

Groundwater Monitoring Report

Safeway #1436 Fueling Station/Former My Uncle's Store
7201 Portland Avenue
Tacoma, Washington

April 11, 2017
Terracon Project No. 81167550

Prepared for:
Safeway, Inc.
Tacoma, Washington

Prepared by:
Terracon Consultants, Inc.
Mountlake Terrace, Washington

terracon.com

Terracon

Environmental ■ Facilities ■ Geotechnical ■ Materials

April 11, 2017



Safeway, Inc.
250 Parkcenter Blvd
PO Box 20
Boise, Idaho 83726

Attn: Mr. Robert DeNinno
P: 208.395.4790
E: Robert.deninno@albertsons.com

Re: **Groundwater Monitoring Report**
Safeway #1436 Fueling Station/Former My Uncle's Store
7201 Portland Avenue
Tacoma, Pierce County, Washington 98404
TPCHD UST Permit #0000648
Terracon Project No: 81167550

Dear Mr. DeNinno:

Terracon Consultants, Inc. (Terracon) is pleased to submit our report of groundwater monitoring activities completed at the site referenced above (the Site). The report presents data from recent field activities that included the collection of groundwater samples for chemical analysis. The activities were completed to further assess groundwater quality at the Site. Terracon conducted the investigation in general accordance with our Proposal dated October 24, 2016, *Work Plan for Groundwater Monitoring Well Installations and Quarterly Monitoring* dated November 2, 2016 (Terracon Project No. 81167550), and Project Services Agreement dated October 27, 2016.

Terracon appreciates this opportunity to provide environmental services to Safeway, Inc. Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
Terracon Consultants, Inc.

A handwritten signature in blue ink, appearing to read "HGadwa", is positioned above the typed name of Heather Gadwa.

Heather Gadwa, G.I.T., CESCL
Field Geologist

A handwritten signature in blue ink, appearing to read "Michael D. Noll", is positioned above the typed name of Michael D. Noll.

Michael D. Noll, Lg., L.Hg.
Senior Project Manager

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Groundwater Monitoring Report
SAFEWAY #1436 FUELING STATION/Former My Uncle's Store
7201 Portland Avenue
TACOMA, WASHINGTON

Terracon Project No.81167550
April 11, 2017

1.0 SITE DESCRIPTION

The Safeway store property is an approximately 4.43-acre tract of land (Pierce County tax parcel 0320274090) located on the southeast corner of Portland Avenue and East 72nd Street in Tacoma, Washington. The northwest portion of the property parcel (the Site) was developed as a gasoline station about 1953 and operated until the 1970s. A Chevron-branded gasoline station/convenience store (My Uncle's Store) was constructed on the Site in the late 1970s and operated until 2001, when the underground storage tanks (USTs) were removed. According to Washington State Department of Ecology (Ecology) online records, the former Chevron facility was most recently equipped with three 10,000-gallon single-walled steel USTs that were installed in 1982 and upgraded in 1997. A Safeway fueling station was constructed on the Site in 2002. The Safeway fueling station consists of two 20,000-gallon jacketed steel USTs. Double-walled fiberglass piping supplies fuel to dispensers located on seven dispenser islands, which are covered with a canopy.

The Site location is depicted on Exhibit 1 in Appendix A, a portion of the 1994 Tacoma South USGS Topographic map. The Site layout is shown on Exhibit 2 in Appendix A, including the locations of current Site structures, former USTs and dispensers, approximate extents of the former UST removal and remedial excavation, and the current groundwater monitoring wells.

Environmental Partners, Inc. (EPI) advanced four soil borings at the Site (TB-1 through TB-4) to depths ranging from 21.5 to 36.5 feet below the ground surface (bgs) in October 2000. EPI reported that groundwater was not encountered in the borings to the maximum depth explored (36.5 feet bgs). Soil samples collected from three of the borings at depths ranging from 1.5 to 5 feet bgs contained gasoline-range total petroleum hydrocarbons (TPH) and benzene at concentrations exceeding the Washington State Model Toxics Control Act (MTCA) Method A cleanup levels.

The My Uncle's Store USTs, dispensers, and product piping were excavated and removed in December 2001. Soil with gasoline-range TPH and benzene exceeding MTCA Method A cleanup levels and the presence of water with a petroleum sheen in the UST removal excavation were documented during the UST system removal work, and a confirmed release of petroleum hydrocarbons was reported to Ecology by EPI on December 14, 2001.

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April 11, 2017 ■ Terracon Project No. 81167550



Petroleum-contaminated soil (PCS) was excavated and removed from the northwestern portion of the former My Uncle's Store UST system area in January 2002. EPI collected 210 soil samples from the excavation for laboratory analysis, including 68 samples from the excavation bottom and 142 samples from the excavation sidewalls. The final soil excavation measured approximately 96 feet by 115 feet, and 13 feet deep. Approximately 5,100 tons of PCS were removed from the excavation for offsite disposal. Approximately 54,000 gallons of hydrocarbon-impacted water with some petroleum sheen were also removed from the excavation, treated, and disposed in the City of Tacoma sanitary sewer system. According to EPI, very little groundwater entered the excavation; the majority of the water removed from the excavation was from surface runoff and rainwater.

Soil samples collected from the final northern and western extents of the excavation at depths ranging from 3 to 13 feet bgs contained gasoline-range TPH concentrations ranging from 53 to 6,500 milligrams per kilogram (mg/kg) and/or benzene concentrations ranging from 0.08 to 99 mg/kg, which exceed the MTCA Method A cleanup levels of 30 mg/kg (when benzene is present) and 0.03 mg/kg, respectively. Soil samples collected from the final extent of the southern and eastern excavation sidewalls and from the excavation bottom reportedly did not contain contaminants exceeding the MTCA Method A cleanup levels.

In November 2016 Terracon advanced four soil borings (MW1 through MW4) along the western and northern property boundaries in order to address a request from the Tacoma-Pierce County Health Department (TPCHD) for additional Site characterization data. The borings were advanced to approximately 20 feet bgs and completed as 2-inch diameter polyvinyl chloride (PVC) groundwater monitoring wells. Fill soil was encountered in the borings to depths of approximately 10 feet bgs, underlain by glacial deposits to the bottom of the borings. Measured depth to groundwater in the wells ranged from approximately 5 to 6 feet bgs, with a horizontal groundwater gradient toward the west and southwest.

Soil and groundwater samples collected from the borings/wells were analyzed for gasoline-, diesel-, and oil-range TPH, and for BTEX. A subsurface soil sample collected at approximately 6.5 feet bgs from boring MW2 (located in the northwest corner of the Site) had a concentration of benzene detected at 0.3 mg/kg, which exceeds the MTCA Method A cleanup level of 0.03 mg/kg. The remaining soil sample results were either below the laboratory method reporting limits (MRLs) or below the MTCA Method A cleanup levels.

