

GROUNDWATER MONITORING REPORT: JANUARY 2017

Former Jim's BP/Union 76 Mini Mart
13 East Main Street
Battle Ground, Clark County, Washington
VCP Site SW1423

February 2, 2017
Project No. 81157108

Prepared for:
CLMG Corporation
Plano, Texas

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

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Geotechnical ■ Environmental ■ Construction Materials ■ Facilities

February 2, 2017

CLMG Corporation
7195 Dallas Parkway
Plano, Texas 75024

Attn: Mr. Todd Cansler
P: (469) 467-5558
E: tcansler@clmgcorp.com

Re: **Groundwater Monitoring Report – January 2017**
Former Jim's BP/Union 76 Mini Mart
13 East Main Street
Battle Ground, Clark County, Washington
VCP Site SW1423
Project Number: 81157108

Dear Mr. Cansler:

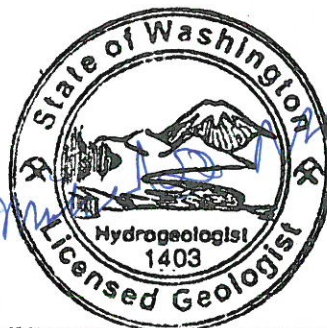
Terracon Consultants, Inc. (Terracon) is pleased to submit this Groundwater Monitoring Report for the above referenced site. This work was performed in general accordance with Terracon Proposal No. P81150196 dated July 7, 2015, and the terms, conditions and limitations in the Master Services Agreement between Terracon Consultants, Inc. and CLMG Corporation, dated July 1, 2013.

We appreciate the opportunity to perform these services for CLMG Corporation. In addition to sampling services, our professionals provide geotechnical, environmental, construction materials, and facilities services on a wide variety of projects locally, regionally and nationally. For more detailed information on all of Terracon's services please visit our website at www.terracon.com. Please contact either of the undersigned at 425-771-3304 if you have questions regarding the information provided in the report.


Sincerely,
Terracon Consultants, Inc.



for Kyle Bennett
Environmental Technician



MICHAEL D. NOLL



Michael D. Noll, L.G., L.H.G.
Senior Project Manager

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GROUNDWATER MONITORING REPORT – JANUARY 2017
Former Jim’s BP/Union 76 Mini Mart
13 East Main Street
Battle Ground, Clark County, Washington
VCP Site SW1423
Terracon Project No. 81157108
February 2, 2017

1.0 SITE DESCRIPTION

This Groundwater Monitoring Report documents groundwater sampling activities that were conducted at the Former Jim’s BP/Union 76 Mini Mart site located on the southeast corner of East Main Street and South Parkway Avenue in Battle Ground, Clark County, Washington. The subject site is an approximate 0.23-acre tract of land (Clark County tax parcel 91101110) that was developed as a gas station and convenience store in the early 1980s. A Topographic Map is included as Figure 1 and shows the site in relation to the surrounding area. Figure 2 presents the locations of the monitoring wells, injection borings, and former features at the site. Figure 3 depicts the groundwater migration direction inferred from water level measurements taken in January 2017.

1.1 Scope of Work

Terracon Consultants, Inc. (Terracon) conducted groundwater monitoring at the site wells, in general accordance with Terracon Proposal No. P81150196 dated July 7, 2015, and the terms, conditions, and limitations in the Master Services Agreement between Terracon Consultants, Inc. and CLMG Corporation, dated July 1, 2013.

This report includes a description of the groundwater sample collection activities, tables showing current and historical depth to groundwater measurements and analytical results, and a copy of the analytical laboratory report with chain-of-custody documentation.

1.2 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 period. 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 groundwater monitoring services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal.



1.3 Additional Scope Limitations

This report was intended to reduce, but not eliminate, uncertainty regarding the existence of recognized environmental conditions in connection with the subject site. 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, and we cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this groundwater sampling event. Subsurface conditions may vary from those encountered at the time of construction or 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. If, during future site development, different subsurface conditions from those encountered during our explorations are observed or appear to be present, we must be advised promptly so that we can review these conditions and reconsider or modify our conclusions and recommendations where necessary.

1.4 Reliance

This report has been prepared for the exclusive use and reliance of CLMG Corporation. Use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the written authorization of CLMG Corporation and Terracon.

Reliance on this report by the client and all authorized parties will be subject to the terms, conditions, and limitations stated in this 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 the client and all relying parties unless otherwise agreed in writing.

2.0 SITE HISTORY AND PREVIOUS SAMPLING EVENTS

The subject site was developed as a gasoline station in the early 1980s. Most recently, the site operated as a Union 76-branded gasoline station/convenience store with a fueling island, dispenser canopy, asphalt paved parking areas, and landscaped areas. Three underground storage tanks (USTs) are located at the site, consisting of a single wall steel 6,000-gallon gasoline tank, a single wall steel 4,000-gallon diesel tank, and a fiberglass reinforced plastic (FRP) double wall 8,000-gallon gasoline tank. The tanks were permanently closed-in-place in June 2014 and the dispenser island and canopy were demolished. The associated convenience store is currently occupied by a retail liquor store tenant. Figure 2 depicts the approximate locations of former site features.

A confirmed release of petroleum hydrocarbons to site soil and groundwater was discovered during the installation of the 8,000-gallon FRP UST in 1991 (Washington State Department of Ecology (Ecology), *Feasibility Studies and Remedial Activities Conducted at Jim’s BP*, June 30, 2000). The site owner/operator entered into a Consent Decree with Ecology, and Ecology conducted a site characterization and interim remedial action at the site between 1992 and 1999. Ecology oversaw the installation of four groundwater monitoring wells (MW-1, MW-3, MW-5, and MW-6) on the site (Figure 2). Ecology directed soil sampling at several locations on the site (see borings SP-7 and SP-8 on Figure 2), and selected injections of an oxygen release compound (ORC) as the remedial alternative at the site. Those injections of ORC were performed by Ecology’s subcontractor in 1999. After those injections were performed, and although soil and groundwater impacts still exceeded the Washington State Model Toxics Control Act (MTCA) Method A cleanup levels for petroleum hydrocarbons in 1999, Ecology issued a No Further Action (NFA) determination for the site in 2000, presumably basing its determination on the limited extent of remaining soil contamination at the site, the unpotable nature of the perched groundwater, and the low potential for direct contact with subsurface soils because of the paved nature of the site.

Terracon conducted a Limited Site Investigation (LSI) at the site on behalf of CLMG in 2011 (*Limited Site Investigation, Union 76 Mini Mart*, dated October 4, 2011). Soil and groundwater samples were collected from direct-push soil borings B-1 through B-4 in the vicinity of the USTs and fuel dispensers (Figure 2). With the exception of one location, all soil and groundwater analytical results were below the laboratory method reporting limits (MRLs) and/or respective MTCA Method A cleanup levels for benzene, toluene, ethylbenzene, and xylenes (BTEX) and for diesel- and oil-range total petroleum hydrocarbons (TPH). Elevated concentrations of gasoline-range TPH exceeding the MTCA Method A cleanup levels were identified in site soil and groundwater in boring B-3. Based on the similarity with the concentrations observed by Ecology in 1999, the lack of BTEX compounds, and the weathered nature of the chromatograms for the petroleum hydrocarbons detected, these impacts appeared to be associated with the

previous documented release that Ecology was aware of and had issued an NFA letter for, dated April 6, 2000. Based on this information, additional investigation did not appear to be warranted.

