (0.0020)	0.26	**0.0360**	**3.20**	—	—	U (0.0020)	0.0690
01/28/2016	--	--	—	—	U (0.0020)	0.76	**0.0270**	**3.20**	—	—	U (0.0020)	0.0520
05/09/2016	--	--	—	—	0.0002000	0.58	0.008600	1.60	—	—	U (0.001)	0.0120
10/24/2016	--	--	—	—	0.0002000	0.37	0.001700	**4.40**	—	—	U (0.001)	0.003600
12/09/2016	--	--	—	—	U (0.002)	0.48	0.00200	**4.20**	—	—	U (0.002)	0.003800
04/25/2017	--	--	—	—	U (0.0002)	**4.70**	0.008900	**2.30**	—	—	U (0.002)	0.0160
10/20/2017	--	--	—	—	U (0.002)	**3.00**	U (0.003)	U(1.0)	—	—	U (0.002)	U(0.003)
02/13/2018	--	--	—	—	U (0.002)	**6.70**	U (0.003)	U (1.0)	—	—	0.005400	0.004700
08/17/2018	--	--	—	—	U (0.003)	**3.20**	0.004700	0.99	—	—	0.00091000	0.0093800
10/25/2018	--	--	—	—	U (0.003)	**2.30**	U (0.003)	0.37	—	—	U (0.002)	U (0.003)
02/26/2019	--	--	—	—	U (0.003)	**8.50**	0.00600	1.70	—	—	U (0.002)	0.0130
04/24/2019	--	--	—	—	U (0.003)	**7.70**	0.003400	1.60	—	—	U (0.002)	0.006800
07/16/2019	--	--	—	—	U (0.003)	**4.60**	0.003300	1.30	—	—	U (0.002)	0.00600
10/17/2019	--	--	—	—	U (0.003)	**3.60**	U (0.003)	0.58	—	—	U (0.002)	U (0.003)
08/12/2020	--	67.25	—	—	U (0.001)	0.339	0.000754000	0.173	—	8.35	U (0.001)	0.0015900
10/02/2020	--	66.93	—	—	U (0.001)	1.45	0.000143000	0.12	—	—	U (0.001)	U (0.002)
03/03/2021	--	--	—	—	U (0.001)	1.47	0.00091000	1.01	—	—	U (0.001)	0.00086000
03/31/2021	--	62.99	—	—	—	—	—	—	—	123	—	—
05/18/2021	--	64.72	0.04520	0.04570	U (0.001)	**8.48**	U (0.001)	1.36	U (0.00500)	32.2	U (0.001)	U (0.002)
07/21/2021	--	64.55	**0.05990**	**0.06690**	U (0.001)	**2.32**	0.0016300	1.68	**0.0020600**	9.61	0.000279000	0.001500
10/13/2021	--	67.39	0.000928000	0.000365000	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)	22.0	U(0.00100)	U(0.00300)
10/12/2022	--	80.1	0.0011800	0.000508000	U(0.00100)	0.392	0.000464000	0.03490	U(0.000250)	7.96	U(0.00100)	0.000449000
G-5												
04/24/1997	--	--	—	—	**0.0320**	—	**0.91**	**17.0**	—	—	0.56	**5.20**
09/03/1997	--	--	—	—	0.00100	**4.80**	**1.10**	**25.0**	—	—	U	**5.40**
12/29/1997	--	--	—	—	**0.0650**	**4.00**	**1.00**	**19.0**	—	—	0.15	**4.70**
04/23/1998	--	--	—	—	**0.0480**	**2.70**	**0.38**	**11.0**	—	—	0.0680	**1.70**
08/03/1998	--	--	—	—	0.00100	0.27	U	0	—	—	U	0.001900
11/02/1998	--	--	—	—	**0.0260**	**1.82**	**0.12**	**3.70**	—	—	0.0100	**0.27**
08/31/1999	--	--	—	—	**0.0110**	0.95	**0.34**	**4.60**	—	—	0.0290	**0.90**
10/29/1999	--	--	—	—	**0.0240**	0.40	**0.0660**	**2.70**	—	—	0.00600	0.11
02/08/2000	--	--	—	—	**0.00800**	—	**0.0530**	**4.20**	—	—	0.00600	0.10
06/08/2000	--	--	—	—	0.00100	0	**0.0230**	0.61	—	—	U	0.0400
08/30/2000	--	--	—	—	0.00100	0.00100	0.00400	0.22	—	—	U	0.00800
11/30/2000	--	--	—	—	**0.0120**	0.49	**0.0790**	**3.90**	—	—	0.00600	0.14

TNS #52 (Current Speedway #5325)
7-Eleven - Paula Sime
7172 W Parks Hwy

Unit	Well Screen Interval ft	Ground Water Elevation ft	124-TMB ppm	135-TMB ppm	Benzene ppm	DRO ppm	Ethylbenzene ppm	GRO ppm	Naphthalene ppm	Sodium ppm	Toluene ppm	Xylene ppm
GW Human Health Cleanup			0.056	0.06	0.0046	1.5	0.015	2.2	0.0017		1.1	0.19
02/05/2001	--	--	—	—	**0.0150**	0.32	**0.0160**	2.10	—	—	0.00800	0.0260
05/10/2001	--	--	—	—	**0.00700**	0.00100	**0.0610**	1.62	—	—	U	0.10
08/16/2001	--	--	—	—	**0.0310**	U	**0.0420**	**2.74**	—	—	0.0110	0.0650
11/09/2001	--	--	—	—	0.00400	U	U	0.258	—	—	U	0.00200
08/14/2002	--	--	—	—	**0.0130**	0.552	**0.145**	**2.53**	—	—	0.00300	0.182
11/14/2002	--	--	—	—	0.0025700	U (0.5)	U (0.002)	0.137	—	—	U (0.002)	U (0.002)
01/28/2003	--	--	—	—	**0.0640**	1.20	**0.07330**	**2.40**	—	—	U (0.02)	0.06670
04/17/2003	--	--	—	—	**0.01810**	0.418	**0.08340**	**3.14**	—	—	0.00200	0.186
07/17/2003	--	--	—	—	U (0.005)	U (0.5)	**0.06660**	**2.72**	—	—	U (0.005)	0.184
10/02/2003	--	--	—	—	**0.01250**	U (0.32)	**0.127**	**4.33**	—	—	0.0057700	**0.217**
04/13/2004	--	--	—	—	U (0.0005)	U (0.5)	U (0.0005)	0.05390	—	—	U (0.0005)	U (0.0015)
07/20/2004	--	--	—	—	0.0035100	0.484	**0.05610**	1.70	—	—	U (0.0005)	0.02390
10/13/2004	--	--	—	—	**0.00900**	0.443	**0.08930**	**2.71**	—	—	0.0015500	0.113
01/28/2005	--	--	—	—	0.001100	0.45	**0.01830**	1.35	—	—	0.0019800	0.0200
04/11/2005	--	--	—	—	U (0.0005)	U (0.391)	0.01380	1.06	—	—	0.000845000	0.01170
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	--	--	—	—	0.0018600	0.475	**0.01630**	1.34	—	—	0.0013600	0.006600
04/18/2006	--	--	—	—	0.001800	0.693	**0.153**	2.04	—	—	0.000663000	**0.24**
07/06/2006	--	--	—	—	0.0014100	U (0.41)	**0.09320**	1.14	—	—	0.0015800	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)	**0.01630**	0.774	—	—	U (0.0005)	0.02270
08/07/2007	--	--	—	—	0.0014700	U (0.407)	0.0061100	0.529	—	—	U (0.0005)	0.00700
10/23/2007	--	--	—	—	U (0.0005)	U (0.446)	0.0053400	0.40	—	—	U (0.0005)	0.0060300
02/21/2008	--	--	—	—	0.0023100	U (0.417)	**0.05920**	1.97	—	—	0.000739000	0.05230
08/27/2008	--	--	—	—	U (0.0005)	U (0.4)	**0.02030**	0.506	—	—	U (0.0005)	0.02430
10/22/2008	--	--	—	—	U (0.0005)	U (0.420)	0.0062900	0.35	—	—	U (0.0005)	0.0051200
02/05/2009	--	--	—	—	0.00093000	0.59	**0.08980**	2.02	—	—	0.0021100	0.101
02/19/2009	--	--	—	—	0.0024900	0.689	**0.129**	1.96	—	—	0.0028300	**0.262**
04/08/2009	--	--	—	—	**0.005800**	U (0.435)	**0.26**	**3.84**	—	—	0.169	**0.634**
07/09/2009	--	--	—	—	0.0026700	U (0.410)	**0.184**	**2.51**	—	—	0.0045200	**0.284**
11/04/2009	--	--	—	—	0.0036500	U (0.397)	**0.292**	**4.13**	—	—	0.0073900	**0.645**
01/27/2010	--	--	—	—	0.0038500	U (0.427)	**0.499**	**7.17**	—	—	0.03130	**1.51**
05/27/2010	--	--	—	—	0.002200	0.668	**0.406**	**5.19**	—	—	0.02180	**1.22**
08/19/2010	--	--	—	—	0.0010500	0.415	**0.233**	**3.27**	—	—	0.0030700	**0.977**
10/26/2010	--	--	—	—	U (0.0022)	U (0.403)	**0.04490**	0.741	—	—	U (0.0005)	0.07230
02/17/2011	--	--	—	—	0.0029100	U (0.410)	**0.108**	**3.11**	—	—	0.003400	**0.472**
06/09/2011	--	--	—	—	0.0019900	0.436	**0.173**	**5.08**	—	—	0.0040500	**0.856**
09/20/2011	--	--	—	—	0.0010100	U (0.403)	**0.03620**	0.975	—	—	0.0013300	0.138
10/21/2011	--	--	—	—	U (0.0005)	U (0.439)	0.01210	0.365	—	—	U (0.0005)	0.03030
02/17/2012	--	--	—	—	0.0040300	0.726	**0.08070**	**2.80**	—	—	0.0049700	**0.476**