The groundwater sample collected from monitoring well MW2 contained gasoline-range TPH and benzene at concentrations of 820 micrograms per liter ($\mu\text{g/l}$) and 46 $\mu\text{g/l}$, respectively, which exceed the MTCA Method A cleanup levels of 800 $\mu\text{g/l}$ and 5 $\mu\text{g/l}$, respectively. The remaining groundwater sample results were below the laboratory MRLs. The groundwater sample collected from monitoring well MW2 was additionally analyzed for volatile organic compound (VOC)

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gasoline oxygenates and additives, including ethanol, methyl tert butyl ether (MTBE), diisopropyl ether, ethyl t-butyl ether, tert-amyl methyl ether (TAME), and tert-butanol. Results for gasoline oxygenates and additives were below the laboratory MRLs.

2.0 SCOPE OF SERVICES

Terracon's scope of work was conducted in general accordance with our proposal, dated October 24, 2016; *Work Plan for Groundwater Monitoring Well Installations and Quarterly Monitoring*, dated November 2, 2016; and Project Services Agreement, dated October 27, 2016. Our scope of services included completion of the following tasks:

- Collect groundwater samples from each of the onsite groundwater monitoring wells (MW1 through MW4);
- Complete laboratory analyses of groundwater samples; and
- Prepare this Groundwater Monitoring summary report.

The objective of the groundwater monitoring was to further assess groundwater conditions at the current fueling station. The investigation is in response to TPCHD's request to provide additional Site characterization data near a former UST removal excavation completed prior to the construction of the current fueling station.

2.1 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal and work plan

2.2 Additional Scope Limitations

Findings, conclusions, and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable, or not present during these services. We cannot represent that the Property contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this investigation. Subsurface

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conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations, or exploratory services. The data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

2.3 Reliance

This report has been prepared for the exclusive use of Safeway, Inc., and any authorization for use or reliance by any other party (except for a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Safeway, Inc. and Terracon. Any unauthorized distribution or reuse is at Safeway, Inc.'s sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, report, and Terracon's Agreement for Services. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to Safeway, Inc. and all relying parties unless otherwise agreed in writing.

3.0 FIELD INVESTIGATION

Terracon has a commitment to the safety of all its employees. As such, and in accordance with our *Incident and Injury Free*® safety goals, Terracon conducted the fieldwork under a site-specific health and safety plan developed for this project. Work was performed using the Occupational Health and Safety Administration (OSHA) Level D work attire consisting of hard hats, safety glasses, protective gloves, and protective boots. In an effort to locate underground utilities in the work area, Terracon contacted the Washington State Utility Notification Center to arrange for public underground utility clearance at the Site. In addition, a private utility location service was subcontracted by Terracon to identify the locations and depths of the various utilities located near the proposed borings.

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3.1 Groundwater Sampling

On March 21, 2017, Terracon representative Kyle Bennett mobilized to the Site to perform groundwater monitoring activities and to collect groundwater samples from wells MW1 through MW4.

Prior to sample collection, the monitoring wells were opened and exposed to surficial atmospheric conditions, and static depth to groundwater below the TOC (top of well casing) was measured in each well. The water level probe was decontaminated using a non-phosphate soap wash and distilled water rinse before use in each well.

Measured depth to water in the wells ranged from 3.98 feet below TOC at MW1 to 4.64 feet below TOC at MW4. Based on depth to water measurements and well TOC survey data, the groundwater elevations at the monitoring wells ranged from 413.09 feet at monitoring MW2 to 415.34 feet at monitoring well MW4 (see Table 1 in Appendix B). Based on groundwater level measurements collected during Terracon's groundwater sampling event, the groundwater flow direction at the Site is generally toward the west at a horizontal gradient of approximately 0.02 feet per foot (ft/ft); (see Exhibit 3 Groundwater Contour and Flow Map in Appendix A).

The groundwater samples were collected using a peristaltic pump and dedicated tubing. Prior to sample collection, each well was purged at a low flow rate (less than 500 milliliters per minute). During the purging process, groundwater quality parameters, including temperature, electrical conductivity (EC), pH, turbidity, dissolved oxygen (DO), and oxidation-reduction potential (ORP), were measured at regular intervals using a Horiba U-22 water quality meter. Purging was considered complete when three consecutive readings for EC, pH, turbidity, DO, and ORP were observed within 10% of one-another.

Samples were collected using the peristaltic pump. The same low flow rate used for purging the wells was used for collecting the samples. The discharge from the peristaltic pump was directed into laboratory-supplied glassware. The sample containers were labeled with the project number, date, time, well number, and sample number and placed in a chilled cooler immediately after sampling. The sample containers were subsequently transported to ALS Laboratory Group (ALS), a Washington-certified analytical laboratory, under strict chain-of-custody procedures.

4.0 ANALYTICAL RESULTS

The groundwater samples were analyzed for gasoline-, diesel-, and oil-range total petroleum hydrocarbons (TPH) by Northwest Methods NWTPH-Gx and NWTPH-Dx; and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260. Based on the previous (November 2016) detection of gasoline-range TPH in the groundwater sample collected from MW2, that

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Safeway #1436 Fueling Station ■ Tacoma, WA
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sample was additionally analyzed for VOCs, including gasoline oxygenates and additives, by EPA Method 8260.

Reported groundwater concentrations were compared with the Washington State Model Toxics Control Act (MTCA) Method A cleanup levels for unrestricted land use, as applicable, established under Chapter 70.105D Revised Code of Washington (RCW) and its implementing regulation, MTCA Chapter 173-340 Washington Administrative Code (WAC).

The laboratory analytical reports and chain-of-custody records are attached in Appendix D. The following sections describe the results of the testing.

4.1 Groundwater Analytical Results

Gasoline-, Diesel- and Oil-Range TPH

Gasoline- and diesel-range TPH were identified in the groundwater sample collected from monitoring well MW2 at concentrations of 970 micrograms per liter ($\mu\text{g/l}$) and 290 $\mu\text{g/l}$, respectively. The detected concentration of gasoline-range TPH exceeds the MTCA Method A cleanup level of 800 $\mu\text{g/l}$ (when benzene is present). The detected concentration of diesel-range TPH is below the MTCA Method A cleanup level of 500 $\mu\text{g/l}$.

The remaining groundwater samples did not have reported concentrations of gasoline-, diesel-, or oil-range TPH above the laboratory MRLs.

Volatile Organic Compounds: Benzene, Toluene, Ethylbenzene, and Total Xylenes

Benzene, ethylbenzene, and total xylenes were identified in the groundwater sample collected from MW2 at concentrations of 18 $\mu\text{g/l}$, 25 $\mu\text{g/l}$, and 26 $\mu\text{g/l}$, respectively. The reported concentration of benzene exceeds the MTCA Method A cleanup level of 5 $\mu\text{g/l}$. The reported concentrations of ethylbenzene and total xylenes were below their respective MTCA Method A cleanup levels of 700 $\mu\text{g/l}$, and 1,000 $\mu\text{g/l}$, respectively.

The remaining groundwater samples collected from MW1, MW3, and MW4 did not have reported concentrations of BTEX above the laboratory MRLs.

