

Tesoro 2 Go Mart #52  
ADEC File #2265.26.006

October 2019  
Monitoring Event Report

Prepared For



**TESORO**



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## ACRONYMS AND ABBREVIATIONS

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|         |   |
|---------|---|
| ADEC    | Alaska Department of Environmental Conservation |
| AK      | Alaska Test Method                              |
| BTEX    | Benzene, Toluene, Ethylbenzene, and Xylenes     |
| DO      | dissolved oxygen                                |
| DRO     | diesel range organics                           |
| EIT     | engineer-in-training                            |
| EPA     | U.S. Environmental Protection Agency            |
| GCL     | groundwater cleanup level                       |
| GRO     | gasoline range organics                         |
| mg/L    | milligrams per liter                            |
| ORP     | oxidation-reduction potential                   |
| PE      | Professional Engineer                           |
| PQL     | practical quantitation limit                    |
| QA      | quality assurance                               |
| QC      | quality control                                 |
| Stantec | Stantec Consulting Services Inc.                |
| SVE     | soil vapor extraction                           |
| VOC     | volatile organic compound                       |
| VSC     | vapor stripping and circulation                 |

## 1.0 EXECUTIVE SUMMARY

This fourth quarter 2019 Monitoring Event Report was prepared by Stantec Consulting Services Inc. (Stantec) on behalf of Tesoro Refining and Marketing Company for Tesoro 2 Go Mart #52, located at 7172 West Parks Highway, Wasilla, Alaska (**Figure 1**). The methods used for this monitoring event were conducted in accordance with the Alaska Department of Environmental Conservation (ADEC) approved 2019 Corrective Action Work Plan for this site.

This monitoring event was conducted on October 17, 2019, by John Marshall, Environmental Scientist, Jake Keldsen, Engineer-in-Training (EIT), and Bob Gilfilian, Principal Engineer (PE), of Stantec. The monitoring event included the following tasks:

- Injecting Chemox solution in the remediation well RW 16-1
- Completing a vertical control survey of existing monitoring wells
- Measuring depth to groundwater
- Measuring field intrinsic water quality parameters
- Checking operation of the in-situ remediation system
- Collecting and analyzing groundwater samples from Monitoring Wells G-1, G-3, G-5, G-7, and MW16-2 (**Figure 2**).

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

- Monitoring Well G-3: diesel range organics (DRO)
- Monitoring Well MW16-2: 1,2,4-Trimethylbenzene and 1,3,5-Trimethylbenzene

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 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, 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 was inspected to determine operational condition. The VSC compressor was activated and currently remains operational. Also, Stantec injected a chemox solution consisting of 55 pounds of Kloxur One® product mixed in 50 gallons of water with a pressurized pump system into remediation well RW 16-1.

## 2.0 SITE BACKGROUND

Background information for this site is summarized in **Appendix A**.

### 3.0 FIELD ACTIVITIES

The following field activities were conducted during this monitoring event:

- Measured the depth to groundwater in Monitoring Wells G-1, G-3, G-4, G-5, G-7, and MW16-2. Groundwater depth measurements were used to calculate the hydraulic gradient and direction of flow for the groundwater table.
- Measured the following intrinsic water quality parameters in all wells sampled: temperature, pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), and specific conductance.
- Checked the operation of the VSC treatment system.
- Collected groundwater samples from Monitoring Wells G-1, G-3, G-5, G-7, and MW16-2 and submitted them for laboratory analysis of: gasoline range organics (GRO) by Alaska Test Method (AK)101; DRO by AK102; and select volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Test Method 8260C.
- Completed a round of chemox (55 pounds of Kloxur One®) injection in remediation well RW 16-1.
- Completed a vertical control survey of all active monitoring wells to determine elevations of the tops of the well casings.

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

### 4.0 GROUNDWATER MONITORING RESULTS

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

**Table 1 Groundwater Elevations**

Measured on October 17, 2019

| Monitoring Well Identification | Top of Casing Elevation <sup>1</sup> (feet) | Depth to Water (feet btoc) | Groundwater Elevation (feet) |
|--------------------------------|---|----------------------------|------------------------------|
| G-1                            | 97.50                                       | NM                         | NM                           |
| G-3                            | 97.14                                       | 33.60                      | 63.54                        |
| G-4                            | 96.30                                       | 34.96                      | 61.34                        |
| G-5                            | 99.43                                       | 37.75                      | 61.68                        |
| G-7                            | 97.58                                       | 36.00                      | 61.58                        |
| RW16-1                         | 97.46                                       | NM                         | NM                           |
| MW16-2                         | 97.24                                       | 32.07                      | 65.17                        |

Key:

1 – G-1, G-3, G-4, G-5, G-7, RW16-1, and MW16-2 surveyed on 10/17/19. Elevations are presented in respect to a local benchmark with 100-foot datum.

btoc – below top of casing

NM – Not measured

**Field Parameters.** Temperature, pH, DO, ORP, and specific conductance were measured following purging. All monitoring wells were purged of three monitoring well volumes prior to sampling with the exception of MW G-1 that was purged dry and then sampled after recovery. Results of water quality parameter testing are presented in **Table 2**.

**Table 2 Field Parameters**

Measured on October 17, 2019

| Monitoring Well Identification | Purged Volume (gallons) | Temp. (°C) | pH   | DO (mg/L) | ORP (mV) | SC (µs/cm°C) |
|--------------------------------|-------------------------|------------|------|-----------|----------|--------------|
| G-1                            | 0                       | NM         | NM   | NM        | NM       | NM           |
| G-3                            | 8.0                     | 6.0        | 6.16 | 1.83      | 56.6     | 508          |
| G-5                            | 1.0                     | 5.5        | 5.88 | 4.73      | 130.7    | 711          |
| G-7                            | 4.5                     | 7.0        | 5.85 | 8.44      | 150.1    | 492          |
| RW16-1                         | NS                      | NS         | NS   | NS        | NS       | NS           |
| MW16-2                         | 1.5                     | 7.4        | 6.63 | 4.35      | 92.3     | 499          |

Key:

°C – degrees Celsius

µS/cm°C – microSiemens per centimeter °C

DO – dissolved oxygen

mg/L – milligrams/liter

mV – millivolts

NM – not measured

NS – not sampled

ORP – oxidation-reduction potential

pH – -log [H<sup>+</sup>]

SC – specific conductance

Temp. – temperature

A typewritten copy of the sampler's field measurements and notes are provided as a worksheet in **Appendix C**.

**Groundwater Sample Analytical Results.** Eurofins TestAmerica, Inc. performed all analysis of groundwater samples for this sampling event. Historical monitoring data for this site are presented in **Appendix D**. Laboratory analytical results are summarized in **Table 3**. The laboratory analytical report is provided in **Appendix E**.

**Table 3 Groundwater Analytical Results**  
Samples collected on October 17, 2019

| Sample Identification | Benzene <sup>1</sup><br>(mg/L) | Toluene <sup>1</sup><br>(mg/L) | Ethylbenzene <sup>1</sup><br>(mg/L) | Xylenes <sup>1</sup><br>(mg/L) | GRO<br>(mg/L) | DRO <sup>2</sup><br>(mg/L) | 1,2,4-TMB <sup>1</sup><br>(mg/L) | 1,3,5-TMB <sup>1</sup><br>(mg/L) |
|-----------------------|--------------------------------|--------------------------------|-------------------------------------|--------------------------------|---------------|----------------------------|----------------------------------|----------------------------------|
| G-1                   | U (0.003)                      | U (0.002)                      | U (0.003)                           | U (0.003)                      | U (0.25)      | U (0.12)                   | U (0.003)                        | U (0.003)                        |
| G-3                   | U (0.003)                      | U (0.002)                      | U (0.003)                           | U (0.003)                      | 0.58          | <b>3.6 H</b>               | 0.0093                           | 0.012                            |
| G-5                   | U (0.003)                      | U (0.002)                      | U (0.003)                           | U (0.003)                      | U (0.25)      | U (0.12)                   | U (0.003)                        | U (0.003)                        |
| G-7                   | U (0.003)                      | U (0.002)                      | U (0.003)                           | U (0.003)                      | U (0.25)      | U (0.12)                   | U (0.003)                        | U (0.003)                        |
| MW16-2                | U (0.003)                      | U (0.002)                      | 0.0052                              | 0.023                          | 2.1           | 0.30                       | <b>0.290</b>                     | <b>0.090</b>                     |
| Dup-01                | U (0.003)                      | U (0.002)                      | 0.0050                              | 0.022                          | 2.2           | 0.31                       | <b>0.200</b>                     | <b>0.088</b>                     |
| Trip Blank            | U (0.003)                      | U (0.002)                      | U (0.003)                           | U (0.003)                      | NT            | NT                         | U (0.003)                        | U (0.003)                        |
| <b>GCLs</b>           | <b>0.0046</b>                  | <b>1.1</b>                     | <b>0.015</b>                        | <b>0.19</b>                    | <b>2.2</b>    | <b>1.5</b>                 | <b>0.056</b>                     | <b>0.060</b>                     |

**Key:**

1 – Analyzed by U.S. Environmental Protection Agency Method 8260C

2 – Due to laboratory QC and/or surrogate failures in the initial extraction, the samples were re-extracted out of holding time and re-analyzed. The re-extracted batch also contained laboratory QC and/or surrogate failures. Both sets of data were reported by the laboratory. The higher of the two concentrations for each monitoring well is listed in this table.

Dup-01 Duplicate Sample of MW16-2

AK – Alaska Test Method

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

H – Sample was prepped or analyzed beyond the specified holding time<sup>1</sup>

mg/L – milligrams per liter

NT – not tested

1,2,4-TMB – 1,2,4-Trimethylbenzene

1,3,5-TMB – 1,3,5-Trimethylbenzene

U – Undetected above practical quantitation limits shown in parentheses.

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

Monitoring Wells G-1, G-3, G-5, G-7, and MW16-2 were sampled in accordance with the 2019 Work Plan.

**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 MW16-2. Data presented in **Table 4** show that the precision for the duplicate sample set (analytes that were detected above the practical quantitation limit [PQL] and exceeded GCLs) was within the established QA criteria tolerances for Ethylbenzene, Xylenes, GRO, DRO and 1,3,5-trimethylbenzene, but not 1,2,4-Trimethylbenzene. Precision could not be calculated for Benzene and Toluene because they were not detected above the PQL in one or more sample. The holding times for GRO and VOCs were within established criteria but holding time issues were observed

for DRO. Due to laboratory QC and/or surrogate failures in the initial extraction, all of the DRO samples were re-extracted out of holding time and re-analyzed. The re-extracted batch also contained laboratory QC and/or surrogate failures. Both sets of data were reported by the laboratory. The higher of the two reported values for each monitoring well is listed in this quarterly report.

**Table 4 Laboratory Quality Control Objectives**

| Quality Control Designation         | Tolerance | Results for this Event |
|-------------------------------------|-----------|------------------------|
| <b>Holding Times</b>                |           |                        |
| DRO/Water/to analyze                | 40 days   | 14 to 20 days          |
| DRO/Water/to extract                | 14 days   | 13 to 18 days          |
| GRO/Water/to analyze                | 14 days   | 5 days                 |
| VOCs/Water/to analyze               | 14 days   | 5 to 6 days            |
| <b>Field Duplicates – Precision</b> |           |                        |
| Benzene/Water                       | ± 30%     | NC                     |
| Toluene/Water                       | ± 30%     | NC                     |
| Ethylbenzene/Water                  | ± 30%     | 3.92%                  |
| Xylenes/Water                       | ± 30%     | 4.44%                  |
| GRO/Water                           | ± 30%     | -4.65%                 |
| DRO/Water                           | ± 30%     | -3.28%                 |
| 1,2,4-Trimethylbenzene              | ± 30%     | 36.73%                 |
| 1,3,5-Trimethylbenzene              | ± 30%     | 2.25%                  |

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

VOCs – volatile organic compounds

## 5.0 REMEDIATION SYSTEM

The on-site groundwater treatment process consists of a VSC system and periodic injections of a chemox product into the groundwater table via the remediation well RW 16-1. The layout of the on-site VSC system and location of RW 16-1 are shown on **Figure 3**. The need for a replacement soil vapor extraction (SVE) blower was evaluated and determined to be unnecessary as the soil vapors in the VSC vault were noted to be absent based on field olfactory methods. The testing of soil vapors in the VSC vault will be conducted during the 2020 field monitoring season.

The VSC treatment system was found to be operating. The VSC compressor was operating in the normal range and operating the air-lift pump that produced a discharge of approximately 1 to 2 gallons per minute into the receiving well (G-1) for groundwater recirculation purposes as originally designed.



The remediation system includes the periodic injection of chemox into the groundwater table located adjacent to the VSC treatment system. The chemox consists of an oxidant product commercially referred to as Klozur One®, which consists of a sodium persulfate compound that is manually injected as a solution into Remediation Well RW16-1 (see location on **Figure 3**). During the subject site visit, Stantec conducted a round of chemox injection into RW 16-1. Fifty gallons of a dissolved solution containing 55-pounds of Klozur One® was injected by gravity to RW 16-1.

## 6.0 DISCUSSION OF FINDINGS

**Groundwater Hydraulic Characteristics.** The hydraulic gradient for this monitoring event was found to be approximately 0.022 feet per foot, with flow tending toward the southwest at 221 degrees. The groundwater flow direction and gradient are consistent with past monitoring events, as shown on **Figure 2**. The elevations of the wells were resurveyed during this monitoring event.

**Groundwater Quality.** Results of the analytical sampling showed petroleum hydrocarbon contaminant concentrations exceeding the GCLs for the following wells:

- Monitoring Well G-3: diesel range organics
- Monitoring Well MW16-2: 1,2,4-Trimethylbenzene and 1,3,5-Trimethylbenzene

All historic data for Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), GRO, DRO, and groundwater elevations for the monitoring wells associated with this site are tabulated in **Appendix D**. Graphs of historical groundwater elevations and contaminant concentrations for GRO and DRO in Monitoring Wells G-3 and G-5 are presented on **Figure 4**.

**Remediation System.** The VSC treatment system was found to be operating within normal range of performance and recirculating approximately 1 to 2 gallons per minute of groundwater into MW G-1 via an air lift pump in the VSC well. Also, Stantec injected a chemox solution consisting of 55 pounds of Klozur One® via a pressurized pump system into the remediation well RW 16-1.

## 7.0 CONCLUSIONS AND RECOMMENDATIONS

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

## 8.0 LIMITATIONS

Stantec conducted this monitoring event in accordance with the Corrective Action Work Plan approved by ADEC, and in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions. All sampling activities were completed in accordance with the ADEC *Underground Storage Tanks Procedures Manual – Standard Sampling Procedures* (March 22, 2017). No other warranty, expressed or implied, is made. Data and recommendations made herein were prepared for Tesoro 2 Go Mart #52 and Tesoro Refining and Marketing Company. Information herein is for use at this site in accordance with the purpose of the report described.

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## FIGURES

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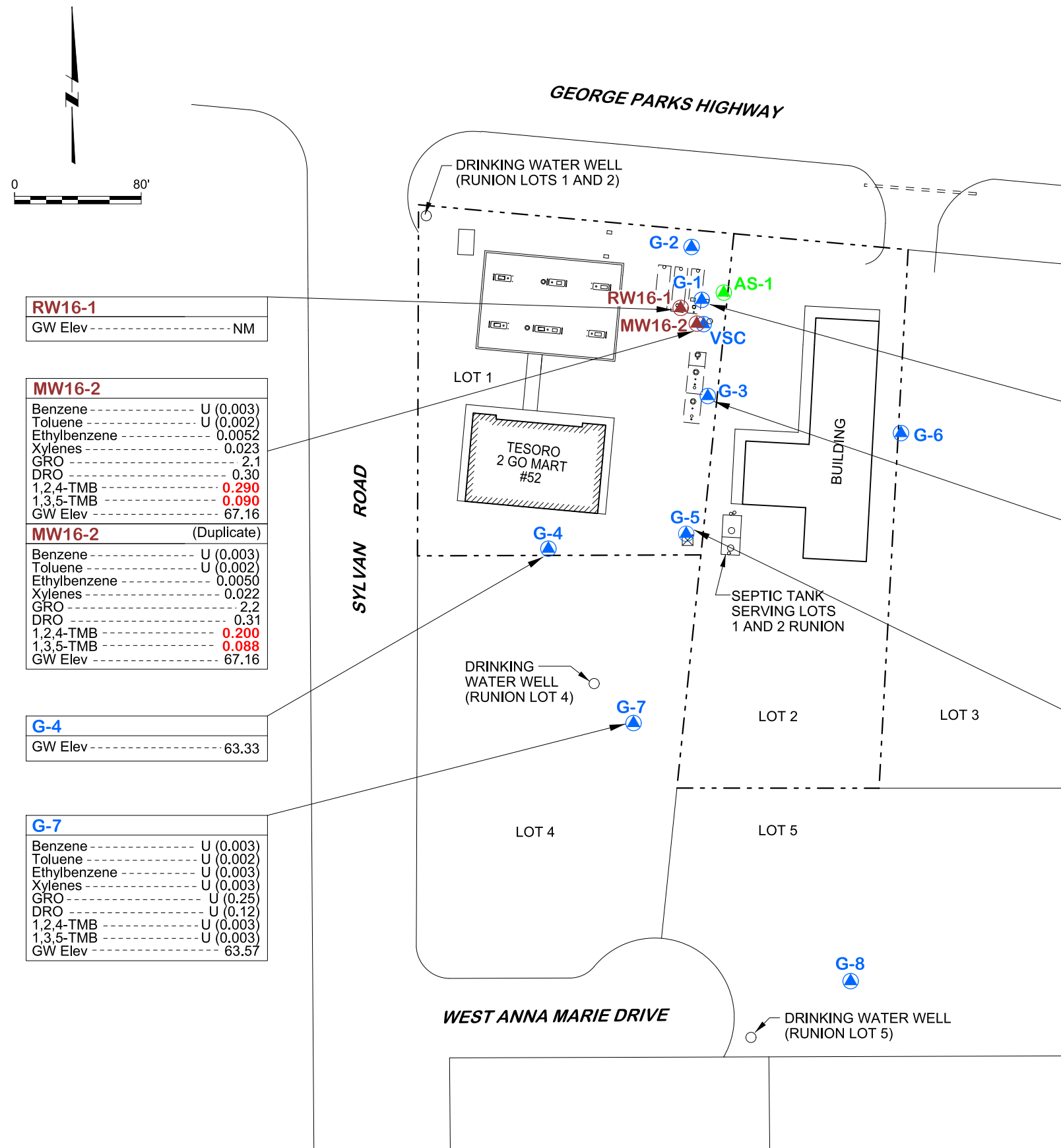
|          |   |
|----------|---|
| Figure 1 | Location and Vicinity Map                                       |
| Figure 2 | Site Plan with Groundwater Elevations and Analytical Results    |
| Figure 3 | Remediation System Layout                                       |
| Figure 4 | Graphs of Contaminant Concentrations and Groundwater Elevations |

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FILE: C:\D\CAD\Proj\Tesoro\TGMar052\_185751222\MonEvent\2019\October 2019\Fig02\_Site Plan with Groundwater Analytical Results.dgn  
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|               |    |
|---------------|----|
| <b>RW16-1</b> |    |
| GW Elev ----- | NM |

|                    |              |
|--------------------|--------------|
| <b>MW16-2</b>      |              |
| Benzene -----      | U (0.003)    |
| Toluene -----      | U (0.002)    |
| Ethylbenzene ----- | 0.0052       |
| Xylenes -----      | 0.023        |
| GRO -----          | 2.1          |
| DRO -----          | 0.30         |
| 1,2,4-TMB -----    | <b>0.290</b> |
| 1,3,5-TMB -----    | <b>0.090</b> |
| GW Elev -----      | 67.16        |

|                    |              |
|--------------------|--------------|
| <b>MW16-2</b>      | (Duplicate)  |
| Benzene -----      | U (0.003)    |
| Toluene -----      | U (0.002)    |
| Ethylbenzene ----- | 0.0050       |
| Xylenes -----      | 0.022        |
| GRO -----          | 2.2          |
| DRO -----          | 0.31         |
| 1,2,4-TMB -----    | <b>0.200</b> |
| 1,3,5-TMB -----    | <b>0.088</b> |
| GW Elev -----      | 67.16        |

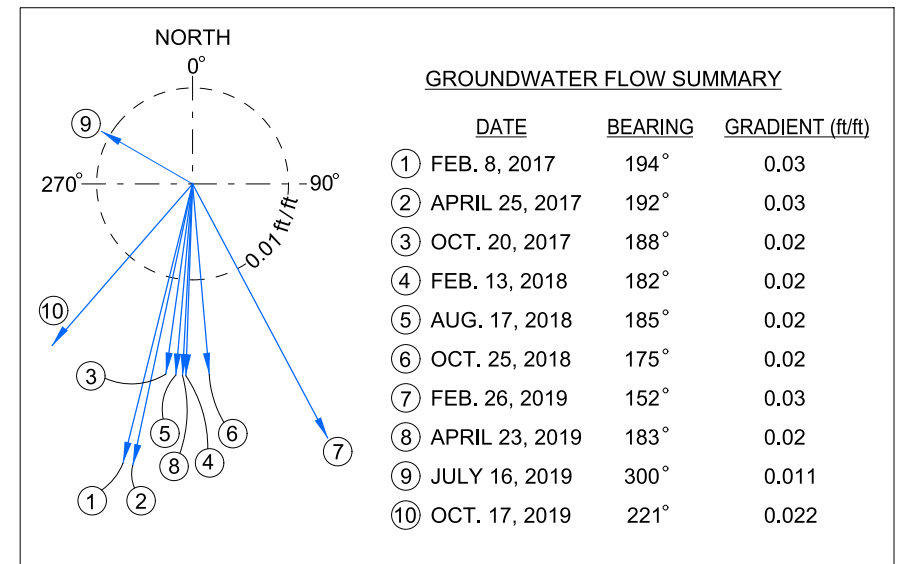
|               |       |
|---------------|-------|
| <b>G-4</b>    |       |
| GW Elev ----- | 63.33 |

|                    |           |
|--------------------|-----------|
| <b>G-7</b>         |           |
| Benzene -----      | U (0.003) |
| Toluene -----      | U (0.002) |
| Ethylbenzene ----- | U (0.003) |
| Xylenes -----      | U (0.003) |
| GRO -----          | U (0.25)  |
| DRO -----          | U (0.12)  |
| 1,2,4-TMB -----    | U (0.003) |
| 1,3,5-TMB -----    | U (0.003) |
| GW Elev -----      | 63.57     |

|                    |           |
|--------------------|-----------|
| <b>G-1</b>         |           |
| Benzene -----      | U (0.003) |
| Toluene -----      | U (0.002) |
| Ethylbenzene ----- | U (0.003) |
| Xylenes -----      | U (0.003) |
| GRO -----          | U (0.25)  |
| DRO -----          | U (0.12)  |
| 1,2,4-TMB -----    | U (0.003) |
| 1,3,5-TMB -----    | U (0.003) |
| GW Elev -----      | NM        |

|                    |              |
|--------------------|--------------|
| <b>G-3</b>         |              |
| Benzene -----      | U (0.003)    |
| Toluene -----      | U (0.002)    |
| Ethylbenzene ----- | U (0.003)    |
| Xylenes -----      | U (0.003)    |
| GRO -----          | 0.58         |
| DRO -----          | <b>3.6 H</b> |
| 1,2,4-TMB -----    | 0.0093       |
| 1,3,5-TMB -----    | 0.012        |
| GW Elev -----      | 65.53        |

|                    |           |
|--------------------|-----------|
| <b>G-5</b>         |           |
| Benzene -----      | U (0.003) |
| Toluene -----      | U (0.002) |
| Ethylbenzene ----- | U (0.003) |
| Xylenes -----      | U (0.003) |
| GRO -----          | U (0.25)  |
| DRO -----          | U (0.12)  |
| 1,2,4-TMB -----    | U (0.003) |
| 1,3,5-TMB -----    | U (0.003) |
| GW Elev -----      | 63.67     |