Terracon and 3 Kings Environmental, on behalf of CLMG, permanently closed the USTs in-place between April and June 2014 (*UST Decommissioning Report, Union 76 Mini Mart*, dated July 9, 2014). Terracon collected soil samples from the north, east, south, and west sides of the tank basin (THN-6, THE-6.5, THS-6, and THW-5, respectively) at 5 to 6.5 feet below the ground surface (bgs), just above the top of the groundwater table. Groundwater samples were also collected at this time from site monitoring wells MW-1, MW-3, MW-5, and MW-6 to evaluate groundwater quality for the UST closure investigation. Three soil samples were collected from beneath the west, central, and east fuel dispensers (DIW-2.5, DIC-2.5, and DIE-2.5) at approximately 2.5 feet bgs. All soil and groundwater sample analytical results were below the laboratory MRLs and/or respective MTCA Method A cleanup levels for gasoline-range TPH, BTEX, and diesel-and oil-range TPH.

After reviewing the initial soil sample locations and laboratory results, Ecology requested that additional soil samples be collected from the UST area as part of the UST system closure evaluation. Terracon collected additional compliance soil samples from borings B-5 through B-8 in May 2014 (Figure 2). The borings were advanced to 8 feet bgs and compliance soil samples were collected from the borings at 6 to 7 feet bgs (top of the groundwater table). All soil sample results were below the laboratory MRLs and/or respective MTCA Method A cleanup levels for gasoline-range TPH, BTEX, and diesel-and oil-range TPH.

During the tank closure process, Ecology expressed concern regarding the limited soil and groundwater impacts at boring B-3 identified by Terracon as part of the 2011 LSI. After a series of conversations with Ecology, CLMG made the decision to perform additional soil and groundwater sampling in the vicinity of B-3 in order to confirm that the soil impacts in that area were associated with the earlier, known releases at the site that were the subject of Ecology’s April 6, 2000 NFA determination.

Terracon completed a Supplemental LSI for the site in November 2014 (*Supplemental Limited Site Investigation, Former Jim’s BP/Mini Mart*, dated January 14, 2015). Five soil borings (B-9 through B-12 and MW-7) were advanced in the area of boring B-3. One boring was completed as permanent groundwater monitoring well MW-7. Two to three soil samples were collected from each boring, and groundwater samples were collected from monitoring wells MW-5 and MW-7. Gasoline-range TPH and benzene were detected above the MTCA Method A cleanup levels for soil collected from the MW-7 boring at approximately 7.5 feet bgs, below the top of the groundwater table (encountered at approximately 5 feet bgs). Gasoline-range TPH was also detected at a

concentration of 990 micrograms per liter ($\mu\text{g/L}$) in the groundwater sample collected from monitoring well MW-7, slightly above the MTCA Method A cleanup level (800 $\mu\text{g/L}$ when benzene is present). Diesel-range TPH was detected at concentrations slightly above the MTCA Method A cleanup level (500 $\mu\text{g/L}$) for the groundwater samples collected from monitoring wells MW-5 and MW-7 (560 $\mu\text{g/L}$ and 980 $\mu\text{g/L}$, respectively). The dissolved oxygen (DO) readings in the purge water from wells MW-5 and MW-7 in November 2014 were 1.44 milligrams per liter (mg/L) and 2.67 mg/L, respectively

In August 2015, Terracon and Cascade Drilling, L.P., completed injections of in situ chemical oxidation (ISCO) compounds (ORC-A and RegenOx® Part A) into five direct push borings (IP-01 through IP-05, Figure 2) in the vicinity of monitoring wells MW-5 and MW-7 (*Remedial Treatment and Groundwater Monitoring Report: September 2015, Former Jim's BP/Union 76 Mini Mart, October 21, 2015*).

Following the completion of the injections, Terracon collected groundwater samples from wells MW-5 and MW-7 in September 2015. Diesel-range TPH was detected at a concentration of 770 $\mu\text{g/L}$ in the groundwater sample collected from monitoring well MW-7, slightly above the MTCA Method A cleanup level, but below the sample concentration reported in November 2014. The dissolved oxygen (DO) readings in the purge water from wells MW-5 and MW-7 in September 2015 were 18.25 milligrams per liter (mg/L) and greater than 20 mg/L, respectively. According to the manufacturer, the ORC-A product is designed to release oxygen to the subsurface over a period of up to one year.

Monitoring wells MW-5 and MW-7 were sampled in December 2015, approximately four months following the ISCO injections (*Groundwater Monitoring Report: December 2015, Former Jim's BP/Union 76 Mini Mart, January 4, 2016*). The gasoline-range TPH concentration in the groundwater sample collected from monitoring well MW-7 increased from below the laboratory reporting limit in September 2015 to 1,900 $\mu\text{g/L}$ in December 2015. During the period of August to December 2015, the shallow perched groundwater table rose 2 to 3 feet, which may have caused remnant, highly weathered gasoline in the shallow soil to come into contact with the groundwater. The DO readings in the purge water from wells MW-5 and MW-7 in December 2015 remained elevated, at 10.58 mg/L and 14.31 mg/L, respectively.

Monitoring wells MW-5 and MW-7 were sampled in February 2016 (*Groundwater Monitoring Report: February 2016, Former Jim's BP/Union 76 Mini Mart, dated March 9, 2016*). The gasoline-range TPH concentration in the groundwater sample collected from monitoring well MW-7 decreased to 1,300 $\mu\text{g/L}$ in February 2016. The diesel-range TPH concentration in the MW-7 groundwater sample was 510 $\mu\text{g/L}$. The DO readings in the purge water from wells MW-5 and MW-7 in February 2016 were approximately 8 mg/L and 26 mg/L, respectively.

Monitoring wells MW-1, MW-3, MW-5, MW-6, and MW-7 were sampled in April 2016 (*Groundwater Monitoring Report: April 2016, Former Jim's BP/Union 76 Mini Mart*, dated April 22, 2016). Gasoline-, diesel-, and oil-range TPH were not identified at concentrations above the laboratory MRLs in the groundwater samples collected from the site monitoring wells. The stabilized DO reading for the groundwater purged from well MW-7 was 12.38 mg/L; the DO readings for the groundwater purged from wells MW-1, MW-3, MW-5, and MW-6 ranged from 0.79 mg/L to 3.94 mg/L.

Terracon, on behalf of the property owner (CXA Corp), requested an Opinion Letter from Ecology in April 2016 regarding whether the site cleanup action was complete, based on the April 2016 groundwater sampling results. Ecology issued an Opinion Letter, dated July 15, 2016, and stated that four quarters of groundwater monitoring results with concentrations below MTCA Method A cleanup levels are required to demonstrate that site cleanup goals have been achieved.