Volatile Organic Compounds: Gasoline Oxygenates and Additives

Several VOCs were detected in the MW2 groundwater sample, including isopropylbenzene (12 $\mu\text{g/l}$), n-propyl benzene (29 $\mu\text{g/l}$), 1,3,5-trimethylbenzene (3.1 $\mu\text{g/l}$), 1,2,4-trimethylbenzene (4 $\mu\text{g/l}$), s-butyl benzene (3.1 $\mu\text{g/l}$), n-butyl benzene (12 $\mu\text{g/l}$), and naphthalene (4.5 $\mu\text{g/l}$). The results are well below the MTCA cleanup levels. In addition, 1,2-dibromoethane (ethylene dibromide, or EDB) and 1,2-dichloroethane (ethylene dichloride, or EDC) were not detected in the MW2 sample at concentration above the laboratory MRLs.

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The groundwater analytical results are summarized in Table 1 of Appendix B.

4.2 Quality Assurance/Quality Control Results

The analytical results for the current investigation were checked for completeness upon receipt from the laboratory to ensure that data and quality assurance and quality control (QA/QC) information requested were present. Data quality was assessed by considering hold times, surrogate recovery, method blanks, matrix spike and matrix spike duplicate (MS/MSD) recovery, and detection limits. QA/QC review was completed using guidance described in *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (Draft Final, USEPA, 2005). Our evaluation assumes that the QA/QC is correct as reported by the laboratory, and merely provides an interpretation of the QA/QC results.

Hold Times. All analyses were completed within specified hold times.

Surrogate Recoveries. All surrogate recoveries were within laboratory limits.

Method Blanks. Analytes were not detected in any of the laboratory method blanks.

MS/MSD Results. MS and MSD recoveries were all within laboratory limits, and Relative Percent Differences (RPDs) between MS and MSD recoveries were all within laboratory limits.

Laboratory Reporting Limits. Reporting limits were below relevant MTCA cleanup levels.

Based upon our interpretation of quality control information provided by the laboratories, it is our opinion that the overall dataset is useable as qualified for the purposes of this investigation.

5.0 INVESTIGATION DERIVED WASTES

Investigation derived waste (IDW) generated during the groundwater monitoring activities, which consisted of equipment decontamination water and well development/purge water, was containerized in one Department of Transportation (DOT) approved 55-gallon drum, properly labeled, and temporarily staged onsite, pending receipt of laboratory analytical results. The IDW drum was staged on the east side of the grocery store building near the loading dock. The drum will be properly disposed at a licensed disposal facility following the 2nd Quarter 2017 sampling event, and a copy of the bill of lading will be provided to the Client.

6.0 FINDINGS AND CONCLUSIONS

Based on the scope of services described in this report, and subject to the limitations described herein, Terracon concludes the following.

Groundwater monitoring wells MW1 through MW4 were sampled in March 2017. Measured depth to groundwater in the wells ranged from approximately 4 to 4.5 feet bgs, with a horizontal groundwater gradient toward the west.

Groundwater samples collected from the wells were analyzed for gasoline-, diesel-, and oil-range TPH, and for BTEX. The groundwater sample collected from well MW2, where gasoline-range TPH was previously detected in November 2016, was additionally analyzed for VOCs, including gasoline oxygenates and additives.

The groundwater sample collected from monitoring well MW2 contained gasoline-range TPH and benzene at concentrations of 970 µg/l and 18 µg/l, respectively, which exceed the MTCA Method A cleanup levels of 800 µg/l and 5 µg/l, respectively. The remaining groundwater sample results were either below the laboratory MRLs or below the MTCA Method A or MTCA Method B cleanup levels.

Based on the groundwater sample results, it appears that remnant gasoline-range impacts remain at the northwest corner of the Site, in the area of MW2, at concentrations exceeding the MTCA Method A cleanup levels.

7.0 RECOMMENDATIONS

Terracon recommends continuing quarterly groundwater sampling at the Site to monitor groundwater quality. Based on the initial sample results, low level concentrations of remnant gasoline-related contaminants are isolated to the northwest corner of the property near well MW2, and do not appear to represent a risk to human health or the environment.

Terracon recommends that a copy of this Groundwater Monitoring Report be submitted to the TPCHD for review and comment, and that a copy of the report be submitted to the Ecology Southwest Regional Office.