TNS #52 (Current Speedway #5325)
7-Eleven - Paula Sime
7172 W Parks Hwy

Unit	Well Screen Interval ft	Ground Water Elevation ft	124-TMB ppm	135-TMB ppm	Benzene ppm	DRO ppm	Ethylbenzene ppm	GRO ppm	Naphthalene ppm	Sodium ppm	Toluene ppm	Xylene ppm
GW Human Health Cleanup			0.056	0.06	0.0046	1.5	0.015	2.2	0.0017		1.1	0.19
05/17/2012	--	--	—	—	0.000704000	0.541	0.01250	0.683	—	—	0.000734000	0.03780
10/30/2012	--	--	—	—	U (0.0005)	U (0.410)	U (0.0005)	U (0.05)	—	—	U (0.0005)	U (0.0015)
01/30/2013	--	--	—	—	U (0.0005)	U (0.403)	U (0.0005)	U (0.05)	—	—	U (0.0005)	U (0.0015)
05/10/2013	--	--	—	—	0.00052000	U (0.400)	U (0.0005)	0.221	—	—	0.000627000	0.0019400
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 (0.005)	U (0.41)	U (0.001)	U (0.05)	—	—	U (0.001)	U (0.001)
10/30/2014	--	--	—	—	0.00086000	U (0.42)	U (0.0005)	0.19	—	—	U (0.0005)	U (0.0015)
02/11/2015	--	--	—	—	U (0.0005)	U (0.42)	0.003100	0.28	—	—	U (0.0005)	0.003100
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)	0.006300	0.17	—	—	U (0.001)	0.003400
04/24/2017	--	--	—	—	U (0.0002)	0.22	**0.0850**	1.40	—	—	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)	0.008600	U (0.25)	—	—	U (0.002)	0.006800
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	--	66.92	—	—	U (0.001)	U (0.864)	U (0.001)	U (0.100)	—	10.6	U (0.001)	U (0.003)
10/02/2020	--	66.29	—	—	0.000236000	0.406	U (0.001)	0.01890	—	—	U (0.001)	U (0.002)
05/18/2021	--	62.56	U (0.00100)	0.000191000	U (0.001)	U (0.800)	0.001700	0.06930	U (0.00500)	13.9	U (0.001)	U (0.002)
07/21/2021	--	62.64	0.000612000	0.000507000	U (0.001)	0.34	U (0.001)	0.04780	U (0.00500)	14.2	U (0.001)	U (0.003)
10/13/2021	--	66.89	U (0.00100)	U (0.00100)	0.000267000	0.402	U (0.001)	0.07760	U (0.000250)	20.3	U (0.001)	U (0.002)
03/18/2022	--	62.05	U (0.00100)	U (0.00100)	0.000264000	U(0.800)	0.000484000	0.08580	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)	0.03450	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)
10/12/2022	--	79.93	U(0.00100)	U(0.00100)	U(0.00100)	U(0.170)	U(0.00100)	U(0.100)	U(0.000250)	8.87	U(0.00100)	U(0.00300)
03/08/2023	--	65.87	U(0.00100)	U(0.00100)	0.0031900	U(0.170)	U(0.00100)	U(0.100)	U(0.000250)	9.82	U(0.00100)	U(0.00300)
G-7												
08/03/1998	--	--	—	—	U	U	U	U	—	—	U	U
11/02/1998	--	--	—	—	U	U	0.0120	0.16	—	—	0.00500	0.0580
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

TNS #52 (Current Speedway #5325)
7-Eleven - Paula Sime
7172 W Parks Hwy

Unit	Well Screen Interval ft	Ground Water Elevation ft	124-TMB ppm	135-TMB ppm	Benzene ppm	DRO ppm	Ethylbenzene ppm	GRO ppm	Naphthalene ppm	Sodium ppm	Toluene ppm	Xylene ppm
GW Human Health Cleanup			0.056	0.06	0.0046	1.5	0.015	2.2	0.0017		1.1	0.19
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
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)

TNS #52 (Current Speedway #5325)
7-Eleven - Paula Sime
7172 W Parks Hwy

Unit	Well Screen Interval ft	Ground Water Elevation ft	124-TMB ppm	135-TMB ppm	Benzene ppm	DRO ppm	Ethylbenzene ppm	GRO ppm	Naphthalene ppm	Sodium ppm	Toluene ppm	Xylene ppm
GW Human Health Cleanup			0.056	0.06	0.0046	1.5	0.015	2.2	0.0017		1.1	0.19
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)
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	--	67.1	—	—	U (0.001)	U (0.888)	U (0.001)	U (0.100)	—	—	U (0.001)	U (0.002)
05/18/2021	--	60.81	U (0.00100)	U (0.00100)	U (0.001)	U (0.800)	U (0.001)	0.0320	U (0.00500)	9.55	U (0.001)	U (0.002)
07/21/2021	--	61.67	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	--	66.63	U (0.00100)	U (0.00100)	U (0.001)	0.358	U (0.001)	0.05070	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(0.0002500)	6.10	U(0.00100)	U(0.00300)
10/12/2022	--	79.69	U(0.00100)	U(0.00100)	U(0.00100)	U(0.170)	U(0.00100)	U(0.0287	U(0.000250)	6.88	U(0.00100)	U(0.00300)
03/08/2023	--	65.89	U(0.00100)	U(0.00100)	0.000124000	0.28	U(0.00100)	0.04930	U(0.000250)	4.35	U(0.00100)	U(0.00300)
RW16-1												
10/24/2016	--	--	—	—	U (0.0002)	4.60	1.70	30.0	—	—	0.0190	10.1
02/08/2017	--	--	—	—	U (0.002)	2.70	7.90	25.0	—	—	0.004800	8.90
04/25/2017	--	--	—	—	U (0.002)	2.40	U (0.750)	12.0	—	—	U (0.001)	4.83
08/17/2018	--	--	—	—	U (0.003)	7.90	1.20	24.0	—	—	0.001800	8.50
08/12/2020	--	67.49	—	—	0.00092000	2.00	1.58	5.85	—	65.8	0.0055800	8.26
10/02/2020	--	67.2	—	—	U (0.020)	3.58	0.373	3.99	—	—	0.01740	1.721
03/31/2021	--	67.77	—	—	U (0.020)	4.72	1.33	14.0	—	64.0	U (0.020)	5.28
05/18/2021	--	66.12	2.50	0.53	U (0.200)	7.24	0.761	3.38	U (1.00)	24.1	U (0.200)	4.80
07/21/2021	--	65.91	2.90	0.597	U (0.200)	9.60	1.36	7.22	U (1.00)	16.7	U (0.200)	7.69
10/13/2021	--	67.71	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	0.04860	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	0.06120	56.9	U(0.0500)	2.773
07/19/2022	--	70.05	0.03960	0.01150	0.000116000	0.572	0.0024200	0.247	0.0010400	33.2	0.00028000	0.033910
10/12/2022	--	79.98	0.0024100	U(0.000104)	0.000309000	0.50	0.000383000	0.322	0.001100	26.7	0.00038000	0.0130
03/08/2023	--	66.64	2.47	0.328	0.0017400	5.76	0.661	2.61	0.03170	274	0.0044300	0.531
RW16-2												
12/09/2016	--	--	—	—	U (0.0002)	0.25	0.0220	2.00	—	—	U (0.001)	0.429
02/08/2017	--	--	—	—	U (0.002)	2.10	0.44	19.0	—	—	0.007800	3.30
04/25/2017	--	--	—	—	U (0.0002)	0.86	U (0.30)	8.70	—	—	U (0.002)	1.00
10/20/2017	--	--	—	—	U (0.002)	0.26	0.0420	2.20	—	—	U (0.002)	0.125