Monitoring wells MW-5 and MW-7 were sampled in July 2016 (*Groundwater Monitoring Report: July 2016, Former Jim's BP/Union 76 Mini Mart*, dated August 9, 2016). Gasoline- and diesel-range TPH were detected in the groundwater sample collected from monitoring well MW-7 at concentrations of 74 µg/L and 140 µg/L, respectively, both well below the MTCA Method A cleanup levels. Gasoline- and diesel-range TPH were not detected in the sample collected from well MW-5, and oil-range TPH and BTEX were not detected in either sample in July 2016. The DO readings in the purge water from wells MW-5 and MW-7 in July 2016 remained elevated, at approximately 6.6 mg/L and 17.3 mg/L, respectively.

Monitoring wells MW-5 and MW-7 were sampled in October 2016 (*Groundwater Monitoring Report: October 2016, Former Jim's BP/Union 76 Mini Mart*, dated November 23, 2016). Gasoline- and diesel-range TPH were detected in the groundwater sample collected from monitoring well MW-7 at concentrations of 99 µg/L and 210 µg/L, respectively, both well below the MTCA Method A cleanup levels. Gasoline- and diesel-range TPH were not detected in the sample collected from well MW-5, and oil-range TPH and BTEX were not detected in either sample in October 2016.

3.0 GROUNDWATER SAMPLING

3.1 Groundwater Sampling

Terracon collected groundwater samples from wells MW-1, MW-3, and MW-5 through MW-7 on January 10, 2017. Depth to groundwater was measured in monitoring wells MW-1, MW-3, MW-5, MW-6, and MW-7 prior to the sample collection activities at the wells. The water level probe was cleaned using an Alconox® wash and distilled water rinse before use in each well. Measured depth to water ranged from 3.34 feet below the top of the well casing (TOC) at well MW-6 to 20.61 feet below TOC at well MW-3 (Table 1).

Measured depth to groundwater and TOC elevation data were used to determine the groundwater elevation at each well. Groundwater elevations ranged from approximately 272 feet above mean sea level (MSL) at well MW-1, to approximately 288.5 feet above MSL at well MW-6. Based on the January 2017 groundwater elevation data, groundwater appears to be mounded in the vicinity of wells MW-5 through MW-7 and is migrating preferentially toward the southeast (Figure 3).

Prior to sample collection, wells MW-1, MW-3, and MW-5 through MW-7 were purged using a peristaltic pump equipped with clean tubing. Low-flow groundwater discharge rates were maintained during purging in order to minimize the drawdown of the water level in the wells. Groundwater parameters (pH, temperature, specific conductance, and dissolved oxygen) were measured during well purging using a multifunction meter and a flow-through cell. Groundwater samples were collected when all parameters were within 10% for at least two consecutive readings.

Purge volumes were approximately 0.4 to 1.3 gallons from each well. The purge water from the monitoring wells was clear, with no hydrocarbon-like odor or sheen. The purge water was stored onsite in a labeled 55-gallon drum located in the dumpster enclosure at the southeast corner of the property, pending receipt of laboratory analytical results.

Following the stabilization of measured groundwater parameters, samples were collected utilizing a peristaltic pump. Discharge from the peristaltic pump was directed into laboratory provided glassware. Each sample container was labeled with the site name, date, time, and well/sample number.

3.2 Analytical Laboratory Testing

Groundwater samples were delivered to ALS Environmental (ALS), a Washington accredited analytical laboratory located in Everett, Washington, for laboratory analysis for the following, using a standard turnaround time:

- Gasoline-range TPH using Northwest Method NWTPH-Gx;
- Diesel- and oil-range TPH using Northwest Method NWTPH-Dx;
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8260;
- Methyl tert-butyl ether (MTBE) using EPA Method 8260; and
- 1,2-dibromoethane (ethylene dibromide, or EDB) and 1,2-dichloroethane (ethylene dichloride, or EDC) using EPA Method 8260.

The executed chain-of-custody form and laboratory analytical certificate are provided in Appendix A.

3.3 Quality Assurance/Quality Control Results

The analytical results for the current investigation were checked for completeness immediately upon receipt from the laboratory to ensure that data and 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 laboratory, it is our opinion that the overall dataset is useable as qualified for the purposes of this report and groundwater sampling event.

4.0 LABORATORY ANALYTICAL RESULTS

A summary of analytical results for groundwater quality from the January 2017 sampling event is presented in Table 2. The results are tabulated with the state cleanup levels included for comparison. The complete laboratory report and chain-of-custody form for analytical results from this sampling event are included in Appendix A.

Gasoline-, Diesel-, and Oil-Range TPH

Gasoline-range TPH was detected in the sample collected from well MW-7 at a concentration of 130 µg/L, and diesel-range TPH was detected at a concentration of 170 µg/L. These detections are well below their respective MTCA Method A cleanup levels of 800 µg/L (gasoline-range TPH) and 500 µg/L (diesel-range TPH).

No other constituents were detected above the laboratory MRLs in the samples collected.

BTEX

BTEX groundwater sampling results were below their respective laboratory MRLs.

MTBE

MTBE groundwater sampling results were below their respective laboratory MRLs.

EDB and EDC

EDB and EDC groundwater sampling results were below their respective laboratory MRLs.

5.0 FINDINGS AND CONCLUSIONS

Monitoring wells MW-1, MW-3, and MW-5 through MW-7 were sampled in January 2017. Based on the results of the January 2017 groundwater sampling event, the findings and conclusions of this report are as follows:

- Gasoline-range TPH was detected in the groundwater sample collected from well MW-7 at 130 µg/L and diesel-range TPH was detected in the sample at 170 µg/L.
- Oil-range TPH, BTEX, MTBE, EDB, and EDC constituents were not identified at concentrations above the laboratory MRLs in the groundwater samples collected.

- Groundwater is generally mounded in the vicinity of monitoring wells MW-5 through MW-7, and appears to migrate preferentially toward the southeast.