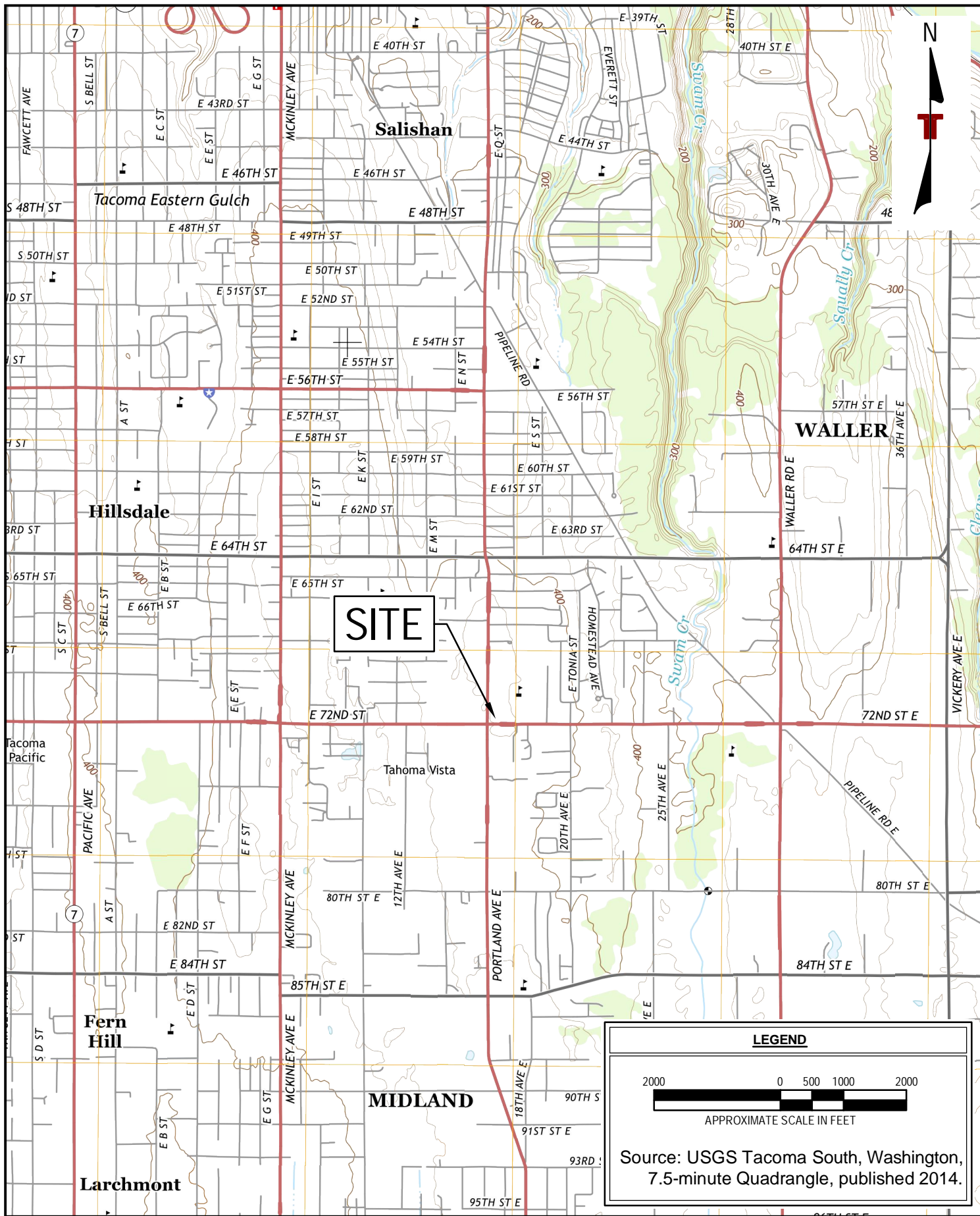
APPENDIX A - EXHIBITS

Exhibit 1 - Topographic Map

Exhibit 2 - Site Diagram

Exhibit 3 – Groundwater Contour and Flow Map – March 2017

Exhibit 4 – Groundwater Sample Concentrations



Project Mng:	MDN
Drawn By:	AMP
Checked By:	MDN
Approved By:	MDN

Project No.	81167550
Scale:	AS SHOWN
File No.	Exhibit 1
Date:	April 2017

Terracon
 Consulting Engineers and Scientists

21905 64th Avenue W, Ste 100 Mountlake Terrace, WA 98043
 PH. (425) 771-3304 FAX. (425) 771-3549

TOPOGRAPHIC MAP
 Safeway #1436 Fueling Station
 7201 Portland Ave E
 Tacoma, Pierce County, Washington

EXHIBIT
1

PORTLAND AVENUE

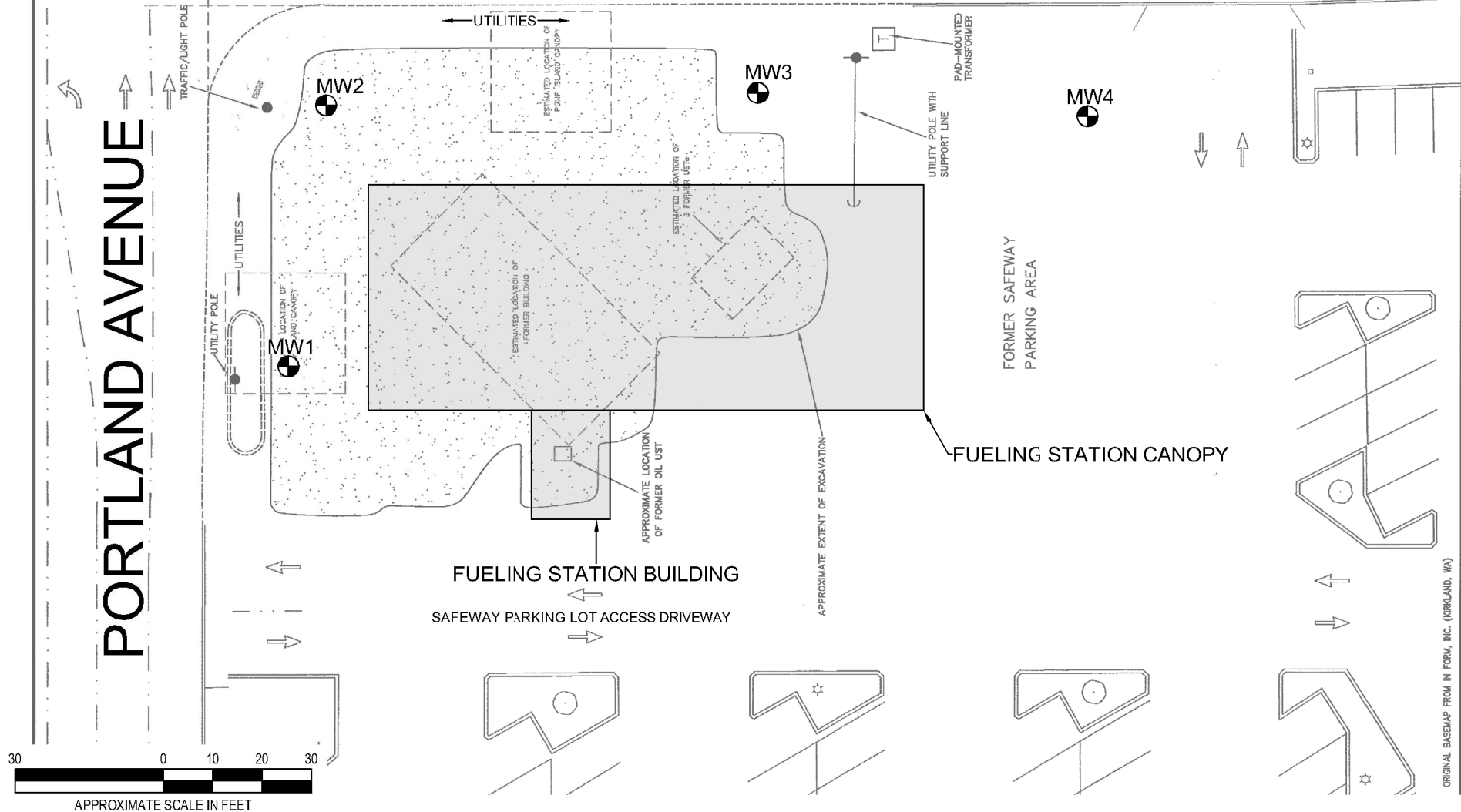
72ND STREET



ENVIRONMENTAL PROJECT

ORIGINAL BASEMAP FROM IN FORM, INC. (ORCLAND, WA)

08258.2



LEGEND

MW1 APPROXIMATE LOCATION OF MONITORING WELL

Project Mngr:	MDN	Project No:	81167550
Drawn By:	AMP	Scale:	AS SHOWN
Checked By:	MDN	File No:	Exhibit 2
Approved By:	MDN	Date:	April 2017

Terracon
 Consulting Engineers and Scientists
 21905 64th Avenue W, Ste 100 Mountlake Terrace, WA 98043
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SITE DIAGRAM

Safeway #1436 Fueling Station
 7201 Portland Ave E
 Tacoma, Pierce County, Washington