TNS #52 (Current Speedway #5325)
7-Eleven - Paula Sime
7172 W Parks Hwy

Unit	Well Screen Interval ft	Ground Water Elevation ft	124-TMB ppm	135-TMB ppm	Benzene ppm	DRO ppm	Ethylbenzene ppm	GRO ppm	Naphthalene ppm	Sodium ppm	Toluene ppm	Xylene ppm
GW Human Health Cleanup			0.056	0.06	0.0046	1.5	0.015	2.2	0.0017		1.1	0.19
02/13/2018	--	--	—	—	U (0.002)	0.59	**0.0510**	**6.10**	—	—	U (0.002)	0.177
08/17/2018	--	--	—	—	U (0.003)	0.63	0.0150	**2.40**	—	—	U (0.002)	0.07710
10/25/2018	--	--	—	—	U (0.003)	0.31	0.003600	1.00	—	—	U (0.002)	0.0130
02/26/2019	--	--	—	—	U (0.003)	1.10	0.006600	**4.60**	—	—	U (0.002)	0.0230
04/24/2019	--	--	—	—	U (0.003)	0.58	0.006500	**4.20**	—	—	U (0.002)	0.0270
07/16/2019	--	--	—	—	U (0.003)	0.67	0.006600	**3.40**	—	—	U (0.002)	0.0310
10/17/2019	--	--	—	—	U (0.003)	0.30	0.005200	2.10	—	—	U (0.002)	0.0230
08/12/2020	--	67.36	—	—	U (0.001)	0.419	0.0016600	1.65	—	21.7	U (0.001)	0.0073500
10/02/2020	--	67.05	—	—	U (0.001)	0.25	0.00072000	0.967	—	—	U (0.001)	0.00277200
03/31/2021	--	65.19	—	—	U (0.001)	0.585	0.00100	**2.86**	—	4.42	U (0.001)	0.0027600
05/18/2021	--	66.27	0.0110	0.01030	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	--	66.08	0.01450	0.01260	U (0.001)	0.441	0.000569000	0.724	U (0.00500)	5.58	U (0.001)	0.0013500
10/13/2021	--	67.54	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	0.03410	0.02310	U(0.00100)	0.643	0.00032000	1.95	0.000106000	6.93	U(0.00100)	U(0.00300)
05/11/2022	--	67.88	0.01240	0.0063100	0.000105000	0.49	U(0.00100)	0.658	U(0.000250)	21.6	U(0.00100)	U(0.00300)
07/19/2022	--	70.17	0.02030	0.01010	0.00013000	U(0.800)	U(0.00100)	0.354	U(0.000250)	9.06	U(0.00100)	U(0.00300)
10/12/2022	--	80.12	0.000523000	0.000487000	U(0.00100)	U(0.170)	U(0.00100)	0.02940	U(0.000250)	9.84	U(0.00100)	U(0.00300)
03/08/2023	--	66.69	**0.09380**	**0.06640**	0.0029300	1.46	0.000899000	1.61	0.000116000	180	0.00042000	0.000326000

APPENDIX E

PACE Laboratory Analytical Report and ADEC Laboratory Data Review Checklist

ANALYTICAL REPORT

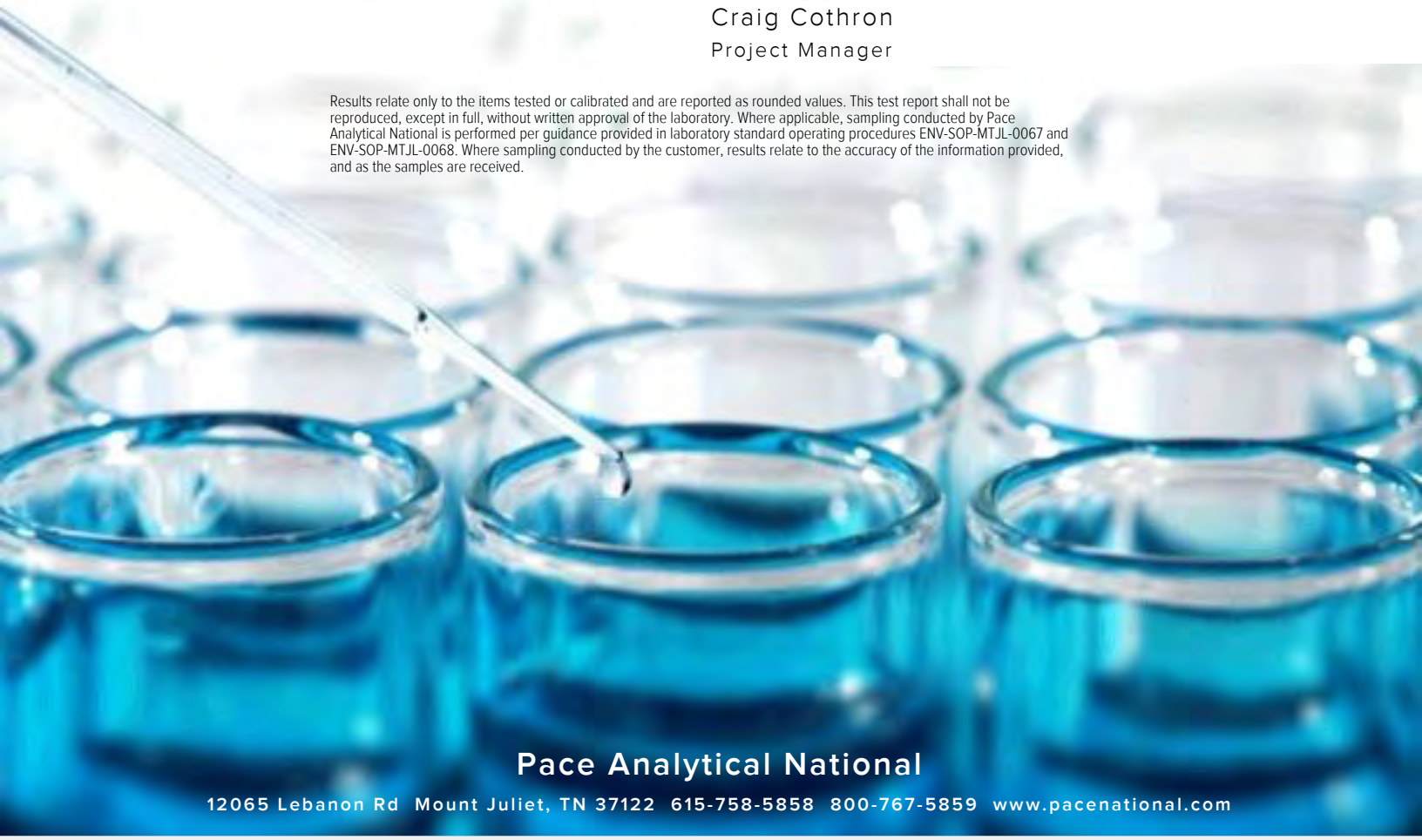
March 22, 2023

Stantec - Anchorage, AK

Sample Delivery Group:	L1594255
Samples Received:	03/11/2023
Project Number:	203723073
Description:	Store 5314 - Wasilla, AK
Site:	0005314
Report To:	Mr. John Marshall 725 E Fireweed Lane Suite 200 Anchorage, AK 99503

Entire Report Reviewed By:

Craig Cothron
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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G7 L1594255-01 GW

Collected by: Remi Malenfant | Collected date/time: 03/08/23 10:20 | Received date/time: 03/11/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2021987	1	03/13/23 21:58	03/15/23 22:51	ABL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method AK101	WG2023933	1	03/15/23 22:08	03/15/23 22:08	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2023811	1	03/15/23 18:48	03/15/23 18:48	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2024826	1	03/18/23 02:47	03/18/23 02:47	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2026285	1	03/21/23 10:17	03/22/23 06:24	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2022898	1	03/15/23 10:06	03/16/23 02:39	DLH	Mt. Juliet, TN

G5 L1594255-02 GW

Collected by: Remi Malenfant | Collected date/time: 03/08/23 11:10 | Received date/time: 03/11/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2021987	1	03/13/23 21:58	03/15/23 22:54	ABL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method AK101	WG2023933	1	03/15/23 22:34	03/15/23 22:34	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2023811	1	03/15/23 19:08	03/15/23 19:08	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2024826	1	03/18/23 03:06	03/18/23 03:06	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2026285	1	03/21/23 10:17	03/22/23 07:31	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2022898	1	03/15/23 10:06	03/16/23 02:56	DLH	Mt. Juliet, TN

MW16-2 L1594255-03 GW

Collected by: Remi Malenfant | Collected date/time: 03/08/23 13:30 | Received date/time: 03/11/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2021987	1	03/13/23 21:58	03/15/23 23:02	ABL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method AK101	WG2023933	10	03/15/23 23:27	03/15/23 23:27	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2023811	1	03/15/23 19:28	03/15/23 19:28	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2026285	1	03/21/23 10:17	03/22/23 07:54	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2022898	1	03/15/23 10:06	03/16/23 03:14	DLH	Mt. Juliet, TN