6.0 RECOMMENDATIONS

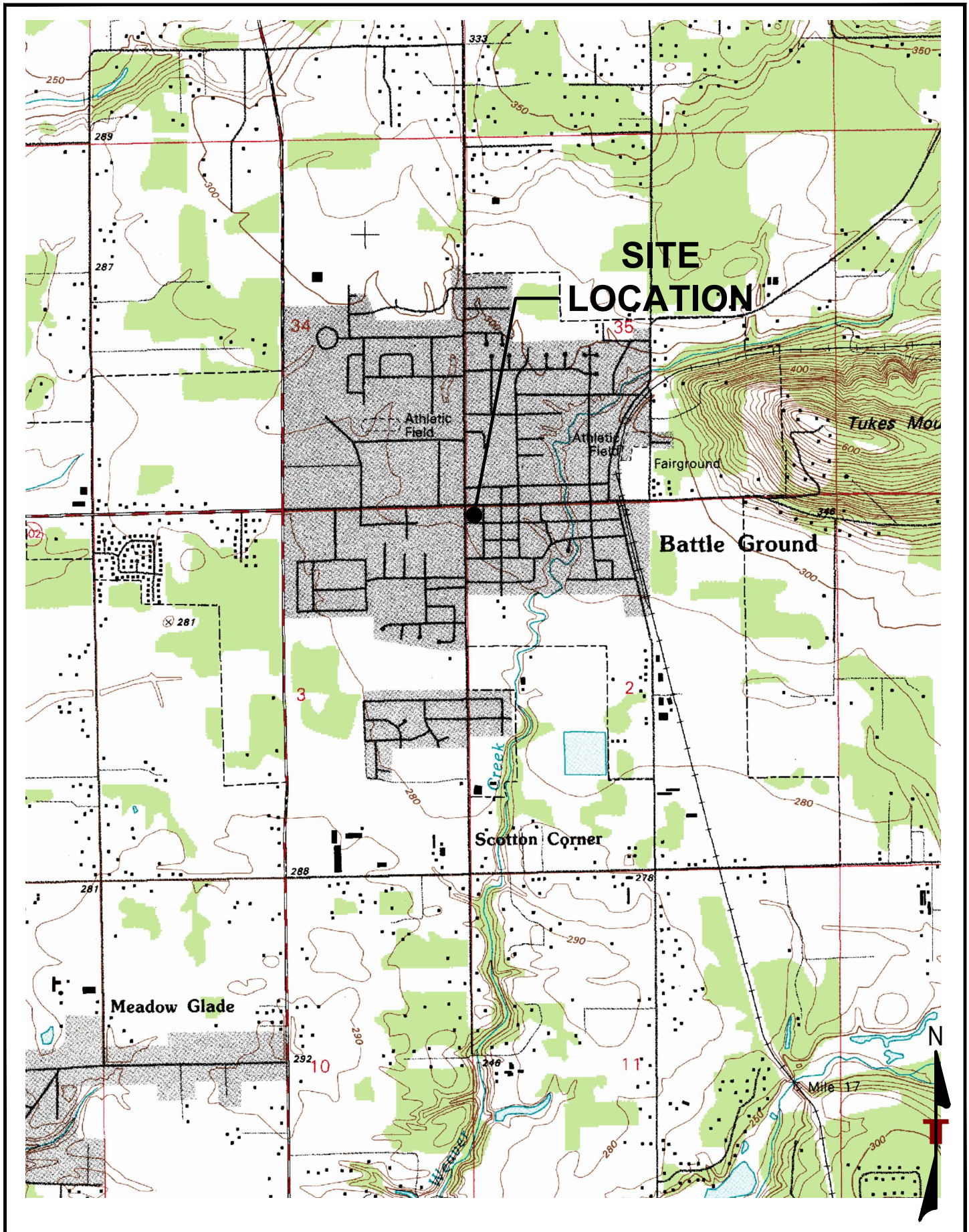
Based on the results of the most recent groundwater sampling event conducted at the site, groundwater at site has been in compliance with MTCA Method A cleanup levels for four (4) consecutive quarters following the remedial action conducted at the site in August 2015. Therefore, Terracon recommends that a copy of this report be submitted to Ecology along with a request for an opinion of No Further Action required for the site from Ecology under the Voluntary Cleanup Program.

FIGURES

Figure 1 – Topographic Map

Figure 2 – Site Diagram

Figure 3 – Groundwater Contour Map



Project Mngnr.	MDN
Drawn By:	AWS
Checked By:	MDN
Approved By:	MYW

Project No.	81157108
Scale:	NOT TO SCALE
File No.	FIGURE 1
Date:	OCTOBER 2015

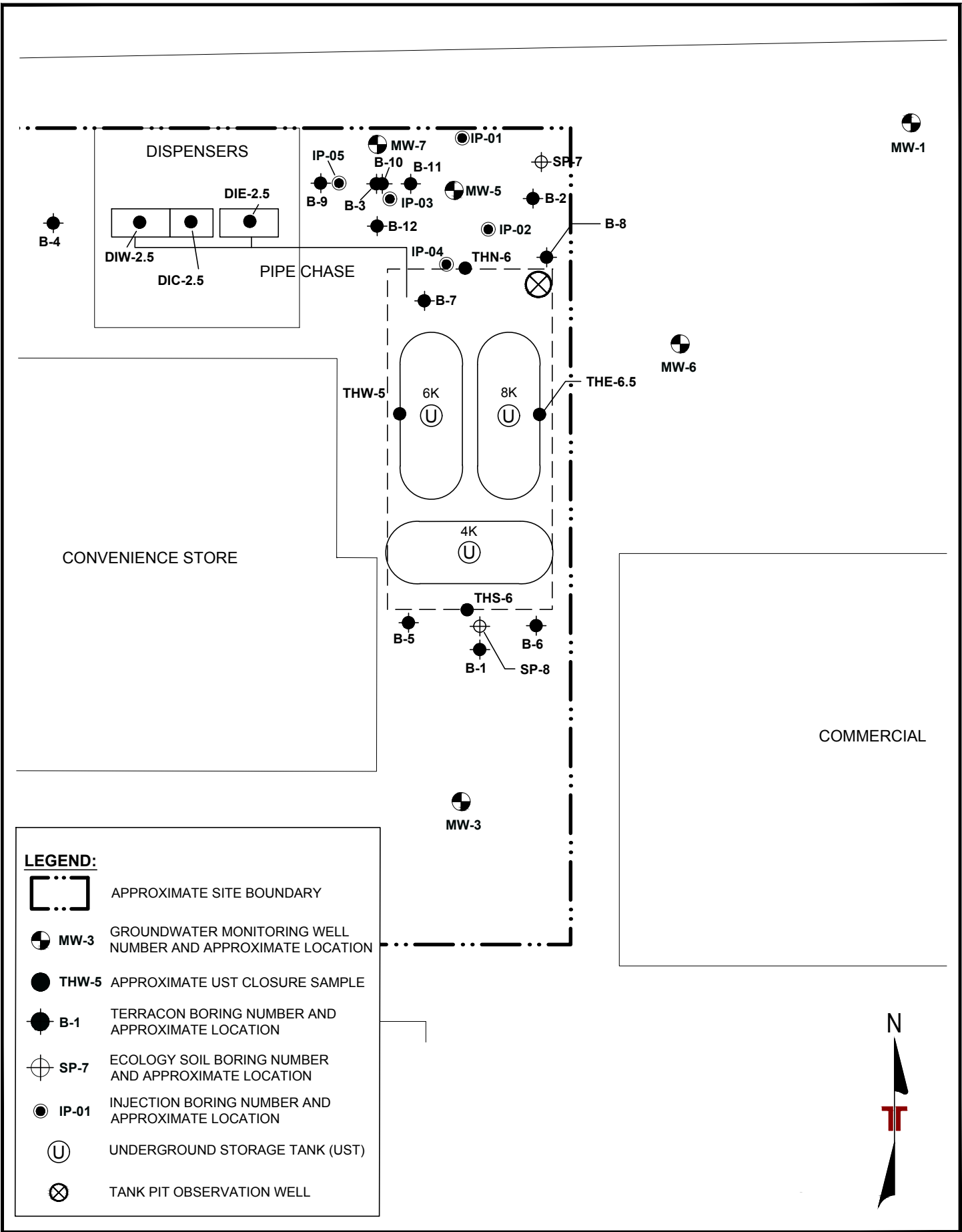
Terracon
 Consulting Engineers and Scientists