- LEGEND:**
- PROPERTY LINE
  - 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
  - NM NOT MEASURED
  - U UNDETECTED ABOVE PRACTICAL QUANTITATION LIMIT SHOWN IN PARENTHESES
  - VSC VAPOR STRIPPING AND CIRCULATION

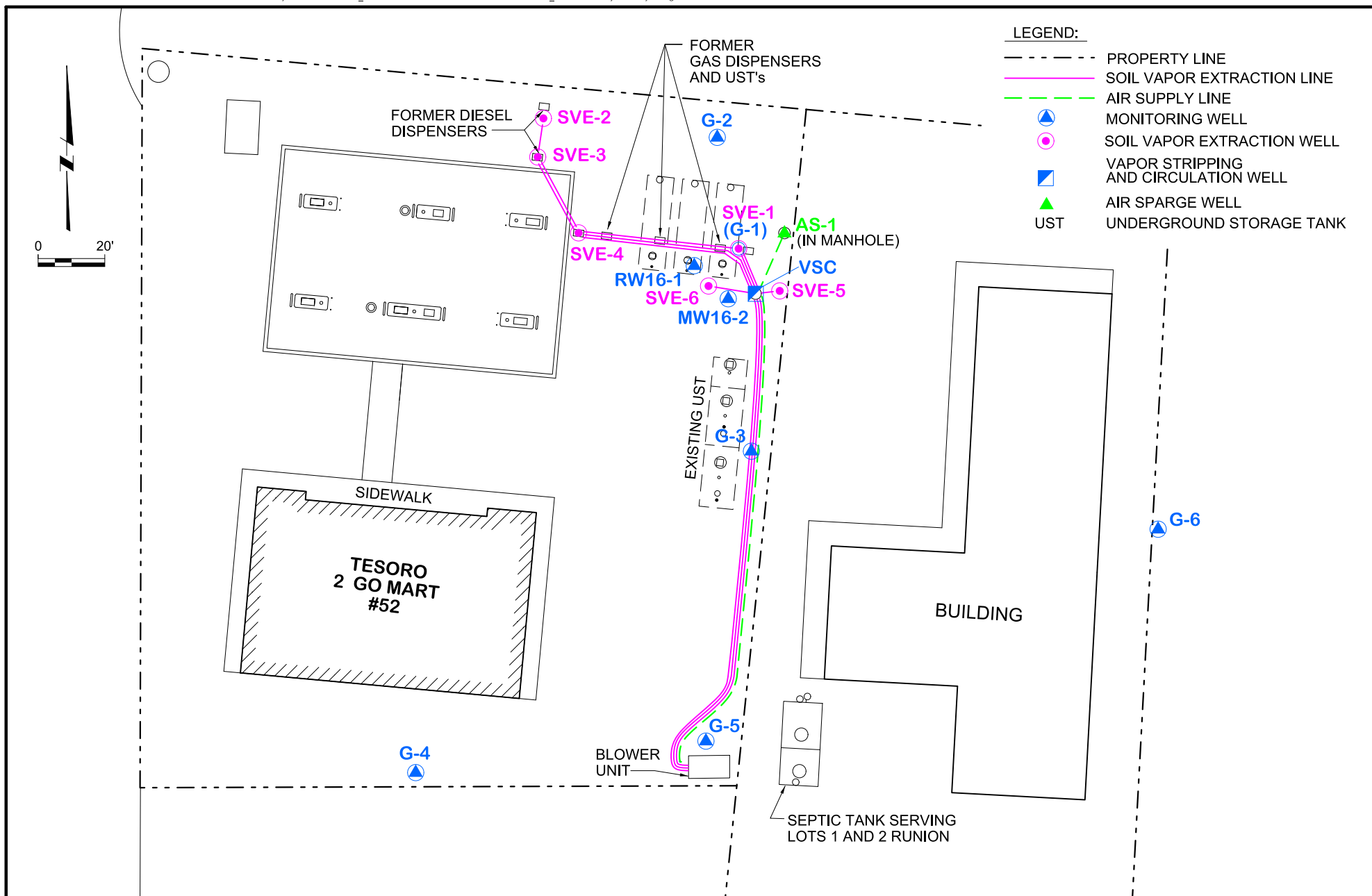
- NOTES:**
- RESULTS SHOWN ARE FOR WELLS SAMPLED ON OCTOBER 17, 2019
  - RESULTS ARE IN MILLIGRAMS PER LITER
  - BOLD/ RED TEXT INDICATES CONTAMINANT CONCENTRATIONS ABOVE CLEANUP LEVELS FOR THIS SITE



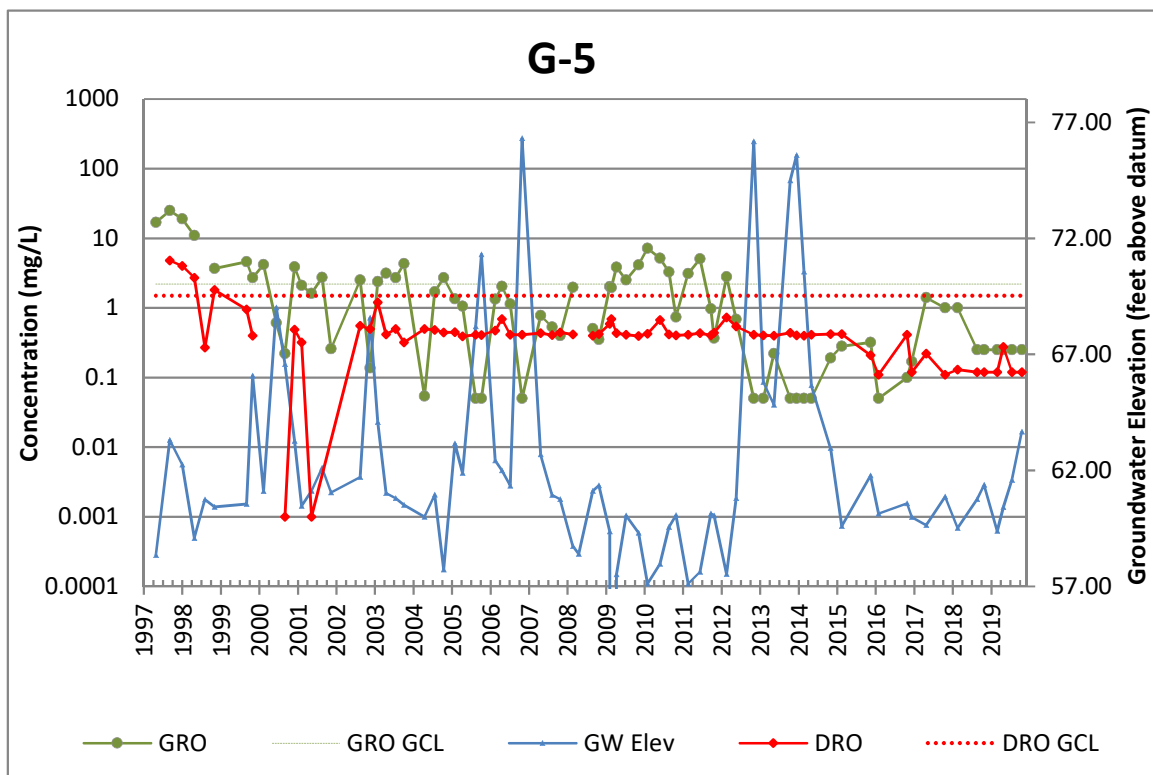
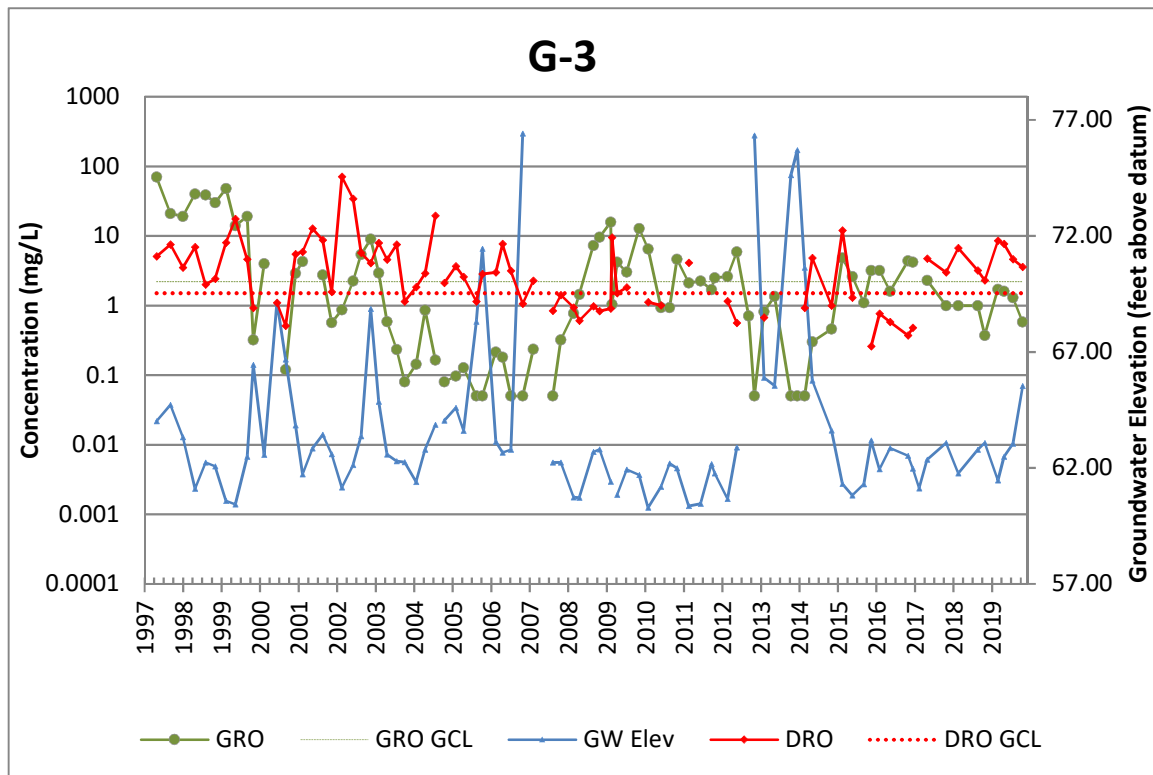
TESORO COMPANY  
TESORO 2 GO MART #52  
OCTOBER 2019  
MONITORING EVENT REPORT

SITE PLAN WITH GROUNDWATER  
ANALYTICAL RESULTS

FIGURE  
2  
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**Figure 4**  
**Graphs of Contaminant Concentrations and Groundwater Elevations**



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## **APPENDIX A**

### *Site Background*

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## 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 Klorur CR<sup>®</sup> was injected into three on-site wells (Monitoring Well G-1 and SVE Wells SVE-5 and SVE-6). The Klorur CR<sup>®</sup> 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 Klorur CR<sup>®</sup> was injected into three on-site wells: Monitoring Well G-1 and Remediation Wells SVE-5 and SVE-6.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**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<sup>®</sup> 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 3<sup>rd</sup> quarter of 2018, Stantec completed a chemox injection Klozur One<sup>®</sup>. Fifty-five pounds of Klozur One<sup>®</sup> 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 4<sup>th</sup> 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 Kloxur 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.



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## **APPENDIX B**

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### *Field Methods and Procedures*

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## APPENDIX B – FIELD METHODS AND PROCEDURES

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

The following table presents the proposed tasks for the Alaska Department of Environmental Conservation (ADEC)-approved 2019 Corrective Action Work Plan. The scope of these tasks is based on the results and findings of the monitoring and remediation completed to date at Tesoro 2 Go Mart #52 (ADEC Facility ID #648; ADEC File #2265.26.006).

**2019 Work Plan Schedule**

| Work Plan Task |   | 1 <sup>st</sup><br>Quarter | 2 <sup>nd</sup><br>Quarter | 3 <sup>rd</sup><br>Quarter | 4 <sup>th</sup><br>Quarter |
|----------------|---|----------------------------|----------------------------|----------------------------|----------------------------|
| Task 1         | Monitoring Wells: G-1, G-3, G-5, G-7, RW16-1, and MW16-2                          | B, G, D, I                 | G, D, V, P, I              | B, G, D, I                 | B, G, D, I                 |
|                | Monitoring Wells G-2 and G-4  |                            | G, D, V, P, I              |                            |                            |
|                | Drinking Water Wells serving Lots 1 and 2, Lot 4, and Lot 5 in Runion Subdivision |                            | D, E                       |                            |                            |
| Task 2         | Remediation System O&M  | ✓                          | ✓                          | ✓                          | ✓                          |
| Task 3         | Chemical Oxidation Treatment  |                            | ✓                          | ✓                          | ✓                          |

Key:

AK – Alaska Test Method

B – Benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8021B.

D – Diesel range organics by AK102.

E – Drinking water parameters by EPA Method 524.1.

EPA – U.S. Environmental Protection Agency

G – Gasoline range organics by AK101.

I – Indicators, parameters tested include: dissolved oxygen, specific conductance, oxygen-reduction potential, pH, and temperature.

O&M – operation and maintenance

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

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

The Corrective Action Work Plan for the year 2019 will be implemented by Stantec on behalf of Tesoro. Groundwater monitoring will be conducted to track migration and trends of contaminants that are present at the site. All sampling activities will be completed in accordance with ADEC's *Underground Storage Tanks Procedures Manual– Standard Sampling Procedures* (March 22, 2017).

The methods that will be used for conducting a monitoring event, unless otherwise noted in the monitoring report, will include:

- The static water levels in the monitoring wells will be measured with respect to the top of each well casing. The elevation of the static water level will be based on an arbitrary datum established on-site during a

vertical control survey that will be completed by Stantec on an annual basis. The survey will be performed during the summer after the seasonal frost layer thaws.

- The monitoring wells will be purged of a minimum of three well bore volumes prior to collecting the water samples. A new, disposable, Teflon<sup>®</sup> bailer will be used to sample each well. The first bail of water removed from each well will be examined for petroleum odor, sheen, and any other unique physical features.
- Water and vapor samples will be collected in laboratory-supplied sample containers. The samples will be delivered 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 2019 Work Plan Schedule shown above.

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## **APPENDIX C**

### *Field Measurements, Notes, and Hydraulic Gradient Plot*

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**Appendix C**  
**Field Measurements and Notes**

Project: Tesoro 2 Go Mart #52  
Project Phase: 4Q19 GWM  
Project number: 185750867

Date: 10/17/2019  
Samplers: JM/JK/BG

| Well ID | Volume Purged (gallons) | Sheen/ Odor | Temp. (°C) | pH   | Dissolved Oxygen (mg/L) | ORP (mV) | Specific Conductance (µs/cm°C) | Top of Casing* (feet) | Depth to GW** (feet btoc) | Total Depth (feet) | GW Elev. (feet datum) |
|---------|-------------------------|-------------|------------|------|-------------------------|----------|--------------------------------|-----------------------|---------------------------|--------------------|-----------------------|
| G-1     | 0 - grab sample         | None/none   | --         | --   | --                      | --       | --                             | 97.5                  | NM                        | 36.4               | NM                    |
| G-3     | 8.0                     | None/none   | 6.0        | 6.16 | 1.83                    | 56.6     | 508                            | 97.14                 | 33.60                     | 40.05              | 63.54                 |
| G-4     | NS                      | --          | --         | --   | --                      | --       | --                             | 96.30                 | 34.96                     | 40.80              | 61.34                 |
| G-5     | 1.0                     | None/none   | 5.5        | 5.88 | 4.73                    | 130.7    | 711                            | 99.43                 | 37.75                     | 41.12              | 61.68                 |
| G-7     | 4.5                     | None/none   | 7.0        | 5.85 | 8.44                    | 150.1    | 492                            | 97.58                 | 36.00                     | 45.10              | 61.58                 |
| MW 16-2 | 1.5                     | None/none   | 7.4        | 6.63 | 4.35                    | 92.3     | 499                            | 97.24                 | 32.07                     | 37.62              | 65.17                 |
| RW 16-1 | NS                      | --          | --         | --   | --                      | --       | --                             | 97.46                 | NM                        | 40.10              | NM                    |

\* G-1, G-3, G-4, G-5, G-7, MW 16-2, and RW16-1 surveyed on 10/17/19.

\*\* Measured depth with tape on bailer

°C - degree Celsius

NS - not sampled

µs/cm°C - microsiemens per centimeter degrees Celsius

btoc - below top of casing

datum - locally established benchmark at 100 feet

elev. - elevation

GW - groundwater

mg/L - milligrams per liter

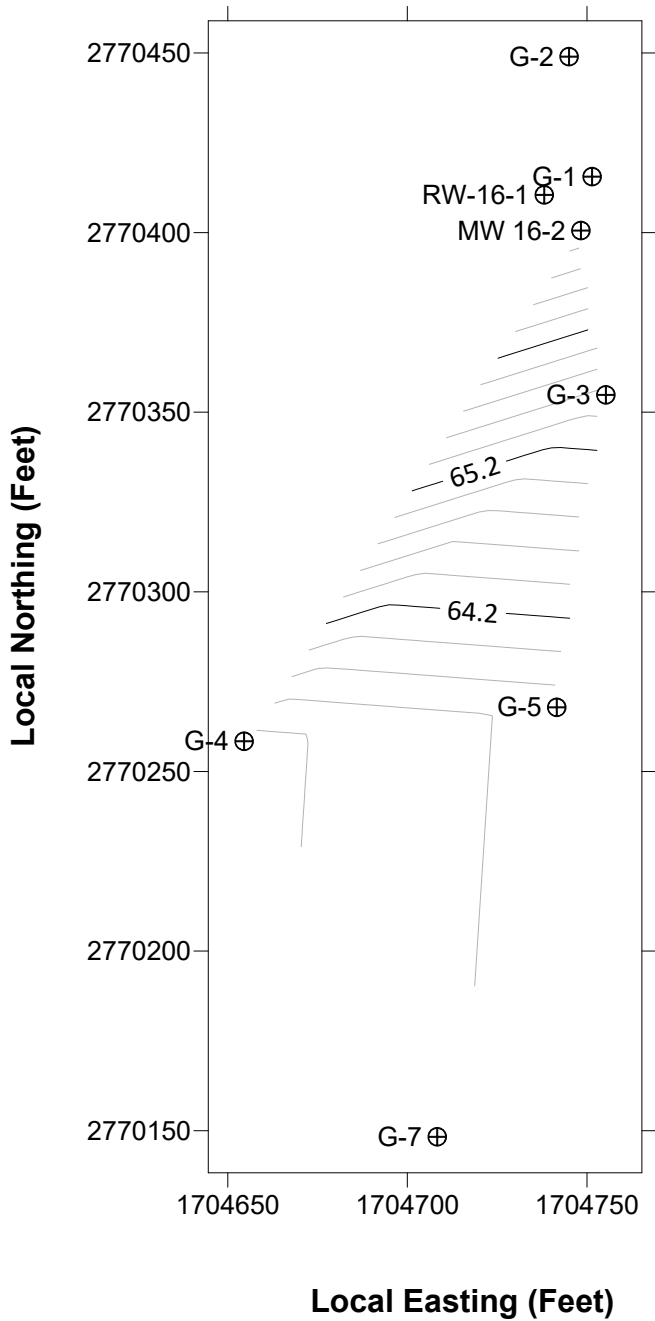
NM - Not measured

ORP - oxidation reduction potential

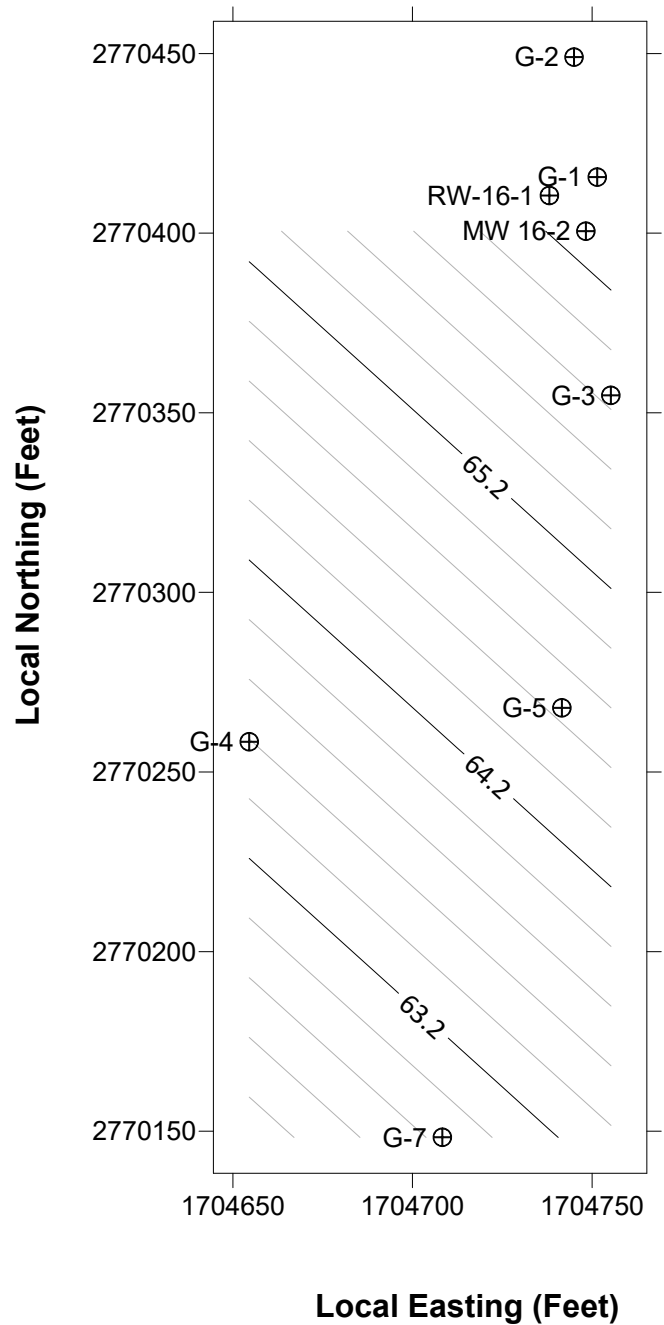
| Instruments/methods used for above measurements |         | Model |
|---|---------|-------|
| Static water level                              | Heron   | H01L  |
| Conductivity                                    | YSI     | 30    |
| Dissolved Oxygen                                | YSI     | 85    |
| Temperature                                     | YSI     | 85    |
| ORP   | Beckman | 410   |
| pH  | Beckman | 255   |
| Temp, pH, ORP, DO, Specific Conductance         | YSI     | 556   |

| Well   | Observations        | Well Dia. | Time  |
|--------|---------------------|-----------|-------|
| G-1    | Clear               | 2-inch    | 11:10 |
| G-3    | Dark grey           | 4-inch    | 15:00 |
| G-4    | Not sampled         | 2-inch    | --    |
| G-5    | Slight red tint     | 2-inch    | 16:15 |
| G-7    | Clear               | 2-inch    | 17:00 |
| RW16-1 | Not sampled         | 2-inch    | --    |
| MW16-2 | Dup-01 taken        | 2-inch    | 12:30 |
| Dup-01 | Duplicate of MW16-2 |           | 13:00 |

# Tesoro 2 Go Mart #52 - Groundwater Elevation Contours October 17, 2019



Linear Interpolation Method  
Major Contour Interval 2.00 feet  
Minor Contour Interval 0.50 feet



Polynomial Regression Interpolation Method  
Major Contour Interval 1.00 feet  
Minor Contour Interval 0.50 feet

Elevation datum is locally established at 100 feet.