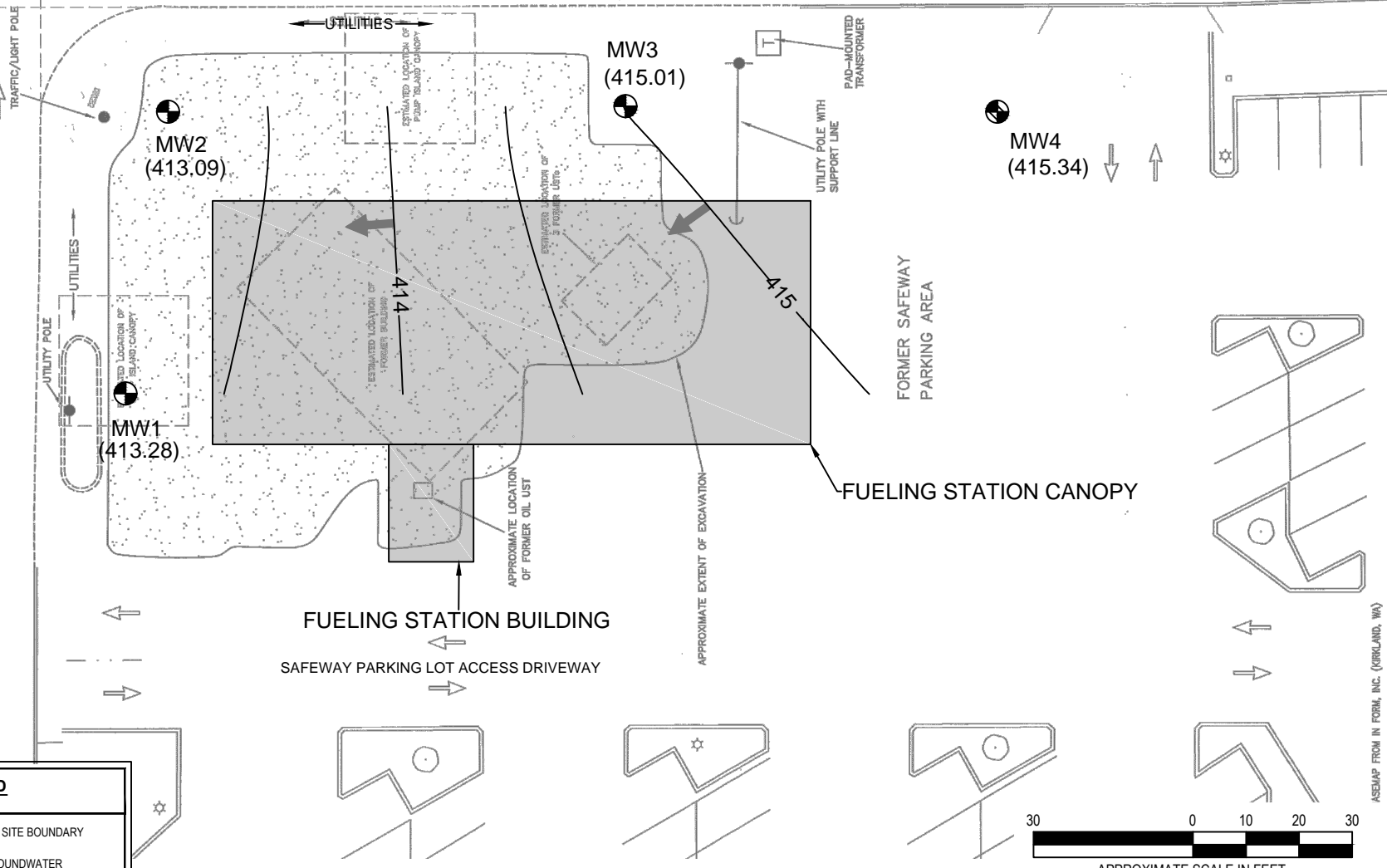
EXHIBIT

2



72ND STREET

PORTLAND AVENUE



ENVIRONMENTAL PROJECT 08268.2
ASEMAP FROM IN FORM, INC. (KIRKLAND, WA)

LEGEND

- APPROXIMATE SITE BOUNDARY
- INFERRED GROUNDWATER FLOW DIRECTION
- APPROXIMATE LOCATION AND NUMBER OF PERMANENT GROUNDWATER MONITORING WELL, GROUNDWATER ELEVATION (FEET)
- GROUNDWATER CONTOUR ELEVATION (FEET)

Project Mngr:	MDN
Drawn By:	HRG
Checked By:	MDN
Approved By:	MDN

Project No.	81167550
Scale:	AS SHOWN
File No.	Exhibit 3
Date:	March 2017

Terracon
Consulting Engineers and Scientists

21905 64th Avenue W., Ste 100 Mountlake Terrace, WA 98043
PH. (425) 771-3304 FAX. (425) 771-3549