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TOPOGRAPHIC MAP

Union 76 Mini Mart
 13 East Main Street
 Battle Ground, Clark County, Washington

FIG. NO.	1
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LEGEND:

- APPROXIMATE SITE BOUNDARY
- MW-3** GROUNDWATER MONITORING WELL NUMBER AND APPROXIMATE LOCATION
- THW-5** APPROXIMATE UST CLOSURE SAMPLE
- B-1** TERRACON BORING NUMBER AND APPROXIMATE LOCATION
- SP-7** ECOLOGY SOIL BORING NUMBER AND APPROXIMATE LOCATION
- IP-01** INJECTION BORING NUMBER AND APPROXIMATE LOCATION
- UNDERGROUND STORAGE TANK (UST)
- TANK PIT OBSERVATION WELL



Project Mngnr:	MDN
Drawn By:	AWS
Checked By:	MDN
Approved By:	MYW

Project No.	81157108
Scale:	NOT TO SCALE
File No.	FIGURE 2
Date:	OCTOBER 2015

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Consulting Engineers and Scientists

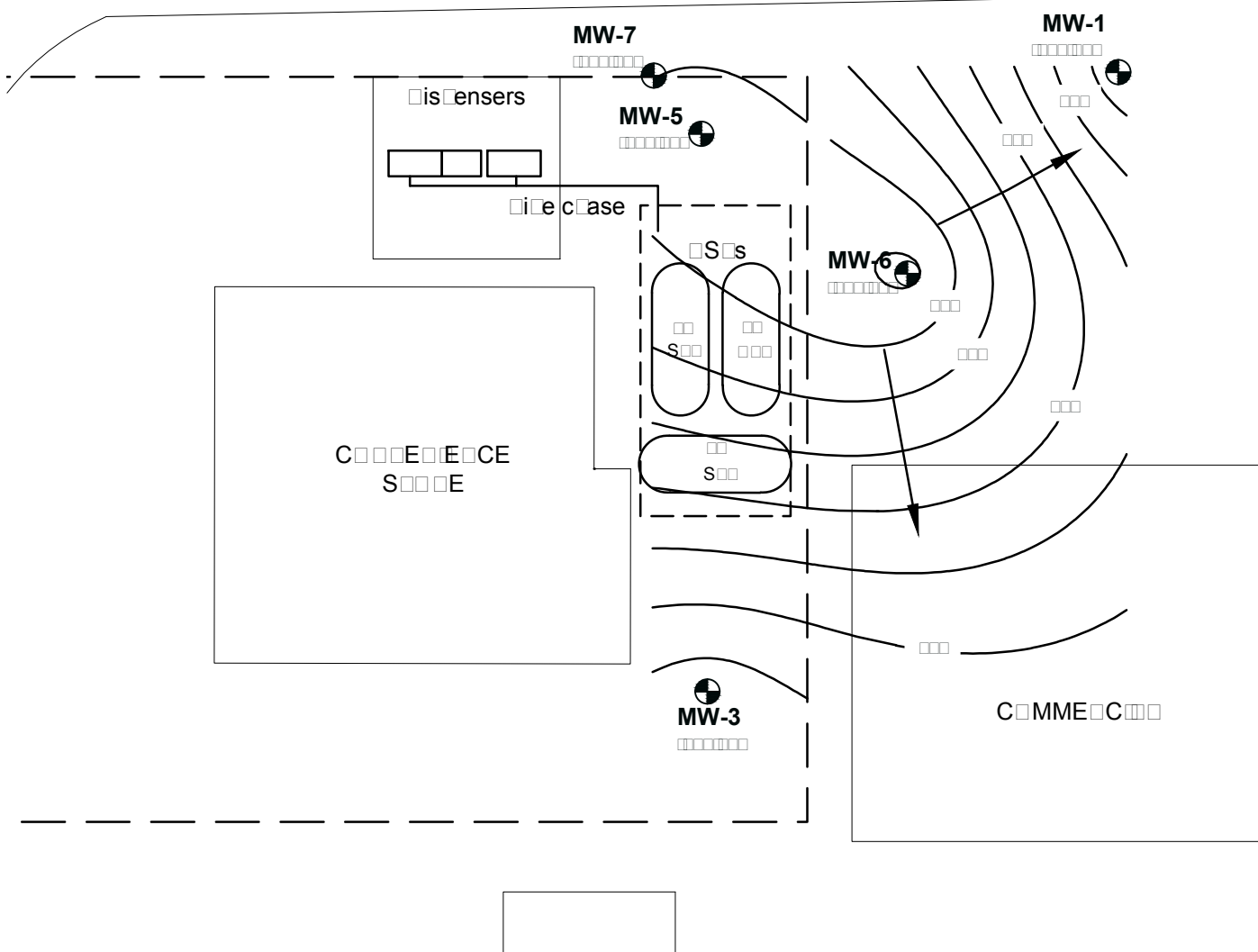
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SITE DIAGRAM
Union 76 Mini Mart
13 East Main Street
Battle Ground, Clark County, Washington

FIG. NO.	2
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□ M □ □ S □ □ E □ □



LEGEND:

MW-3 □ round water monitoring well number
 □ round water elevation in feet



□ round water Contour in feet
 Inferred groundwater flow direction

Project Mngnr:	MDN	Project No.	81157108
Drawn By:	SD	Scale:	AS SHOWN
Checked By:	MDN	File No.:	
Approved By:	MYW	Date:	January 2017

Consulting Engineers and Scientists

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GROUNDWATER CONTOUR MAP
 Union 76 Mini Mart
 13 East Main Street
 Battle Ground, Clark County, Washington

FIG. No.	3
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TABLES

Table 1 – Summary of Depth to Groundwater Measurements

Table 2 – Summary of Groundwater Analytical Results

TABLE 1

SUMMARY OF DEPTH TO GROUNDWATER MEASUREMENTS

**Union 76 Mini Mart
13 East Main Street
Battle Ground, Washington**

Well Number	Sample Date	TOC Elevation" (Feet)	Depth to Water (Feet)	Relative Groundwater Elevation (Feet)
MW-1 (Depth to Bottom = 20.5 feet; Well Screen = 10 to 20 feet)	1/10/2017	291.83	19.75	272.08
	10/18/2016	291.83	19.94	271.89
	7/12/2016	291.83	Dry	--
	4/5/2016	291.83	19.03	272.80
	2/4/16	291.83	18.82	273.01
	12/3/15	291.83	20.23	271.60
	9/11/15	291.83	Dry	--
	8/13/15	291.83	Dry	--
	11/10/14	291.83	19.45	272.38
	5/22/14	291.83	18.50	273.33
	4/29/14	291.83	18.10	273.73
	Dec-99	291.83	19.2	272.63
	Sep-98	291.83	Dry	--
	Nov-95	291.83	19.3	272.53
	May-95	291.83	19.1	272.73
	Nov-94	291.83	18.8	273.03
	Apr-94	291.83	19.6	272.23
	Apr-93	291.83	19.2	272.63
	Jan-93	291.83	19.3	272.53
	Oct-92	291.83	Dry	--
May-92	291.83	17.7	274.13	
Apr-92	291.83	15.6	276.23	
Mar-92	291.83	13.0	278.83	

TABLE 1

SUMMARY OF DEPTH TO GROUNDWATER MEASUREMENTS

Union 76 Mini Mart

13 East Main Street

Battle Ground, Washington

Well Number	Sample Date	TOC Elevation" (Feet)	Depth to Water (Feet)	Relative Groundwater Elevation (Feet)
MW-3 (Depth to Bottom = 24.0 feet; Well Screen = 13 to 23 feet)	1/10/2017	293.08	20.61	272.47
	10/18/2016	293.08	21.28	271.80
	7/12/2016	293.08	22.50	270.58
	4/5/2016	293.08	21.10	271.98
	2/4/16	293.08	20.68	272.40
	12/3/15	293.08	21.35	271.73
	9/11/15	293.08	22.55	270.53
	8/13/15	293.08	22.61	270.47
	11/10/14	293.08	21.32	271.76
	5/22/14	293.08	20.89	272.19
	4/29/14	293.08	20.16	272.92
	Dec-99	293.08	21.0	272.08
	Sep-98	293.08	22.3	270.78
	Nov-95	293.08	20.8	272.28
	May-95	293.08	21.1	271.98
	Nov-94	293.08	20.0	273.08
	Apr-94	293.08	21.3	271.78
	Apr-93	293.08	21.2	271.88
	Jan-93	293.08	21.0	272.08
	Oct-92	293.08	22.7	270.38
May-92	293.08	20.7	272.38	
Apr-92	293.08	20.4	272.68	
Mar-92	293.08	14.0	279.08	

TABLE 1

SUMMARY OF DEPTH TO GROUNDWATER MEASUREMENTS

Union 76 Mini Mart

13 East Main Street

Battle Ground, Washington

Well Number	Sample Date	TOC Elevation" (Feet)	Depth to Water (Feet)	Relative Groundwater Elevation (Feet)
MW-5 (Depth to Bottom = 20.5 feet; Well Screen = 10 to 20 feet)	1/10/2017	292.25	5.00	287.25
	10/18/2016	292.25	3.87	288.38
	7/12/2016	292.25	6.14	286.11
	4/5/2016	292.25	5.25	287.00
	2/4/16	292.25	4.72	287.53
	12/3/15	292.25	5.55	286.70
	9/11/15	292.25	7.43	284.82
	8/13/15	292.25	7.65	284.60
	11/10/14	292.25	4.34	287.91
	5/22/14	292.25	5.56	286.69
	4/29/14	292.25	4.63	287.62
	Dec-99	292.25	7.3	284.95
	Sep-98	292.25	15.6	276.65
	Nov-95	292.25	9.46	282.79
	May-95	292.25	11.4	280.85
	Nov-94	292.25	13.9	278.35
	Apr-94	292.25	13.5	278.75
	Apr-93	292.25	11.8	280.45
	Jan-93	292.25	12.6	279.65
	Oct-92	292.25	17.6	274.65
May-92	292.25	8.6	283.65	
Apr-92	292.25	8.3	283.95	
Mar-92	292.25	9.5	282.75	

TABLE 1

SUMMARY OF DEPTH TO GROUNDWATER MEASUREMENTS

Union 76 Mini Mart

13 East Main Street

Battle Ground, Washington

Well Number	Sample Date	TOC Elevation" (Feet)	Depth to Water (Feet)	Relative Groundwater Elevation (Feet)
MW-6 (Depth to Bottom = 20.0 feet; Well Screen = 10 to 20 feet)	1/10/2017	291.86	3.34	288.52
	10/18/2016	291.86	3.00	288.86
	7/12/2016	291.86	5.51	286.35
	4/5/2016	291.86	4.80	287.06
	2/4/16	291.86	3.88	287.98
	12/3/15	291.86	4.24	287.62
	9/11/15	291.86	7.35	284.51
	8/13/15	291.86	6.33	285.53
	11/10/14	291.86	3.78	288.08
	5/22/14	291.86	4.65	287.21
	4/29/14	291.86	4.09	287.77
	Dec-99	291.86	4.7	287.16
	Sep-98	291.86	7.6	284.26
	Nov-95	291.86	4.5	287.36
	May-95	291.86	4.8	287.06
	Nov-94	291.86	5.5	286.36
	Apr-94	291.86	6.1	285.76
	Apr-93	291.86	5.0	286.86
	Jan-93	291.86	5.8	286.06
	Oct-92	291.86	8.1	283.76
May-92	291.86	9.1	282.76	
Apr-92	291.86	5.8	286.06	
Mar-92	291.86	9.0	282.86	

TABLE 1

**SUMMARY OF DEPTH TO GROUNDWATER MEASUREMENTS
 Union 76 Mini Mart
 13 East Main Street
 Battle Ground, Washington**

Well Number	Sample Date	TOC Elevation" (Feet)	Depth to Water (Feet)	Relative Groundwater Elevation (Feet)
MW-7 (Depth to Bottom = 20.0 feet; Well Screen = 5 to 20 feet)	1/10/2017	292.21	6.34	285.87
	10/18/2016	292.21	6.13	286.08
	7/12/2016	292.21	7.17	285.04
	4/5/2016	292.21	7.42	284.79
	2/4/16	292.21	6.95	285.26
	12/3/15	292.21	6.04	286.17
	9/11/15	292.21	14.21	278.00
	8/13/15	292.21	9.62	282.59
	11/10/14	292.21	5.41	286.80

*TOC = Top of casing elevations for wells MW-1, MW-3, MW-5, and MW-6 from *Feasibility Studies and Remedial Activities Conducted at Jim's BP*, Department of Ecology, June 30, 2000, Figure 5 - Stratigraphic Cross Sections.

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Former Jim's BP/Union 76 Mini Mart

13 East Main Street

Battle Ground, Clark County, Washington

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

Well Location	Sample Number	Sample Date	Groundwater Depth (ft)	TPH			BTEX				MTBE	EDB	EDC	Metals
				Gasoline-Range	Diesel-Range	Oil-Range	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tertiary Butyl Ether	1,2-Dibromoethane	1,2 Dichloroethane	Lead
MTCA Method A and Method B Cleanup Levels				800	500	500	5	1,000	700	1,000	20	0.01	5	15
MW-1	MW-1	1/10/2017	19.75	ND (<50)	ND (<130)	ND (<250)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	ND (<2.0)	ND (<0.010)	ND (<2.0)	--
	MW-1	4/5/2016	19.03	ND (<130)	ND (<310)	ND (<310)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	--	--	--	--
	MW-1	4/29/2014	18.10	ND (<100)	ND (<100)	ND (<250)	ND (<0.50)	ND (<5.0)	ND (<0.50)	ND (<1.5)	--	--	--	--
MW-3	MW-3	1/10/2017	20.61	ND (<50)	ND (<130)	ND (<250)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	ND (<2.0)	ND (<0.010)	ND (<2.0)	--
	MW-3	4/5/2016	21.10	ND (<130)	ND (<310)	ND (<310)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	--	--	--	--
	MW-3	4/28/2014	20.03	ND (<100)	ND (<100)	ND (<250)	ND (<0.50)	ND (<5.0)	ND (<0.50)	ND (<1.5)	--	--	--	--
	MW-3	9/2/2011	23.00	ND (<100)	41 J (<250)	ND (<250)	ND (<1.0)	ND (<5.0)	ND (<1.0)	ND (<3.0)	--	--	--	--
MW-5	MW-5	1/10/2017	5.00	ND (<50)	ND (<130)	ND (<250)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	ND (<2.0)	ND (<0.010)	ND (<2.0)	--
	MW-5	10/18/2016	3.00	ND (<50)	ND (<130)	ND (<250)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	--	--	--	--
	MW-5	7/12/2016	6.14	ND (<50)	ND (<130)	ND (<250)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	ND (<2.0)	ND (<0.010)	ND (<2.0)	--
	MW-5	4/5/2016	5.25	ND (<130)	ND (<310)	ND (<310)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	--	--	--	--
	MW-5	2/4/2016	4.72	75 (<130)	ND (<130)	ND (<250)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	ND (<2.0)	ND (<0.010)	ND (<2.0)	--
	MW-5	12/3/2015	5.55	100 (<250)	240 (<250)	ND (<250)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)	--	--	--	--
	MW-5*	9/11/2015	7.43	ND (<250)	450 (<250)	ND (<250)	ND (<0.50)	ND (<0.50)	ND (<0.50)	1.1** (<1.5)	--	--	--	--
	MW-5	11/10/2014	4.34	ND (<100)	560 (<250)	ND (<250)	ND (<0.50)	ND (<5.0)	ND (<0.50)	ND (<1.5)	--	--	--	--
	MW-5	4/28/2014	4.40	ND (<100)	200 (<250)	ND (<250)	0.73 (<1.0)	ND (<5.0)	0.51 (<1.0)	2.0 (<3.0)	--	--	--	ND (<5.0)
	MW-5	9/2/2011	9.00	150 (<250)	270 (<250)	ND (<250)	ND (<1.0)	ND (<5.0)	ND (<1.0)	ND (<3.0)	--	--	--	--
MW-6	MW-6	1/10/2017	3.34	ND (<50)	ND (<130)	ND (<250)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	ND (<2.0)	ND (<0.010)	ND (<2.0)	--
	MW-6	4/5/2016	4.80	ND (<130)	ND (<310)	ND (<310)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	--	--	--	--
	MW-6	4/29/2014	4.09	ND (<100)	ND (<100)	ND (<250)	ND (<0.50)	ND (<5.0)	ND (<0.50)	ND (<1.5)	--	--	--	--

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Former Jim's BP/Union 76 Mini Mart

13 East Main Street

Battle Ground, Clark County, Washington

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

Well Location	Sample Number	Sample Date	Groundwater Depth (ft)	TPH			BTEX				MTBE	EDB	EDC	Metals
				Gasoline-Range	Diesel-Range	Oil-Range	Benzene	Toluene	Ethylbenzene	Xylenes	Methyl Tertiary Butyl Ether	1,2-Dibromoethane	1,2-Dichloroethane	Lead
MTCA Method A and Method B Cleanup Levels				800	500	500	5	1,000	700	1,000	20	0.01	5	15
MW-7	MW-7	1/10/2017	6.34	130	170	ND (<250)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	ND (<2.0)	ND (<0.010)	ND (<2.0)	--
	MW-7	10/18/2016	6.13	99	210	ND (<250)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	--	--	--	--
	MW-7	7/12/2016	7.17	74	140	ND (<250)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	--	--	--	--
	MW-7	4/5/2016	7.42	ND (<130)	ND (<310)	ND (<310)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<4.0)	--	--	--	--
	MW-7	2/4/2016	6.95	1,300	510	ND (<250)	ND (<2.0)	ND (<2.0)	18	ND (<4.0)	ND (<2.0)	ND (<0.010)	ND (<2.0)	--
	MW-7	12/3/2015	6.04	1,900	ND (<500)	ND (<250)	ND (<1.0)	ND (<1.0)	18	ND (<3.0)	--	--	--	--
	MW-7*	9/11/2015	14.21	ND (<250)	770	480	ND (<0.50)	ND (<0.50)	ND (<0.50)	ND (<1.0)	--	--	--	--
	MW-7	11/10/2014	5.41	990	980	280	1.3	ND (<5.0)	41	2.1	--	--	--	--

Note: Concentrations detected are in **BOLD** type. Shaded and bold concentrations are above MTCA cleanup levels.

ND - Not detected above laboratory reporting limit.

TPH - total petroleum hydrocarbons

** Xylenes were detected in the field blank during the 9/11/2015 sampling event.

MTCA - Model Toxics Control Act

J: Estimated value below the lowest calibration point. Confidence correlates with concentration.

-- - not sampled

* TPH results were reported in mg/L in the laboratory report and converted to µg/L for this table.

Appendix A

Analytical Report and Chain-of-Custody Documentation



January 12, 2017

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

Dear Mr. Noll,

On January 11th, 5 samples were received by our laboratory and assigned our laboratory project number EV17010044. The project was identified as your Battle Ground 81157108. 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:	1/12/2017
		ALS JOB#:	EV17010044
		ALS SAMPLE#:	EV17010044-01
CLIENT CONTACT:	Mike Noll	DATE RECEIVED:	01/11/2017
CLIENT PROJECT:	Battle Ground 81157108	COLLECTION DATE:	1/10/2017 11:20:00 AM
CLIENT SAMPLE ID	MW-1	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	01/11/2017	PAB
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	01/11/2017	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	01/11/2017	EBS
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	01/11/2017	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	01/11/2017	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	62.2	01/11/2017	PAB
C25	NWTPH-DX	84.0	01/11/2017	EBS
1,2-Dichloroethane-d4	EPA-8260	114	01/11/2017	DLC
Toluene-d8	EPA-8260	98.6	01/11/2017	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:	1/12/2017
CLIENT CONTACT:	Mike Noll	ALS JOB#:	EV17010044
CLIENT PROJECT:	Battle Ground 81157108	ALS SAMPLE#:	EV17010044-02
CLIENT SAMPLE ID	MW-3	DATE RECEIVED:	01/11/2017
		COLLECTION DATE:	1/10/2017 10:05:00 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	01/11/2017	PAB
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	01/11/2017	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	01/11/2017	EBS
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	01/11/2017	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	01/11/2017	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	88.8	01/11/2017	PAB
C25	NWTPH-DX	90.7	01/11/2017	EBS
1,2-Dichloroethane-d4	EPA-8260	113	01/11/2017	DLC
Toluene-d8	EPA-8260	96.2	01/11/2017	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:	1/12/2017
CLIENT CONTACT:	Mike Noll	ALS JOB#:	EV17010044
CLIENT PROJECT:	Battle Ground 81157108	ALS SAMPLE#:	EV17010044-03
CLIENT SAMPLE ID	MW-5	DATE RECEIVED:	01/11/2017
		COLLECTION DATE:	1/10/2017 12:55:00 PM
		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	01/11/2017	PAB
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	01/11/2017	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	01/11/2017	EBS
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	01/11/2017	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	01/11/2017	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	86.0	01/11/2017	PAB
C25	NWTPH-DX	86.2	01/11/2017	EBS
1,2-Dichloroethane-d4	EPA-8260	112	01/11/2017	DLC
Toluene-d8	EPA-8260	95.5	01/11/2017	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:	1/12/2017
CLIENT CONTACT:	Mike Noll	ALS JOB#:	EV17010044
CLIENT PROJECT:	Battle Ground 81157108	ALS SAMPLE#:	EV17010044-04
CLIENT SAMPLE ID	MW-6	DATE RECEIVED:	01/11/2017
		COLLECTION DATE:	1/10/2017 12:05:00 PM
		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	01/11/2017	PAB
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	01/11/2017	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	01/11/2017	EBS
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	01/11/2017	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	01/11/2017	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	87.9	01/11/2017	PAB
C25	NWTPH-DX	113	01/11/2017	EBS
1,2-Dichloroethane-d4	EPA-8260	114	01/11/2017	DLC
Toluene-d8	EPA-8260	101	01/11/2017	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:	1/12/2017
CLIENT CONTACT:	Mike Noll	ALS JOB#:	EV17010044
CLIENT PROJECT:	Battle Ground 81157108	ALS SAMPLE#:	EV17010044-05
CLIENT SAMPLE ID	MW-7	DATE RECEIVED:	01/11/2017
		COLLECTION DATE:	1/10/2017 1:50:00 PM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	130	50	1	UG/L	01/11/2017	PAB
TPH-Diesel Range	NWTPH-DX	170	130	1	UG/L	01/11/2017	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	01/11/2017	EBS
Methyl T-Butyl Ether	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
1,2-Dichloroethane	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
Benzene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
Toluene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
1,2-Dibromoethane	EPA-8260	U	0.010	1	UG/L	01/11/2017	DLC
Ethylbenzene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC
m,p-Xylene	EPA-8260	U	4.0	1	UG/L	01/11/2017	DLC
o-Xylene	EPA-8260	U	2.0	1	UG/L	01/11/2017	DLC

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	91.3	01/11/2017	PAB
C25	NWTPH-DX	117	01/11/2017	EBS
1,2-Dichloroethane-d4	EPA-8260	113	01/11/2017	DLC
Toluene-d8	EPA-8260	101	01/11/2017	DLC

U - Analyte analyzed for but not detected at level above reporting limit.
 Chromatogram indicates that it is likely that sample contains highly weathered gasoline and an unidentified diesel range product.



CERTIFICATE OF ANALYSIS

CLIENT:	Terracon 21905 - 64th Ave W, Suite 100 Mountlake Terrace, WA 98043	DATE:	1/12/2017
CLIENT CONTACT:	Mike Noll	ALS SDG#:	EV17010044
CLIENT PROJECT:	Battle Ground 81157108	WDOE ACCREDITATION:	C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 111415 - Water by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
TPH-Volatile Range - BS	NWTPH-GX	95.4			66.5	122.7	01/09/2017	PAB
TPH-Volatile Range - BSD	NWTPH-GX	95.8	0		66.5	122.7	01/09/2017	PAB

ALS Test Batch ID: 111395 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
TPH-Diesel Range - BS	NWTPH-DX	86.4			67	125.2	01/09/2017	EBS
TPH-Diesel Range - BSD	NWTPH-DX	88.8	3		67	125.2	01/09/2017	EBS

ALS Test Batch ID: 111441 - Water by EPA-8260

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
1,1-Dichloroethene - BS	EPA-8260	100			72.5	136	01/11/2017	DLC
1,1-Dichloroethene - BSD	EPA-8260	89.4	12		72.5	136	01/11/2017	DLC
Benzene - BS	EPA-8260	103			74.7	143	01/11/2017	DLC
Benzene - BSD	EPA-8260	93.0	10		74.7	143	01/11/2017	DLC
Toluene - BS	EPA-8260	101			71.7	139	01/11/2017	DLC
Toluene - BSD	EPA-8260	92.0	9		71.7	139	01/11/2017	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)

EV17010044

Date **1-10-17** Page **1** Of **1**

PROJECT ID: Battle Ground 91157108					ANALYSIS REQUESTED												OTHER (Specify)		
REPORT TO COMPANY: Towson					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 checked="" type="checkbox"/> Halogenated Volatiles by EPA 8260 Volatile Organic Compounds by EPA 8260 <input checked="" type="checkbox"/> HOLD 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"/> RCRA-8 <input type="checkbox"/> Pri Pol <input type="checkbox"/> TAL <input type="checkbox"/> Metals Other (Specify) Lead <input checked="" type="checkbox"/> HOLD TCLP-Metals <input type="checkbox"/> VOA <input type="checkbox"/> Semi-Vol <input type="checkbox"/> Pest <input type="checkbox"/> Herbs <input type="checkbox"/> Field Filtered (Lead) <input checked="" type="checkbox"/> HOLD														
PROJECT MANAGER: Mike Noll																			
ADDRESS: 21405 64th Ave West, Mountlake Terrace, WA 98043																			
PHONE: (425) 771-3304 FAX:																			
P.O. #: E-MAIL: mdnoll@towson.com																			
INVOICE TO COMPANY: Towson																			
ATTENTION: Karen Meyers																			
ADDRESS:																			
SAMPLE I.D.	DATE	TIME	TYPE	LAB#															
1. MW-1	1-10-17	1120	GW	1		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	8		
2. MW-3		1005		2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	8			
3. MW-5		1255		3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	8			
4. MW-6		1205		4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	8			
5. MW-7		1350		5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	8			
6.																			
7.																			
8.																			
9.																			
10.																			

SPECIAL INSTRUCTIONS * Gasoline Oxygenates -HOLD for instructions from Mike Noll. ** EDB reporting limit < 0.01 µg/L.

SIGNATURES (Name, Company, Date, Time):
 1. Relinquished By: **John Bennett, TC, 1-11-17, 0740**
 Received By: **Michael D. Rose, Towson, 1-11-2017 0740**
 2. Relinquished By: **Michael D. Rose / Towson / 1-11-2017 / 1010**
 Received By: **Kathleen Clark / ALS / 1-11-17 / 10:09 Am**

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

 *Turnaround request less than standard may incur Rush Charges