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## **APPENDIX D**

### *Tables of Historical Monitoring Data*

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Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-1**

| Date      | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-----------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 24-Apr-97 | 3.700             | 28.00             | 12.00                  | 64.00             | 170.00        | 11.00         | 62.20             |
| 03-Sep-97 | 0.001             | 12.00             | 5.20                   | 41.00             | 85.00         | 12.00         | 65.72             |
| 29-Dec-97 | 0.042             | 2.00              | 1.50                   | 9.30              | 34.00         | 3.30          | 64.24             |
| 23-Apr-98 | 0.130             | 3.90              | 4.10                   | 23.00             | 91.00         | 8.30          | 62.07             |
| 03-Aug-98 | 0.140             | 3.10              | 3.00                   | 19.00             | 76.00         | 12.00         | 64.22             |
| 02-Nov-98 | 0.121             | 4.59              | 4.76                   | 27.12             | 70.00         | 5.58          | 63.06             |
| 12-Feb-99 | 0.001             | 5.40              | 4.00                   | 24.00             | 91.00         | 19.00         | 61.56             |
| 11-May-99 | Ice               | Ice               | Ice                    | Ice               | Ice           | Ice           | NM                |
| 30-Aug-99 | 0.001             | 3.10              | 5.60                   | 36.00             | 190.00        | 10.00         | 63.46             |
| 29-Oct-99 | 0.001             | 0.026             | 0.035                  | 0.21              | 0.89          | 0.45          | 66.59             |
| 08-Feb-00 | 0.001             | 3.30              | 4.40                   | 26.00             | 10.00         | NT            | 63.11             |
| 08-Jun-00 | 0.001             | 0.051             | 0.110                  | 0.61              | 2.30          | 0.33          | 69.16             |
| 30-Aug-00 | 0.001             | 0.500             | 0.92                   | 5.00              | 19.00         | 0.57          | 66.72             |
| 30-Nov-00 | 0.001             | 1.20              | 2.30                   | 11.00             | 42.00         | 1.90          | 64.34             |
| 05-Feb-01 | 0.001             | 3.40              | 4.70                   | 25.00             | 94.00         | 5.20          | 62.39             |
| 10-May-01 | 0.001             | 0.967             | 2.62                   | 15.36             | 41.10         | 1.90          | 63.81             |
| 16-Aug-01 | 0.013             | 0.401             | 0.652                  | 6.18              | 14.30         | 1.99          | 64.29             |
| 09-Nov-01 | 0.013             | 0.608             | 1.750                  | 9.55              | 25.40         | 3.16          | 63.50             |
| 15-Feb-02 | 0.036             | 2.820             | 3.640                  | 21.59             | 66.10         | 3.66          | 62.09             |
| 30-May-02 | 0.001             | 5.520             | 9.940                  | 51.80             | 113.00        | 92.60         | 62.63             |
| 14-Aug-02 | 0.048             | 2.13              | 6.15                   | 37.27             | 99.60         | 11.20         | 64.02             |
| 14-Nov-02 | 0.053             | 2.35              | 5.37                   | 27.17             | 105           | 1.51          | 68.74             |
| 28-Jan-03 | U (0.025)         | 0.462             | 1.04                   | 7.55              | 24.8          | 3.83          | 65.52             |
| 17-Apr-03 | 0.217             | 1.15              | 4.55                   | 26.9              | 117           | 4.7           | 63.23             |
| 17-Jul-03 | U (0.05)          | 1.81              | 6                      | 35.6              | 104           | 8.34          | 62.90             |
| 02-Oct-03 | 0.184             | 1.84              | 5.34                   | 33.4              | 137           | U (0.32)      | 62.80             |
| 20-Jan-04 | U (0.2)           | 2.46              | 5.9                    | 34.8              | 100           | 10.6          | 62.17             |
| 13-Apr-04 | U (0.1)           | 1.49              | 6.37                   | 37.5              | 109           | 6.97          | 63.76             |
| 20-Jul-04 | U (0.25)          | 0.612             | 2.67                   | 26.2              | 87.1          | 8.09          | 63.34             |
| 02-Sep-04 | U (0.05)          | 0.38              | 2.6                    | 18.4              | 48.5          | 4.94          | NM                |
| 13-Oct-04 | U (0.005)         | 0.615             | 0.232                  | 1.87              | 5.98          | 1.9           | 65.10             |
| 28-Jan-05 | U (0.0005)        | 0.121             | 0.0843                 | 0.582             | 2.08          | 0.818         | NM                |
| 11-Apr-05 | U (0.0005)        | 0.069             | 0.0374                 | 0.306             | 0.963         | 0.78          | 66.35             |
| 12-Aug-05 | U (0.0005)        | U (0.0005)        | U (0.0005)             | 0.0031            | U (0.05)      | 0.528         | 68.33             |
| 07-Oct-05 | U (0.0005)        | 0.0103            | 0.0082                 | 0.0713            | 0.24          | U (0.397)     | 71.48             |
| 14-Feb-06 | U (0.0005)        | 0.00831           | 0.0041                 | 0.0482            | 0.141         | 0.676         | 64.20             |
| 18-Apr-06 | 0.0147            | 0.0874            | 0.962                  | 6.64              | 24.8          | 8.37          | 63.30             |
| 06-Jul-06 | U (0.0005)        | 0.00359           | 0.00289                | 0.0539            | 0.153         | U (0.394)     | 63.46             |
| 26-Oct-06 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.391)     | 76.53             |
| 02-Feb-07 | U (0.0005)        | 0.21              | 0.257                  | 1.95              | 7.79          | 1.04          | NM                |
| 19-Apr-07 | U (0.0005)        | 0.165             | 0.13                   | 1.12              | 4.12          | 0.894         | 65.01             |
| 07-Aug-07 | U (0.0005)        | 0.0536            | 0.0392                 | 0.277             | 0.891         | 0.582         | 65.31             |
| 23-Oct-07 | U (0.0005)        | U (0.0005)        | U (0.0005)             | 0.00566           | U (0.05)      | U (0.424)     | 64.23             |
| 22-Feb-08 | U (0.0005)        | 0.0129            | 0.00712                | 0.068             | 0.229         | 0.479         | 62.02             |
| 15-Apr-08 | U (0.0005)        | 0.0247            | 0.0137                 | 0.116             | 0.45          | 0.667         | 62.01             |
| 27-Aug-08 | U (0.0005)        | 0.00662           | 0.00397                | 0.0477            | 0.172         | U (0.4)       | 63.33             |
| 22-Oct-08 | U (0.0005)        | 0.032             | 0.0226                 | 0.255             | 0.742         | U (0.427)     | 64.14             |
| 05-Feb-09 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.463)     | 62.48             |
| 08-Apr-09 | U (0.0005)        | U (0.0005)        | U (0.0005)             | 0.0021            | U (0.05)      | U (0.424)     | 62.85             |
| 09-Jul-09 | U (0.0005)        | 0.00137           | U (0.001)              | 0.0188            | 0.106         | U (0.397)     | 63.28             |
| 04-Nov-09 | U (0.0005)        | 0.00856           | 0.00624                | 0.0639            | 0.271         | U (0.403)     | 63.73             |
| 27-Jan-10 | U (0.0005)        | 0.00123           | U (0.001)              | 0.0168            | 0.0757        | 0.844         | 61.69             |
| 27-May-10 | U (0.0005)        | 0.0114            | 0.0117                 | 0.0923            | 0.257         | 0.538         | 63.28             |
| 19-Aug-10 | U (0.0005)        | U (0.0005)        | 0.000537               | 0.0189            | 0.184         | U (0.455)     | 63.88             |
| 26-Oct-10 | U (0.0005)        | 0.00441           | 0.00443                | 0.0574            | 0.181         | 0.993         | 68.65             |
| 17-Feb-11 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | 0.491         | NM                |
| 09-Jun-11 | U (0.0005)        | 0.000913          | 0.000945               | 0.0425            | 0.143         | 0.635         | 61.52             |
| 20-Sep-11 | U (0.0005)        | U (0.0005)        | U (0.0005)             | 0.00236           | U (0.05)      | U (0.431)     | 63.43             |
| 21-Oct-11 | U (0.0005)        | 0.0121            | 0.0565                 | 0.345             | 0.851         | U (0.417)     | 71.53             |
| 17-Feb-12 | U (0.0005)        | 0.00128           | 0.00235                | 0.0410            | 0.0787        | 0.712         | NM                |
| 17-May-12 | U (0.0005)        | 0.00572           | 0.0250                 | 0.3390            | 0.941         | 0.596         | 70.40             |
| 05-Sep-12 | U (0.0005)        | 0.00468           | 0.0139                 | 0.1450            | 0.404         | U (0.424)     | 73.90             |
| 30-Oct-12 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.439)     | 76.36             |



Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-1**

| Date        | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-------------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 30-Jan-13   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | 0.461         | 65.97             |
| 10-May-13   | U (0.0005)        | 0.000670          | 0.0140                 | 0.166             | 0.248         | U (0.424)     | 71.17             |
| 11-Oct-13   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.431)     | 74.89             |
| 11-Dec-13   | U (0.0005)        | U (0.001)         | U (0.001)              | U (0.003)         | U (0.05)      | U (0.403)     | 75.74             |
| 19-Feb-14   | U (0.0005)        | 0.000667          | U (0.0005)             | 0.00281           | U (0.05)      | U (0.403)     | 70.68             |
| 01-May-14   | U (0.0005)        | U (0.001)         | 0.0038                 | 0.02800           | 0.110         | U (0.41)      | 66.53             |
| 30-Oct-14   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.41)      | 64.40             |
| 11-Feb-15   | NT                | NT                | NT                     | NT                | NT            | NT            | 62.86             |
| 15-May-15   | U (0.002)         | U (0.002)         | U (0.003)              | U (0.002)         | U (0.05)      | 0.34          | 61.97             |
| 02-Sep-15   | U (0.0002)        | U (0.001)         | U (0.001)              | U (0.003)         | 0.150         | U (0.40)      | 62.83             |
| 12-Nov-15   | U (0.0020)        | U (0.0020)        | U (0.0030)             | U (0.0020)        | U (0.050)     | 0.63          | 64.35             |
| 28-Jan-16   | U (0.0020)        | U (0.0020)        | U (0.0030)             | U (0.0020)        | U (0.050)     | 0.88          | 63.11             |
| 09-May-16   | U (0.0002)        | U (0.001)         | U (0.001)              | U (0.003)         | U (0.1)       | U (0.41)      | 66.37             |
| 24-Oct-16   | U (0.0002)        | U (0.001)         | U (0.001)              | U (0.003)         | U (0.1)       | U (0.41)      | 64.10             |
| 09-Dec-16   | U (0.002)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.05)      | U (0.11)      | 63.52             |
| 08-Feb-17   | NT                | NT                | NT                     | NT                | NT            | NT            | 62.98             |
| 25-Apr-17   | U (0.0002)        | U (0.002)         | U (0.003)              | U (0.002)         | U (1.0)       | 0.99          | 64.05             |
| 20-Oct-17   | U (0.002)         | U (0.002)         | U (0.003)              | U (0.003)         | U (1.0)       | 1.4           | 64.50             |
| 13-Feb-18   | U (0.002)         | U (0.002)         | U (0.003)              | U (0.002)         | U (1.0)       | 0.88          | 62.88             |
| 17-Aug-18   | <b>U (0.015)</b>  | U (0.01)          | U (0.015)              | U (0.015)         | U (0.25)      | <b>1.6</b>    | 64.19             |
| 25-Oct-18   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.12)      | 64.36             |
| 26-Feb-19   | U (0.003)         | U (0.002)         | 0.0066                 | U (0.003)         | U (0.25)      | 0.51          | 62.74             |
| 24-Apr-19   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.25)      | 72.81             |
| 16-Jul-19   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | <b>1.6</b>    | 64.25             |
| 17-Oct-19   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.12)      | NM                |
| <b>GCLs</b> | <b>0.0046</b>     | <b>1.1</b>        | <b>0.015</b>           | <b>0.19</b>       | <b>2.2</b>    | <b>1.5</b>    | <b>NA</b>         |

Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-2**

| Date      | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-----------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 24-Apr-97 | U                 | 0.001             | U                      | 0.0023            | U             | U             | NM                |
| 03-Sep-97 | U                 | 0.001             | U                      | 0.0021            | U             | U             | 66.46             |
| 29-Dec-97 | U                 | U                 | U                      | U                 | U             | U             | 65.30             |
| 23-Apr-98 | U                 | 0.002             | U                      | U                 | U             | U             | 62.94             |
| 03-Aug-98 | U                 | U                 | U                      | U                 | U             | U             | 64.10             |
| 02-Nov-98 | U                 | U                 | U                      | U                 | U             | U             | 63.99             |
| 12-Feb-99 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-May-99 | U                 | U                 | U                      | U                 | U             | U             | 61.57             |
| 30-Aug-99 | U                 | U                 | U                      | U                 | U             | 0.100         | 64.82             |
| 29-Oct-99 | U                 | U                 | U                      | U                 | U             | U             | 66.80             |
| 08-Feb-00 | NT                | NT                | NT                     | NT                | NT            | NT            | 62.77             |
| 08-Jun-00 | U                 | U                 | U                      | 0.00              | U             | U             | 69.20             |
| 30-Aug-00 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Nov-00 | U                 | U                 | U                      | U                 | U             | U             | 65.20             |
| 05-Feb-01 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 10-May-01 | U                 | U                 | 0.005                  | 0.021             | 0.114         | U             | 64.07             |
| 09-Nov-01 | U                 | U                 | U                      | U                 | U             | U             | 63.28             |
| 15-Feb-02 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-May-02 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 14-Aug-02 | NT                | NT                | NT                     | NT                | NT            | NT            | 65.91             |
| 14-Nov-02 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 28-Jan-03 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Apr-03 | NT                | NT                | NT                     | NT                | NT            | NT            | 64.19             |
| 17-Jul-03 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Oct-03 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 20-Jan-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 13-Apr-04 | U (0.0005)        | U (0.0005)        | 0.000557               | 0.00745           | U (0.05)      | U (0.5)       | 65.96             |
| 20-Jul-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Sep-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 28-Jan-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Apr-05 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | 0.421         | 65.96             |
| 12-Aug-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 07-Oct-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 14-Feb-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 18-Apr-06 | NT                | NT                | NT                     | NT                | NT            | NT            | 64.58             |
| 06-Jul-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 26-Oct-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Feb-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Apr-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 07-Aug-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 23-Oct-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 22-Feb-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 15-Apr-08 | NT                | NT                | NT                     | NT                | NT            | NT            | 62.74             |
| 27-Aug-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 22-Oct-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 05-Feb-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 08-Apr-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Jul-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 04-Nov-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-Jan-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-May-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Aug-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 26-Oct-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Feb-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Jun-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 20-Sep-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 21-Oct-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Feb-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-May-12 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.410)     | 65.11             |
| 05-Sep-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Oct-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Jan-13 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 10-May-13 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.446)     | 67.42             |

Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-2**

| Date        | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-------------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 11-Oct-13   | NT                | NT                | NT                     | NT                | NT            | NT            | 74.73             |
| 11-Dec-13   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Feb-14   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 01-May-14   | U (0.0005)        | U (0.001)         | U (0.001)              | U (0.001)         | U (0.05)      | U (0.40)      | 66.19             |
| 30-Oct-14   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Feb-15   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 15-May-15   | NT                | NT                | NT                     | NT                | NT            | NT            | DRY               |
| 02-Sep-15   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 12-Nov-15   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 28-Jan-16   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-May-16   | NT                | NT                | NT                     | NT                | NT            | NT            | DRY               |
| 24-Oct-16   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Dec-16   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 08-Feb-17   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 25-Apr-17   | U (0.0002)        | U (0.002)         | U (0.003)              | U (0.002)         | U (1.0)       | U (0.11)      | 64.07             |
| 20-Oct-17   | NT                | NT                | NT                     | NT                | NT            | NT            | 65.23             |
| 13-Feb-18   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Aug-18   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.12)      | 64.74             |
| 25-Oct-18   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 26-Feb-19   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 24-Apr-19   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.27)      | 64.70             |
| 16-Jul-19   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Oct-19   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| <b>GCLs</b> | <b>0.0046</b>     | <b>1.1</b>        | <b>0.015</b>           | <b>0.19</b>       | <b>2.2</b>    | <b>1.5</b>    | <b>NA</b>         |