GROUNDWATER CONTOUR & FLOW MAP-MARCH 2017

Fuel Center LSI
7201 Portland Ave E
Tacoma, Pierce County, Washington

EXHIBIT

3

PORTLAND AVENUE

72ND STREET

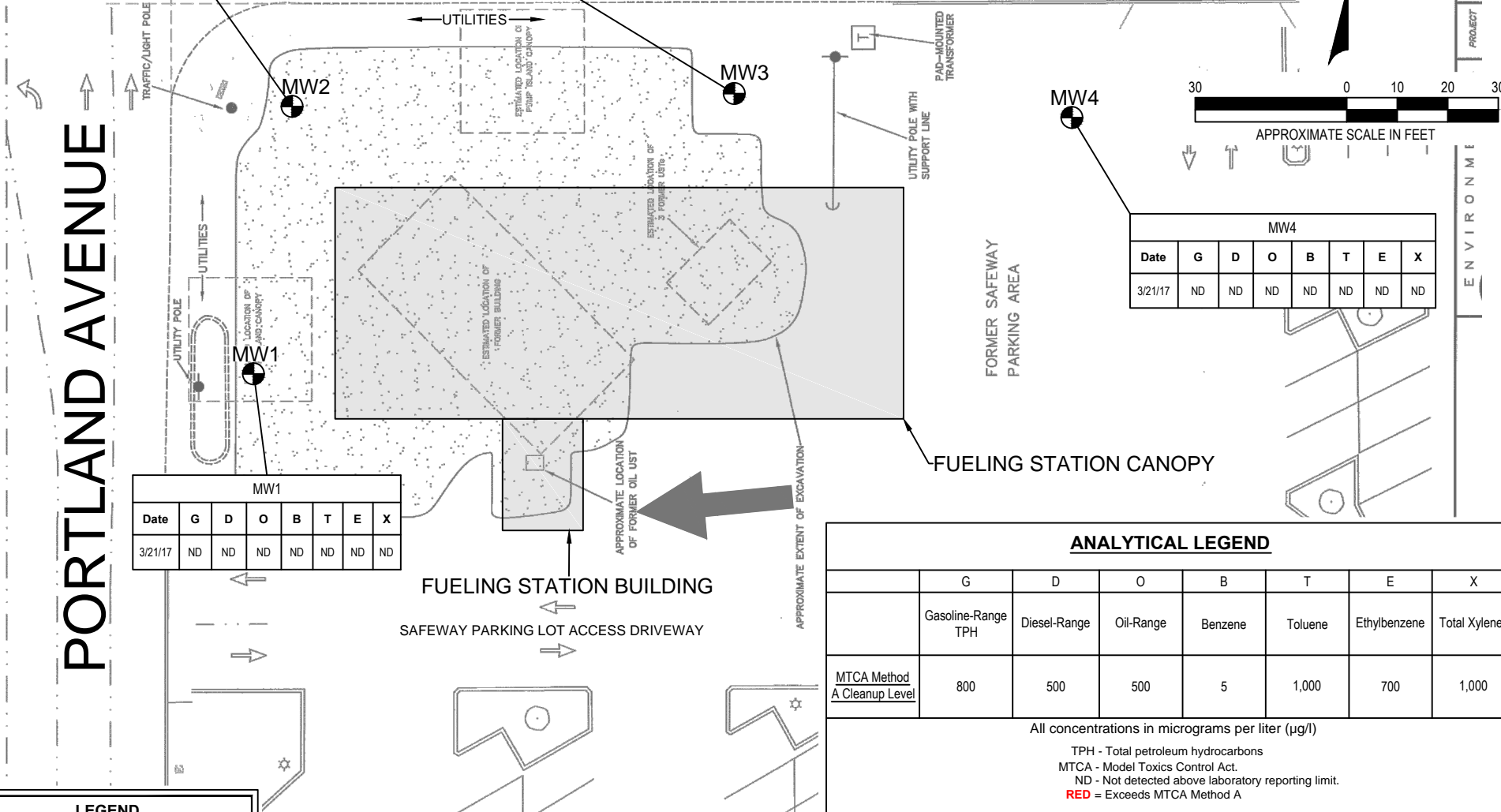


MW2							
Date	G	D	O	B	T	E	X
3/21/17	970	290	ND	18	ND	25	26

MW3							
Date	G	D	O	B	T	E	X
3/21/17	ND	ND	ND	ND	ND	ND	ND

MW4							
Date	G	D	O	B	T	E	X
3/21/17	ND	ND	ND	ND	ND	ND	ND

MW1							
Date	G	D	O	B	T	E	X
3/21/17	ND	ND	ND	ND	ND	ND	ND



ANALYTICAL LEGEND

	G	D	O	B	T	E	X
	Gasoline-Range TPH	Diesel-Range	Oil-Range	Benzene	Toluene	Ethylbenzene	Total Xylenes
MTCA Method A Cleanup Level	800	500	500	5	1,000	700	1,000

All concentrations in micrograms per liter (µg/l)
 TPH - Total petroleum hydrocarbons
 MTCA - Model Toxics Control Act.
 ND - Not detected above laboratory reporting limit.
RED = Exceeds MTCA Method A

LEGEND

MW1 APPROXIMATE LOCATION OF MONITORING WELL

INFERRED GROUNDWATER FLOW DIRECTION

Project Mng:	MDN	Project No.	81167550
Drawn By:	AMP	Scale:	AS SHOWN
Checked By:	MDN	File No.	Exhibit 5
Approved By:	MDN	Date:	April 2017

Terracon
 Consulting Engineers and Scientists

21905 64th Avenue W., Ste 100 Mountlake Terrace, WA 98043
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GROUNDWATER SAMPLE CONCENTRATIONS

Safeway #1436 Fueling Station
 7201 Portland Ave E
 Tacoma, Pierce County, Washington

EXHIBIT

4

APPENDIX B - TABLES

Table 1-Summary of Groundwater Analytical Results

TABLE 1

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
Safeway #1436 Fueling Station
7201 Portland Avenue
Tacoma, Washington

all concentrations are in micrograms per liter (µg/l)

Boring ID or MW ID	Sample Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)	TPH			VOCs										
				Gasoline-Range	Diesel-Range	Oil-Range	Benzene	Toluene	Ethylbenzene	Total Xylenes	Isopropylbenzene	N-Propyl Benzene	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	S-Butyl Benzene	N-Butylbenzene	Naphthalene
MW1	3/21/2017	3.98	413.28	ND (<50)	ND (<130)	ND (<250)	ND (<2)	ND (<2)	ND (<2)	ND (<4)	ND (<2)	NT	NT	NT	NT	NT	NT
	11/30/2016	5.43	413.95	ND (<50)	ND (<130)	ND (<250)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	NT	NT	NT	NT	NT	NT
MW2	3/21/2017	4.53	413.09	970	290	ND (<250)	18	ND (<2)	25	26	12	29	3.1	4	3.1	12	4.5
	11/30/2016	5.23	414.51	820	190	ND (<250)	46	3.1	12	21	NT	NT	NT	NT	NT	NT	NT
MW3	3/21/2017	4.21	415.01	ND (<50)	ND (<130)	ND (<250)	ND (<2)	ND (<2)	ND (<2)	ND (<4)	ND (<2)	NT	NT	NT	NT	NT	NT
	11/30/2016	5.82	415.52	ND (<50)	ND (<130)	ND (<250)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	NT	NT	NT	NT	NT	NT
MW4	3/21/2017	4.64	415.34	ND (<50)	ND (<130)	ND (<250)	ND (<2)	ND (<2)	ND (<2)	ND (<4)	ND (<2)	NT	NT	NT	NT	NT	NT
	11/30/2016	5.42	416.68	ND (<50)	ND (<130)	ND (<250)	ND (<2)	ND (<2)	ND (<2)	ND (<2)	NT	NT	NT	NT	NT	NT	NT
MTCA Method A Cleanup Level				800	500	500	5	1,000	700	1,000	NE	800*	80*	NE	800*	400*	160

Note: Concentrations detected above laboratory reporting limits are in **BOLD** type. Concentrations above MTCA cleanup levels are in bold and shaded.

TPH - total petroleum hydrocarbons

VOCs - volatile organic compounds

MTCA - Model Toxics Control Act

ND - Not detected above laboratory reporting limit.

* - MTCA Method B Cleanup Level

NT - Not analyzed

APPENDIX C – ANALYTICAL REPORT AND CHAIN OF CUSTODY FORM



March 28, 2017

Mr. Mike Noll
Terracon
21905 - 64th Ave W, Suite 100
Mountlake Terrace, WA 98043

Dear Mr. Noll,

On March 22nd, 4 samples were received by our laboratory and assigned our laboratory project number EV17030192. The project was identified as your 81167550. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director



CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	3/28/2017
CLIENT CONTACT:	Mike Noll	ALS JOB#:	EV17030192
CLIENT PROJECT:	81167550	ALS SAMPLE#:	EV17030192-01
CLIENT SAMPLE ID	MW-1	DATE RECEIVED:	03/22/2017
		COLLECTION DATE:	3/21/2017 9:30:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	03/22/2017	SNC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	03/23/2017	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	03/23/2017	EBS
Benzene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	03/27/2017	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	98.0	03/22/2017	SNC
C25	NWTPH-DX	76.3	03/23/2017	EBS
Toluene-d8	EPA-8260	100	03/27/2017	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	3/28/2017
CLIENT CONTACT:	Mike Noll	ALS JOB#:	EV17030192
CLIENT PROJECT:	81167550	ALS SAMPLE#:	EV17030192-02
CLIENT SAMPLE ID	MW-2	DATE RECEIVED:	03/22/2017
		COLLECTION DATE:	3/21/2017 10:20:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	970	50	1	UG/L	03/22/2017	SNC
TPH-Diesel Range	NWTPH-DX	290	130	1	UG/L	03/23/2017	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	03/23/2017	EBS
Dichlorodifluoromethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Chloromethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Vinyl Chloride	EPA-8260	U	0.20	1	UG/L	03/27/2017	DLC
Bromomethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Chloroethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Carbon Tetrachloride	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Trichlorofluoromethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Ethanol	EPA-8260	U	1000	1	UG/L	03/27/2017	DLC
Carbon Disulfide	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Acetone	EPA-8260	U	25	1	UG/L	03/27/2017	DLC
1,1-Dichloroethene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Methylene Chloride	EPA-8260	U	5.0	1	UG/L	03/27/2017	DLC
Acrylonitrile	EPA-8260	U	10	1	UG/L	03/27/2017	DLC
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Diisopropyl Ether	EPA-8260	U	10	1	UG/L	03/27/2017	DLC
Ethyl T-Butyl Ether	EPA-8260	U	10	1	UG/L	03/27/2017	DLC
1,1-Dichloroethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
2-Butanone	EPA-8260	U	10	1	UG/L	03/27/2017	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
2,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Bromochloromethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Chloroform	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
1,1,1-Trichloroethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
1,1-Dichloropropene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Benzene	EPA-8260	18	2.0	1	UG/L	03/27/2017	DLC
Trichloroethene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
tert-Amyl Methyl Ether	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
tert-Butanol	EPA-8260	U	20	1	UG/L	03/27/2017	DLC
1,2-Dichloropropane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Dibromomethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Bromodichloromethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
4-Methyl-2-Pentanone	EPA-8260	U	10	1	UG/L	03/27/2017	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC



CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	3/28/2017
CLIENT CONTACT:	Mike Noll	ALS JOB#:	EV17030192
CLIENT PROJECT:	81167550	ALS SAMPLE#:	EV17030192-02
CLIENT SAMPLE ID	MW-2	DATE RECEIVED:	03/22/2017
		COLLECTION DATE:	3/21/2017 10:20:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS	ANALYSIS
						DATE	BY
Cis-1,3-Dichloropropene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
1,1,2-Trichloroethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
2-Hexanone	EPA-8260	U	10	1	UG/L	03/27/2017	DLC
1,3-Dichloropropane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Tetrachloroethylene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Dibromochloromethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	03/27/2017	DLC
Chlorobenzene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Ethylbenzene	EPA-8260	25	2.0	1	UG/L	03/27/2017	DLC
m,p-Xylene	EPA-8260	26	4.0	1	UG/L	03/27/2017	DLC
Styrene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Bromoform	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Isopropylbenzene	EPA-8260	12	2.0	1	UG/L	03/27/2017	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
1,2,3-Trichloropropane	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Bromobenzene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
N-Propyl Benzene	EPA-8260	29	2.0	1	UG/L	03/27/2017	DLC
2-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
1,3,5-Trimethylbenzene	EPA-8260	3.1	2.0	1	UG/L	03/27/2017	DLC
4-Chlorotoluene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
T-Butyl Benzene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
1,2,4-Trimethylbenzene	EPA-8260	4.0	2.0	1	UG/L	03/27/2017	DLC
S-Butyl Benzene	EPA-8260	3.1	2.0	1	UG/L	03/27/2017	DLC
P-Isopropyltoluene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
1,3-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
1,4-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
N-Butylbenzene	EPA-8260	12	2.0	1	UG/L	03/27/2017	DLC
1,2-Dichlorobenzene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
1,2-Dibromo 3-Chloropropane	EPA-8260	U	10	1	UG/L	03/27/2017	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Hexachlorobutadiene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Naphthalene	EPA-8260	4.5	2.0	1	UG/L	03/27/2017	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS	ANALYSIS
			DATE	BY
TFT	NWTPH-GX	138	03/22/2017	SNC

CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	3/28/2017
CLIENT CONTACT:	Mike Noll	ALS JOB#:	EV17030192
CLIENT PROJECT:	81167550	ALS SAMPLE#:	EV17030192-02
CLIENT SAMPLE ID	MW-2	DATE RECEIVED:	03/22/2017
		COLLECTION DATE:	3/21/2017 10:20:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

SURROGATE	METHOD	%REC	ANALYSIS	ANALYSIS
			DATE	BY
C25	NWTPH-DX	82.0	03/23/2017	EBS
1,2-Dichloroethane-d4	EPA-8260	111	03/27/2017	DLC
Toluene-d8	EPA-8260	146 GS1	03/27/2017	DLC
4-Bromofluorobenzene	EPA-8260	96.8	03/27/2017	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

GS1 - Surrogate outside of control limits due to matrix effect.

Chromatogram indicates that it is likely that sample contains weathered gasoline and an unidentified diesel range product.

Diesel range product results biased high due to gasoline range product overlap.



CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	3/28/2017
CLIENT CONTACT:	Mike Noll	ALS JOB#:	EV17030192
CLIENT PROJECT:	81167550	ALS SAMPLE#:	EV17030192-03
CLIENT SAMPLE ID	MW-3	DATE RECEIVED:	03/22/2017
		COLLECTION DATE:	3/21/2017 10:50:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	03/22/2017	SNC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	03/23/2017	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	03/23/2017	EBS
Benzene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	03/27/2017	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	97.4	03/22/2017	SNC
C25	NWTPH-DX	83.8	03/23/2017	EBS
Toluene-d8	EPA-8260	101	03/27/2017	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	3/28/2017
CLIENT CONTACT:	Mike Noll	ALS JOB#:	EV17030192
CLIENT PROJECT:	81167550	ALS SAMPLE#:	EV17030192-04
CLIENT SAMPLE ID	MW-4	DATE RECEIVED:	03/22/2017
		COLLECTION DATE:	3/21/2017 11:30:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	03/22/2017	SNC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	03/23/2017	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	03/23/2017	EBS
Benzene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	03/27/2017	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	03/27/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	87.1	03/22/2017	SNC
C25	NWTPH-DX	107	03/23/2017	EBS
Toluene-d8	EPA-8260	100	03/27/2017	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	3/28/2017
CLIENT CONTACT:	Mike Noll	ALS SDG#:	EV17030192
CLIENT PROJECT:	81167550	WDOE ACCREDITATION:	C601

LABORATORY BLANK RESULTS

MBG-032217W3 - Batch 114540 - Water by NWTPH-GX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	UG/L	50	03/22/2017	SNC

U - Analyte analyzed for but not detected at level above reporting limit.

MB-032217W - Batch 114573 - Water by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	UG/L	130	03/22/2017	EBS
TPH-Oil Range	NWTPH-DX	U	UG/L	250	03/22/2017	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-032117W - Batch 114575 - Water by EPA-8260

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Dichlorodifluoromethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Chloromethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Vinyl Chloride	EPA-8260	U	UG/L	0.20	03/21/2017	DLC
Bromomethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Chloroethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Carbon Tetrachloride	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Trichlorofluoromethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Ethanol	EPA-8260	U	UG/L	1000	03/21/2017	DLC
Carbon Disulfide	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Acetone	EPA-8260	U	UG/L	25	03/21/2017	DLC
1,1-Dichloroethene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Methylene Chloride	EPA-8260	U	UG/L	5.0	03/21/2017	DLC
Acrylonitrile	EPA-8260	U	UG/L	10	03/21/2017	DLC
Methyl T-Butyl Ether	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Trans-1,2-Dichloroethene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Diisopropyl Ether	EPA-8260	U	UG/L	10	03/21/2017	DLC
Ethyl T-Butyl Ether	EPA-8260	U	UG/L	10	03/21/2017	DLC
1,1-Dichloroethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
2-Butanone	EPA-8260	U	UG/L	10	03/21/2017	DLC
Cis-1,2-Dichloroethene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
2,2-Dichloropropane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Bromochloromethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Chloroform	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
1,1,1-Trichloroethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
1,1-Dichloropropene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC



CERTIFICATE OF ANALYSIS

CLIENT: Terracon
 21905 - 64th Ave W, Suite 100
 Mountlake Terrace, WA 98043

CLIENT CONTACT: Mike Noll
 CLIENT PROJECT: 81167550

DATE: 3/28/2017
 ALS SDG#: EV17030192
 WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MB-032117W - Batch 114575 - Water by EPA-8260

1,2-Dichloroethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Benzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Trichloroethene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
tert-Amyl Methyl Ether	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
tert-Butanol	EPA-8260	U	UG/L	20	03/21/2017	DLC
1,2-Dichloropropane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Dibromomethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Bromodichloromethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Trans-1,3-Dichloropropene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
4-Methyl-2-Pentanone	EPA-8260	U	UG/L	10	03/21/2017	DLC
Toluene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Cis-1,3-Dichloropropene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
1,1,2-Trichloroethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
2-Hexanone	EPA-8260	U	UG/L	10	03/21/2017	DLC
1,3-Dichloropropane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Tetrachloroethylene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Dibromochloromethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
1,2-Dibromoethane	EPA-8260	U	UG/L	0.010	03/21/2017	DLC
Chlorobenzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
1,1,1,2-Tetrachloroethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Ethylbenzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
m,p-Xylene	EPA-8260	U	UG/L	4.0	03/21/2017	DLC
Styrene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
o-Xylene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Bromoform	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Isopropylbenzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
1,1,2,2-Tetrachloroethane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
1,2,3-Trichloropropane	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Bromobenzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
N-Propyl Benzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
2-Chlorotoluene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
1,3,5-Trimethylbenzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
4-Chlorotoluene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
T-Butyl Benzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
1,2,4-Trimethylbenzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
S-Butyl Benzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
P-Isopropyltoluene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
1,3-Dichlorobenzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
1,4-Dichlorobenzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
N-Butylbenzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
1,2-Dichlorobenzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC

CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	3/28/2017
		ALS SDG#:	EV17030192
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Mike Noll		
CLIENT PROJECT:	81167550		

LABORATORY BLANK RESULTS

MB-032117W - Batch 114575 - Water by EPA-8260

1,2-Dibromo 3-Chloropropane	EPA-8260	U	UG/L	10	03/21/2017	DLC
1,2,4-Trichlorobenzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Hexachlorobutadiene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
Naphthalene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC
1,2,3-Trichlorobenzene	EPA-8260	U	UG/L	2.0	03/21/2017	DLC

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	3/28/2017
CLIENT CONTACT:	Mike Noll	ALS SDG#:	EV17030192
CLIENT PROJECT:	81167550	WDOE ACCREDITATION:	C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 114540 - Water by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
TPH-Volatile Range - BS	NWTPH-GX	93.5			66.5	122.7	03/22/2017	SNC
TPH-Volatile Range - BSD	NWTPH-GX	98.1	5		66.5	122.7	03/22/2017	SNC

ALS Test Batch ID: 114573 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
TPH-Diesel Range - BS	NWTPH-DX	91.9			67	125.2	03/22/2017	EBS
TPH-Diesel Range - BSD	NWTPH-DX	93.5	2		67	125.2	03/22/2017	EBS

ALS Test Batch ID: 114575 - Water by EPA-8260

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
1,1-Dichloroethene - BS	EPA-8260	99.9			72.5	136	03/21/2017	DLC
1,1-Dichloroethene - BSD	EPA-8260	92.3	8		72.5	136	03/21/2017	DLC
Benzene - BS	EPA-8260	104			74.7	143	03/21/2017	DLC
Benzene - BSD	EPA-8260	99.3	5		74.7	143	03/21/2017	DLC
Trichloroethene - BS	EPA-8260	103			74.4	141	03/21/2017	DLC
Trichloroethene - BSD	EPA-8260	97.4	6		74.4	141	03/21/2017	DLC
Toluene - BS	EPA-8260	103			71.7	139	03/21/2017	DLC
Toluene - BSD	EPA-8260	97.6	5		71.7	139	03/21/2017	DLC
Chlorobenzene - BS	EPA-8260	108			73	131	03/21/2017	DLC
Chlorobenzene - BSD	EPA-8260	102	5		73	131	03/21/2017	DLC

APPROVED BY

Laboratory Director



ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only)

617030192

Date 3/21/17 Page 1 of 1

PROJECT ID: 81167550					ANALYSIS REQUESTED															OTHER (Specify)										
REPORT TO COMPANY: Terracon Consultants Inc. TC					NWTPH-HCID NWTPH-DX NWTPH-GX BTEX by EPA 8021 <input type="checkbox"/> BTEX by EPA 8260 <input checked="" type="checkbox"/> MTBE by EPA 8021 <input type="checkbox"/> MTBE by EPA 8260 <input type="checkbox"/> Halogenated Volatiles by EPA 8260 Volatile Organic Compounds by EPA 8260 * EDB / EDC by EPA 8260 SIM (water) EDB / EDC by EPA 8260 (soil) Semivolatile Organic Compounds by EPA 8270 Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM PCB by EPA 8082 <input type="checkbox"/> Pesticides by EPA 8081 <input type="checkbox"/> Metals-MTCA-5 <input type="checkbox"/> PCRA-8 <input type="checkbox"/> Pri Pol <input type="checkbox"/> TAL <input type="checkbox"/> Metals Other (Specify) TCLP-Metals <input type="checkbox"/> VOA <input type="checkbox"/> Semi-Vol <input type="checkbox"/> Pest <input type="checkbox"/> Herbs <input type="checkbox"/>																									
PROJECT MANAGER: Mike Noll																														
ADDRESS: 21905 64th Ave W. Suite 100 Mantlake Terrace WA, 98043																														
PHONE: 425-77581-1476 FAX:																														
P.O. #: E-MAIL: Mike.Noll@Terracon.com																														
INVOICE TO COMPANY: Same ↑																														
ATTENTION:																														
ADDRESS:																														
SAMPLE I.D.	DATE	TIME	TYPE	LAB#		NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021	MTBE by EPA 8021	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082	Pesticides by EPA 8081	Metals-MTCA-5	PCRA-8	Pri Pol	TAL	Metals Other (Specify)	TCLP-Metals	VOA	Semi-Vol	Pest	Herbs	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. MW-1	3/21/17	930	GW	1		X	X	X																				6		
2. MW-2	↓	1020	↓	2		X	X	X	X		X	X																↓		
3. MW-3	↓	1050	↓	3		X	X	X																				↓		
4. MW-4	↓	1130	↓	4		X	X	X																				↓		
5.																														
6.																														
7.																														
8.																														
9.																														
10.																														

SPECIAL INSTRUCTIONS * VOCs for gasoline oxygenates

SIGNATURES (Name, Company, Date, Time):
 1. Relinquished By: [Signature] Terracon, TC, 3/21/17,
 Received By: [Signature] ALS / 3.22 / 10:35 AM
 2. Relinquished By: _____
 Received By: _____

TURNAROUND REQUESTED in Business Days*
 Organic, Metals & Inorganic Analysis
 10 Standard 3 2 1 SAME DAY
 Fuels & Hydrocarbon Analysis
 3 1 SAME DAY
 OTHER: _____
 Specify: _____

*Turnaround request less than standard may incur Rush Charges