RW16-1 L1594255-04 GW

Collected by: Remi Malenfant | Collected date/time: 03/08/23 14:20 | Received date/time: 03/11/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2022519	1	03/15/23 14:47	03/17/23 01:14	ABL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method AK101	WG2023933	20	03/15/23 23:54	03/15/23 23:54	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2023811	200	03/15/23 20:29	03/15/23 20:29	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2026285	1	03/21/23 10:17	03/22/23 09:25	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2022898	2	03/15/23 10:06	03/16/23 03:31	JCH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2024942	1	03/17/23 16:58	03/18/23 01:43	JCH	Mt. Juliet, TN

DUPLICATE 1 L1594255-05 GW

Collected by: Remi Malenfant | Collected date/time: 03/08/23 00:00 | Received date/time: 03/11/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2022519	1	03/15/23 14:47	03/17/23 01:17	ABL	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method AK101	WG2023933	1	03/15/23 23:01	03/15/23 23:01	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2023811	1	03/15/23 19:49	03/15/23 19:49	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2027326	20	03/21/23 15:33	03/21/23 15:33	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2026285	1	03/21/23 10:17	03/22/23 09:02	NH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG2022898	1	03/15/23 10:06	03/16/23 03:48	DLH	Mt. Juliet, TN

TRIP BLANK L1594255-06 GW

Collected by: Remi Malenfant
Collected date/time: 03/08/23 00:00
Received date/time: 03/11/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2023811	1	03/15/23 15:22	03/15/23 15:22	ACG	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

Sample Delivery Group (SDG) Narrative

pH outside of method requirement.

Lab Sample ID	Project Sample ID	Method
L1594255-05	DUPLICATE 1	8260C

Analyzed from headspace vial.

Lab Sample ID	Project Sample ID	Method
L1594255-05	DUPLICATE 1	8260C

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sodium	4.35	B	0.504	3.00	1	03/15/2023 22:51	WG2021987

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	0.0493	J	0.0287	0.100	1	03/15/2023 22:08	WG2023933
(S) a,a,a-Trifluorotoluene(FID)	*87.4*			*50.0-150*		*03/15/2023 22:08*	WG2023933
(S) a,a,a-Trifluorotoluene(PID)	*97.0*			*79.0-125*		*03/15/2023 22:08*	WG2023933

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	0.000124	J	0.0000941	0.00100	1	03/15/2023 18:48	WG2023811
n-Butylbenzene	U		0.000157	0.00100	1	03/15/2023 18:48	WG2023811
sec-Butylbenzene	U		0.000125	0.00100	1	03/15/2023 18:48	WG2023811
tert-Butylbenzene	U		0.000127	0.00100	1	03/15/2023 18:48	WG2023811
Ethylbenzene	U		0.000137	0.00100	1	03/18/2023 02:47	WG2024826
Isopropylbenzene	0.000146	J	0.000105	0.00100	1	03/15/2023 18:48	WG2023811
Naphthalene	U	C3	0.00100	0.00500	1	03/15/2023 18:48	WG2023811
Toluene	U		0.000278	0.00100	1	03/15/2023 18:48	WG2023811
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	03/18/2023 02:47	WG2024826
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	03/18/2023 02:47	WG2024826
m&p-Xylene	U		0.000430	0.00200	1	03/18/2023 02:47	WG2024826
o-Xylene	U		0.000174	0.00100	1	03/18/2023 02:47	WG2024826
(S) Toluene-d8	*113*			*80.0-120*		*03/15/2023 18:48*	WG2023811
(S) Toluene-d8	*100*			*80.0-120*		*03/18/2023 02:47*	WG2024826
(S) 4-Bromofluorobenzene	*95.4*			*77.0-126*		*03/15/2023 18:48*	WG2023811
(S) 4-Bromofluorobenzene	*95.4*			*77.0-126*		*03/18/2023 02:47*	WG2024826
(S) 1,2-Dichloroethane-d4	*86.8*			*70.0-130*		*03/15/2023 18:48*	WG2023811
(S) 1,2-Dichloroethane-d4	*91.2*			*70.0-130*		*03/18/2023 02:47*	WG2024826

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	0.280	B J	0.170	0.800	1	03/22/2023 06:24	WG2026285
(S) o-Terphenyl	*70.3*			*50.0-150*		*03/22/2023 06:24*	WG2026285

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	03/16/2023 02:39	WG2022898
Acenaphthene	U		0.0000190	0.0000500	1	03/16/2023 02:39	WG2022898
Acenaphthylene	U		0.0000171	0.0000500	1	03/16/2023 02:39	WG2022898
Benzo(a)anthracene	U		0.0000203	0.0000500	1	03/16/2023 02:39	WG2022898
Benzo(a)pyrene	U		0.0000184	0.0000500	1	03/16/2023 02:39	WG2022898
Benzo(b)fluoranthene	U		0.0000168	0.0000500	1	03/16/2023 02:39	WG2022898
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	1	03/16/2023 02:39	WG2022898
Benzo(k)fluoranthene	U		0.0000202	0.0000500	1	03/16/2023 02:39	WG2022898
Chrysene	U		0.0000179	0.0000500	1	03/16/2023 02:39	WG2022898
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	1	03/16/2023 02:39	WG2022898
Fluoranthene	U		0.0000270	0.000100	1	03/16/2023 02:39	WG2022898
Fluorene	U		0.0000169	0.0000500	1	03/16/2023 02:39	WG2022898
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	1	03/16/2023 02:39	WG2022898

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Naphthalene	U		0.0000917	0.000250	1	03/16/2023 02:39	WG2022898
Phenanthrene	U		0.0000180	0.0000500	1	03/16/2023 02:39	WG2022898
Pyrene	U		0.0000169	0.0000500	1	03/16/2023 02:39	WG2022898
1-Methylnaphthalene	U		0.0000687	0.000250	1	03/16/2023 02:39	WG2022898
2-Methylnaphthalene	U		0.0000674	0.000250	1	03/16/2023 02:39	WG2022898
(S) Nitrobenzene-d5	*98.9*			*31.0-160*		*03/16/2023 02:39*	WG2022898
(S) 2-Fluorobiphenyl	*110*			*48.0-148*		*03/16/2023 02:39*	WG2022898
(S) p-Terphenyl-d14	*115*			*37.0-146*		*03/16/2023 02:39*	WG2022898

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sodium	9.82	B	0.504	3.00	1	03/15/2023 22:54	WG2021987

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	03/15/2023 22:34	WG2023933
(S) a,a,a-Trifluorotoluene(FID)	*84.8*			*50.0-150*		*03/15/2023 22:34*	WG2023933
(S) a,a,a-Trifluorotoluene(PID)	*96.8*			*79.0-125*		*03/15/2023 22:34*	WG2023933

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	0.000319	J	0.0000941	0.00100	1	03/15/2023 19:08	WG2023811
n-Butylbenzene	U		0.000157	0.00100	1	03/15/2023 19:08	WG2023811
sec-Butylbenzene	0.000593	J	0.000125	0.00100	1	03/15/2023 19:08	WG2023811
tert-Butylbenzene	U		0.000127	0.00100	1	03/15/2023 19:08	WG2023811
Ethylbenzene	U		0.000137	0.00100	1	03/18/2023 03:06	WG2024826
Isopropylbenzene	U		0.000105	0.00100	1	03/15/2023 19:08	WG2023811
Naphthalene	U	C3	0.00100	0.00500	1	03/15/2023 19:08	WG2023811
Toluene	U		0.000278	0.00100	1	03/15/2023 19:08	WG2023811
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	03/18/2023 03:06	WG2024826
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	03/18/2023 03:06	WG2024826
m&p-Xylene	U		0.000430	0.00200	1	03/18/2023 03:06	WG2024826
o-Xylene	U		0.000174	0.00100	1	03/18/2023 03:06	WG2024826
(S) Toluene-d8	*113*			*80.0-120*		*03/15/2023 19:08*	WG2023811
(S) Toluene-d8	*97.6*			*80.0-120*		*03/18/2023 03:06*	WG2024826
(S) 4-Bromofluorobenzene	*93.5*			*77.0-126*		*03/15/2023 19:08*	WG2023811
(S) 4-Bromofluorobenzene	*96.3*			*77.0-126*		*03/18/2023 03:06*	WG2024826
(S) 1,2-Dichloroethane-d4	*89.8*			*70.0-130*		*03/15/2023 19:08*	WG2023811
(S) 1,2-Dichloroethane-d4	*94.3*			*70.0-130*		*03/18/2023 03:06*	WG2024826

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		0.170	0.800	1	03/22/2023 07:31	WG2026285
(S) o-Terphenyl	*67.3*			*50.0-150*		*03/22/2023 07:31*	WG2026285

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	03/16/2023 02:56	WG2022898
Acenaphthene	U		0.0000190	0.0000500	1	03/16/2023 02:56	WG2022898
Acenaphthylene	U		0.0000171	0.0000500	1	03/16/2023 02:56	WG2022898
Benzo(a)anthracene	U		0.0000203	0.0000500	1	03/16/2023 02:56	WG2022898
Benzo(a)pyrene	U		0.0000184	0.0000500	1	03/16/2023 02:56	WG2022898
Benzo(b)fluoranthene	U		0.0000168	0.0000500	1	03/16/2023 02:56	WG2022898
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	1	03/16/2023 02:56	WG2022898
Benzo(k)fluoranthene	U		0.0000202	0.0000500	1	03/16/2023 02:56	WG2022898
Chrysene	U		0.0000179	0.0000500	1	03/16/2023 02:56	WG2022898
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	1	03/16/2023 02:56	WG2022898
Fluoranthene	U		0.0000270	0.000100	1	03/16/2023 02:56	WG2022898
Fluorene	U		0.0000169	0.0000500	1	03/16/2023 02:56	WG2022898
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	1	03/16/2023 02:56	WG2022898

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Naphthalene	U		0.0000917	0.000250	1	03/16/2023 02:56	WG2022898
Phenanthrene	U		0.0000180	0.0000500	1	03/16/2023 02:56	WG2022898
Pyrene	U		0.0000169	0.0000500	1	03/16/2023 02:56	WG2022898
1-Methylnaphthalene	U		0.0000687	0.000250	1	03/16/2023 02:56	WG2022898
2-Methylnaphthalene	U		0.0000674	0.000250	1	03/16/2023 02:56	WG2022898
(S) Nitrobenzene-d5	*99.5*			*31.0-160*		*03/16/2023 02:56*	WG2022898
(S) 2-Fluorobiphenyl	*111*			*48.0-148*		*03/16/2023 02:56*	WG2022898
(S) p-Terphenyl-d14	*108*			*37.0-146*		*03/16/2023 02:56*	WG2022898

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sodium	180		0.504	3.00	1	03/15/2023 23:02	WG2021987

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	1.61		0.287	1.00	10	03/15/2023 23:27	WG2023933
(S) a,a,a-Trifluorotoluene(FID)	*86.1*			*50.0-150*		*03/15/2023 23:27*	WG2023933
(S) a,a,a-Trifluorotoluene(PID)	*98.6*			*79.0-125*		*03/15/2023 23:27*	WG2023933

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	0.000293	J	0.0000941	0.00100	1	03/15/2023 19:28	WG2023811
n-Butylbenzene	0.00449		0.000157	0.00100	1	03/15/2023 19:28	WG2023811
sec-Butylbenzene	0.00469		0.000125	0.00100	1	03/15/2023 19:28	WG2023811
tert-Butylbenzene	U		0.000127	0.00100	1	03/15/2023 19:28	WG2023811
Ethylbenzene	0.000899	J	0.000137	0.00100	1	03/15/2023 19:28	WG2023811
Isopropylbenzene	0.00905		0.000105	0.00100	1	03/15/2023 19:28	WG2023811
Naphthalene	U	C3	0.00100	0.00500	1	03/15/2023 19:28	WG2023811
Toluene	0.000420	J	0.000278	0.00100	1	03/15/2023 19:28	WG2023811
1,2,4-Trimethylbenzene	0.0938		0.000322	0.00100	1	03/15/2023 19:28	WG2023811
1,3,5-Trimethylbenzene	0.0664		0.000104	0.00100	1	03/15/2023 19:28	WG2023811
m&p-Xylene	0.00216		0.000430	0.00200	1	03/15/2023 19:28	WG2023811
o-Xylene	0.000326	J	0.000174	0.00100	1	03/15/2023 19:28	WG2023811
(S) Toluene-d8	*111*			*80.0-120*		*03/15/2023 19:28*	WG2023811
(S) 4-Bromofluorobenzene	*94.8*			*77.0-126*		*03/15/2023 19:28*	WG2023811
(S) 1,2-Dichloroethane-d4	*91.4*			*70.0-130*		*03/15/2023 19:28*	WG2023811

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	1.46	B	0.170	0.800	1	03/22/2023 07:54	WG2026285
(S) o-Terphenyl	*71.9*			*50.0-150*		*03/22/2023 07:54*	WG2026285

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	0.000131		0.0000190	0.0000500	1	03/16/2023 03:14	WG2022898
Acenaphthene	U		0.0000190	0.0000500	1	03/16/2023 03:14	WG2022898
Acenaphthylene	U		0.0000171	0.0000500	1	03/16/2023 03:14	WG2022898
Benzo(a)anthracene	U		0.0000203	0.0000500	1	03/16/2023 03:14	WG2022898
Benzo(a)pyrene	U		0.0000184	0.0000500	1	03/16/2023 03:14	WG2022898
Benzo(b)fluoranthene	U		0.0000168	0.0000500	1	03/16/2023 03:14	WG2022898
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	1	03/16/2023 03:14	WG2022898
Benzo(k)fluoranthene	U		0.0000202	0.0000500	1	03/16/2023 03:14	WG2022898
Chrysene	U		0.0000179	0.0000500	1	03/16/2023 03:14	WG2022898
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	1	03/16/2023 03:14	WG2022898
Fluoranthene	U		0.0000270	0.000100	1	03/16/2023 03:14	WG2022898
Fluorene	0.000538		0.0000169	0.0000500	1	03/16/2023 03:14	WG2022898
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	1	03/16/2023 03:14	WG2022898
Naphthalene	0.000116	J	0.0000917	0.000250	1	03/16/2023 03:14	WG2022898
Phenanthrene	0.000267		0.0000180	0.0000500	1	03/16/2023 03:14	WG2022898
Pyrene	0.0000484	J	0.0000169	0.0000500	1	03/16/2023 03:14	WG2022898

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
1-Methylnaphthalene	0.00104		0.0000687	0.000250	1	03/16/2023 03:14	WG2022898
2-Methylnaphthalene	0.00270		0.0000674	0.000250	1	03/16/2023 03:14	WG2022898
(S) Nitrobenzene-d5	*127*			*31.0-160*		*03/16/2023 03:14*	WG2022898
(S) 2-Fluorobiphenyl	*95.8*			*48.0-148*		*03/16/2023 03:14*	WG2022898
(S) p-Terphenyl-d14	*96.3*			*37.0-146*		*03/16/2023 03:14*	WG2022898

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sodium	267		0.504	3.00	1	03/17/2023 01:14	WG2022519

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	2.61		0.574	2.00	20	03/15/2023 23:54	WG2023933
(S) a,a,a-Trifluorotoluene(FID)	*85.9*			*50.0-150*		*03/15/2023 23:54*	WG2023933
(S) a,a,a-Trifluorotoluene(PID)	*96.4*			*79.0-125*		*03/15/2023 23:54*	WG2023933

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		0.0188	0.200	200	03/15/2023 20:29	WG2023811
n-Butylbenzene	U		0.0314	0.200	200	03/15/2023 20:29	WG2023811
sec-Butylbenzene	0.121	J	0.0250	0.200	200	03/15/2023 20:29	WG2023811
tert-Butylbenzene	U		0.0254	0.200	200	03/15/2023 20:29	WG2023811
Ethylbenzene	0.661		0.0274	0.200	200	03/15/2023 20:29	WG2023811
Isopropylbenzene	0.191	J	0.0210	0.200	200	03/15/2023 20:29	WG2023811
Naphthalene	U	C3	0.200	1.00	200	03/15/2023 20:29	WG2023811
Toluene	U		0.0556	0.200	200	03/15/2023 20:29	WG2023811
1,2,4-Trimethylbenzene	2.47		0.0644	0.200	200	03/15/2023 20:29	WG2023811
1,3,5-Trimethylbenzene	0.328		0.0208	0.200	200	03/15/2023 20:29	WG2023811
m&p-Xylene	2.09		0.0860	0.400	200	03/15/2023 20:29	WG2023811
o-Xylene	0.531		0.0348	0.200	200	03/15/2023 20:29	WG2023811
(S) Toluene-d8	*112*			*80.0-120*		*03/15/2023 20:29*	WG2023811
(S) 4-Bromofluorobenzene	*95.4*			*77.0-126*		*03/15/2023 20:29*	WG2023811
(S) 1,2-Dichloroethane-d4	*86.3*			*70.0-130*		*03/15/2023 20:29*	WG2023811

Sample Narrative:

L1594255-04 WG2023811: Lowest possible dilution due to sample foaming.

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	5.76		0.170	0.800	1	03/22/2023 09:25	WG2026285
(S) o-Terphenyl	*52.1*			*50.0-150*		*03/22/2023 09:25*	WG2026285

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		0.0000380	0.000100	2	03/16/2023 03:31	WG2022898
Acenaphthene	0.0000495	J	0.0000380	0.000100	2	03/16/2023 03:31	WG2022898
Acenaphthene	0.000101	Q	0.0000190	0.0000500	1	03/18/2023 01:43	WG2024942
Acenaphthylene	0.0000521	J	0.0000342	0.000100	2	03/16/2023 03:31	WG2022898
Acenaphthylene	0.000198	Q	0.0000171	0.0000500	1	03/18/2023 01:43	WG2024942
Benzo(a)anthracene	U		0.0000406	0.000100	2	03/16/2023 03:31	WG2022898
Benzo(a)pyrene	U		0.0000368	0.000100	2	03/16/2023 03:31	WG2022898
Benzo(b)fluoranthene	U		0.0000336	0.000100	2	03/16/2023 03:31	WG2022898
Benzo(g,h,i)perylene	0.0000400	J	0.0000368	0.000100	2	03/16/2023 03:31	WG2022898
Benzo(k)fluoranthene	U		0.0000404	0.000100	2	03/16/2023 03:31	WG2022898
Chrysene	0.0000520	J	0.0000358	0.000100	2	03/16/2023 03:31	WG2022898
Dibenz(a,h)anthracene	U		0.0000320	0.000100	2	03/16/2023 03:31	WG2022898
Fluoranthene	U		0.0000540	0.000200	2	03/16/2023 03:31	WG2022898

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
Fluorene	U		0.0000338	0.000100	2	03/16/2023 03:31	WG2022898
Fluorene	0.000291	Q	0.0000169	0.0000500	1	03/18/2023 01:43	WG2024942
Indeno(1,2,3-cd)pyrene	U		0.0000316	0.000100	2	03/16/2023 03:31	WG2022898
Naphthalene	0.00943		0.000183	0.000500	2	03/16/2023 03:31	WG2022898
Naphthalene	0.0267	Q	0.0000917	0.000250	1	03/18/2023 01:43	WG2024942
Phenanthrene	0.000230		0.0000360	0.000100	2	03/16/2023 03:31	WG2022898
Pyrene	0.0000691	J	0.0000338	0.000100	2	03/16/2023 03:31	WG2022898
1-Methylnaphthalene	0.00287		0.000137	0.000500	2	03/16/2023 03:31	WG2022898
1-Methylnaphthalene	0.00800	Q	0.0000687	0.000250	1	03/18/2023 01:43	WG2024942
2-Methylnaphthalene	0.00534		0.000135	0.000500	2	03/16/2023 03:31	WG2022898
2-Methylnaphthalene	0.0146	Q	0.0000674	0.000250	1	03/18/2023 01:43	WG2024942
(S) Nitrobenzene-d5	*45.1*			*31.0-160*		*03/16/2023 03:31*	WG2022898
(S) Nitrobenzene-d5	*196*	J1		*31.0-160*		*03/18/2023 01:43*	WG2024942
(S) 2-Fluorobiphenyl	*45.2*	J2		*48.0-148*		*03/16/2023 03:31*	WG2022898
(S) 2-Fluorobiphenyl	*96.8*			*48.0-148*		*03/18/2023 01:43*	WG2024942
(S) p-Terphenyl-d14	*28.2*	J2		*37.0-146*		*03/16/2023 03:31*	WG2022898
(S) p-Terphenyl-d14	*72.1*			*37.0-146*		*03/18/2023 01:43*	WG2024942

Sample Narrative:

L1594255-04 WG2022898, WG2024942: Duplicate Analysis performed due to surrogate failure. Results don't confirm; both analyses reported

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Sodium	274		0.504	3.00	1	03/17/2023 01:17	WG2022519

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	2.45		0.0287	0.100	1	03/15/2023 23:01	WG2023933
(S) a,a,a-Trifluorotoluene(FID)	*89.7*			*50.0-150*		*03/15/2023 23:01*	WG2023933
(S) a,a,a-Trifluorotoluene(PID)	*99.7*			*79.0-125*		*03/15/2023 23:01*	WG2023933

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	0.00174		0.0000941	0.00100	1	03/15/2023 19:49	WG2023811
n-Butylbenzene	0.00178		0.000157	0.00100	1	03/15/2023 19:49	WG2023811
sec-Butylbenzene	0.00254		0.000125	0.00100	1	03/15/2023 19:49	WG2023811
tert-Butylbenzene	U		0.000127	0.00100	1	03/15/2023 19:49	WG2023811
Ethylbenzene	0.191		0.000137	0.00100	1	03/15/2023 19:49	WG2023811
Isopropylbenzene	0.0569		0.000105	0.00100	1	03/15/2023 19:49	WG2023811
Naphthalene	0.0116	C3	0.00100	0.00500	1	03/15/2023 19:49	WG2023811
Toluene	0.00443		0.000278	0.00100	1	03/15/2023 19:49	WG2023811
1,2,4-Trimethylbenzene	0.430		0.00644	0.0200	20	03/21/2023 15:33	WG2027326
1,3,5-Trimethylbenzene	0.110		0.000104	0.00100	1	03/15/2023 19:49	WG2023811
m&p-Xylene	0.392		0.00860	0.0400	20	03/21/2023 15:33	WG2027326
o-Xylene	0.154		0.000174	0.00100	1	03/15/2023 19:49	WG2023811
(S) Toluene-d8	*106*			*80.0-120*		*03/15/2023 19:49*	WG2023811
(S) Toluene-d8	*102*			*80.0-120*		*03/21/2023 15:33*	WG2027326
(S) 4-Bromofluorobenzene	*95.6*			*77.0-126*		*03/15/2023 19:49*	WG2023811
(S) 4-Bromofluorobenzene	*98.7*			*77.0-126*		*03/21/2023 15:33*	WG2027326
(S) 1,2-Dichloroethane-d4	*85.9*			*70.0-130*		*03/15/2023 19:49*	WG2023811
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*		*03/21/2023 15:33*	WG2027326

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	4.41	B	0.170	0.800	1	03/22/2023 09:02	WG2026285
(S) o-Terphenyl	*37.2*	J2		*50.0-150*		*03/22/2023 09:02*	WG2026285

Sample Narrative:

L1594255-05 WG2026285: Sample produced emulsion during Extraction process, low surr/spike recoveries due to matrix.

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

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0000190	0.0000500	1	03/16/2023 03:48	WG2022898
Acenaphthene	0.0000822		0.0000190	0.0000500	1	03/16/2023 03:48	WG2022898
Acenaphthylene	0.000190		0.0000171	0.0000500	1	03/16/2023 03:48	WG2022898
Benzo(a)anthracene	U		0.0000203	0.0000500	1	03/16/2023 03:48	WG2022898
Benzo(a)pyrene	U		0.0000184	0.0000500	1	03/16/2023 03:48	WG2022898
Benzo(b)fluoranthene	U		0.0000168	0.0000500	1	03/16/2023 03:48	WG2022898
Benzo(g,h,i)perylene	U		0.0000184	0.0000500	1	03/16/2023 03:48	WG2022898
Benzo(k)fluoranthene	U		0.0000202	0.0000500	1	03/16/2023 03:48	WG2022898
Chrysene	0.0000199	J	0.0000179	0.0000500	1	03/16/2023 03:48	WG2022898
Dibenz(a,h)anthracene	U		0.0000160	0.0000500	1	03/16/2023 03:48	WG2022898

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Fluoranthene	U		0.0000270	0.000100	1	03/16/2023 03:48	WG2022898
Fluorene	0.000288		0.0000169	0.0000500	1	03/16/2023 03:48	WG2022898
Indeno(1,2,3-cd)pyrene	U		0.0000158	0.0000500	1	03/16/2023 03:48	WG2022898
Naphthalene	0.0317		0.0000917	0.000250	1	03/16/2023 03:48	WG2022898
Phenanthrene	0.000212		0.0000180	0.0000500	1	03/16/2023 03:48	WG2022898
Pyrene	0.0000287	J	0.0000169	0.0000500	1	03/16/2023 03:48	WG2022898
1-Methylnaphthalene	0.00839		0.0000687	0.000250	1	03/16/2023 03:48	WG2022898
2-Methylnaphthalene	0.0159		0.0000674	0.000250	1	03/16/2023 03:48	WG2022898
(S) Nitrobenzene-d5	*123*			*31.0-160*		*03/16/2023 03:48*	WG2022898
(S) 2-Fluorobiphenyl	*96.3*			*48.0-148*		*03/16/2023 03:48*	WG2022898
(S) p-Terphenyl-d14	*97.9*			*37.0-146*		*03/16/2023 03:48*	WG2022898

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Benzene	U		0.0000941	0.00100	1	03/15/2023 15:22	WG2023811
n-Butylbenzene	U		0.000157	0.00100	1	03/15/2023 15:22	WG2023811
sec-Butylbenzene	U		0.000125	0.00100	1	03/15/2023 15:22	WG2023811
tert-Butylbenzene	U		0.000127	0.00100	1	03/15/2023 15:22	WG2023811
Ethylbenzene	U		0.000137	0.00100	1	03/15/2023 15:22	WG2023811
Isopropylbenzene	U		0.000105	0.00100	1	03/15/2023 15:22	WG2023811
Naphthalene	U	C3	0.00100	0.00500	1	03/15/2023 15:22	WG2023811
Toluene	U		0.000278	0.00100	1	03/15/2023 15:22	WG2023811
1,2,4-Trimethylbenzene	U		0.000322	0.00100	1	03/15/2023 15:22	WG2023811
1,3,5-Trimethylbenzene	U		0.000104	0.00100	1	03/15/2023 15:22	WG2023811
m&p-Xylene	U		0.000430	0.00200	1	03/15/2023 15:22	WG2023811
o-Xylene	U		0.000174	0.00100	1	03/15/2023 15:22	WG2023811
(S) Toluene-d8	*110*			*80.0-120*		*03/15/2023 15:22*	WG2023811
(S) 4-Bromofluorobenzene	*87.1*			*77.0-126*		*03/15/2023 15:22*	WG2023811
(S) 1,2-Dichloroethane-d4	*94.3*			*70.0-130*		*03/15/2023 15:22*	WG2023811

Method Blank (MB)

(MB) R3901634-1 03/15/23 21:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sodium	1.24	J	0.504	3.00

Laboratory Control Sample (LCS)

(LCS) R3901634-2 03/15/23 21:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sodium	10.0	10.8	108	80.0-120	

L1594081-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1594081-01 03/15/23 21:56 • (MS) R3901634-4 03/15/23 22:02 • (MSD) R3901634-5 03/15/23 22:05

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 %
Sodium	10.0	296	301	300	48.2	38.2	1	75.0-125	V	V	0.333	20

L1594081-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1594081-02 03/15/23 22:07 • (MS) R3901634-6 03/15/23 22:15 • (MSD) R3901634-7 03/15/23 22:18

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 %
Sodium	10.0	146	213	154	666	76.1	1	75.0-125	V	J3	32.2	20

QUALITY CONTROL SUMMARY

L1594255-04,05

Method Blank (MB)

(MB) R3902114-1 03/17/23 00:54

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

Laboratory Control Sample (LCS)

(LCS) R3902114-2 03/17/23 00:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sodium	10.0	9.24	92.4	80.0-120	

L1594198-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1594198-02 03/17/23 00:59 • (MS) R3902114-4 03/17/23 01:05 • (MSD) R3902114-5 03/17/23 01:08

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 %
Sodium	10.0	53.3	61.7	60.9	84.3	76.7	1	75.0-125			1.23	20

Method Blank (MB)

(MB) R3902395-2 03/15/23 16:15

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)	*86.8*			*60.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*96.3*			*79.0-125*

Laboratory Control Sample (LCS)

(LCS) R3902395-1 03/15/23 14:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPHGAK C6 to C10	5.00	4.07	81.4	60.0-120	
(S) a,a,a-Trifluorotoluene(FID)			*89.8*	*60.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*109*	*79.0-125*	

Method Blank (MB)

(MB) R3901654-3 03/15/23 13:19

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	*109*			*80.0-120*
(S) 4-Bromofluorobenzene	*87.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*92.1*			*70.0-130*

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

(LCS) R3901654-1 03/15/23 11:57 • (LCSD) R3901654-2 03/15/23 12:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00506	0.00502	101	100	70.0-123			0.794	20
n-Butylbenzene	0.00500	0.00411	0.00399	82.2	79.8	73.0-125			2.96	20
sec-Butylbenzene	0.00500	0.00460	0.00456	92.0	91.2	75.0-125			0.873	20
tert-Butylbenzene	0.00500	0.00464	0.00468	92.8	93.6	76.0-124			0.858	20
Ethylbenzene	0.00500	0.00526	0.00511	105	102	79.0-123			2.89	20
Isopropylbenzene	0.00500	0.00481	0.00476	96.2	95.2	76.0-127			1.04	20
Naphthalene	0.00500	0.00349	0.00329	69.8	65.8	54.0-135			5.90	20
Toluene	0.00500	0.00530	0.00530	106	106	79.0-120			0.000	20
1,2,4-Trimethylbenzene	0.00500	0.00456	0.00453	91.2	90.6	76.0-121			0.660	20
1,3,5-Trimethylbenzene	0.00500	0.00487	0.00480	97.4	96.0	76.0-122			1.45	20
m&p-Xylenes	0.0100	0.0107	0.0104	107	104	80.0-122			2.84	20
o-Xylene	0.00500	0.00473	0.00469	94.6	93.8	80.0-122			0.849	20
(S) Toluene-d8				*110*	*112*	*80.0-120*				
(S) 4-Bromofluorobenzene				*90.8*	*90.3*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*90.9*	*89.3*	*70.0-130*				

Method Blank (MB)

(MB) R3902955-3 03/17/23 19:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ethylbenzene	U		0.000137	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	*97.8*			*80.0-120*
(S) 4-Bromofluorobenzene	*96.5*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*94.2*			*70.0-130*

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

(LCS) R3902955-1 03/17/23 18:15 • (LCSD) R3902955-2 03/17/23 18:34

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 %
Ethylbenzene	0.00500	0.00477	0.00485	95.4	97.0	79.0-123			1.66	20
1,2,4-Trimethylbenzene	0.00500	0.00429	0.00447	85.8	89.4	76.0-121			4.11	20
1,3,5-Trimethylbenzene	0.00500	0.00426	0.00455	85.2	91.0	76.0-122			6.58	20
m&p-Xylenes	0.0100	0.00946	0.00959	94.6	95.9	80.0-122			1.36	20
o-Xylene	0.00500	0.00456	0.00463	91.2	92.6	80.0-122			1.52	20
(S) Toluene-d8				*96.3*	*94.9*	*80.0-120*				
(S) 4-Bromofluorobenzene				*97.0*	*93.1*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*90.8*	*92.3*	*70.0-130*				

Method Blank (MB)

(MB) R3903685-2 03/21/23 06:48

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,2,4-Trimethylbenzene	U		0.000322	0.00100
m&p-Xylenes	U		0.000430	0.00200
(S) Toluene-d8	*110*			*80.0-120*
(S) 4-Bromofluorobenzene	*96.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3903685-1 03/21/23 06:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,4-Trimethylbenzene	0.00500	0.00453	90.6	76.0-121	
m&p-Xylenes	0.0100	0.00966	96.6	80.0-122	
(S) Toluene-d8			*104*	*80.0-120*	
(S) 4-Bromofluorobenzene			*102*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*109*	*70.0-130*	

Method Blank (MB)

(MB) R3903939-1 03/22/23 04:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
AK102 DRO C10-C25	0.245	J	0.170	0.800
(S) o-Terphenyl	*69.7*			*60.0-120*

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

(LCS) R3903939-3 03/22/23 05:16 • (LCSD) R3903939-2 03/22/23 04:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
AK102 DRO C10-C25	6.00	5.70	5.87	95.0	97.8	75.0-125			2.94	20
(S) o-Terphenyl				*92.8*	*95.5*	*60.0-120*				

Method Blank (MB)

(MB) R3901914-2 03/15/23 20:51

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	*114*			*31.0-160*
(S) 2-Fluorobiphenyl	*125*			*48.0-148*
(S) p-Terphenyl-d14	*126*			*37.0-146*

Laboratory Control Sample (LCS)

(LCS) R3901914-1 03/15/23 20:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.00200	0.00219	109	67.0-150	
Acenaphthene	0.00200	0.00220	110	65.0-138	
Acenaphthylene	0.00200	0.00220	110	66.0-140	
Benzo(a)anthracene	0.00200	0.00212	106	61.0-140	
Benzo(a)pyrene	0.00200	0.00238	119	60.0-143	
Benzo(b)fluoranthene	0.00200	0.00218	109	58.0-141	
Benzo(g,h,i)perylene	0.00200	0.00228	114	52.0-153	
Benzo(k)fluoranthene	0.00200	0.00223	111	58.0-148	
Chrysene	0.00200	0.00220	110	64.0-144	
Dibenz(a,h)anthracene	0.00200	0.00218	109	52.0-155	
Fluoranthene	0.00200	0.00235	117	69.0-153	
Fluorene	0.00200	0.00230	115	64.0-136	

Laboratory Control Sample (LCS)

(LCS) R3901914-1 03/15/23 20:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Indeno(1,2,3-cd)pyrene	0.00200	0.00225	112	54.0-153	
Naphthalene	0.00200	0.00218	109	61.0-137	
Phenanthrene	0.00200	0.00207	104	62.0-137	
Pyrene	0.00200	0.00215	107	60.0-142	
1-Methylnaphthalene	0.00200	0.00224	112	66.0-142	
2-Methylnaphthalene	0.00200	0.00225	112	62.0-136	
(S) Nitrobenzene-d5			*102*	*31.0-160*	
(S) 2-Fluorobiphenyl			*111*	*48.0-148*	
(S) p-Terphenyl-d14			*106*	*37.0-146*	

L1594169-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1594169-01 03/15/23 21:43 • (MS) R3901914-3 03/15/23 22:01 • (MSD) R3901914-4 03/15/23 22:18

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 %
Anthracene	0.00190	U	0.00180	0.00184	94.7	96.8	1	56.0-156			2.20	20
Acenaphthene	0.00190	0.000144	0.00207	0.00207	101	101	1	44.0-153			0.000	20
Acenaphthylene	0.00190	0.0000221	0.00203	0.00203	106	106	1	53.0-150			0.000	20
Benzo(a)anthracene	0.00190	U	0.00199	0.00198	105	104	1	47.0-151			0.504	20
Benzo(a)pyrene	0.00190	U	0.00210	0.00209	111	110	1	45.0-146			0.477	20
Benzo(b)fluoranthene	0.00190	U	0.00188	0.00197	98.9	104	1	43.0-142			4.68	20
Benzo(g,h,i)perylene	0.00190	U	0.00174	0.00179	91.6	94.2	1	40.0-147			2.83	20
Benzo(k)fluoranthene	0.00190	U	0.00184	0.00189	96.8	99.5	1	43.0-148			2.68	21
Chrysene	0.00190	U	0.00201	0.00201	106	106	1	50.0-148			0.000	20
Dibenz(a,h)anthracene	0.00190	U	0.00157	0.00160	82.6	84.2	1	37.0-151			1.89	20
Fluoranthene	0.00190	0.0000492	0.00215	0.00215	111	111	1	56.0-157			0.000	20
Fluorene	0.00190	U	0.00211	0.00223	111	117	1	48.0-148			5.53	20
Indeno(1,2,3-cd)pyrene	0.00190	U	0.00178	0.00184	93.7	96.8	1	41.0-148			3.31	20
Naphthalene	0.00190	U	0.00212	0.00205	112	108	1	10.0-160			3.36	20
Phenanthrene	0.00190	U	0.00198	0.00196	104	103	1	47.0-147			1.02	20
Pyrene	0.00190	0.000132	0.00207	0.00211	102	104	1	51.0-148			1.91	20
1-Methylnaphthalene	0.00190	U	0.00212	0.00204	112	107	1	21.0-160			3.85	20
2-Methylnaphthalene	0.00190	U	0.00214	0.00208	113	109	1	31.0-160			2.84	20
(S) Nitrobenzene-d5					*90.0*	*90.5*		*31.0-160*				
(S) 2-Fluorobiphenyl					*98.4*	*97.4*		*48.0-148*				
(S) p-Terphenyl-d14					*95.3*	*99.5*		*37.0-146*				

Method Blank (MB)

(MB) R3902702-3 03/17/23 22:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.0000190	0.0000500
Acenaphthylene	U		0.0000171	0.0000500
Fluorene	U		0.0000169	0.0000500
Naphthalene	U		0.0000917	0.000250
1-Methylnaphthalene	U		0.0000687	0.000250
2-Methylnaphthalene	U		0.0000674	0.000250
(S) Nitrobenzene-d5	*142*			*31.0-160*
(S) 2-Fluorobiphenyl	*105*			*48.0-148*
(S) p-Terphenyl-d14	*95.0*			*37.0-146*

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

(LCS) R3902702-1 03/17/23 22:04 • (LCSD) R3902702-2 03/17/23 22:24

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 %
Acenaphthene	0.00200	0.00230	0.00241	115	120	65.0-138			4.67	20
Acenaphthylene	0.00200	0.00225	0.00232	112	116	66.0-140			3.06	20
Fluorene	0.00200	0.00247	0.00247	123	123	64.0-136			0.000	20
Naphthalene	0.00200	0.00224	0.00232	112	116	61.0-137			3.51	20
1-Methylnaphthalene	0.00200	0.00237	0.00248	118	124	66.0-142			4.54	20
2-Methylnaphthalene	0.00200	0.00240	0.00256	120	128	62.0-136			6.45	20
(S) Nitrobenzene-d5				*130*	*135*	*31.0-160*				
(S) 2-Fluorobiphenyl				*108*	*106*	*48.0-148*				
(S) p-Terphenyl-d14				*93.0*	*93.0*	*37.0-146*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
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.
Q	Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.
V	The sample concentration is too high to evaluate accurate spike recoveries.

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 - Anchorage, AK

725 E Fireweed Lane
Suite 200
Anchorage, AK 99503

Billing Information:
Accounts Payable
725 E Fireweed Lane
Suite 200
Anchorage, AK 99503

Pres Chk

Report to:
Mr. John Marshall

Email To: craig.cothron@pacelabs.com

Project Description:
Store 5314 - Wasilla, AK

City/State Collected: Wasilla, AK

Please Circle: PT MT CT ET

Phone: 907-266-1108

Client Project # ~~85705772~~ 203723073

Lab Project # STAAAKSSA-5314

Collected by (print): Remi Malenfant

Site/Facility ID # 0005314

P.O. #

Collected by (signature): R. Malenfant

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed: standard

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	AK101 40mlAmb HCl	AK102 100ml Amb HCl	NAICP 250mlHDPE-HNO3	PAHSIMLVID 40mlAmb-NoPres-WT	V8260C 40mlAmb-HCl	Remarks	Sample # (lab only)
GW	G	GW		3/8/23	10:20	~~1~~ 10	X	X	X	X	X		-01
GS		GW			11:10	~~1~~ 10	X	X	X	X	X		-02
& MW16-2		GW			13:30	~~1~~ 10	X	X	X	X	X		-03
RW16-1		GW			14:20	~~9~~ 10	X	X	X	X	X	low volume	-04
Duplicate 1		GW				~~9~~ 10	X	X	X	X	X	low volume	-05
Trip Blank		GW				~~1~~ 10	~~X~~	~~X~~		~~X~~	X		-06
		GW				~~10~~	X	X		X	X		
		GW				~~10~~	X	X		X	X		
		GW				~~10~~	X	X		X	X		
		GW				~~10~~	X	X		X	X		

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

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

SDG # 1594255

D083

Acctnum: STAAAKSSA
Template: T224265
Prelogin: P979472
PM: 034 - Craig Cothron
PB: 2/9/23 TS
Shipped Via: FedEX 2nd Day

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

Remarks:
low volume (2 VOAs) for 8260C and AK101 in RW16-1 and Duplicate 1

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 5882 7562 1478

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 6.8/7°C Bottles Received:	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK
	3/9/23	14:35		0.2 51	
				3-11-23 900	

ADEC Contaminated Sites Program Laboratory Data Review Checklist

Completed By:	Sydney Souza	**CS Site Name:**	Speedway 5325 (TNS #52)	**Lab Name:**	Pace Analytical
Title:	Environmental Geologist	**ADEC File No.:**	2265.26.006	**Lab Report No.:**	L1594255
Consulting Firm:	Stantec Consulting Services Inc.	**Hazard ID No.:**	23769	**Lab Report Date:**	03/11/2023

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

1. **Laboratory**

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

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

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

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

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

3. **Laboratory Sample Receipt Documentation**

   a. Is the sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   Yes ☒ No ☐ N/A ☐
   Cooler temperature(s): 0.2° C
   Sample temperature(s): Click or tap here to enter text.

Comments: Click or tap here to enter text.

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

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

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?
Yes ☐ No ☐ N/A ☒
Comments: No discrepancies documented

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

4. Case Narrative

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

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

c. Were all the corrective actions documented?
Yes ☐ No ☐ N/A ☒
Comments: 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

5. Sample Results

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

b. Are all applicable holding times met?
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

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

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

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

6. QC Samples

a. Method Blank

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

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

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

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

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

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

i. Organics – Are one LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

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

iii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the RPD reported from LCS/LCSD, and or sample/sample duplicate? (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

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

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

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

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

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

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

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

iv. Precision – Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.
Yes ☒ No ☐ N/A ☐
Comments: Click or tap here to enter text.

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

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

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

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

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC, and laboratory samples?
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)
Yes ☐ No ☐ N/A ☒
Comments: Click or tap here to enter text.

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: Click or tap here to enter text.

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

e. Trip Blanks

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

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

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

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

f. Field Duplicate

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

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

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

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Is the data quality or usability affected? (Explain)

Yes ☐ No ☒ N/A ☐
Comments: RPDs were out for Ethylbenzene, Xylenes, and TMBs

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

g. Decontamination or Equipment Blanks

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

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

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

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

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

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