Appendix D  
Tables of Historical Monitoring Data

Monitoring Well G-3

| Date      | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-----------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 24-Apr-97 | 0.001             | 7.60              | 5.40                   | 26.00             | 70.00         | 5.10          | 64.02             |
| 03-Sep-97 | 0.080             | 2.00              | 1.40                   | 7.70              | 21.00         | 7.50          | 64.72             |
| 29-Dec-97 | 0.057             | 0.43              | 1.50                   | 4.70              | 19.00         | 3.50          | 63.33             |
| 23-Apr-98 | 0.001             | 0.49              | 3.10                   | 10.00             | 40.00         | 6.90          | 61.11             |
| 03-Aug-98 | 0.140             | 0.45              | 3.30                   | 10.00             | 39.00         | 2.00          | 62.23             |
| 02-Nov-98 | 0.001             | 0.58              | 3.00                   | 10.27             | 30.00         | 2.43          | 62.07             |
| 12-Feb-99 | 0.001             | 0.52              | 3.90                   | 12.00             | 48.00         | 8.00          | 60.58             |
| 11-May-99 | 0.051             | 0.12              | 1.02                   | 4.16              | 14.00         | 17.60         | 60.43             |
| 30-Aug-99 | 0.001             | 0.12              | 1.60                   | 3.90              | 19.00         | 4.60          | 62.48             |
| 29-Oct-99 | 0.0018            | 0.0016            | 0.017                  | 0.073             | 0.32          | 0.92          | 66.44             |
| 08-Feb-00 | 0.007             | 0.0380            | 0.470                  | 0.890             | 4.00          | 0.00          | 62.56             |
| 08-Jun-00 | 0.001             | U                 | 0.003                  | 0.01              | 0.00          | 1.10          | 69.16             |
| 30-Aug-00 | 0.001             | 0.0018            | 0.004                  | 0.03              | 0.12          | 0.51          | 66.67             |
| 30-Nov-00 | 0.006             | 0.0320            | 0.320                  | 0.68              | 2.90          | 5.50          | 63.83             |
| 05-Feb-01 | 0.006             | 0.1400            | 0.460                  | 0.90              | 4.30          | 5.90          | 61.72             |
| 10-May-01 | 0.001             | U                 | 0.003                  | 0.009             | 0.00          | 12.80         | 62.84             |
| 16-Aug-01 | 0.005             | 0.0613            | 0.390                  | 0.856             | 2.76          | 8.75          | 63.44             |
| 09-Nov-01 | 0.034             | 0.0828            | 0.019                  | 0.103             | 0.57          | 1.57          | 62.59             |
| 15-Feb-02 | 0.008             | 0.1190            | 0.049                  | 0.156             | 0.87          | 70.70         | 61.16             |
| 30-May-02 | 0.021             | 0.0809            | 0.200                  | 0.605             | 2.25          | 34.20         | 62.13             |
| 14-Aug-02 | 0.029             | 0.1470            | 0.488                  | 1.490             | 5.44          | 5.68          | 63.37             |
| 14-Nov-02 | 0.0658            | 0.186             | 0.804                  | 1.9704            | 8.97          | 4.08          | 68.85             |
| 28-Jan-03 | 0.0571            | 0.0914            | 0.319                  | 0.644             | 2.93          | 7.89          | 64.85             |
| 17-Apr-03 | 0.00288           | 0.0274            | 0.0282                 | 0.082             | 0.585         | 4.58          | 62.58             |
| 17-Jul-03 | U (0.0005)        | 0.0165            | 0.0107                 | 0.0327            | 0.233         | 7.48          | 62.29             |
| 02-Oct-03 | U (0.0005)        | 0.00224           | 0.000626               | 0.00232           | U (0.08)      | 1.14          | 62.25             |
| 20-Jan-04 | U (0.0005)        | 0.0439            | 0.00399                | 0.0127            | 0.144         | 1.83          | 61.39             |
| 13-Apr-04 | U (0.005)         | 0.0261            | 0.0472                 | 0.148             | 0.855         | 2.89          | 62.78             |
| 20-Jul-04 | U (0.0005)        | 0.0305            | 0.0028                 | 0.00853           | 0.164         | 19.4          | 63.86             |
| 02-Sep-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 13-Oct-04 | U (0.0005)        | 0.000537          | U (0.0005)             | U (0.001)         | U (0.08)      | 2.11          | 64.04             |
| 28-Jan-05 | 0.000857          | 0.0293            | 0.00078                | 0.0038            | 0.0973        | 3.65          | 64.60             |
| 11-Apr-05 | 0.00311           | 0.0113            | 0.00232                | 0.0253            | 0.127         | 2.58          | 63.60             |
| 12-Aug-05 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | 1.14          | 68.30             |
| 07-Oct-05 | U (0.0005)        | 0.00234           | U (0.0005)             | U (0.0015)        | U (0.05)      | 2.85          | 71.45             |
| 14-Feb-06 | 0.000874          | 0.076             | 0.00129                | 0.0072            | 0.215         | 3             | 63.13             |
| 18-Apr-06 | U (0.0005)        | 0.0614            | 0.000884               | 0.00356           | 0.181         | 7.64          | 62.66             |
| 06-Jul-06 | U (0.0005)        | 0.00252           | U (0.0005)             | U (0.0015)        | U (0.05)      | 3.17          | 62.79             |
| 26-Oct-06 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | 1.06          | 76.42             |
| 02-Feb-07 | 0.00528           | 0.0513            | 0.0017                 | 0.0154            | 0.236         | 2.27          | NM                |
| 19-Apr-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 07-Aug-07 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | 0.841         | 62.24             |
| 23-Oct-07 | 0.00502           | 0.0358            | 0.02                   | 0.0319            | 0.322         | 1.41          | 62.23             |
| 21-Feb-08 | 0.00517           | 0.0307            | 0.067                  | 0.144             | 0.771         | 0.93          | 60.73             |
| 15-Apr-08 | 0.00562           | 0.04              | 0.135                  | 0.211             | 1.44          | 0.604         | 60.72             |
| 27-Aug-08 | 0.0138            | 0.436             | 0.842                  | 2.88              | 7.26          | 0.978         | 62.69             |
| 22-Oct-08 | 0.0124            | 0.514             | 0.96                   | 3.57              | 9.55          | 0.83          | 62.80             |
| 05-Feb-09 | U (0.01)          | 0.234             | 1.17                   | 4.73              | 15.7          | 0.909         | 61.40             |
| 19-Feb-09 | 0.0071            | 0.0493            | 0.0834                 | 0.241             | 1.04          | 9.47          | NM                |
| 08-Apr-09 | U (0.005)         | 0.0702            | 0.378                  | 1.43              | 4.2           | 1.51          | 60.84             |
| 09-Jul-09 | U (0.0005)        | 0.0415            | 1.12                   | 4.32              | 3.01          | 1.81          | 61.93             |
| 04-Nov-09 | U (0.0005)        | 0.101             | 0.579                  | 2.55              | 12.7          | U (0.400)     | 61.69             |
| 27-Jan-10 | U (0.0005)        | 0.0157            | 0.337                  | 2.01              | 6.47          | 1.12          | 60.29             |
| 27-May-10 | U (0.0005)        | 0.000748          | 0.0379                 | 0.137             | 0.936         | 1.01          | 61.19             |
| 19-Aug-10 | U (0.0005)        | 0.000756          | 0.0336                 | 0.120             | 0.933         | U (0.403)     | 62.19             |
| 26-Oct-10 | U (0.0025)        | U (0.0025)        | 0.153                  | 0.643             | 4.62          | U (0.397)     | 61.98             |
| 17-Feb-11 | U (0.0005)        | 0.00112           | 0.0647                 | 0.222             | 2.11          | 4.10          | 60.36             |
| 09-Jun-11 | 0.000536          | 0.00188           | 0.0666                 | 0.232             | 2.26          | U (0.446)     | 60.45             |
| 20-Sep-11 | U (0.0005)        | 0.000718          | 0.0235                 | 0.0794            | 1.69          | U (0.400)     | 62.17             |
| 21-Oct-11 | 0.00107           | 0.00126           | 0.0325                 | 0.105             | 2.51          | U (0.417)     | 61.76             |
| 17-Feb-12 | 0.000809          | 0.000792          | 0.0536                 | 0.131             | 2.62          | 1.15          | 60.66             |
| 17-May-12 | 0.00117           | 0.00164           | 0.0899                 | 0.303             | 5.91          | 0.560         | 62.88             |
| 05-Sep-12 | U (0.0005)        | U (0.0005)        | 0.166                  | 0.049             | 0.710         | U (0.424)     | NM                |

Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-3**

| Date        | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-------------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 30-Oct-12   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.431)     | 76.33             |
| 30-Jan-13   | U (0.0005)        | 0.00364           | <b>0.0182</b>          | 0.056             | 0.818         | 0.670         | 65.89             |
| 10-May-13   | 0.00153           | 0.00151           | <b>0.0554</b>          | 0.167             | 1.35          | U (0.439)     | 65.55             |
| 11-Oct-13   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.391)     | 74.62             |
| 11-Dec-13   | U (0.0005)        | U (0.001)         | U (0.001)              | U (0.003)         | U (0.05)      | U (0.417)     | 75.70             |
| 19-Feb-14   | U (0.0005)        | U (0.0005)        | 0.00066                | 0.00177           | U (0.05)      | 0.928         | 70.63             |
| 01-May-14   | U (0.0005)        | 0.001             | 0.0066                 | 0.017             | 0.300         | <b>4.80</b>   | 65.77             |
| 30-Oct-14   | U (0.0005)        | U (0.0005)        | 0.0097                 | 0.023             | 0.460         | 1.00          | 63.61             |
| 11-Feb-15   | 0.002             | 0.0011            | <b>0.0870</b>          | <b>0.240</b>      | <b>4.80</b>   | <b>12.00</b>  | 61.31             |
| 15-May-15   | U (0.002)         | U (0.002)         | 0.0078                 | 0.015             | <b>2.6</b>    | 1.3           | 60.81             |
| 02-Sep-15   | U (0.0002)        | U (0.001)         | 0.0079                 | 0.0064            | 1.1           | U (0.40)      | 61.30             |
| 12-Nov-15   | U (0.0020)        | U (0.0020)        | <b>0.036</b>           | 0.069             | <b>3.2</b>    | 0.26          | 63.19             |
| 28-Jan-16   | U (0.0020)        | U (0.0020)        | <b>0.027</b>           | 0.052             | <b>3.2</b>    | 0.76          | 61.95             |
| 09-May-16   | 0.0002            | U (0.001)         | 0.0086                 | 0.012             | 1.6           | 0.58          | 62.85             |
| 24-Oct-16   | 0.0002            | U (0.001)         | 0.0017                 | 0.0036            | <b>4.4</b>    | 0.37          | 62.53             |
| 09-Dec-16   | U (0.002)         | U (0.002)         | 0.002                  | 0.0038            | <b>4.2</b>    | 0.48          | 61.97             |
| 08-Feb-17   | NT                | NT                | NT                     | NT                | NT            | NT            | 61.12             |
| 25-Apr-17   | U (0.0002)        | U (0.002)         | 0.0089                 | <b>0.016</b>      | <b>2.3</b>    | <b>4.7</b>    | 62.36             |
| 20-Oct-17   | U (0.002)         | U (0.002)         | U (0.003)              | U(0.003)          | U(1.0)        | <b>3</b>      | 63.07             |
| 13-Feb-18   | U (0.002)         | 0.0054            | U (0.003)              | 0.0047            | U (1.0)       | <b>6.7</b>    | 61.76             |
| 17-Aug-18   | U (0.003)         | 0.00091 J         | 0.0047                 | 0.00938 J         | 0.99          | <b>3.2</b>    | 62.78             |
| 25-Oct-18   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | 0.37          | <b>2.3</b>    | 63.06             |
| 26-Feb-19   | U (0.003)         | U (0.002)         | 0.006                  | 0.013             | 1.7           | <b>8.5</b>    | 61.46             |
| 24-Apr-19   | U (0.003)         | U (0.002)         | 0.0034                 | 0.0068            | 1.6           | <b>7.7</b>    | 62.48             |
| 16-Jul-19   | U (0.003)         | U (0.002)         | 0.0033                 | 0.006             | 1.3           | <b>4.6</b>    | 63.05             |
| 17-Oct-19   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | 0.58          | <b>3.6 H</b>  | 65.53             |
| <b>GCLs</b> | <b>0.0046</b>     | <b>1.1</b>        | <b>0.015</b>           | <b>0.19</b>       | <b>2.2</b>    | <b>1.5</b>    | NA                |

Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-4**

| Date      | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-----------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 24-Apr-97 | U                 | 0.001             | U                      | 0.0048            | U             | NT            | NM                |
| 03-Sep-97 | U                 | U                 | U                      | U                 | U             | 0.32          | 63.34             |
| 29-Dec-97 | U                 | U                 | U                      | U                 | U             | U             | 62.44             |
| 23-Apr-98 | U                 | U                 | U                      | U                 | U             | U             | 58.99             |
| 03-Aug-98 | U                 | U                 | U                      | U                 | U             | U             | 61.02             |
| 02-Nov-98 | U                 | 0.0012            | U                      | 0.0011            | U             | U             | 60.65             |
| 12-Feb-99 | U                 | U                 | U                      | U                 | U             | 0.36          | 57.89             |
| 10-May-99 | U                 | U                 | 0.0065                 | 0.0279            | 0.091         | 1.98          | 57.53             |
| 30-Aug-99 | U                 | U                 | U                      | U                 | U             | U             | 60.64             |
| 29-Oct-99 | U                 | U                 | U                      | U                 | U             | U             | 66.09             |
| 08-Feb-00 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 08-Jun-00 | U                 | U                 | U                      | U                 | U             | 0.300         | 68.92             |
| 30-Aug-00 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Nov-00 | U                 | U                 | U                      | U                 | U             | U             | 63.27             |
| 05-Feb-01 | NT                | NT                | NT                     | NT                | NT            | NT            | 60.65             |
| 10-May-01 | U                 | U                 | U                      | 0.002             | U             | U             | 61.25             |
| 09-Nov-01 | U                 | U                 | U                      | U                 | U             | U             | 61.22             |
| 15-Feb-02 | NT                | NT                | NT                     | NT                | NT            | NT            | 58.19             |
| 30-May-02 | U                 | 0.003             | U                      | U                 | U             | U             | 59.63             |
| 14-Aug-02 | NT                | NT                | NT                     | NT                | NT            | NT            | 61.84             |
| 14-Nov-02 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 28-Jan-03 | NT                | NT                | NT                     | NT                | NT            | NT            | 64.13             |
| 17-Apr-03 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.001)         | U (0.08)      | U (0.25)      | 61.10             |
| 17-Jul-03 | NT                | NT                | NT                     | NT                | NT            | NT            | 60.82             |
| 02-Oct-03 | NT                | NT                | NT                     | NT                | NT            | NT            | 60.39             |
| 20-Jan-04 | NT                | NT                | NT                     | NT                | NT            | NT            | 58.80             |
| 13-Apr-04 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.5)       | 59.58             |
| 20-Jul-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Sep-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 28-Jan-05 | NT                | NT                | NT                     | NT                | NT            | NT            | 63.32             |
| 11-Apr-05 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | 1.67          | 62.06             |
| 12-Aug-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 07-Oct-05 | NT                | NT                | NT                     | NT                | NT            | NT            | 71.21             |
| 14-Feb-06 | NT                | NT                | NT                     | NT                | NT            | NT            | 62.63             |
| 18-Apr-06 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.407)     | 61.01             |
| 06-Jul-06 | NT                | NT                | NT                     | NT                | NT            | NT            | 61.46             |
| 26-Oct-06 | NT                | NT                | NT                     | NT                | NT            | NT            | 76.18             |
| 02-Feb-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Apr-07 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.431)     | 62.50             |
| 07-Aug-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 23-Oct-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 22-Feb-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 15-Apr-08 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | 0.436         | 58.07             |
| 27-Aug-08 | NT                | NT                | NT                     | NT                | NT            | NT            | 61.28             |
| 22-Oct-08 | NT                | NT                | NT                     | NT                | NT            | NT            | 61.54             |
| 05-Feb-09 | NT                | NT                | NT                     | NT                | NT            | NT            | 59.07             |
| 19-Feb-09 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.463)     | NM                |
| 08-Apr-09 | NT                | NT                | NT                     | NT                | NT            | NT            | 57.24             |
| 09-Jul-09 | NT                | NT                | NT                     | NT                | NT            | NT            | 59.94             |
| 04-Nov-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-Jan-10 | NT                | NT                | NT                     | NT                | NT            | NT            | 56.82             |
| 27-May-10 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.431)     | 57.47             |
| 19-Aug-10 | NT                | NT                | NT                     | NT                | NT            | NT            | 59.04             |
| 26-Oct-10 | NT                | NT                | NT                     | NT                | NT            | NT            | 59.95             |
| 17-Feb-11 | NT                | NT                | NT                     | NT                | NT            | NT            | 56.83             |
| 09-Jun-11 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.424)     | 57.29             |
| 20-Sep-11 | NT                | NT                | NT                     | NT                | NT            | NT            | 59.96             |
| 21-Oct-11 | NT                | NT                | NT                     | NT                | NT            | NT            | 59.90             |
| 17-Feb-12 | NT                | NT                | NT                     | NT                | NT            | NT            | 57.21             |
| 17-May-12 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | 0.819         | 60.90             |
| 05-Sep-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Oct-12 | NT                | NT                | NT                     | NT                | NT            | NT            | 76.02             |
| 30-Jan-13 | NT                | NT                | NT                     | NT                | NT            | NT            | 65.81             |

Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-4**

| Date        | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-------------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 10-May-13   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.463)     | 64.66             |
| 11-Oct-13   | NT                | NT                | NT                     | NT                | NT            | NT            | 74.35             |
| 11-Dec-13   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Feb-14   | NT                | NT                | NT                     | NT                | NT            | NT            | 70.46             |
| 01-May-14   | U (0.0005)        | U (0.001)         | U (0.001)              | U (0.001)         | U (0.05)      | U (0.42)      | 65.39             |
| 30-Oct-14   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Feb-15   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 15-May-15   | U (0.002)         | U (0.002)         | U (0.003)              | U (0.002)         | U (0.05)      | U (0.23)      | 57.78             |
| 02-Sep-15   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 12-Nov-15   | NT                | NT                | NT                     | NT                | NT            | NT            | 61.97             |
| 28-Jan-16   | NT                | NT                | NT                     | NT                | NT            | NT            | 60.14             |
| 09-May-16   | U (0.0002)        | U (0.001)         | U (0.001)              | U (0.003)         | U (0.1)       | U (0.42)      | 60.67             |
| 24-Oct-16   | NT                | NT                | NT                     | NT                | NT            | NT            | 60.7              |
| 09-Dec-16   | NT                | NT                | NT                     | NT                | NT            | NT            | 59.94             |
| 08-Feb-17   | NT                | NT                | NT                     | NT                | NT            | NT            | 57.36             |
| 25-Apr-17   | U (0.0002)        | U (0.002)         | U (0.003)              | U (0.002)         | U (1.0)       | U (0.11)      | 58.77             |
| 20-Oct-17   | NT                | NT                | NT                     | NT                | NT            | NT            | 61.02             |
| 13-Feb-18   | NT                | NT                | NT                     | NT                | NT            | NT            | 59.22             |
| 17-Aug-18   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.12)      | 60.90             |
| 25-Oct-18   | NT                | NT                | NT                     | NT                | NT            | NT            | 61.56             |
| 26-Feb-19   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 24-Apr-19   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.28)      | 60.29             |
| 16-Jul-19   | NT                | NT                | NT                     | NT                | NT            | NT            | 61.15             |
| 17-Oct-19   | NT                | NT                | NT                     | NT                | NT            | NT            | 63.33             |
| <b>GCLs</b> | <b>0.0046</b>     | <b>1.1</b>        | <b>0.015</b>           | <b>0.19</b>       | <b>2.2</b>    | <b>1.5</b>    | NA                |

Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-5**

| Date      | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-----------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 24-Apr-97 | <b>0.032</b>      | 0.56              | <b>0.91</b>            | 5.20              | <b>17.00</b>  |               | 58.34             |
| 03-Sep-97 | 0.001             | U                 | <b>1.10</b>            | 5.40              | <b>25.00</b>  | <b>4.80</b>   | 63.30             |
| 29-Dec-97 | <b>0.065</b>      | 0.15              | <b>1.00</b>            | 4.70              | <b>19.00</b>  | <b>4.00</b>   | 62.25             |
| 23-Apr-98 | <b>0.048</b>      | 0.068             | <b>0.38</b>            | 1.70              | <b>11.00</b>  | <b>2.70</b>   | 59.07             |
| 03-Aug-98 | 0.001             | U                 | U                      | 0.0019            | 0.00          | 0.27          | 60.74             |
| 02-Nov-98 | <b>0.026</b>      | 0.01              | <b>0.12</b>            | 0.27              | <b>3.70</b>   | <b>1.82</b>   | 60.43             |
| 12-Feb-99 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 10-May-99 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 31-Aug-99 | <b>0.011</b>      | 0.029             | <b>0.340</b>           | <b>0.900</b>      | <b>4.60</b>   | 0.950         | 60.55             |
| 29-Oct-99 | <b>0.024</b>      | 0.006             | <b>0.066</b>           | 0.110             | <b>2.70</b>   | 0.40          | 66.08             |
| 08-Feb-00 | <b>0.008</b>      | 0.006             | <b>0.053</b>           | 0.100             | <b>4.20</b>   | NT            | 61.10             |
| 08-Jun-00 | 0.001             | U                 | <b>0.023</b>           | 0.04              | 0.61          | 0.00          | 69.02             |
| 30-Aug-00 | 0.001             | U                 | 0.004                  | 0.008             | 0.220         | 0.001         | 66.58             |
| 30-Nov-00 | <b>0.012</b>      | 0.006             | <b>0.079</b>           | 0.140             | <b>3.900</b>  | 0.490         | 63.26             |
| 05-Feb-01 | <b>0.015</b>      | 0.008             | <b>0.016</b>           | 0.026             | 2.100         | 0.320         | 60.47             |
| 10-May-01 | <b>0.007</b>      | U                 | <b>0.061</b>           | 0.100             | 1.620         | 0.001         | 61.12             |
| 16-Aug-01 | <b>0.031</b>      | 0.011             | <b>0.042</b>           | 0.065             | <b>2.740</b>  | U             | 62.11             |
| 09-Nov-01 | 0.004             | U                 | U                      | 0.002             | 0.258         | U             | 61.05             |
| 15-Feb-02 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-May-02 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 14-Aug-02 | <b>0.013</b>      | 0.003             | <b>0.145</b>           | 0.182             | <b>2.530</b>  | 0.552         | 61.71             |
| 14-Nov-02 | 0.00257           | U (0.002)         | U (0.002)              | U (0.002)         | 0.137         | U (0.5)       | 68.57             |
| 28-Jan-03 | <b>0.064</b>      | U (0.02)          | <b>0.0733</b>          | 0.0667            | <b>2.4</b>    | 1.2           | 64.08             |
| 17-Apr-03 | <b>0.0181</b>     | 0.002             | <b>0.0834</b>          | 0.186             | <b>3.14</b>   | 0.418         | 61.01             |
| 17-Jul-03 | U (0.005)         | U (0.005)         | <b>0.0666</b>          | 0.184             | <b>2.72</b>   | U (0.5)       | 60.80             |
| 02-Oct-03 | <b>0.0125</b>     | 0.00577           | <b>0.127</b>           | <b>0.217</b>      | <b>4.33</b>   | U (0.32)      | 60.51             |
| 20-Jan-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 13-Apr-04 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | 0.0539        | U (0.5)       | 59.99             |
| 20-Jul-04 | 0.00351           | U (0.0005)        | <b>0.0561</b>          | 0.0239            | 1.7           | 0.484         | 60.95             |
| 02-Sep-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 13-Oct-04 | <b>0.009</b>      | 0.00155           | <b>0.0893</b>          | 0.113             | <b>2.71</b>   | 0.443         | 57.72             |
| 28-Jan-05 | 0.0011            | 0.00198           | <b>0.0183</b>          | 0.02              | 1.35          | 0.45          | 63.15             |
| 11-Apr-05 | U (0.0005)        | 0.000845          | 0.0138                 | 0.0117            | 1.06          | U (0.391)     | 61.89             |
| 12-Aug-05 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.41)      | 68.20             |
| 07-Oct-05 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.407)     | 71.31             |
| 14-Feb-06 | 0.00186           | 0.00136           | <b>0.0163</b>          | 0.0066            | 1.34          | 0.475         | 62.43             |
| 18-Apr-06 | 0.0018            | 0.000663          | <b>0.153</b>           | <b>0.24</b>       | 2.04          | 0.693         | 62.00             |
| 06-Jul-06 | 0.00141           | 0.00158           | <b>0.0932</b>          | 0.103             | 1.14          | U (0.41)      | 61.34             |
| 26-Oct-06 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.41)      | 76.31             |
| 02-Feb-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Apr-07 | U (0.0005)        | U (0.0005)        | <b>0.0163</b>          | 0.0227            | 0.774         | U (0.435)     | 62.68             |
| 07-Aug-07 | 0.00147           | U (0.0005)        | 0.00611                | 0.007             | 0.529         | U (0.407)     | 60.94             |
| 23-Oct-07 | U (0.0005)        | U (0.0005)        | 0.00534                | 0.00603           | 0.4           | U (0.446)     | 60.75             |
| 21-Feb-08 | 0.00231           | 0.000739          | <b>0.0592</b>          | 0.0523            | 1.97          | U (0.417)     | 58.73             |
| 15-Apr-08 | NT                | NT                | NT                     | NT                | NT            | NT            | 58.39             |
| 27-Aug-08 | U (0.0005)        | U (0.0005)        | <b>0.0203</b>          | 0.0243            | 0.506         | U (0.4)       | 61.12             |
| 22-Oct-08 | U (0.0005)        | U (0.0005)        | 0.00629                | 0.00512           | 0.35          | U (0.420)     | 61.35             |
| 05-Feb-09 | 0.00093           | 0.00211           | <b>0.0898</b>          | 0.101             | 2.02          | 0.59          | 59.36             |
| 19-Feb-09 | 0.00249           | 0.00283           | <b>0.129</b>           | <b>0.262</b>      | 1.96          | 0.689         | NM                |
| 08-Apr-09 | <b>0.0058</b>     | 0.169             | <b>0.26</b>            | <b>0.634</b>      | <b>3.84</b>   | U (0.435)     | 57.51             |
| 09-Jul-09 | 0.00267           | 0.00452           | <b>0.184</b>           | <b>0.284</b>      | <b>2.51</b>   | U (0.410)     | 60.05             |
| 04-Nov-09 | 0.00365           | 0.00739           | <b>0.292</b>           | <b>0.645</b>      | <b>4.13</b>   | U (0.397)     | 59.31             |
| 27-Jan-10 | 0.00385           | 0.0313            | <b>0.499</b>           | <b>1.51</b>       | <b>7.17</b>   | U (0.427)     | 57.11             |
| 27-May-10 | 0.0022            | 0.0218            | <b>0.406</b>           | <b>1.22</b>       | <b>5.19</b>   | 0.668         | 57.97             |
| 19-Aug-10 | 0.00105           | 0.00307           | <b>0.233</b>           | <b>0.977</b>      | <b>3.27</b>   | 0.415         | 59.56             |
| 26-Oct-10 | U (0.0022)        | U (0.0005)        | <b>0.0449</b>          | 0.0723            | 0.741         | U (0.403)     | 60.06             |
| 17-Feb-11 | 0.00291           | 0.0034            | <b>0.108</b>           | <b>0.472</b>      | <b>3.11</b>   | U (0.410)     | 57.11             |
| 09-Jun-11 | 0.00199           | 0.00405           | <b>0.173</b>           | <b>0.856</b>      | <b>5.08</b>   | 0.436         | 57.63             |
| 20-Sep-11 | 0.00101           | 0.00133           | <b>0.0362</b>          | 0.138             | 0.975         | U (0.403)     | 60.13             |
| 21-Oct-11 | U (0.0005)        | U (0.0005)        | 0.0121                 | 0.0303            | 0.365         | U (0.439)     | 60.05             |
| 17-Feb-12 | 0.00403           | 0.00497           | <b>0.0807</b>          | <b>0.476</b>      | <b>2.80</b>   | 0.726         | 57.53             |
| 17-May-12 | 0.000704          | 0.000734          | 0.0125                 | 0.0378            | 0.683         | 0.541         | 60.79             |
| 05-Sep-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |



Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-5**

| Date        | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-------------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 30-Oct-12   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.410)     | 76.18             |
| 30-Jan-13   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.403)     | 65.81             |
| 10-May-13   | 0.000520          | 0.000627          | U (0.0005)             | 0.00194           | 0.221         | U (0.400)     | 64.83             |
| 11-Oct-13   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.439)     | 74.49             |
| 11-Dec-13   | U (0.0005)        | U (0.001)         | U (0.001)              | U (0.003)         | U (0.05)      | U (0.403)     | 75.58             |
| 19-Feb-14   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.400)     | 70.56             |
| 01-May-14   | U (0.005)         | U (0.001)         | U (0.001)              | U (0.001)         | U (0.05)      | U (0.41)      | 65.66             |
| 30-Oct-14   | 0.000860          | U (0.0005)        | U (0.0005)             | U (0.0015)        | 0.190         | U (0.42)      | 62.96             |
| 11-Feb-15   | U (0.0005)        | U (0.0005)        | 0.0031                 | 0.0031            | 0.280         | U (0.42)      | 59.60             |
| 15-May-15   | NT                | NT                | NT                     | NT                | NT            | NT            | DRY               |
| 02-Sep-15   | NT                | NT                | NT                     | NT                | NT            | NT            | DRY               |
| 12-Nov-15   | U (0.0020)        | U (0.0020)        | U (0.0030)             | U (0.0020)        | 0.32          | U (0.21)      | 61.78             |
| 28-Jan-16   | U (0.0020)        | U (0.0020)        | U (0.0030)             | U (0.0020)        | U (0.050)     | U (0.11)      | 60.14             |
| 9-May-16    | NT                | NT                | NT                     | NT                | NT            | NT            | DRY               |
| 24-Oct-16   | U (0.0002)        | U (0.001)         | U (0.001)              | U (0.003)         | U (0.1)       | U (0.41)      | 60.57             |
| 9-Dec-16    | U (0.002)         | U (0.001)         | 0.0063                 | 0.0034            | 0.17          | U (0.12)      | 59.98             |
| 8-Feb-17    | NT                | NT                | NT                     | NT                | NT            | NT            | DRY               |
| 24-Apr-17   | U (0.0002)        | U (0.001)         | 0.085                  | <b>0.44</b>       | 1.4           | 0.22          | 59.64             |
| 20-Oct-17   | U (0.002)         | U (0.002)         | U (0.003)              | U (0.003)         | U(1.0)        | U(0.110)      | 60.86             |
| 13-Feb-18   | U (0.002)         | U (0.002)         | U (0.003)              | U (0.002)         | U (1.0)       | U (0.13)      | 59.52             |
| 17-Aug-18   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.12)      | 60.76             |
| 25-Oct-18   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.12)      | 61.38             |
| 26-Feb-19   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | 0.12          | 59.39             |
| 24-Apr-19   | U (0.003)         | U (0.002)         | 0.0086                 | 0.0068            | U (0.25)      | U (0.27)      | 60.41             |
| 16-Jul-19   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.12)      | 61.58             |
| 17-Oct-19   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.12)      | 63.67             |
| <b>GCLs</b> | <b>0.0046</b>     | <b>1.1</b>        | <b>0.015</b>           | <b>0.19</b>       | <b>2.2</b>    | <b>1.5</b>    | <b>NA</b>         |

Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-6**

| Date      | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-----------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 03-Sep-97 | U                 | 0.013             | 0.006                  | 0.042             | 0.088         | 13            | NM                |
| 29-Dec-97 | 0.039             | 0.0019            | 0.0014                 | 0.0087            | 0.031         | 3.600         | NM                |
| 03-Aug-98 | U                 | U                 | U                      | U                 | U             | U             | 60.89             |
| 02-Nov-98 | 0.001             | 0.0085            | 0.014                  | 0.070             | 0.190         | U             | 60.97             |
| 12-Feb-99 | U                 | U                 | U                      | U                 | U             | U             | 61.46             |
| 11-May-99 | U                 | U                 | U                      | 0.0026            | U             | U             | 58.37             |
| 30-Aug-99 | U                 | U                 | U                      | U                 | U             | U             | 61.27             |
| 29-Oct-99 | U                 | U                 | U                      | U                 | U             | U             | 66.60             |
| 08-Feb-00 | NT                | NT                | NT                     | NT                | NT            | NT            | 61.54             |
| 08-Jun-00 | U                 | U                 | U                      | U                 | U             | U             | 69.19             |
| 30-Aug-00 | NT                | NT                | NT                     | NT                | NT            | NT            | 66.68             |
| 30-Nov-00 | U                 | U                 | U                      | U                 | U             | U             | 63.30             |
| 05-Feb-01 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 10-May-01 | U                 | U                 | U                      | U                 | U             | U             | 61.63             |
| 09-Nov-01 | U                 | U                 | U                      | U                 | U             | U             | 61.39             |
| 15-Feb-02 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-May-02 | U                 | U                 | U                      | U                 | U             | U             | 60.60             |
| 14-Aug-02 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 14-Nov-02 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 28-Jan-03 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Apr-03 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.001)         | U (0.08)      | U (0.25)      | 61.44             |
| 17-Jul-03 | NT                | NT                | NT                     | NT                | NT            | NT            | 61.21             |
| 02-Oct-03 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 20-Jan-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 13-Apr-04 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.5)       | 61.21             |
| 20-Jul-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Sep-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 28-Jan-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Apr-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 12-Aug-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 07-Oct-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 14-Feb-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 18-Apr-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 06-Jul-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 26-Oct-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Feb-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Apr-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 07-Aug-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 23-Oct-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 22-Feb-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 15-Apr-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-Aug-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 22-Oct-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 05-Feb-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 08-Apr-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Jul-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 04-Nov-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-Jan-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-May-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Aug-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 26-Oct-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Feb-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Jun-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 20-Sep-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 21-Oct-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Feb-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-May-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 05-Sep-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Oct-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Jan-13 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 10-May-13 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Oct-13 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Dec-13 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |

Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-6**

| <b>Date</b> | <b>Benzene<br/>(mg/L)</b> | <b>Toluene<br/>(mg/L)</b> | <b>Ethylbenzene<br/>(mg/L)</b> | <b>Xylenes<br/>(mg/L)</b> | <b>GRO<br/>(mg/L)</b> | <b>DRO<br/>(mg/L)</b> | <b>GW Elev<br/>(feet)</b> |
|-------------|---------------------------|---------------------------|--------------------------------|---------------------------|-----------------------|-----------------------|---------------------------|
| 19-Feb-14   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 01-May-14   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 30-Oct-14   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 11-Feb-15   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 15-May-15   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 02-Sep-15   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 12-Nov-15   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 28-Jan-16   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 09-May-16   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 24-Oct-16   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 09-Dec-16   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 08-Feb-17   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 25-Apr-17   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 20-Oct-17   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 13-Feb-18   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 17-Aug-18   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 25-Oct-18   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 26-Feb-19   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 24-Apr-19   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 16-Jul-19   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 17-Oct-19   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| <b>GCLs</b> | <b>0.0046</b>             | <b>1.1</b>                | <b>0.015</b>                   | <b>0.19</b>               | <b>2.2</b>            | <b>1.5</b>            | <b>NA</b>                 |

Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-7**

| Date      | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-----------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 03-Aug-98 | U                 | U                 | U                      | U                 | U             | U             | 59.62             |
| 02-Nov-98 | U                 | 0.005             | 0.012                  | 0.058             | 0.16          | U             | 59.19             |
| 12-Feb-99 | U                 | U                 | U                      | U                 | U             | 0.79          | 54.81             |
| 10-May-99 | U                 | U                 | U                      | U                 | U             | 0.45          | 54.19             |
| 30-Aug-99 | U                 | U                 | U                      | U                 | U             | U             | 58.32             |
| 29-Oct-99 | U                 | U                 | U                      | U                 | U             | U             | 66.07             |
| 08-Feb-00 | NT                | NT                | NT                     | NT                | NT            | NT            | 60.91             |
| 08-Jun-00 | U                 | U                 | U                      | U                 | U             | U             | 68.93             |
| 30-Aug-00 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Nov-00 | U                 | U                 | U                      | U                 | U             | U             | 63.27             |
| 05-Feb-01 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 10-May-01 | U                 | U                 | U                      | U                 | U             | U             | 59.55             |
| 09-Nov-01 | U                 | U                 | U                      | U                 | U             | U             | 59.79             |
| 15-Feb-02 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-May-02 | U                 | U                 | U                      | U                 | U             | 2.47          | 56.63             |
| 14-Aug-02 | NT                | NT                | NT                     | NT                | NT            | NT            | 59.20             |
| 14-Nov-02 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 28-Jan-03 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Apr-03 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.001)         | U (0.08)      | U (0.25)      | 59.37             |
| 17-Jul-03 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Oct-03 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 20-Jan-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 13-Apr-04 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.5)       | 55.28             |
| 20-Jul-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Sep-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 28-Jan-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Apr-05 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.435)     | 61.36             |
| 12-Aug-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 07-Oct-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 14-Feb-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 18-Apr-06 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.397)     | 58.98             |
| 06-Jul-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 26-Oct-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Feb-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Apr-07 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.42)      | NM                |
| 07-Aug-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 23-Oct-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 22-Feb-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 15-Apr-08 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | 0.673         | 55.30             |
| 27-Aug-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 22-Oct-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Feb-09 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.455)     | NM                |
| 08-Apr-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Jul-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 04-Nov-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-Jan-10 | U (0.0005)        | U (0.001)         | U (0.001)              | U (0.003)         | U (0.05)      | U (0.397)     | 53.89             |
| 27-May-10 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.439)     | 54.20             |
| 19-Aug-10 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.410)     | 55.54             |
| 26-Oct-10 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.001)         | U (0.08)      | U (0.407)     | 57.61             |
| 17-Feb-11 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.403)     | 53.66             |
| 09-Jun-11 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.439)     | 54.23             |
| 20-Sep-11 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.391)     | 57.46             |
| 21-Oct-11 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.413)     | 57.47             |
| 17-Feb-12 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | 0.584         | 54.08             |
| 17-May-12 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | 0.628         | 59.53             |
| 18-Jul-12 | U (0.0005)        | U (0.0010)        | U (0.0010)             | U (0.0030)        | U (0.05)      | U (0.403)     | NM                |
| 05-Sep-12 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.400)     | 62.00             |
| 30-Oct-12 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.397)     | 75.98             |
| 30-Jan-13 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | 0.531         | 65.85             |
| 15-Feb-13 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.403)     | 64.02             |
| 10-May-13 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.417)     | 64.65             |
| 11-Oct-13 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.410)     | 74.31             |
| 11-Dec-13 | U (0.0005)        | U (0.001)         | U (0.001)              | U (0.003)         | U (0.05)      | U (0.410)     | 75.38             |

Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-7**

| Date        | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-------------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 19-Feb-14   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.407)     | 70.46             |
| 01-May-14   | U (0.0005)        | U (0.001)         | U (0.001)              | U (0.001)         | U (0.05)      | U (0.39)      | 65.63             |
| 30-Oct-14   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.39)      | 62.96             |
| 11-Feb-15   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.42)      | 57.40             |
| 15-May-15   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.42)      | 54.98             |
| 02-Sep-15   | U (0.0020)        | U (0.001)         | U (0.001)              | U (0.001)         | 0.16          | U (0.42)      | 55.74             |
| 12-Nov-15   | U (0.0020)        | U (0.0020)        | U (0.0030)             | U (0.0020)        | U (0.050)     | U (0.20)      | 61.73             |
| 28-Jan-16   | U (0.0020)        | U (0.0020)        | U (0.0030)             | U (0.0020)        | U (0.050)     | 0.23          | 58.37             |
| 09-May-16   | U (0.0002)        | U (0.001)         | U (0.001)              | U (0.003)         | U (0.1)       | U (0.41)      | 56.26             |
| 24-Oct-16   | U (0.0002)        | U (0.001)         | U (0.001)              | U (0.003)         | U (0.1)       | U (0.41)      | 59.67             |
| 09-Dec-16   | U (0.002)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.05)      | U (0.11)      | 58.06             |
| 08-Feb-17   | U (0.002)         | U (0.002)         | U (0.003)              | U (0.002)         | U (0.05)      | U (0.11)      | 54.46             |
| 25-Apr-17   | U (0.0002)        | U (0.001)         | U (0.001)              | U (0.003)         | U (1.0)       | U (0.11)      | 55.08             |
| 20-Oct-17   | U (0.002)         | U (0.002)         | U (0.003)              | U (0.003)         | U (1.0)       | U (0.110)     | 59.98             |
| 13-Feb-18   | U (0.002)         | U (0.002)         | U (0.003)              | U (0.002)         | U (1.0)       | U (0.12)      | 56.66             |
| 17-Aug-18   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.12)      | 60.08             |
| 25-Oct-18   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.12)      | 61.28             |
| 26-Feb-19   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.13)      | 57.07             |
| 24-Apr-19   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.26)      | 58.43             |
| 16-Jul-19   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.12)      | 61.50             |
| 17-Oct-19   | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.12)      | 63.57             |
| <b>GCLs</b> | <b>0.0046</b>     | <b>1.1</b>        | <b>0.015</b>           | <b>0.19</b>       | <b>2.2</b>    | <b>1.5</b>    | <b>NA</b>         |

Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-8**

| Date      | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-----------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 03-Aug-98 | U                 | U                 | U                      | U                 | U             | U             | 59.56             |
| 02-Nov-98 | U                 | 0.003             | 0.0074                 | 0.0037            | 0.094         | U             | 59.18             |
| 12-Feb-99 | U                 | U                 | U                      | U                 | U             | U             | 54.79             |
| 10-May-99 | U                 | U                 | U                      | U                 | U             | U             | 54.13             |
| 30-Aug-99 | U                 | U                 | U                      | U                 | U             | U             | 58.25             |
| 29-Oct-99 | U                 | U                 | U                      | U                 | U             | U             | 66.00             |
| 08-Feb-00 | NT                | NT                | NT                     | NT                | NT            | NT            | 60.88             |
| 08-Jun-00 | U                 | U                 | U                      | U                 | U             | U             | 68.89             |
| 30-Aug-00 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Nov-00 | U                 | U                 | U                      | U                 | U             | 0.130         | 63.25             |
| 05-Feb-01 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 10-May-01 | U                 | U                 | U                      | U                 | U             | U             | 59.49             |
| 09-Nov-01 | U                 | U                 | U                      | U                 | U             | U             | 59.78             |
| 15-Feb-02 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-May-02 | U                 | U                 | U                      | U                 | U             | U             | 56.58             |
| 14-Aug-02 | NT                | NT                | NT                     | NT                | NT            | NT            | 59.15             |
| 14-Nov-02 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 28-Jan-03 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Apr-03 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.001)         | U (0.08)      | U (0.25)      | 59.34             |
| 17-Jul-03 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Oct-03 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 20-Jan-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 13-Apr-04 | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.5)       | 55.21             |
| 20-Jul-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Sep-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 28-Jan-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Apr-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 12-Aug-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 07-Oct-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 14-Feb-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 18-Apr-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 06-Jul-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 26-Oct-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Feb-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Apr-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 07-Aug-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 23-Oct-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 22-Feb-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 15-Apr-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-Aug-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 22-Oct-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 05-Feb-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 08-Apr-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Jul-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 04-Nov-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-Jan-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-May-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Aug-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 26-Oct-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Feb-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Jun-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 20-Sep-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 21-Oct-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Feb-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-May-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 05-Sep-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Oct-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Jan-13 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 10-May-13 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Oct-13 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Dec-13 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Feb-14 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 01-May-14 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |

Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well G-8**

| <b>Date</b> | <b>Benzene<br/>(mg/L)</b> | <b>Toluene<br/>(mg/L)</b> | <b>Ethylbenzene<br/>(mg/L)</b> | <b>Xylenes<br/>(mg/L)</b> | <b>GRO<br/>(mg/L)</b> | <b>DRO<br/>(mg/L)</b> | <b>GW Elev<br/>(feet)</b> |
|-------------|---------------------------|---------------------------|--------------------------------|---------------------------|-----------------------|-----------------------|---------------------------|
| 30-Oct-14   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 11-Feb-15   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 15-May-15   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 02-Sep-15   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 12-Nov-15   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 28-Jan-16   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 09-May-16   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 24-Oct-16   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 09-Dec-16   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 08-Feb-17   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 25-Apr-17   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 20-Oct-17   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 13-Feb-18   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 17-Aug-18   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 25-Oct-18   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 26-Feb-19   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 24-Apr-19   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 16-Jul-19   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 17-Oct-19   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| <b>GCLs</b> | <b>0.0046</b>             | <b>1.1</b>                | <b>0.015</b>                   | <b>0.19</b>               | <b>2.2</b>            | <b>1.5</b>            | <b>NA</b>                 |

Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well VSC**

| Date      | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-----------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 28-Jan-03 | U (0.05)          | 5.9               | 2.52                   | 13.97             | 53.7          | 3.5           | 65.52             |
| 17-Apr-03 | 0.141             | 5.73              | 2.69                   | 16                | 75.3          | 2.54          | NM                |
| 17-Jul-03 | U (0.05)          | 18.5              | 7.64                   | 43.3              | 161           | 4.73          | NM                |
| 02-Oct-03 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 20-Jan-04 | U (0.2)           | 4.89              | 3.03                   | 18.7              | 52.4          | 4.06          | NM                |
| 13-Apr-04 | U (0.1)           | 7.93              | 4.78                   | 23.8              | 90            | 1.34          | NM                |
| 20-Jul-04 | U (0.25)          | 5.78              | 2.5                    | 23.4              | 88.8          | 4.96          | NM                |
| 02-Sep-04 | U (0.5)           | 11.7              | 10.4                   | 75.1              | 229           | 18.9          | NM                |
| 02-Sep-04 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 28-Jan-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Apr-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 12-Aug-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 07-Oct-05 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 14-Feb-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 18-Apr-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 06-Jul-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 26-Oct-06 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Feb-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Apr-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 07-Aug-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 23-Oct-07 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 22-Feb-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 15-Apr-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-Aug-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 22-Oct-08 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 05-Feb-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 08-Apr-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Jul-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 04-Nov-09 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-Jan-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-May-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Aug-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 26-Oct-10 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Feb-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Jun-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 20-Sep-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 21-Oct-11 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Feb-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-May-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 05-Sep-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Oct-12 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Jan-13 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 10-May-13 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Oct-13 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Dec-13 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Feb-14 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 01-May-14 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Oct-14 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Feb-15 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 15-May-15 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Sep-15 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 14-Oct-15 | U (0.0010)        | U (0.0010)        | U (0.0010)             | U (0.0030)        | U (0.01)      | 1.0           | NM                |
| 12-Nov-15 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 28-Jan-16 | U (0.0020)        | U (0.0020)        | U (0.0020)             | U (0.0020)        | U (0.050)     | U (0.012)     | NM                |
| 09-May-16 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 24-Oct-16 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Dec-16 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 08-Feb-17 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 25-Apr-17 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 20-Oct-17 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 13-Feb-18 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Aug-18 | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 25-Oct-18 | U (0.003)         | U (0.002)         | U (0.003)              | U (0.003)         | U (0.25)      | U (0.12)      | 61.28             |



Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well VSC**

| <b>Date</b> | <b>Benzene<br/>(mg/L)</b> | <b>Toluene<br/>(mg/L)</b> | <b>Ethylbenzene<br/>(mg/L)</b> | <b>Xylenes<br/>(mg/L)</b> | <b>GRO<br/>(mg/L)</b> | <b>DRO<br/>(mg/L)</b> | <b>GW Elev<br/>(feet)</b> |
|-------------|---------------------------|---------------------------|--------------------------------|---------------------------|-----------------------|-----------------------|---------------------------|
| 26-Feb-19   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 24-Apr-19   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 16-Jul-19   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| 17-Oct-19   | NT                        | NT                        | NT                             | NT                        | NT                    | NT                    | NM                        |
| <b>GCLs</b> | <b>0.0046</b>             | <b>1.1</b>                | <b>0.015</b>                   | <b>0.19</b>               | <b>2.2</b>            | <b>1.5</b>            | <b>NA</b>                 |

Appendix D  
Tables of Historical Monitoring Data

**Monitoring Well AS-1**

| Date        | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-------------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 02-Feb-07   | U (0.0005)        | U (0.0005)        | U (0.0005)             | U (0.0015)        | U (0.05)      | U (0.403)     | NM                |
| 19-Apr-07   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 07-Aug-07   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 23-Oct-07   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 22-Feb-08   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 15-Apr-08   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-Aug-08   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 22-Oct-08   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 05-Feb-09   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 08-Apr-09   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Jul-09   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 04-Nov-09   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-Jan-10   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 27-May-10   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Aug-10   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 26-Oct-10   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Feb-11   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Jun-11   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 20-Sep-11   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 21-Oct-11   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Feb-12   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-May-12   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 05-Sep-12   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Oct-12   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Jan-13   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 10-May-13   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Oct-13   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Dec-13   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 19-Feb-14   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 01-May-14   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 30-Oct-14   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 11-Feb-15   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 15-May-15   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 02-Sep-15   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 12-Nov-15   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 28-Jan-16   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-May-16   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 24-Oct-16   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Dec-16   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 08-Feb-17   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 25-Apr-17   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 20-Oct-17   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 13-Feb-18   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Aug-18   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 25-Oct-18   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 26-Feb-19   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 24-Apr-19   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 16-Jul-19   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 17-Oct-19   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| <b>GCLs</b> | <b>0.0046</b>     | <b>1.1</b>        | <b>0.015</b>           | <b>0.19</b>       | <b>2.2</b>    | <b>1.5</b>    | <b>NA</b>         |

Appendix D  
Tables of Historical Monitoring Data

**Remediation Well RW16-1**

| Date        | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-------------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 24-Oct-16   | U (0.0002)        | 0.019             | 1.7                    | 10.1              | 30            | 4.6           | NM                |
| 09-Dec-16   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 08-Feb-17   | U (0.002)         | 0.0048            | 7.9                    | 8.9               | 25            | 2.7           | NM                |
| 25-Apr-17   | U (0.002)         | U (0.001)         | U (0.750)              | 4.83              | 12            | 2.4           | NM                |
| 20-Oct-17   | NT                | NT                | NT                     | NT                | NT            | NT            | 64.44             |
| 13-Feb-18   | NT                | NT                | NT                     | NT                | NT            | NT            | 63.41             |
| 17-Aug-18   | U (0.003)         | 0.0018 J          | 1.2                    | 8.5               | 24            | 7.9           | 64.14             |
| 25-Oct-18   | NT                | NT                | NT                     | NT                | NT            | NT            | 68.84             |
| 26-Feb-19   | NT                | NT                | NT                     | NT                | NT            | NT            | 63.80             |
| 24-Apr-19   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 16-Jul-19   | NT                | NT                | NT                     | NT                | NT            | NT            | 64.06             |
| 17-Oct-19   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| <b>GCLs</b> | <b>0.0046</b>     | <b>1.1</b>        | <b>0.015</b>           | <b>0.19</b>       | <b>2.2</b>    | <b>1.5</b>    | <b>NA</b>         |

**Monitoring Well MW16-2**

| Date        | Benzene<br>(mg/L) | Toluene<br>(mg/L) | Ethylbenzene<br>(mg/L) | Xylenes<br>(mg/L) | GRO<br>(mg/L) | DRO<br>(mg/L) | GW Elev<br>(feet) |
|-------------|-------------------|-------------------|------------------------|-------------------|---------------|---------------|-------------------|
| 25-Oct-16   | NT                | NT                | NT                     | NT                | NT            | NT            | NM                |
| 09-Dec-16   | U (0.0002)        | U (0.001)         | 0.022                  | 0.429             | 2             | 0.25          | NM                |
| 08-Feb-17   | U (0.002)         | 0.0078            | 0.44                   | 3.3               | 19            | 2.1           | NM                |
| 25-Apr-17   | U (0.0002)        | U (0.002)         | U (0.30)               | 1                 | 8.7           | 0.86          | NM                |
| 20-Oct-17   | U (0.002)         | U (0.002)         | 0.042                  | 0.125             | 2.2           | 0.26          | 64.50             |
| 13-Feb-18   | U (0.002)         | U (0.002)         | 0.051                  | 0.177             | 6.1           | 0.59          | 63.62             |
| 17-Aug-18   | U (0.003)         | U (0.002)         | 0.015                  | 0.0771            | 2.4           | 0.63          | 64.26             |
| 25-Oct-18   | U (0.003)         | U (0.002)         | 0.0036                 | 0.013             | 1             | 0.31          | 64.32             |
| 26-Feb-19   | U (0.003)         | U (0.002)         | 0.0066                 | 0.023             | 4.6           | 1.1           | 62.77             |
| 24-Apr-19   | U (0.003)         | U (0.002)         | 0.0065                 | 0.027             | 4.2           | 0.58          | 63.62             |
| 16-Jul-19   | U (0.003)         | U (0.002)         | 0.0066                 | 0.031             | 3.4           | 0.67          | 64.30             |
| 17-Oct-19   | U (0.003)         | U (0.002)         | 0.0052                 | 0.023             | 2.1           | 0.30          | 67.16             |
| <b>GCLs</b> | <b>0.0046</b>     | <b>1.1</b>        | <b>0.015</b>           | <b>0.19</b>       | <b>2.2</b>    | <b>1.5</b>    | <b>NA</b>         |

Appendix D  
Tables of Historical Monitoring Data

Key:

DRO - diesel range organics

GCL - ground water cleanup levels

GRO - gasoline range organics

GW - ground water

H - sample was prepped or analyzed beyond the specified holding time

mg/L - milligrams per liter

NA - not applicable

NM - not measured

NT - not tested

U - Undetected above practical quantitation limits.

**Bold, shade indicates the concentration exceeds the GCL or, if not detected, the reporting limit exceeds the GCL**

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## **APPENDIX E**

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### *Laboratory Analytical Report and ADEC Laboratory Data Review Checklist*

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## ANALYTICAL REPORT

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

Laboratory Job ID: 580-90108-1  
Client Project/Site: Tesoro - 2Go Mart 52

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

Attn: John Marshall

*M. Elaine Walker*

Authorized for release by:  
11/8/2019 10:35:12 AM

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

### LINKS

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



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# Case Narrative

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

**Job ID: 580-90108-1**

**Laboratory: Eurofins TestAmerica, Seattle**

## Narrative

### Job Narrative 580-90108-1

#### Receipt

Seven samples were received on 10/18/2019 10:22 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.7° C.

#### GC/MS VOA

Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW 16-2 (580-90108-5) and Dup-01 (580-90108-6). Elevated reporting limits (RLs) are provided.

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

#### GC VOA

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

#### GC Semi VOA

Method AK102 & 103: The following sample was diluted due to the nature of the sample matrix: G-3 (580-90108-2). Elevated reporting limits (RLs) are provided.

Method AK102 & 103: Due to quality control and/or surrogate failures in the initial extraction, G-1 (580-90108-1), G-3 (580-90108-2), G-5 (580-90108-3), G-7 (580-90108-4), MW 16-2 (580-90108-5), Dup-01 (580-90108-6) and (LCS 580-315859/2-A) were re-extracted out of holding time and re-analyzed. The re-extracted batch 580-315859 and 580-315859 contains low-biased LCS recovery and surrogates below control limits for two samples. Both sets of data for these samples are reported.

Method AK102 & 103: Method blank (MB 580-315552/1-A) recovered outside of control limits, low-biased, for o-Terphenyl surrogate. Samples associated with this method blank have been re-extracted out-of-hold with concurring results. Both sets of data are reported.

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



## Definitions/Glossary

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

### Qualifiers

#### GC Semi VOA

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

### Glossary

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

# Client Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

Client Sample ID: G-1

Lab Sample ID: 580-90108-1

Date Collected: 10/17/19 11:10

Matrix: Water

Date Received: 10/18/19 10:22

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

| Analyte                | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| 1,2,4-Trimethylbenzene | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:19 | 1       |
| 1,3,5-Trimethylbenzene | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:19 | 1       |
| Benzene                | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:19 | 1       |
| Ethylbenzene           | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:19 | 1       |
| Isopropylbenzene       | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 19:19 | 1       |
| m-Xylene & p-Xylene    | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:19 | 1       |
| n-Butylbenzene         | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:19 | 1       |
| o-Xylene               | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 19:19 | 1       |
| sec-Butylbenzene       | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:19 | 1       |
| t-Butylbenzene         | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:19 | 1       |
| Toluene                | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 19:19 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 97        |           | 80 - 126 |          | 10/22/19 19:19 | 1       |
| 4-Bromofluorobenzene (Surr)  | 97        |           | 80 - 120 |          | 10/22/19 19:19 | 1       |
| Dibromofluoromethane (Surr)  | 97        |           | 80 - 120 |          | 10/22/19 19:19 | 1       |
| Toluene-d8 (Surr)            | 100       |           | 80 - 120 |          | 10/22/19 19:19 | 1       |
| Trifluorotoluene (Surr)      | 99        |           | 80 - 120 |          | 10/22/19 19:19 | 1       |

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

| Analyte                                  | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Gasoline Range Organics (GRO)<br>-C6-C10 | ND        |           | 0.25     |     | mg/L | - |          | 10/22/19 16:39 | 1       |
|  |           |           |          |     |      |   |          |                |         |
| Surrogate                                | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| Trifluorotoluene (Surr)                  | 68        |           | 50 - 150 |     |      |   |          | 10/22/19 16:39 | 1       |
| 4-Bromofluorobenzene (Surr)              | 104       |           | 50 - 150 |     |      |   |          | 10/22/19 16:39 | 1       |

## Method: AK102 - Nonhalogenated Organics by FID (Diesel Range Organics)

| Analyte          | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| DRO (nC10-<nC25) | ND        |           | 0.12     |     | mg/L |   | 10/30/19 13:05 | 10/31/19 17:41 | 1       |
| DRO (nC10-<nC25) | ND        | H *       | 0.11     |     | mg/L |   | 11/04/19 09:46 | 11/05/19 19:05 | 1       |
| Surrogate        | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl      | 101       |           | 50 - 150 |     |      |   | 10/30/19 13:05 | 10/31/19 17:41 | 1       |
| o-Terphenyl      | 63        |           | 50 - 150 |     |      |   | 11/04/19 09:46 | 11/05/19 19:05 | 1       |

# Client Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

Client Sample ID: G-3

Lab Sample ID: 580-90108-2

Date Collected: 10/17/19 15:00

Matrix: Water

Date Received: 10/18/19 10:22

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

| Analyte                | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| 1,2,4-Trimethylbenzene | 9.3    |           | 3.0 |     | ug/L |   |          | 10/22/19 19:44 | 1       |
| 1,3,5-Trimethylbenzene | 12     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:44 | 1       |
| Benzene                | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:44 | 1       |
| Ethylbenzene           | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:44 | 1       |
| Isopropylbenzene       | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 19:44 | 1       |
| m-Xylene & p-Xylene    | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:44 | 1       |
| n-Butylbenzene         | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:44 | 1       |
| o-Xylene               | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 19:44 | 1       |
| sec-Butylbenzene       | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:44 | 1       |
| t-Butylbenzene         | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 19:44 | 1       |
| Toluene                | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 19:44 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 97        |           | 80 - 126 |          | 10/22/19 19:44 | 1       |
| 4-Bromofluorobenzene (Surr)  | 98        |           | 80 - 120 |          | 10/22/19 19:44 | 1       |
| Dibromofluoromethane (Surr)  | 97        |           | 80 - 120 |          | 10/22/19 19:44 | 1       |
| Toluene-d8 (Surr)            | 99        |           | 80 - 120 |          | 10/22/19 19:44 | 1       |
| Trifluorotoluene (Surr)      | 98        |           | 80 - 120 |          | 10/22/19 19:44 | 1       |

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

| Analyte                                  | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Gasoline Range Organics (GRO)<br>-C6-C10 | 0.58      |           | 0.25     |     | mg/L | - |          | 10/22/19 17:03 | 1       |
| Surrogate                                | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| Trifluorotoluene (Surr)                  | 57        |           | 50 - 150 |     |      |   |          | 10/22/19 17:03 | 1       |
| 4-Bromofluorobenzene (Surr)              | 106       |           | 50 - 150 |     |      |   |          | 10/22/19 17:03 | 1       |

## Method: AK102 - Nonhalogenated Organics by FID (Diesel Range Organics)

| Analyte          | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| DRO (nC10-<nC25) | 0.83      |           | 0.11     |     | mg/L |   | 10/30/19 13:05 | 10/31/19 18:01 | 1       |
| DRO (nC10-<nC25) | 3.6       | H *       | 2.3      |     | mg/L |   | 11/04/19 09:46 | 11/06/19 09:28 | 20      |
| Surrogate        | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl      | 91        |           | 50 - 150 |     |      |   | 10/30/19 13:05 | 10/31/19 18:01 | 1       |
| o-Terphenyl      | 101       |           | 50 - 150 |     |      |   | 11/04/19 09:46 | 11/06/19 09:28 | 20      |

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

Client Sample ID: G-5

Lab Sample ID: 580-90108-3

Date Collected: 10/17/19 16:15

Matrix: Water

Date Received: 10/18/19 10:22

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

| Analyte                | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| 1,2,4-Trimethylbenzene | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:08 | 1       |
| 1,3,5-Trimethylbenzene | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:08 | 1       |
| Benzene                | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:08 | 1       |
| Ethylbenzene           | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:08 | 1       |
| Isopropylbenzene       | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 20:08 | 1       |
| m-Xylene & p-Xylene    | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:08 | 1       |
| n-Butylbenzene         | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:08 | 1       |
| o-Xylene               | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 20:08 | 1       |
| sec-Butylbenzene       | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:08 | 1       |
| t-Butylbenzene         | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:08 | 1       |
| Toluene                | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 20:08 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 95        |           | 80 - 126 |          | 10/22/19 20:08 | 1       |
| 4-Bromofluorobenzene (Surr)  | 97        |           | 80 - 120 |          | 10/22/19 20:08 | 1       |
| Dibromofluoromethane (Surr)  | 97        |           | 80 - 120 |          | 10/22/19 20:08 | 1       |
| Toluene-d8 (Surr)            | 99        |           | 80 - 120 |          | 10/22/19 20:08 | 1       |
| Trifluorotoluene (Surr)      | 100       |           | 80 - 120 |          | 10/22/19 20:08 | 1       |

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

| Analyte                                  | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Gasoline Range Organics (GRO)<br>-C6-C10 | ND        |           | 0.25     |     | mg/L |   |          | 10/22/19 17:27 | 1       |
|  |           |           |          |     |      |   |          |                |         |
| Surrogate                                | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| Trifluorotoluene (Surr)                  | 61        |           | 50 - 150 |     |      |   |          | 10/22/19 17:27 | 1       |
| 4-Bromofluorobenzene (Surr)              | 107       |           | 50 - 150 |     |      |   |          | 10/22/19 17:27 | 1       |

## Method: AK102 - Nonhalogenated Organics by FID (Diesel Range Organics)

| Analyte          | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| DRO (nC10-<nC25) | ND        |           | 0.12     |     | mg/L |   | 10/30/19 13:05 | 10/31/19 18:21 | 1       |
| DRO (nC10-<nC25) | ND        | H *       | 0.11     |     | mg/L |   | 11/04/19 09:46 | 11/06/19 09:50 | 1       |
| Surrogate        | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl      | 125       |           | 50 - 150 |     |      |   | 10/30/19 13:05 | 10/31/19 18:21 | 1       |
| o-Terphenyl      | 60        |           | 50 - 150 |     |      |   | 11/04/19 09:46 | 11/06/19 09:50 | 1       |

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

Client Sample ID: G-7

Lab Sample ID: 580-90108-4

Date Collected: 10/17/19 17:00

Matrix: Water

Date Received: 10/18/19 10:22

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

| Analyte                | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| 1,2,4-Trimethylbenzene | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:33 | 1       |
| 1,3,5-Trimethylbenzene | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:33 | 1       |
| Benzene                | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:33 | 1       |
| Ethylbenzene           | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:33 | 1       |
| Isopropylbenzene       | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 20:33 | 1       |
| m-Xylene & p-Xylene    | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:33 | 1       |
| n-Butylbenzene         | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:33 | 1       |
| o-Xylene               | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 20:33 | 1       |
| sec-Butylbenzene       | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:33 | 1       |
| t-Butylbenzene         | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:33 | 1       |
| Toluene                | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 20:33 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 95        |           | 80 - 126 |          | 10/22/19 20:33 | 1       |
| 4-Bromofluorobenzene (Surr)  | 97        |           | 80 - 120 |          | 10/22/19 20:33 | 1       |
| Dibromofluoromethane (Surr)  | 98        |           | 80 - 120 |          | 10/22/19 20:33 | 1       |
| Toluene-d8 (Surr)            | 100       |           | 80 - 120 |          | 10/22/19 20:33 | 1       |
| Trifluorotoluene (Surr)      | 100       |           | 80 - 120 |          | 10/22/19 20:33 | 1       |

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

| Analyte                                  | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Gasoline Range Organics (GRO)<br>-C6-C10 | ND        |           | 0.25     |     | mg/L |   |          | 10/22/19 17:51 | 1       |
|  |           |           |          |     |      |   |          |                |         |
| Surrogate                                | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| Trifluorotoluene (Surr)                  | 88        |           | 50 - 150 |     |      |   |          | 10/22/19 17:51 | 1       |
| 4-Bromofluorobenzene (Surr)              | 104       |           | 50 - 150 |     |      |   |          | 10/22/19 17:51 | 1       |

## Method: AK102 - Nonhalogenated Organics by FID (Diesel Range Organics)

| Analyte          | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| DRO (nC10-<nC25) | ND        |           | 0.12     |     | mg/L |   | 10/30/19 13:05 | 10/31/19 18:41 | 1       |
| DRO (nC10-<nC25) | ND        | H *       | 0.11     |     | mg/L |   | 11/04/19 09:46 | 11/06/19 10:34 | 1       |
| Surrogate        | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl      | 90        |           | 50 - 150 |     |      |   | 10/30/19 13:05 | 10/31/19 18:41 | 1       |
| o-Terphenyl      | 50        |           | 50 - 150 |     |      |   | 11/04/19 09:46 | 11/06/19 10:34 | 1       |

# Client Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

Client Sample ID: MW 16-2

Lab Sample ID: 580-90108-5

Date Collected: 10/17/19 12:30

Matrix: Water

Date Received: 10/18/19 10:22

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

| Analyte                | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| 1,3,5-Trimethylbenzene | 90     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:58 | 1       |
| Benzene                | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:58 | 1       |
| Ethylbenzene           | 5.2    |           | 3.0 |     | ug/L |   |          | 10/22/19 20:58 | 1       |
| Isopropylbenzene       | 17     |           | 2.0 |     | ug/L |   |          | 10/22/19 20:58 | 1       |
| m-Xylene & p-Xylene    | 23     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:58 | 1       |
| n-Butylbenzene         | 5.3    |           | 3.0 |     | ug/L |   |          | 10/22/19 20:58 | 1       |
| o-Xylene               | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 20:58 | 1       |
| sec-Butylbenzene       | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:58 | 1       |
| t-Butylbenzene         | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 20:58 | 1       |
| Toluene                | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 20:58 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 96        |           | 80 - 126 |          | 10/22/19 20:58 | 1       |
| 4-Bromofluorobenzene (Surr)  | 99        |           | 80 - 120 |          | 10/22/19 20:58 | 1       |
| Dibromofluoromethane (Surr)  | 97        |           | 80 - 120 |          | 10/22/19 20:58 | 1       |
| Toluene-d8 (Surr)            | 101       |           | 80 - 120 |          | 10/22/19 20:58 | 1       |
| Trifluorotoluene (Surr)      | 100       |           | 80 - 120 |          | 10/22/19 20:58 | 1       |

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

| Analyte                | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|----|-----|------|---|----------|----------------|---------|
| 1,2,4-Trimethylbenzene | 290    |           | 15 |     | ug/L |   |          | 10/23/19 20:31 | 5       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 98        |           | 80 - 126 |          | 10/23/19 20:31 | 5       |
| 4-Bromofluorobenzene (Surr)  | 99        |           | 80 - 120 |          | 10/23/19 20:31 | 5       |
| Dibromofluoromethane (Surr)  | 97        |           | 80 - 120 |          | 10/23/19 20:31 | 5       |
| Toluene-d8 (Surr)            | 101       |           | 80 - 120 |          | 10/23/19 20:31 | 5       |
| Trifluorotoluene (Surr)      | 99        |           | 80 - 120 |          | 10/23/19 20:31 | 5       |

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

| Analyte                                  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Gasoline Range Organics (GRO)<br>-C6-C10 | 2.1    |           | 0.25 |     | mg/L |   |          | 10/22/19 18:16 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| Trifluorotoluene (Surr)     | 70        |           | 50 - 150 |          | 10/22/19 18:16 | 1       |
| 4-Bromofluorobenzene (Surr) | 122       |           | 50 - 150 |          | 10/22/19 18:16 | 1       |

## Method: AK102 - Nonhalogenated Organics by FID (Diesel Range Organics)

| Analyte          | Result | Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------|--------|-----------|------|-----|------|---|----------------|----------------|---------|
| DRO (nC10-<nC25) | 0.30   |           | 0.11 |     | mg/L |   | 10/30/19 13:05 | 10/31/19 19:01 | 1       |
| DRO (nC10-<nC25) | 0.23   | H *       | 0.11 |     | mg/L |   | 11/04/19 09:46 | 11/06/19 10:56 | 1       |

| Surrogate   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------|-----------|-----------|----------|----------------|----------------|---------|
| o-Terphenyl | 103       |           | 50 - 150 | 10/30/19 13:05 | 10/31/19 19:01 | 1       |
| o-Terphenyl | 67        |           | 50 - 150 | 11/04/19 09:46 | 11/06/19 10:56 | 1       |

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

Client Sample ID: Dup-01

Lab Sample ID: 580-90108-6

Date Collected: 10/17/19 13:00

Matrix: Water

Date Received: 10/18/19 10:22

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

| Analyte                | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| 1,3,5-Trimethylbenzene | 88     |           | 3.0 |     | ug/L |   |          | 10/22/19 21:22 | 1       |
| Benzene                | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 21:22 | 1       |
| Ethylbenzene           | 5.0    |           | 3.0 |     | ug/L |   |          | 10/22/19 21:22 | 1       |
| Isopropylbenzene       | 16     |           | 2.0 |     | ug/L |   |          | 10/22/19 21:22 | 1       |
| m-Xylene & p-Xylene    | 22     |           | 3.0 |     | ug/L |   |          | 10/22/19 21:22 | 1       |
| n-Butylbenzene         | 5.2    |           | 3.0 |     | ug/L |   |          | 10/22/19 21:22 | 1       |
| o-Xylene               | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 21:22 | 1       |
| sec-Butylbenzene       | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 21:22 | 1       |
| t-Butylbenzene         | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 21:22 | 1       |
| Toluene                | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 21:22 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 98        |           | 80 - 126 |          | 10/22/19 21:22 | 1       |
| 4-Bromofluorobenzene (Surr)  | 98        |           | 80 - 120 |          | 10/22/19 21:22 | 1       |
| Dibromofluoromethane (Surr)  | 98        |           | 80 - 120 |          | 10/22/19 21:22 | 1       |
| Toluene-d8 (Surr)            | 99        |           | 80 - 120 |          | 10/22/19 21:22 | 1       |
| Trifluorotoluene (Surr)      | 100       |           | 80 - 120 |          | 10/22/19 21:22 | 1       |

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

| Analyte                | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|----|-----|------|---|----------|----------------|---------|
| 1,2,4-Trimethylbenzene | 200    |           | 15 |     | ug/L |   |          | 10/23/19 20:56 | 5       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 98        |           | 80 - 126 |          | 10/23/19 20:56 | 5       |
| 4-Bromofluorobenzene (Surr)  | 97        |           | 80 - 120 |          | 10/23/19 20:56 | 5       |
| Dibromofluoromethane (Surr)  | 98        |           | 80 - 120 |          | 10/23/19 20:56 | 5       |
| Toluene-d8 (Surr)            | 100       |           | 80 - 120 |          | 10/23/19 20:56 | 5       |
| Trifluorotoluene (Surr)      | 99        |           | 80 - 120 |          | 10/23/19 20:56 | 5       |

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

| Analyte                                  | Result | Qualifier | RL   | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Gasoline Range Organics (GRO)<br>-C6-C10 | 2.2    |           | 0.25 |     | mg/L |   |          | 10/22/19 18:40 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| Trifluorotoluene (Surr)     | 67        |           | 50 - 150 |          | 10/22/19 18:40 | 1       |
| 4-Bromofluorobenzene (Surr) | 121       |           | 50 - 150 |          | 10/22/19 18:40 | 1       |

## Method: AK102 - Nonhalogenated Organics by FID (Diesel Range Organics)

| Analyte          | Result | Qualifier | RL   | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------|--------|-----------|------|-----|------|---|----------------|----------------|---------|
| DRO (nC10-<nC25) | 0.31   |           | 0.12 |     | mg/L |   | 10/30/19 13:05 | 10/31/19 19:22 | 1       |
| DRO (nC10-<nC25) | 0.24   | H *       | 0.12 |     | mg/L |   | 11/04/19 09:46 | 11/06/19 11:39 | 1       |

| Surrogate   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------|-----------|-----------|----------|----------------|----------------|---------|
| o-Terphenyl | 120       |           | 50 - 150 | 10/30/19 13:05 | 10/31/19 19:22 | 1       |
| o-Terphenyl | 70        |           | 50 - 150 | 11/04/19 09:46 | 11/06/19 11:39 | 1       |

Eurofins TestAmerica, Seattle

# Client Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 580-90108-7**

**Date Collected: 10/17/19 08:00**

**Matrix: Water**

**Date Received: 10/18/19 10:22**

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

| Analyte                | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| 1,2,4-Trimethylbenzene | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 15:25 | 1       |
| 1,3,5-Trimethylbenzene | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 15:25 | 1       |
| Benzene                | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 15:25 | 1       |
| Ethylbenzene           | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 15:25 | 1       |
| Isopropylbenzene       | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 15:25 | 1       |
| m-Xylene & p-Xylene    | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 15:25 | 1       |
| n-Butylbenzene         | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 15:25 | 1       |
| o-Xylene               | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 15:25 | 1       |
| sec-Butylbenzene       | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 15:25 | 1       |
| t-Butylbenzene         | ND     |           | 3.0 |     | ug/L |   |          | 10/22/19 15:25 | 1       |
| Toluene                | ND     |           | 2.0 |     | ug/L |   |          | 10/22/19 15:25 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 103       |           | 80 - 126 |          | 10/22/19 15:25 | 1       |
| 4-Bromofluorobenzene (Surr)  | 97        |           | 80 - 120 |          | 10/22/19 15:25 | 1       |
| Dibromofluoromethane (Surr)  | 100       |           | 80 - 120 |          | 10/22/19 15:25 | 1       |
| Toluene-d8 (Surr)            | 99        |           | 80 - 120 |          | 10/22/19 15:25 | 1       |
| Trifluorotoluene (Surr)      | 102       |           | 80 - 120 |          | 10/22/19 15:25 | 1       |



# QC Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

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

Lab Sample ID: MB 580-314852/6

Matrix: Water

Analysis Batch: 314852

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                | MB Result | MB Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|-----------|--------------|-----|-----|------|---|----------|----------------|---------|
| 1,2,4-Trimethylbenzene | ND        |              | 3.0 |     | ug/L |   |          | 10/22/19 15:00 | 1       |
| 1,3,5-Trimethylbenzene | ND        |              | 3.0 |     | ug/L |   |          | 10/22/19 15:00 | 1       |
| Benzene                | ND        |              | 3.0 |     | ug/L |   |          | 10/22/19 15:00 | 1       |
| Ethylbenzene           | ND        |              | 3.0 |     | ug/L |   |          | 10/22/19 15:00 | 1       |
| Isopropylbenzene       | ND        |              | 2.0 |     | ug/L |   |          | 10/22/19 15:00 | 1       |
| m-Xylene & p-Xylene    | ND        |              | 3.0 |     | ug/L |   |          | 10/22/19 15:00 | 1       |
| n-Butylbenzene         | ND        |              | 3.0 |     | ug/L |   |          | 10/22/19 15:00 | 1       |
| o-Xylene               | ND        |              | 2.0 |     | ug/L |   |          | 10/22/19 15:00 | 1       |
| sec-Butylbenzene       | ND        |              | 3.0 |     | ug/L |   |          | 10/22/19 15:00 | 1       |
| t-Butylbenzene         | ND        |              | 3.0 |     | ug/L |   |          | 10/22/19 15:00 | 1       |
| Toluene                | ND        |              | 2.0 |     | ug/L |   |          | 10/22/19 15:00 | 1       |

| Surrogate                    | MB %Recovery | MB Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------------|--------------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 99           |              | 80 - 126 |          | 10/22/19 15:00 | 1       |
| 4-Bromofluorobenzene (Surr)  | 99           |              | 80 - 120 |          | 10/22/19 15:00 | 1       |
| Dibromofluoromethane (Surr)  | 99           |              | 80 - 120 |          | 10/22/19 15:00 | 1       |
| Toluene-d8 (Surr)            | 100          |              | 80 - 120 |          | 10/22/19 15:00 | 1       |
| Trifluorotoluene (Surr)      | 101          |              | 80 - 120 |          | 10/22/19 15:00 | 1       |

Lab Sample ID: LCS 580-314852/3

Matrix: Water

Analysis Batch: 314852

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte                | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|------------------------|-------------|------------|---------------|------|---|------|--------------|
| 1,2,4-Trimethylbenzene | 10.0        | 10.4       |               | ug/L |   | 104  | 80 - 120     |
| 1,3,5-Trimethylbenzene | 10.0        | 10.5       |               | ug/L |   | 105  | 80 - 120     |
| Benzene                | 10.0        | 10.4       |               | ug/L |   | 104  | 75 - 121     |
| Ethylbenzene           | 10.0        | 10.3       |               | ug/L |   | 103  | 80 - 120     |
| Isopropylbenzene       | 10.0        | 10.3       |               | ug/L |   | 103  | 75 - 120     |
| m-Xylene & p-Xylene    | 10.0        | 10.3       |               | ug/L |   | 103  | 80 - 120     |
| n-Butylbenzene         | 10.0        | 10.5       |               | ug/L |   | 105  | 78 - 120     |
| o-Xylene               | 10.0        | 10.5       |               | ug/L |   | 105  | 80 - 120     |
| sec-Butylbenzene       | 10.0        | 10.5       |               | ug/L |   | 105  | 78 - 120     |
| t-Butylbenzene         | 10.0        | 10.4       |               | ug/L |   | 104  | 80 - 121     |
| Toluene                | 10.0        | 10.0       |               | ug/L |   | 100  | 80 - 120     |

| Surrogate                    | LCS %Recovery | LCS Qualifier | Limits   |
|------------------------------|---------------|---------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 98            |               | 80 - 126 |
| 4-Bromofluorobenzene (Surr)  | 98            |               | 80 - 120 |
| Dibromofluoromethane (Surr)  | 101           |               | 80 - 120 |
| Toluene-d8 (Surr)            | 99            |               | 80 - 120 |
| Trifluorotoluene (Surr)      | 101           |               | 80 - 120 |

# QC Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

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

Lab Sample ID: LCSD 580-314852/4

Matrix: Water

Analysis Batch: 314852

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte                | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|------------------------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| 1,2,4-Trimethylbenzene | 10.0        | 10.3        |                | ug/L |   | 103  | 80 - 120     | 1   | 16        |
| 1,3,5-Trimethylbenzene | 10.0        | 10.2        |                | ug/L |   | 102  | 80 - 120     | 2   | 14        |
| Benzene                | 10.0        | 10.3        |                | ug/L |   | 103  | 75 - 121     | 0   | 14        |
| Ethylbenzene           | 10.0        | 10.2        |                | ug/L |   | 102  | 80 - 120     | 2   | 14        |
| Isopropylbenzene       | 10.0        | 10.3        |                | ug/L |   | 103  | 75 - 120     | 0   | 20        |
| m-Xylene & p-Xylene    | 10.0        | 10.3        |                | ug/L |   | 103  | 80 - 120     | 0   | 14        |
| n-Butylbenzene         | 10.0        | 10.4        |                | ug/L |   | 104  | 78 - 120     | 2   | 14        |
| o-Xylene               | 10.0        | 10.3        |                | ug/L |   | 103  | 80 - 120     | 2   | 16        |
| sec-Butylbenzene       | 10.0        | 10.4        |                | ug/L |   | 104  | 78 - 120     | 1   | 15        |
| t-Butylbenzene         | 10.0        | 10.2        |                | ug/L |   | 102  | 80 - 121     | 1   | 14        |
| Toluene                | 10.0        | 9.97        |                | ug/L |   | 100  | 80 - 120     | 0   | 19        |

| Surrogate                    | LCSD %Recovery | LCSD Qualifier | Limits   |
|------------------------------|----------------|----------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 98             |                | 80 - 126 |
| 4-Bromofluorobenzene (Surr)  | 100            |                | 80 - 120 |
| Dibromofluoromethane (Surr)  | 100            |                | 80 - 120 |
| Toluene-d8 (Surr)            | 101            |                | 80 - 120 |
| Trifluorotoluene (Surr)      | 101            |                | 80 - 120 |

Lab Sample ID: MB 580-314939/6

Matrix: Water

Analysis Batch: 314939

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                      | MB Result    | MB Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------------|--------------|----------|-----|------|---|----------|----------------|---------|
| 1,2,4-Trimethylbenzene       | ND           |              | 3.0      |     | ug/L |   |          | 10/23/19 12:39 | 1       |
| Surrogate                    | MB %Recovery | MB Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 97           |              | 80 - 126 |     |      |   |          | 10/23/19 12:39 | 1       |
| 4-Bromofluorobenzene (Surr)  | 98           |              | 80 - 120 |     |      |   |          | 10/23/19 12:39 | 1       |
| Dibromofluoromethane (Surr)  | 99           |              | 80 - 120 |     |      |   |          | 10/23/19 12:39 | 1       |
| Toluene-d8 (Surr)            | 100          |              | 80 - 120 |     |      |   |          | 10/23/19 12:39 | 1       |
| Trifluorotoluene (Surr)      | 101          |              | 80 - 120 |     |      |   |          | 10/23/19 12:39 | 1       |

Lab Sample ID: LCS 580-314939/3

Matrix: Water

Analysis Batch: 314939

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analysis Date: 9/4/2025

| Analyte                      | Spike Added   | LCS Result    | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|------------------------------|---------------|---------------|---------------|------|---|------|--------------|
| 1,2,4-Trimethylbenzene       | 10.0          | 10.5          |               | ug/L | - | 105  | 80 - 120     |
|                              |               |               |               |      |   |      |              |
| Surrogate                    | LCS %Recovery | LCS Qualifier | Limits        |      |   |      |              |
| 1,2-Dichloroethane-d4 (Surr) | 97            |               | 80 - 126      |      |   |      |              |
| 4-Bromofluorobenzene (Surr)  | 96            |               | 80 - 120      |      |   |      |              |
| Dibromofluoromethane (Surr)  | 99            |               | 80 - 120      |      |   |      |              |
| Toluene-d8 (Surr)            | 100           |               | 80 - 120      |      |   |      |              |
| Trifluorotoluene (Surr)      | 99            |               | 80 - 120      |      |   |      |              |

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

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

Lab Sample ID: LCSD 580-314939/4

Matrix: Water

Analysis Batch: 314939

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte                      | Spike Added | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|------------------------------|-------------|----------------|----------------|------|---|------|--------------|-----|-----------|
| 1,2,4-Trimethylbenzene       | 10.0        | 9.98           |                | ug/L |   | 100  | 80 - 120     | 5   | 16        |
| Surrogate                    | %Recovery   | LCSD Qualifier | Limits         |      |   |      |              |     |           |
| 1,2-Dichloroethane-d4 (Surr) | 96          |                | 80 - 126       |      |   |      |              |     |           |
| 4-Bromofluorobenzene (Surr)  | 99          |                | 80 - 120       |      |   |      |              |     |           |
| Dibromofluoromethane (Surr)  | 99          |                | 80 - 120       |      |   |      |              |     |           |
| Toluene-d8 (Surr)            | 100         |                | 80 - 120       |      |   |      |              |     |           |
| Trifluorotoluene (Surr)      | 101         |                | 80 - 120       |      |   |      |              |     |           |

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

Lab Sample ID: MB 580-314836/7

Matrix: Water

Analysis Batch: 314836

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                                  | MB        | MB        | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|--|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
|  | Result    | Qualifier |          |     |      |   |          |                |         |
| Gasoline Range Organics (GRO)<br>-C6-C10 | ND        |           | 0.25     |     | mg/L |   |          | 10/22/19 11:27 | 1       |
| Surrogate                                | MB        | MB        | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
|  | %Recovery | Qualifier |          |     |      |   |          |                |         |
| Trifluorotoluene (Surr)                  | 97        |           | 50 - 150 |     |      |   |          | 10/22/19 11:27 | 1       |
| 4-Bromofluorobenzene (Surr)              | 100       |           | 50 - 150 |     |      |   |          | 10/22/19 11:27 | 1       |

Lab Sample ID: LCS 580-314836/8

Matrix: Water

Analysis Batch: 314836

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

|  |                  | Spike            | LCS      | LCS       |      |   |      | %Rec.    |  |  |
|--|------------------|------------------|----------|-----------|------|---|------|----------|--|--|
| Analyte                                  |                  | Added            | Result   | Qualifier | Unit | D | %Rec | Limits   |  |  |
| Gasoline Range Organics (GRO)<br>-C6-C10 |                  | 1.00             | 1.03     |           | mg/L | - | 103  | 77 - 123 |  |  |
| Surrogate                                | LCS<br>%Recovery | LCS<br>Qualifier | Limits   |           |      |   |      |          |  |  |
| Trifluorotoluene (Surr)                  | 92               |                  | 50 - 150 |           |      |   |      |          |  |  |
| 4-Bromofluorobenzene (Surr)              | 113              |                  | 50 - 150 |           |      |   |      |          |  |  |

Lab Sample ID: LCSD 580-314836/9

Matrix: Water

Analysis Batch: 314836

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte                                  | Spike Added | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|--|-------------|----------------|----------------|------|---|------|--------------|-----|-----------|
| Gasoline Range Organics (GRO)<br>-C6-C10 | 1.00        | 1.02           |                | mg/L |   | 102  | 77 - 123     | 1   | 20        |
| Surrogate                                | %Recovery   | LCSD Qualifier | Limits         |      |   |      |              |     |           |
| Trifluorotoluene (Surr)                  | 90          |                | 50 - 150       |      |   |      |              |     |           |
| 4-Bromofluorobenzene (Surr)              | 110         |                | 50 - 150       |      |   |      |              |     |           |

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

## Method: AK102 - Nonhalogenated Organics by FID (Diesel Range Organics)

Lab Sample ID: MB 580-315552/1-A

Matrix: Water

Analysis Batch: 315685

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 315552

| Analyte          | MB Result    | MB Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------|--------------|--------------|----------|-----|------|---|----------------|----------------|---------|
| DRO (nC10-<nC25) | ND           |              | 0.11     |     | mg/L | - | 10/30/19 13:05 | 10/31/19 16:40 | 1       |
| Surrogate        | MB %Recovery | MB Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl      | 48           | X            | 50 - 150 |     |      |   | 10/30/19 13:05 | 10/31/19 16:40 | 1       |

Lab Sample ID: LCS 580-315552/2-A

Matrix: Water

Analysis Batch: 315685

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 315552

| Analyte          | Spike Added   | LCS Result    | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|------------------|---------------|---------------|---------------|------|---|------|--------------|
| DRO (nC10-<nC25) | 2.00          | 1.80          |               | mg/L | - | 90   | 75 - 125     |
| Surrogate        | LCS %Recovery | LCS Qualifier | Limits        |      |   |      |              |
| o-Terphenyl      | 100           |               | 50 - 150      |      |   |      |              |

Lab Sample ID: LCSD 580-315552/3-A

Matrix: Water

Analysis Batch: 315685

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 315552

| Analyte          | Spike Added    | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|------------------|----------------|----------------|----------------|------|---|------|--------------|-----|-----------|
| DRO (nC10-<nC25) | 2.00           | 1.72           |                | mg/L | - | 86   | 75 - 125     | 4   | 20        |
| Surrogate        | LCSD %Recovery | LCSD Qualifier | Limits         |      |   |      |              |     |           |
| o-Terphenyl      | 95             |                | 50 - 150       |      |   |      |              |     |           |

Lab Sample ID: MB 580-315859/1-A

Matrix: Water

Analysis Batch: 316018

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 315859

| Analyte          | MB Result    | MB Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------|--------------|--------------|----------|-----|------|---|----------------|----------------|---------|
| DRO (nC10-<nC25) | ND           |              | 0.11     |     | mg/L | - | 11/04/19 09:24 | 11/05/19 13:34 | 1       |
| Surrogate        | MB %Recovery | MB Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl      | 72           |              | 50 - 150 |     |      |   | 11/04/19 09:24 | 11/05/19 13:34 | 1       |

Lab Sample ID: LCS 580-315859/2-A

Matrix: Water

Analysis Batch: 316018

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 315859

| Analyte          | Spike Added   | LCS Result    | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|------------------|---------------|---------------|---------------|------|---|------|--------------|
| DRO (nC10-<nC25) | 2.00          | 1.39          | *             | mg/L | - | 69   | 75 - 125     |
| Surrogate        | LCS %Recovery | LCS Qualifier | Limits        |      |   |      |              |
| o-Terphenyl      | 71            |               | 50 - 150      |      |   |      |              |

Eurofins TestAmerica, Seattle

# QC Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

## Method: AK102 - Nonhalogenated Organics by FID (Diesel Range Organics) (Continued)

Lab Sample ID: LCSD 580-315859/3-A

Matrix: Water

Analysis Batch: 316018

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 315859

| Analyte          | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|------------------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| DRO (nC10-<nC25) | 2.00        | 1.61        |                | mg/L | — | 80   | 75 - 125     | 15  | 20        |

| Surrogate   | LCSD %Recovery | LCSD Qualifier | Limits   |
|-------------|----------------|----------------|----------|
| o-Terphenyl | 80             |                | 50 - 150 |

# Lab Chronicle

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

**Client Sample ID: G-1**

**Date Collected: 10/17/19 11:10**

**Date Received: 10/18/19 10:22**

**Lab Sample ID: 580-90108-1**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C        |     | 1               | 314852       | 10/22/19 19:19       | T1W     | TAL SEA |
| Total/NA  | Analysis   | AK101        |     | 1               | 314836       | 10/22/19 16:39       | DCV     | TAL SEA |
| Total/NA  | Prep       | 3510C        |     |                 | 315859       | 11/04/19 09:46       | NRF     | TAL SEA |
| Total/NA  | Analysis   | AK102        |     | 1               | 316018       | 11/05/19 19:05       | W1T     | TAL SEA |
| Total/NA  | Prep       | 3510C        |     |                 | 315552       | 10/30/19 13:05       |         | TAL SEA |
| Total/NA  | Analysis   | AK102        |     | 1               | 315685       | 10/31/19 17:41       | JCM     | TAL SEA |

**Client Sample ID: G-3**

**Date Collected: 10/17/19 15:00**

**Date Received: 10/18/19 10:22**

**Lab Sample ID: 580-90108-2**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C        |     | 1               | 314852       | 10/22/19 19:44       | T1W     | TAL SEA |
| Total/NA  | Analysis   | AK101        |     | 1               | 314836       | 10/22/19 17:03       | DCV     | TAL SEA |
| Total/NA  | Prep       | 3510C        |     |                 | 315859       | 11/04/19 09:46       | NRF     | TAL SEA |
| Total/NA  | Analysis   | AK102        |     | 20              | 316018       | 11/06/19 09:28       | W1T     | TAL SEA |
| Total/NA  | Prep       | 3510C        |     |                 | 315552       | 10/30/19 13:05       |         | TAL SEA |
| Total/NA  | Analysis   | AK102        |     | 1               | 315685       | 10/31/19 18:01       | JCM     | TAL SEA |

**Client Sample ID: G-5**

**Date Collected: 10/17/19 16:15**

**Date Received: 10/18/19 10:22**

**Lab Sample ID: 580-90108-3**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C        |     | 1               | 314852       | 10/22/19 20:08       | T1W     | TAL SEA |
| Total/NA  | Analysis   | AK101        |     | 1               | 314836       | 10/22/19 17:27       | DCV     | TAL SEA |
| Total/NA  | Prep       | 3510C        |     |                 | 315859       | 11/04/19 09:46       | NRF     | TAL SEA |
| Total/NA  | Analysis   | AK102        |     | 1               | 316018       | 11/06/19 09:50       | W1T     | TAL SEA |
| Total/NA  | Prep       | 3510C        |     |                 | 315552       | 10/30/19 13:05       |         | TAL SEA |
| Total/NA  | Analysis   | AK102        |     | 1               | 315685       | 10/31/19 18:21       | JCM     | TAL SEA |

**Client Sample ID: G-7**

**Date Collected: 10/17/19 17:00**

**Date Received: 10/18/19 10:22**

**Lab Sample ID: 580-90108-4**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C        |     | 1               | 314852       | 10/22/19 20:33       | T1W     | TAL SEA |
| Total/NA  | Analysis   | AK101        |     | 1               | 314836       | 10/22/19 17:51       | DCV     | TAL SEA |
| Total/NA  | Prep       | 3510C        |     |                 | 315859       | 11/04/19 09:46       | NRF     | TAL SEA |
| Total/NA  | Analysis   | AK102        |     | 1               | 316018       | 11/06/19 10:34       | W1T     | TAL SEA |
| Total/NA  | Prep       | 3510C        |     |                 | 315552       | 10/30/19 13:05       |         | TAL SEA |
| Total/NA  | Analysis   | AK102        |     | 1               | 315685       | 10/31/19 18:41       | JCM     | TAL SEA |

Eurofins TestAmerica, Seattle

# Lab Chronicle

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

**Client Sample ID: MW 16-2**

**Date Collected: 10/17/19 12:30**

**Date Received: 10/18/19 10:22**

**Lab Sample ID: 580-90108-5**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C        |     | 1               | 314852       | 10/22/19 20:58       | T1W     | TAL SEA |
| Total/NA  | Analysis   | 8260C        | DL  | 5               | 314939       | 10/23/19 20:31       | W1T     | TAL SEA |
| Total/NA  | Analysis   | AK101        |     | 1               | 314836       | 10/22/19 18:16       | DCV     | TAL SEA |
| Total/NA  | Prep       | 3510C        |     |                 | 315859       | 11/04/19 09:46       | NRF     | TAL SEA |
| Total/NA  | Analysis   | AK102        |     | 1               | 316018       | 11/06/19 10:56       | W1T     | TAL SEA |
| Total/NA  | Prep       | 3510C        |     |                 | 315552       | 10/30/19 13:05       |         | TAL SEA |
| Total/NA  | Analysis   | AK102        |     | 1               | 315685       | 10/31/19 19:01       | JCM     | TAL SEA |

**Client Sample ID: Dup-01**

**Date Collected: 10/17/19 13:00**

**Date Received: 10/18/19 10:22**

**Lab Sample ID: 580-90108-6**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C        |     | 1               | 314852       | 10/22/19 21:22       | T1W     | TAL SEA |
| Total/NA  | Analysis   | 8260C        | DL  | 5               | 314939       | 10/23/19 20:56       | W1T     | TAL SEA |
| Total/NA  | Analysis   | AK101        |     | 1               | 314836       | 10/22/19 18:40       | DCV     | TAL SEA |
| Total/NA  | Prep       | 3510C        |     |                 | 315859       | 11/04/19 09:46       | NRF     | TAL SEA |
| Total/NA  | Analysis   | AK102        |     | 1               | 316018       | 11/06/19 11:39       | W1T     | TAL SEA |
| Total/NA  | Prep       | 3510C        |     |                 | 315552       | 10/30/19 13:05       |         | TAL SEA |
| Total/NA  | Analysis   | AK102        |     | 1               | 315685       | 10/31/19 19:22       | JCM     | TAL SEA |

**Client Sample ID: Trip Blank**

**Date Collected: 10/17/19 08:00**

**Date Received: 10/18/19 10:22**

**Lab Sample ID: 580-90108-7**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260C        |     | 1               | 314852       | 10/22/19 15:25       | T1W     | TAL SEA |

## Laboratory References:

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

## Accreditation/Certification Summary

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

### Laboratory: Eurofins TestAmerica, Seattle

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

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



## Sample Summary

Client: Stantec Consulting Services Inc  
Project/Site: Tesoro - 2Go Mart 52

Job ID: 580-90108-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Asset ID |
|---------------|------------------|--------|----------------|----------------|----------|
| 580-90108-1   | G-1              | Water  | 10/17/19 11:10 | 10/18/19 10:22 |          |
| 580-90108-2   | G-3              | Water  | 10/17/19 15:00 | 10/18/19 10:22 |          |
| 580-90108-3   | G-5              | Water  | 10/17/19 16:15 | 10/18/19 10:22 |          |
| 580-90108-4   | G-7              | Water  | 10/17/19 17:00 | 10/18/19 10:22 |          |
| 580-90108-5   | MW 16-2          | Water  | 10/17/19 12:30 | 10/18/19 10:22 |          |
| 580-90108-6   | Dup-01           | Water  | 10/17/19 13:00 | 10/18/19 10:22 |          |
| 580-90108-7   | Trip Blank       | Water  | 10/17/19 08:00 | 10/18/19 10:22 |          |

**TestAmerica Anchorage**  
 2000 W. International Airport Road  
 Suite #10  
 Anchorage, AK 99502  
 Phone: 907.563.9200 Fax: 907.563.9210

**Chain of Custody Record**

249746

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

|   |  |   |  |  |  |
|---|--|---|--|--|--|
| <b>Client Contact</b><br>Company Name: <u>Stantec</u><br>Address: <u>725 E. Fireweed Ln. St. 200</u><br>City/State/Zip: <u>Anchorage, AK, 99503</u><br>Phone: <u>(907) 280-7206</u><br>Fax: _____<br>Project Name: <u>TNS 57</u><br>Site: <u>TESOR</u><br>PO # <u>155750867</u>   |  | <b>Regulatory Program:</b> <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other: _____<br><b>Project Manager:</b><br>Tel/Fax: _____<br>Analysis Turnaround Time<br><input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS<br>TAT if different from Below _____<br><input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day |  | <b>Site Contact:</b><br>Date: <u>10/15/14</u> <b>COC No:</b> _____<br>Carrier: _____<br>Sampler: <u>Take Hixson</u><br>For Lab Use Only: _____ |  |
| <b>Sample Identification</b><br>Sample ID: <u>G-1</u><br><u>G-3</u><br><u>G-5</u><br><u>G-7</u><br><u>MW 16-2</u><br><u>Dup-01</u><br><u>Trip Blank</u>   |  | <b>Sample Type</b><br>(C=Comp, G=Grab)<br><u>G</u><br><u>G</u><br><u>G</u><br><u>G</u><br><u>G</u><br><u>G</u><br><u>G</u>  |  | <b>Sample Time</b><br><u>1110</u><br><u>1500</u><br><u>1615</u><br><u>1700</u><br><u>1230</u><br><u>1300</u><br><u>1410/1110/1500</u>          |  |
| <b>Matrix</b><br><u>Gw</u><br><u>Gw</u><br><u>Gw</u><br><u>Gw</u><br><u>Gw</u><br><u>Gw</u><br><u>TB</u>  |  | <b># of Cont.</b><br><u>8</u><br><u>8</u><br><u>8</u><br><u>8</u><br><u>8</u><br><u>8</u><br><u>3</u>   |  | <b>Filtered Sample (Y/N)</b><br><u>N</u><br><u>N</u><br><u>N</u><br><u>N</u><br><u>N</u><br><u>N</u><br><u>N</u>                               |  |
| <b>Perform MS / MSD (Y/N)</b><br><u>N</u><br><u>N</u><br><u>N</u><br><u>N</u><br><u>N</u><br><u>N</u><br><u>N</u>   |  | <b>AK101</b><br><u>X</u><br><u>X</u><br><u>X</u><br><u>X</u><br><u>X</u><br><u>X</u>  |  | <b>8260 (Petroleum list)</b><br><u>X</u><br><u>X</u><br><u>X</u><br><u>X</u><br><u>X</u><br><u>X</u><br><u>X</u>                               |  |
| <b>Sample Specific Notes:</b><br>580-90108 Chain of Custody   |  |   |  |  |  |
| <b>Preservation Used:</b> 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other _____<br><b>Possible Hazard Identification:</b><br>Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.<br><input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown |  |   |  |  |  |
| <b>Special Instructions/QC Requirements &amp; Comments:</b><br>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)<br><input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months  |  |   |  |  |  |
| <b>Custody Seals Intact:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Relinquished by: <u>[Signature]</u><br>Relinquished by: <u>[Signature]</u><br>Relinquished by: _____   |  | <b>Cooler Temp. (°C):</b> Obs'd: _____<br>Company: <u>Stantec</u><br>Date/Time: <u>10/15/14 10:22</u><br>Company: _____<br>Date/Time: _____<br>Company: _____<br>Date/Time: _____   |  |  |  |



**Anchorage, AK 99502**  
**Phone: 907.563.9200 Fax: 907.563.9210**

## Chain of Custody Record


249746

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING  
**TestAmerica Laboratories, Inc.**

TAL-8210 (0713)

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

| <b>Client Contact</b>  |  | <b>Project Manager:</b>   |             | <b>Site Contact:</b>  |        | <b>Date:</b> 10/15/14   |   | <b>COC No:</b>                  |                        |
|--|--|---|-------------|---|--------|---|---|---------------------------------|------------------------|
| Company Name: <u>Stantec</u>   |  | Tel/Fax:  |             | Lab Contact:  |        | Carrier:  |   | ____ of ____ COCs               |                        |
| Address: <u>725 E. Firwood Ln. St. 200</u>   |  | <b>Analysis Turnaround Time</b><br><input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS<br><br>TAT if different from Below _____<br><input checked="" type="checkbox"/> 2 weeks<br><input type="checkbox"/> 1 week<br><input type="checkbox"/> 2 days<br><input type="checkbox"/> 1 day |             |   |        |   |   | Sampler: <u>Suke Kelsen</u>     |                        |
| City/State/Zip: <u>Anchorage, AK, 99503</u>  |  |   |             |   |        |   |   | For Lab Use Only:               |                        |
| Phone: <u>(407) 280-7206</u>   |  |   |             |   |        |   |   |                                 |                        |
| Fax:   |  |   |             |   |        |   |   |                                 |                        |
| Project Name: <u>TNS 52</u>  |  |   |             | Filtered Sample (Y/N)<br>Perform MS / MSD (Y/N)<br><u>Ak101</u><br><u>Ak102</u><br><u>8200 (petroleum list)</u> |        | <br>580-90108 Chain of Custody |   |                                 |                        |
| Site: <u>TSCA</u>  |  |   |             |   |        |   |   |                                 |                        |
| P O # <u>165750867</u>   |  |   |             |   |        |   |   |                                 |                        |
| Sample Identification  |  | Sample Date   | Sample Time | Sample Type<br>(C=Comp, G=Grab)   | Matrix | # of Cont.  | Filtered Sample (Y/N)   | Perform MS / MSD (Y/N)          | Sample Specific Notes: |
| G-1  |  | 10/15/14  | 1110        | G   | Gw     | 3   | M   | X X X                           |                        |
| G-3  |  |   | 1500        |   |        | 3   |   | X X X                           |                        |
| G-5  |  |   | 1615        |   |        | 3   |   | X X X                           |                        |
| G-7  |  |   | 1700        |   |        | 3   |   | X X X                           |                        |
| MW 16-2  |  |   | 1230        |   |        | 3   |   | X X X                           |                        |
| Dyp-01   |  |   | 1300        |   |        | 3   |   | X X X                           |                        |
| Trip Blank   |  | 10/15/14  | 0600        | G   | TB     | 3   |   | X X X                           |                        |
| Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____  |  |   |             |   |        |   | <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6  |                                 |                        |
| Possible Hazard Identification:<br>Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.<br><br><input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown |  |   |             |   |        |   | Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month )<br><br><input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months |                                 |                        |
| Special Instructions/QC Requirements & Comments:   |  |   |             |   |        |   |   |                                 |                        |
| Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No   |  | Custody Seal No.:   |             | Cooler Temp. (°C): Obs'd: _____ Cor'd: <u>1.7</u>   |        | Therm ID No.:   |   |                                 |                        |
| Relinquished by: <u>[Signature]</u>  |  | Company: <u>Stantec</u>   |             | Date/Time: <u>10/15/14 10:00</u>  |        | Received by: <u>[Signature]</u>   |   | Company: <u>TA-AK</u>           |                        |
| Relinquished by: <u>[Signature]</u>  |  | Company: <u>TA-AK</u>   |             | Date/Time: <u>10/15/14 13:00</u>  |        | Received by: <u>[Signature]</u>   |   | Company: <u>TASEA</u>           |                        |
| Relinquished by:   |  | Company:  |             | Date/Time:  |        | Received in Laboratory by:  |   | Company:                        |                        |
|  |  |   |             |   |        |   |   | Date/Time: <u>10/19/14 0930</u> |                        |



## Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc

Job Number: 580-90108-1

**Login Number: 90108**

**List Source: Eurofins TestAmerica, Seattle**

**List Number: 1**

**Creator: Pilch, Andrew C**

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

## **Laboratory Data Review Checklist**

Completed By:

Erin O'Malley

Title:

Environmental Engineer

Date:

11/18/19

Consultant Firm:

Stantec Consulting Services Inc.

Laboratory Name:

TestAmerica Seattle

Laboratory Report Number:

580-90108-1

Laboratory Report Date:

11/8/2019

CS Site Name:

Tesoro 2Go Mart 52

ADEC File Number:

2265.26.006

Hazard Identification Number:

23769

580-90108-1

Laboratory Report Date:

11/8/2019

CS Site Name:

Tesoro 2Go Mart 52

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

1. Laboratory

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Yes ☒ No ☐ N/A ☐ Comments:

2. Chain of Custody (CoC)

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

Yes ☒ No ☐ N/A ☐ Comments:

- b. Correct analyses requested?

Yes ☒ No ☐ N/A ☐ Comments:

3. Laboratory Sample Receipt Documentation

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Yes ☒ No ☐ N/A ☐ Comments:

580-90108-1

Laboratory Report Date:

11/8/2019

CS Site Name:

Tesoro 2Go Mart 52

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

Yes ☒ No ☐ N/A ☐ Comments:

Samples arrived in good condition, properly preserved, and , where required, on ice.

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

Yes ☒ No ☐ N/A ☐ Comments:

e. Data quality or usability affected?

Comments:

No.

#### 4. Case Narrative

a. Present and understandable?

Yes ☒ No ☐ N/A ☐ Comments:

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

Yes ☒ No ☐ N/A ☐ Comments:

c. Were all corrective actions documented?

Yes ☒ No ☐ N/A ☐ Comments:

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

Comments:

See below sections.

580-90108-1

Laboratory Report Date:

11/8/2019

CS Site Name:

Tesoro 2Go Mart 52

5. Samples Results

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

Yes ☒ No ☐ N/A ☐ Comments:

- b. All applicable holding times met?

Yes ☐ No ☒ N/A ☐ Comments:

Method AK102 & 103: Due to quality control and/or surrogate failures in the initial extraction, G-1 (580-90108-1), G-3 (580-90108-2), G-5 (580-90108-3), G-7 (580-90108-4), MW 16-2 (580-90108-5), Dup-01 (580-90108-6) and (LCS 580-315859/2-A) were re-extracted out of holding time and re-analyzed. The re-extracted batch 580-315859 and 580-315859 contains low-biased LCS recovery and surrogates below control limits for two samples. Both sets of data for these samples are reported.

Method AK102 & 103: Method blank (MB 580-315552/1-A) recovered outside of control limits, low-biased, for o-Terphenyl surrogate. Samples associated with this method blank have been re-extracted out-of-hold with concurring results. Both sets of data are reported.

Quality control issues further described below.

- c. All soils reported on a dry weight basis?

Yes ☐ No ☐ N/A ☒ Comments:

No soil samples.

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

Yes ☒ No ☐ N/A ☐ Comments:

- e. Data quality or usability affected?

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



580-90108-1

Laboratory Report Date:

11/8/2019

CS Site Name:

Tesoro 2Go Mart 52

6. QC Samples

a. Method Blank

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Comments:

Not applicable.

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

Yes ☐ No ☐ N/A ☒ Comments:

No affected samples.

- v. Data quality or usability affected?

Comments:

No

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

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Yes ☐ No ☐ N/A ☒ Comments:

No metals/inorganics.

580-90108-1

Laboratory Report Date:

11/8/2019

CS Site Name:

Tesoro 2Go Mart 52

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

Yes ☐ No ☒ N/A ☐ Comments:

Method AK102 & 103: Due to quality control and/or surrogate failures in the initial extraction, G-1 (580-90108-1), G-3 (580-90108-2), G-5 (580-90108-3), G-7 (580-90108-4), MW 16-2 (580-90108-5), Dup-01 (580-90108-6) and (LCS 580-315859/2-A) were re-extracted out of holding time and re-analyzed. The re-extracted batch 580-315859 and 580-315859 contains low-biased LCS recovery and surrogates below control limits for two samples. Both sets of data for these samples are reported.

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Comments:

G-1 (580-90108-1), G-3 (580-90108-2), G-5 (580-90108-3), G-7 (580-90108-4), MW 16-2 (580-90108-5), Dup-01 (580-90108-6) and (LCS 580-315859/2-A)

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Comments:

No. Data usable as qualified based on LCS issues. Out of hold time extraction causes the data usability issues. However, the highest of the two sampling results for DRO is consistent with historical data for each individual location.

580-90108-1

Laboratory Report Date:

11/8/2019

CS Site Name:

Tesoro 2Go Mart 52

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

**Note: Leave blank if not required for project**

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

Yes ☐ No ☐ N/A ☐ Comments:

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

Yes ☐ No ☐ N/A ☐ Comments:

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

Yes ☐ No ☐ N/A ☐ Comments:

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

Yes ☐ No ☐ N/A ☐ Comments:

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

Comments:

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

Yes ☐ No ☐ N/A ☐ Comments:

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

Comments:

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

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

Yes ☒ No ☐ N/A ☐

Comments:

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

Yes ☐ No ☒ N/A ☐

Comments:

Method AK102 & 103: Due to quality control and/or surrogate failures in the initial extraction, G-1 (580-90108-1), G-3 (580-90108-2), G-5 (580-90108-3), G-7 (580-90108-4), MW 16-2 (580-90108-5), Dup-01 (580-90108-6) and (LCS 580-315859/2-A) were re-extracted out of holding time and re-analyzed. The re-extracted batch 580-315859 and 580-315859 contains low-biased LCS recovery and surrogates below control limits for two samples. Both sets of data for these samples are reported.

Method AK102 & 103: Method blank (MB 580-315552/1-A) recovered outside of control limits, low-biased, for o-Terphenyl surrogate. Samples associated with this method blank have been re-extracted out-of-hold with concurring results. Both sets of data are reported.

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

Yes ☒ No ☐ N/A ☐

Comments:

iv. Data quality or usability affected?

Comments:

No. Data usable as qualified based on surrogate percent recoveries. Out of hold time extraction causes the data usability issues. However, the highest of the two sampling results for DRO is consistent with historical data for each individual location.

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e. Trip Blanks

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Yes ☒ No ☐ N/A ☐ Comments:

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

Comments:

Not applicable.

- v. Data quality or usability affected?

Comments:

No.

f. Field Duplicate

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

Yes ☒ No ☐ N/A ☐ Comments:

- ii. Submitted blind to lab?

Yes ☒ No ☐ N/A ☐ Comments:

Yes, samples MW16-2 and DUP-01

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

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

Where  $R_1$  = Sample Concentration

$R_2$  = Field Duplicate Concentration

Yes ☐ No ☒ N/A ☐ Comments:

RPD met the DQOs for all detected analytes above GCLs, except 1,2,4-Trimethylbenzene.

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

Comments:

No. Reported concentrations were consistently above the GCL for 1,2,4-Trimethylbenzene in both primary and duplicate samples.

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

Yes ☐ No ☐ N/A ☒ Comments:

No decontamination or equipment blanks were required for this project.

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

Yes ☐ No ☐ N/A ☒ Comments:

No decontamination or equipment blanks submitted.

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

Comments:

No decontamination or equipment blanks submitted.

- iii. Data quality or usability affected?

Comments:

No decontamination or equipment blanks submitted.

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

a. Defined and appropriate?

Yes ☒ No ☐ N/A ☐

Comments: