REMEDIAL TREATMENT AND GROUNDWATER MONITORING REPORT: SEPTEMBER 2015

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

October 21, 2015
Project No. 81157108

Prepared for:
CLMG Corporation
Plano, Texas

Prepared by:
Terracon Consultants, Inc.
21905 64th Avenue, Suite 100
Mountlake Terrace, WA 98042

Terracon

October 21, 2015

CLMG Corporation
7195 Dallas Parkway
Plano, Texas 75024

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

Re: **Remedial Treatment and Groundwater Monitoring Report - September 2015**
Former Jim's BP/Union 76 Mini Mart
13 East Main Street
Battle Ground, Clark County, Washington
VCP Site SW1423
Project Number: 81157108

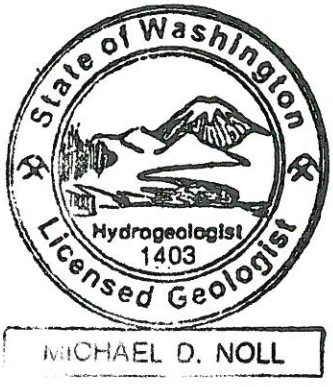
Dear Mr. Cansler:

Terracon Consultants, Inc. (Terracon) is pleased to submit this Remedial Treatment and 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 CMLG 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

Jamie L. Hoffman, P.G. for
Senior Staff Geologist



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

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1.0 SITE DESCRIPTION

This remedial treatment and groundwater sampling report documents groundwater treatment and follow-up 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. Remedial activities and groundwater sampling were performed in August and September 2015. 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. Figures 3 and 4 depict the groundwater migration direction inferred from water level measurements taken in August 2015 and September 2015, respectively.

1.1 Scope of Work

Terracon Consultants, Inc. (Terracon) treated site groundwater and conducted follow-up groundwater monitoring at select 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.

Terracon completed a Washington Department of Ecology (Ecology) underground injection control (UIC) site well registration for direct push borings in the vicinity of site monitoring wells MW-5 and MW-7, and injected Regenesis Oxygen Release Compound Advanced® (ORC-A) and Regenesis RegenOx® Part A solution into the borings, in an effort to treat site groundwater for residual diesel-range petroleum hydrocarbon impacts in the vicinity of groundwater monitoring wells MW-5 and MW-7. After a period of approximately thirty days, Terracon conducted follow-up groundwater sampling at wells MW-5 and MW-7 to further evaluate concentrations of diesel-range total petroleum hydrocarbons (TPH) at the site.

This report includes a description of the groundwater remedial treatment and 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.

The groundwater remedial treatment work was performed as an independent action intended to meet the requirements of the Washington State Model Toxics Control Act (MTCA) Cleanup Regulation, as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340), in order to achieve regulatory closure. Work was performed in general accordance with MTCA and the *Guidance for Remediation of Petroleum Contaminated Sites,* Ecology Publication No. 10-09-057, dated September 2011.

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 remedial treatment and 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 CMLG Corporation. Use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the written authorization of CMLG 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. The site most recently 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 and the former dispenser island area was paved with asphalt at that time. The associated convenience store is currently occupied by a retail liquor store tenant. The attached Figure 2 Site Diagram shows 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 tank in 1991 (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 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, and in the inferred downgradient direction on the adjacent property to the east (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 ORC as the remedial alternative at the site. Those injections of ORC were performed by Ecology's contractor in 1999. After those injections were performed, and although

soil and groundwater impacts still exceeded the 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 lack of potential for direct contact with 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*, 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 reporting limit and/or respective MTCA Method A cleanup levels for benzene, toluene, ethylbenzene, and xylenes (BTEX) and 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 at the location of 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 this location, 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.

When CLMG acquired the property, it was no longer an operational service station. However, the previous owner had failed to close the USTs at the property in accordance with Ecology regulations. As a result, Terracon and Anderson Environmental Contracting, LLC (AEC), on behalf of CLMG, completed a temporary closure of the site USTs in April 2012 (*Underground Storage Tank Assessment, Union 76 Mini Mart*, July 31, 2012). Terracon oversaw the completion of the product cleanout, triple rinsing of the three onsite USTs, and flushing of the associated product piping. These activities were completed in preparation for placing the site into Temporary Closure per Ecology Chapter 173-360 WAC.

In early 2014, CLMG identified a buyer for the property, who was not going to utilize the property as a gas station. As a result, the decision was made to permanently close the USTs in place. Terracon and 3 Kings Environmental, on behalf of CLMG, permanently closed the tanks in place, accomplishing this closure in a series of visits to the site between April and June 2014 (*UST Decommissioning Report, Union 76 Mini Mart*, July 9, 2014).

Samples taken during the permanent closure of the USTs revealed no soil or groundwater contamination, confirming that there had been no releases from the USTs since Ecology's remedial activities in the late 1990s. 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; Figure 2) in April 2014. Soil samples were collected from the UST area 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. In addition, three soil samples were collected from beneath the west, central, and east fuel dispensers (DIW-2.5, DIC-2.5, and DIE-2.5, respectively) at depths of approximately 2.5 feet bgs. All soil and groundwater sample analytical results were below the laboratory reporting limit 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 reporting limit 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 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 prepared and submitted a Voluntary Cleanup Program (VCP) application to Ecology in August 2014. In response to that VCP application, Ecology confirmed that additional delineation of the impacts found in boring B-3 were required in order to confirm that the soil and groundwater impacts at B-3 were indeed associated with historic releases covered by the April 6, 2000 NFA.

Terracon completed a Supplemental LSI for the site in November 2014. Five soil borings (B-9 through B-12 and MW-7) were advanced in the area of former boring B-3. Upon completion of the boring at MW-7, a permanent groundwater monitoring well was installed. 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). Diesel-range TPH was detected at concentrations slightly above the MTCA Method A cleanup level (500 micrograms per liter [µg/L]) for the groundwater samples collected from monitoring wells MW-5 and MW-7 (560 µg/L and 980 µg/L, respectively).

Terracon prepared a *Work Plan for Soil and Groundwater Remedial Treatment*, dated July 28, 2015, to treat soil and groundwater in the area of groundwater monitoring wells MW-5 and MW-7 with ORC injections and to collect follow-up groundwater samples from the site wells. The work plan was submitted to Ecology for review and comment, and Ecology approved the work plan via email on July 30, 2015.

3.0 GROUNDWATER REMEDIAL TREATMENT AND SAMPLING

3.1 UIC Well Permitting

Terracon prepared and submitted a UIC permit application to Ecology for the proposed ORC-A and RegenOx® Part A injections in the vicinity of monitoring wells MW-5 and MW-7. The UIC permit application was completed using an Ecology online application submittal software system. Copies of the UIC permit application and approved permit are included in Appendix A. The UIC registration for UIC site #32843 was rule-authorized by Ecology via email on August 10, 2015.

3.2 Groundwater Remedial Treatment

On August 13 and 14, 2015, Terracon contracted with Cascade Drilling, L.P. (Cascade) of Tualatin, Oregon, to inject in situ chemical oxidation (ISCO) compounds consisting of ORC-A and RegenOx® Part A into five direct push borings (IP-01 through IP-05) located in the vicinity of monitoring wells MW-5 and MW-7 (Figure 2).

Prior to conducting the ISCO injections on August 13, 2015, depth to groundwater was measured in each of the site groundwater monitoring 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 6.33 feet below the top of the well casing (TOC) at well MW-6 to 22.61 feet below TOC at well MW-3 (Table 1). Monitoring well MW-1 was dry. Measured depth to groundwater and TOC elevation data were used to determine the groundwater elevation at each well. Groundwater elevations ranged from approximately 270 feet at well MW-3 to approximately 286 feet at well MW-6. Based on the August 2015 groundwater elevation data, groundwater appeared to be mounded in the vicinity of MW-6 and flowed outward in all directions (Figure 3)

A combination of ORC-A and RegenOx® Part A were selected as the ISCO technology remedial treatment process. The area treated measured approximately 15 feet by 20 feet (300 square feet), and the treatment zone extended from approximately 4 feet bgs (the top of the groundwater table) to 20 feet bgs. Based on the size of the zone to be treated, Cascade injected a total of approximately 480 pounds of ORC-A and 25 pounds of RegenOx® Part A mixed with 230 gallons of potable water. The ORC-A was mixed in 50-gallon batches using a steel drum and pumps/water jets until it was thoroughly mixed, at a ratio of 96 pounds of ORC-A and 5 pounds of RegenOx® Part A to 46 gallons of water, for a slurry concentration of approximately 20%. Approximately 50 gallons of slurry each were injected into borings IP-01 through IP-05. The ORC-A and RegenOx® Part A solutions were pumped into each boring at a pumping rate of approximately 7 gallons per minute (gpm) through the drill rods. Site photographs showing the ISCO injection work are included in Appendix B.

Terracon monitored the groundwater levels at monitoring well MW-5 and MW-7, located within the injection zone, for evidence of breakthrough of the ISCO solution at the wells. Breakthrough was observed at well MW-7 during the ISCO injection at boring IP-01, located approximately 10 feet east of MW-7. Breakthrough was also observed at well MW-7 during the ISCO injection at boring IP-03, located approximately 5 feet south of MW-7. Surficial breakthrough was also observed during the ISCO injection at boring IP-01. The water level at monitoring well MW-5 was observed to rise during the ISCO injection work, indicating that some minor amount of breakthrough also occurred at well MW-5. When breakthrough occurred, injections were halted until a reduction in backpressure was observed, and them pumping was continued at a lower pressure and pumping rate. All remedial product was successfully injected into the treatment area.

Based on the observed ISCO product breakthrough into well MW-7, the well was redeveloped by Cascade on August 14, 2015, using a decontaminated downhole electric pump. Approximately 3.5 gallons were purged from MW-7 and placed into a steel, Department of Transportation (DOT) approved, 55-gallon drum. The drum was properly labeled and left onsite behind the site building, pending proper disposal arrangements off the site. Potable water used to flush the ISCO mixing equipment, hoses, and drill rods was also placed into the onsite 55-gallon drum, pending proper offsite disposal.

3.3 Groundwater Sampling

After a period of approximately thirty days following the ISCO injections, Terracon measured depth to groundwater in all monitoring wells and collected groundwater samples from wells MW-5 and MW-7 on September 11, 2015. Wells MW-5 and MW-7

were the only site wells that have historically indicated groundwater impacts (diesel-range TPH) exceeding the MTCA Method A cleanup level.

Depth to groundwater in each well was measured prior to sample collection. 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 7.35 feet below TOC at well MW-6 to 22.55 feet below TOC at well MW-3 (Table 1). Monitoring well MW-1 was dry. Measured depth to groundwater and TOC elevation data were used to determine the groundwater elevation at each well. Groundwater elevations ranged from approximately 271 feet at well MW-3 to approximately 285 feet at well MW-6. Based on the September 2015 groundwater elevation data, groundwater appeared to be mounded in the vicinity of MW-6 and flowed outward in all directions, similar to the August 2015 calculations (Figure 4).

The wells 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. Samples were collected when all parameters were within 10% for two consecutive readings.

Purge volumes were approximately 0.75 gallons from each well. The purge water from monitoring well MW-5 was clear with no sediment. The purge water from monitoring well MW-7 was clear with occasional white sediment. No hydrocarbon-like odor was observed in the purge water from either of the wells. The purge water was stored onsite in the labeled 55-gallon drum located behind the site building, pending receipt of laboratory analytical results.

Following the stabilization of measured groundwater parameters, samples were collected utilizing the 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.

3.4 Analytical Laboratory Testing

Groundwater samples were delivered to Pace Analytical Services, a Washington-accredited analytical laboratory in Davis, California, for laboratory analysis for the following:

- Diesel- and oil-range TPH using Northwest Method NWTPH-Dx;
- Gasoline-range TPH using Northwest Method NWTPH-Gx; and

- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) using EPA Method 8260.

The executed chain-of-custody form and laboratory analytical certificate are provided in Appendix C. All analyses were completed using standard turnaround times.

3.5 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: Xylenes were detected in the trip blank. Detection of xylenes in the groundwater samples may not be representative of the groundwater quality.
- 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 groundwater sampling event. However, a trace amount of xylenes were detected in the trip blank (2.0 micrograms per liter [µg/L]). Samples containing similar concentrations of xylenes may not be representative.

4.0 LABORATORY ANALYTICAL RESULTS

A summary of analytical results for groundwater quality from the September 2015 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 C.

Diesel- and Oil-Range Organics

Diesel-range TPH was identified above the analytical laboratory reporting limit in the groundwater samples. The sample collected from well MW-7 contained diesel-range TPH at a concentration of 770 µg/L, which slightly exceeds the MTCA Method A cleanup level of 500 µg/L. Oil-range TPH in MW-7 and diesel-range TPH in MW-5 were detected at concentrations above their analytical laboratory reporting limits, but below their respective MTCA Method A cleanup levels. The diesel-range TPH detections in the groundwater samples collected from wells MW-5 and MW-7 decreased following the remedial treatment, compared to the November 2014 (pre-treatment) concentrations.

BTEX and Gasoline-Range Organics

Xylenes were detected above the laboratory reporting limit in the groundwater sample collected from well MW-5 at a concentration of 1.1 µg/L, which is below the MTCA Method A cleanup level of 1,000 µg/L; however, xylenes were also detected in the trip blank at a concentration of 2.0 µg/L. Therefore, the detection of xylenes in the groundwater sample collected from monitoring well MW-5 is suspect, and may not be representative of groundwater at the site. No other samples contained detections of BTEX or gasoline-range TPH above the analytical laboratory reporting limits.

5.0 FINDINGS AND CONCLUSIONS

Groundwater at the site was treated in August 2015 with an ISCO solution consisting of a combination of ORC-A and RegenOx® Part A that was injected into five direct push borings (IP-01 through IP-05). Approximately 480 pounds of ORC-A and 25 pounds of RegenOx® Part A were mixed with 230 gallons of potable water, at a ratio of approximately 96 pounds of ORC-A and 5 pounds of RegenOx® Part A to 46 gallons of water, for a concentration of approximately 20%. ISCO product breakthrough was observed in well MW-7, and the well was redeveloped.

Monitoring wells MW-5 and MW-7 were sampled in September 2015, approximately 30 days following the ISCO injections. Based on the results of the September 2015 groundwater sampling event, the findings and conclusions of this report are as follows:

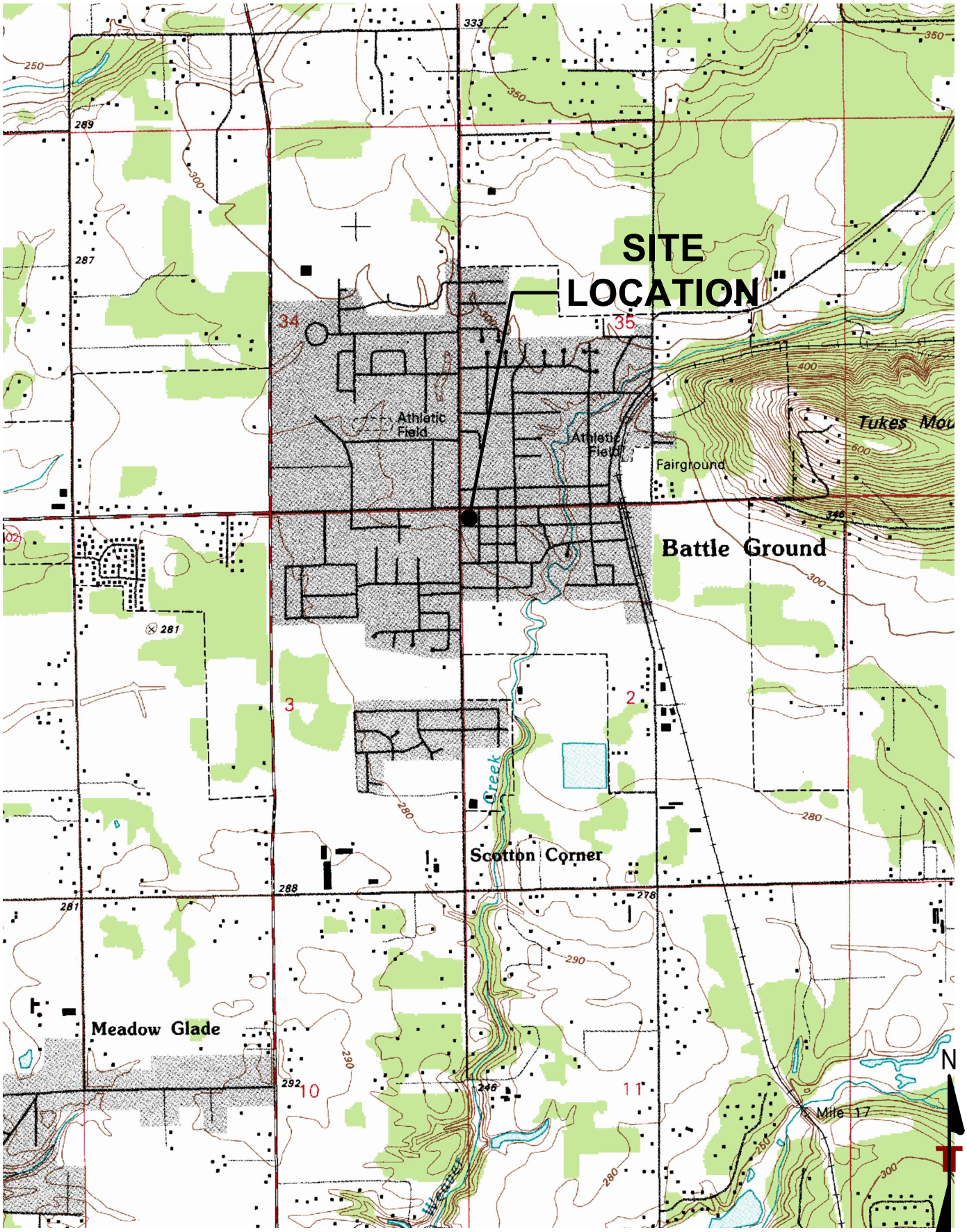
- Diesel-range TPH was identified in the groundwater sample collected from monitoring well MW-7 at a concentration of 770 µg/L, exceeding the MTCA Method A cleanup level of 500 µg/L.
- Diesel-range TPH in the groundwater sample collected from monitoring well MW-5 and oil-range TPH in the groundwater sample collected from monitoring MW-7 were identified at concentrations above the laboratory reporting limits, but below the MTCA Method A cleanup levels.
- Xylenes were detected in the groundwater sample collected from monitoring well MW-5 at a concentration above the laboratory reporting limit but below the MTCA Method A cleanup level; however, xylenes were also detected in the trip blank. Therefore, the xylenes detection in the groundwater sample collected from well MW-5 should be considered suspect.
- Groundwater is generally mounded in the vicinity of monitoring MW-6, and appears to migrate outward in all directions.

The diesel-range TPH concentrations in groundwater samples collected from monitoring wells MW-5 and MW-7 decreased measurably following the ISCO injections. The diesel-range TPH concentration in the groundwater samples collected from well MW-5 decreased from 560 µg/L prior to the ISCO injections to 450 µg/L following the ISCO injections. The diesel-range TPH concentration in the groundwater samples collected from well MW-7 decreased from 980 µg/L prior to the ISCO injections to 770 µg/L following the ISCO injections. Based on the results of the initial groundwater sampling event conducted 30 days after the ISCO injections, it appears that the site groundwater quality is rapidly improving. Additional improvement to the site groundwater quality is expected to occur as the effects of the injected ISCO products continue to degrade the residual petroleum hydrocarbons remaining in the site soil and groundwater.

6.0 RECOMMENDATIONS

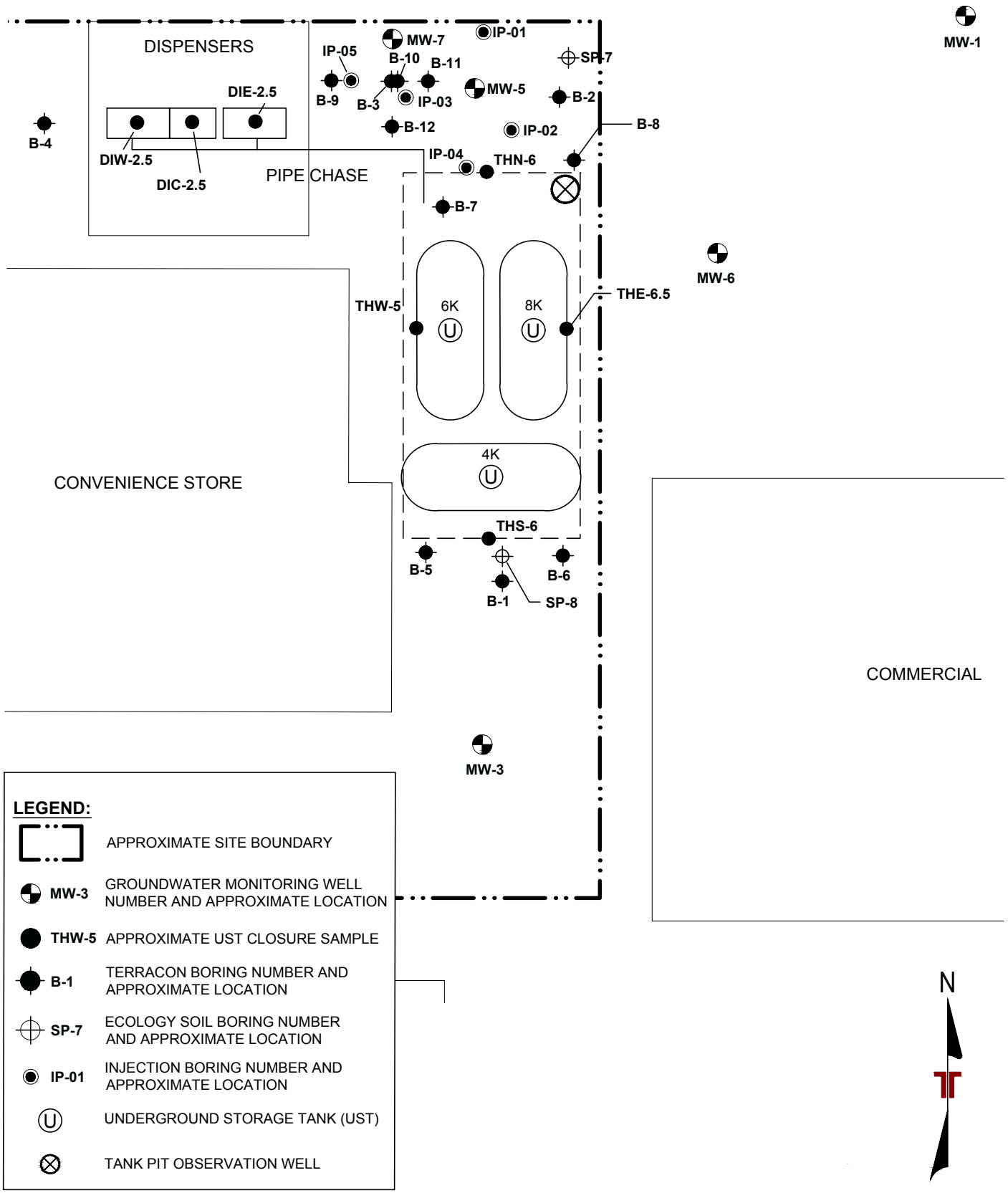
Groundwater in the vicinity of monitoring well MW-7 appears to remain impacted with diesel-range TPH at a concentration slightly exceeding the MTCA Method A cleanup level, but below the level observed prior to the ISCO injections. Based on the results of the most recent groundwater sampling event conducted at the site, Terracon recommends that groundwater sampling be continued at the site for at least one additional quarter.

FIGURES



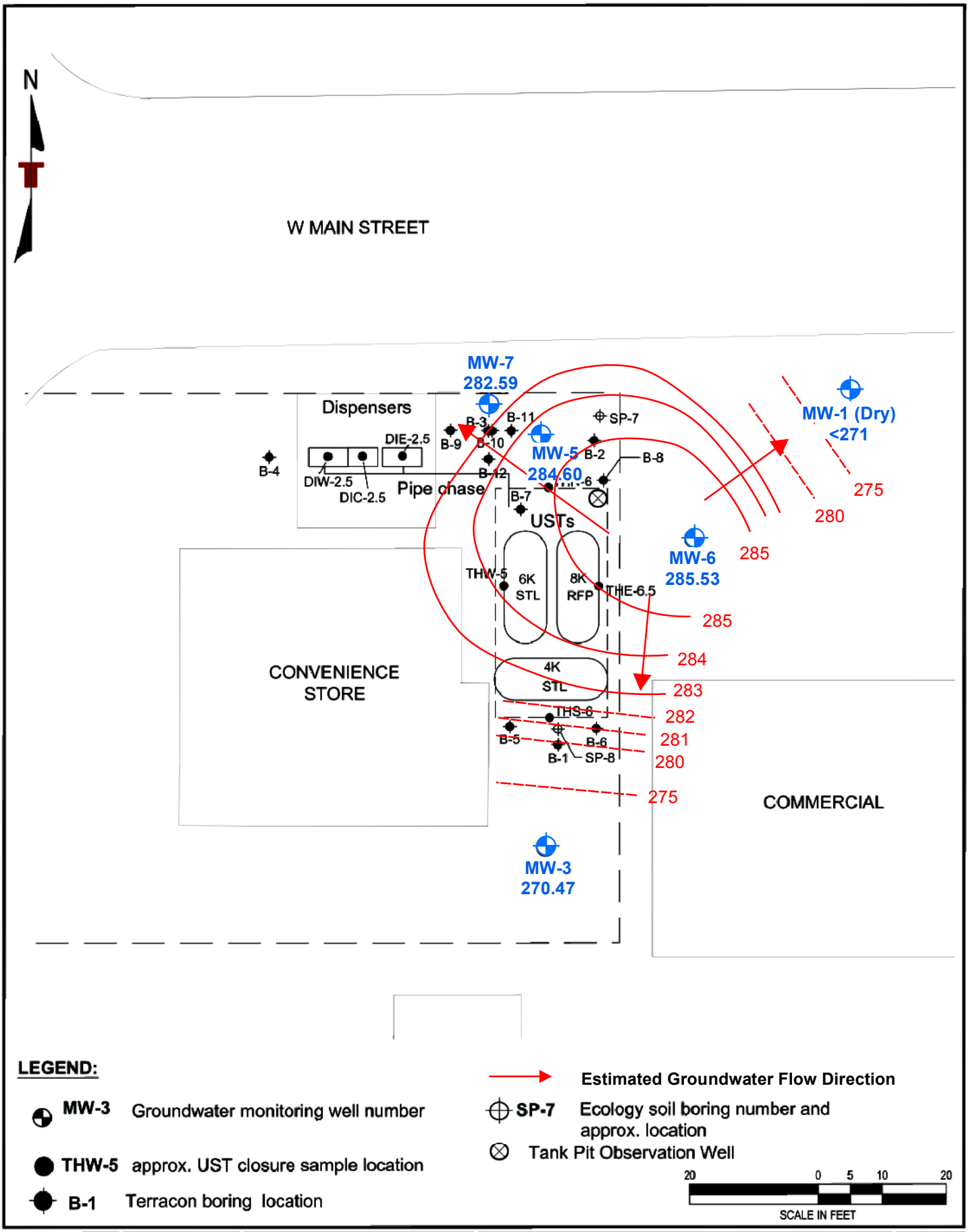
Project Mngr: MDN	Project No. 81157108	Terracon Consulting Engineers and Scientists	**TOPOGRAPHIC MAP**
Drawn By: AWS	Scale: NOT TO SCALE	21905 64th Avenue W., Ste 100 Mountlake Terrace, WA 98043	Union 76 Mini Mart
Checked By: MDN	File No. FIGURE 1	PH. (425) 771-3304 FAX. (425) 771-3549	13 East Main Street
Approved By: MYW	Date: OCTOBER 2015		Battle Ground, Clark County, Washington

FIG. NO. 1

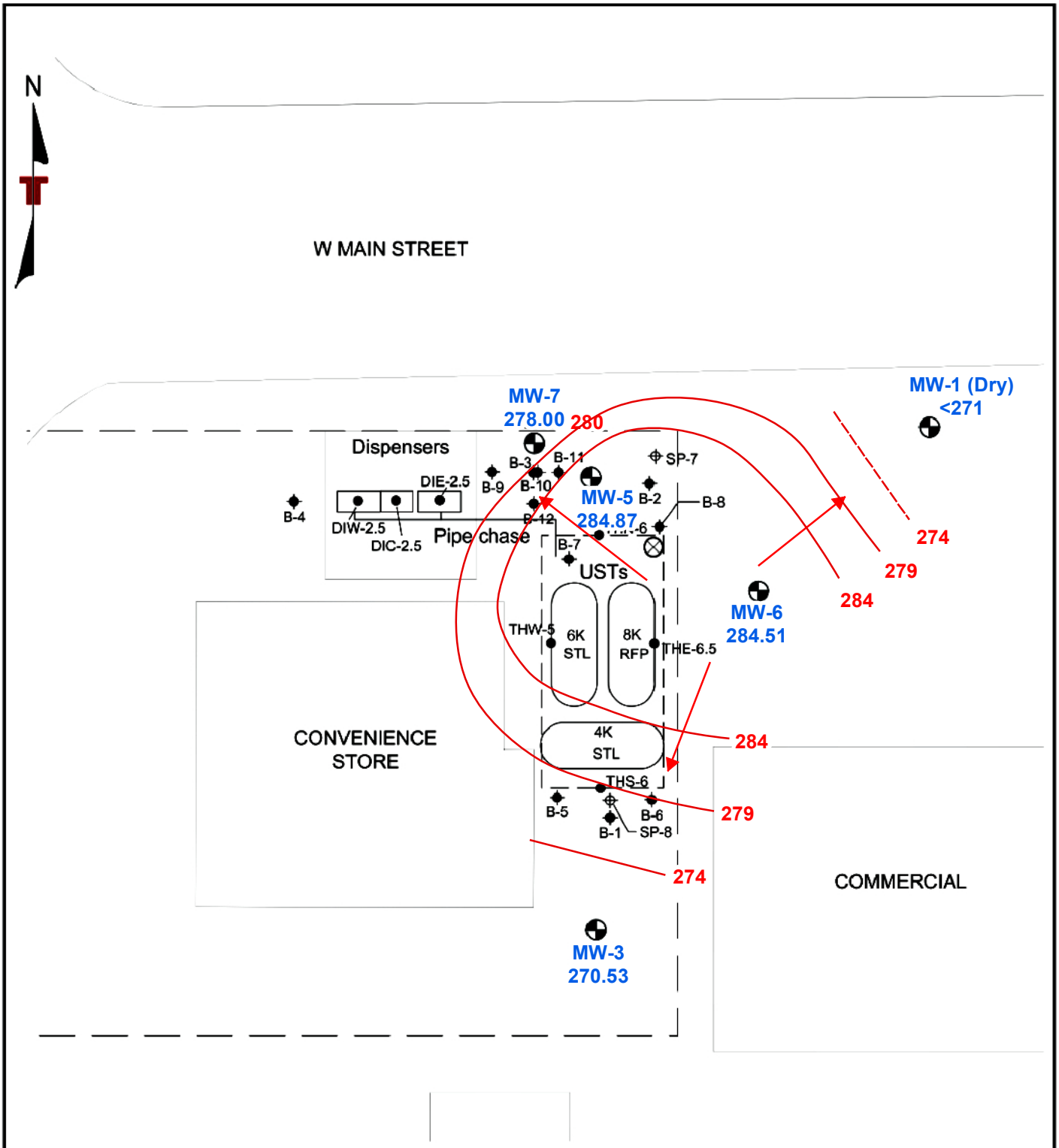


Project Mngr: MDN	Project No. 81157108	Terracon Consulting Engineers and Scientists	**SITE DIAGRAM**
Drawn By: AWS	Scale: NOT TO SCALE	21905 64th Avenue W., Ste 100 Mountlake Terrace, WA 98043	Union 76 Mini Mart
Checked By: MDN	File No. FIGURE 2	PH. (425) 771-3304 FAX. (425) 771-3549	13 East Main Street
Approved By: MYW	Date: OCTOBER 2015		Battle Ground, Clark County, Washington

FIG. NO. 2



Project Mngr: MDN	Project No. 81127108	Terracon Consulting Engineers and Scientists	GROUNDWATER CONTOUR MAP - AUG 2015	FIG. No.
Drawn By: JLH	Scale: As shown	21905 64th Avenue W., Ste 100 Mountlake Terrace, WA 98043	Union 76 Mini Mart	3
Checked By: MDN	File No.	PH. (425) 771-3304 FAX. (425) 771-3549	13 East Main Street	
Approved By: MYW	Date: September 2015		Battle Ground, Clark County, Washington	



Project Mngr: MDN	Project No. 81127108	Terracon Consulting Engineers and Scientists	GROUNDWATER CONTOUR MAP- SEP 2015
Drawn By: JLH	Scale: As shown	21905 64th Avenue W., Ste 100 Mountlake Terrace, WA 98043	Union 76 Mini Mart
Checked By: MDN	File No.	PH. (425) 771-3304 FAX. (425) 771-3549	13 East Main Street
Approved By: MYW	Date: September 2015		Battle Ground, Clark County, Washington

FIG. No. 4

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)	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)	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
MW-5 (Depth to Bottom = 20.5 feet; Well Screen = 10 to 20 feet)	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)	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
MW-7 (Depth to Bottom = 20.0 feet; Well Screen = 10 to 20 feet)	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
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				Metals
				Gasoline-Range	Diesel-Range	Oil-Range	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
MW-1	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-S	9/2/2011	23	ND (<100)	**41 J**	ND (<250)	ND (<1.0)	ND (<5.0)	ND (<1.0)	ND (<3.0)	--
	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-5	MW-N	9/2/2011	9	**150**	**270**	ND (<250)	ND (<1.0)	ND (<5.0)	ND (<1.0)	ND (<3.0)	--
	MW-5	4/28/2014	4.40	ND (<100)	**200**	ND (<250)	**0.73**	ND (<5.0)	**0.51**	**2.0**	ND (<5.0)
	MW-5	11/10/2014	4.34	ND (<100)	**560**	ND (<250)	ND (<0.50)	ND (<5.0)	ND (<0.50)	ND (<1.5)	--
	MW-5*	9/11/2015	7.43	ND (<250)	**450**	ND (<250)	ND (<0.50)	ND (<0.50)	ND (<0.50)	**1.1****	--
MW-6	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)	--
MW-7	MW-7	11/10/2014	5.41	**990**	**980**	**280**	**1.3**	ND (<5.0)	**41**	**2.1**	--
	MW-7*	9/11/2015	14.21	ND (<250)	**770**	**480**	ND (<0.50)	ND (<0.50)	ND (<0.50)	ND (<1.0)	--
MTCA Method A Cleanup Level				**1,000**	**500**	**500**	**5**	**1,000**	**700**	**1,000**	**15**

Note: Concentrations detected are in **BOLD** type.

TPH - total petroleum hydrocarbons

MTCA - Model Toxics Control Act

-- - not sampled

ND - Not detected above laboratory reporting limit.

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

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

** Xylene was detected in the field blank during the 9/11/2015 sampling event.

Appendix A

Underground Injection Control (UIC) Permit

Underground Injection Control (UIC) Well Registration Form for Voluntary or Independent Cleanup Sites

The purpose of this form is to register with the Department of Ecology UIC wells used at voluntary clean up sites that inject products or treated ground water

A. Facility Name and Location

Facility Name: Former Jim's BP/Union 76 Mini Mart
Facility Address: 13 East Main Street
City: Battle Ground State: WA ZIP: 98604
Phone at the facility: (none - call 425-409-2602)

County: Clark
Township, Range, Section, Quarter-Quarter: T3N-R2E, Section 2, NW 1/4-1/4

B. Contact Information

Well Owner

Name: Todd Cansler
Organization: CXA Corporation
Address: 7195 Dallas Parkway
City: Plano State: TX ZIP: 75024
Phone: (469) 467-5558
Email: tcansler@clmgcorp.com

Property Owner

Same as Well Owner: ☒
If not the same, complete below:
Name:
Organization:
Address:
City: State: ZIP:
Phone:

Technical Contact Person, if applicable (Engineer, Contractor, Consultant)

Name: Michael Noll
Organization: Terracon Consultants, Inc.
Address: 21905 64th Avenue West, Suite 100
City: Mountlake Terrace State: WA ZIP: 98043
Phone: (425) 409-2602
Email: mdnoll@terracon.com

Facility Description

List the Primary Standard Industrial Classification Code (SIC) or NAIC Code for your facility (http://www.census.gov/epcd/www/naics.html)

SIC Code: or NAIC Code: 445310

Briefly describe the type or nature of business at this facility:
Liquor.convenience store.
Former gas station with USTs closed in place in 2014.

C. Site and Project information

The following information is required to determine rule authorization for UIC wells used at a **voluntary clean up site**. Please attach this information with your registration.

1. Describe the overall process. The table in Section E provides a place to list injection substances, amounts by weight, estimated volumes and the estimated maximum concentrations as the substance leaves the injection well. Alternatively, you may attach this information on a separate sheet.
2. Site map including the location of monitoring wells, UIC wells, the plume and ground water flow direction.
3. Drill logs and as-built drawings of monitoring wells.
4. Characterization of the hydrogeology at the site; include the depth to ground water, flow direction and hydraulic gradient.
5. Detailed evaluation of whether injected products and by products will be contained on site or not. Include a brief description of the monitoring plan, include the monitoring frequency, list of monitored wells and analytes tested.
6. Description of potential by-products.
7. Description of existing ground water quality.
8. Copy of access agreement if working on neighboring property

Approximately when will the injection project start? 8/13/2015

Approximately when will the injection project end? 8/14/2015

Distance from property line to nearest of surface water, to the nearest foot: 1347 ft East (Weaver Creek)

Distance from property line to nearest drinking water well, to the nearest foot: 259 ft NW (BG HS)

Which drinking water supply wellhead protection area or source water intake protection area is the site located in (See the Washington State Department of Health website for protection areas in each county: Department of Health wellhead mapping? List the water district or none. Salmon / Washougal

Dept. of Ecology Voluntary Cleanup Program Site Manager: Paul Turner

Dept. of Ecology Voluntary Cleanup Program Site Number SW1423

E. Other UIC Well Information

	1	2	3	4	5	6	7
Well ID Name or Number	DP-1						
Latitude (decimal)	45.7808						
Longitude (decimal)	-122.5369						
Construction Date	8/11/2015						
EPA Well Type (see table)	5X26						
Status (Active, Unused, Closed, Proposed)	P						
Depth of UIC well	20						
Injectate Information (Use this table or attach on a separate sheet)							
Injection substance	ORC-A	RegnOx A					
Mass	480	40					
Mass Units	pounds	pounds					
Volume[1]	200						
Volume Units	gallons						
Concentration[2]	20 %						
Concentration Units							

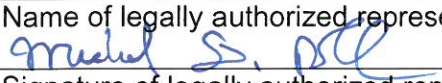
[1] Volume includes water or other liquid that is mixed with the injectate prior to injection.
[2] Estimate what the maximum concentration would be as the substance leaves the injection well.

EPA Class V Well Types

5A19 Cooling Water Return	5A6 Geothermal Heat	5W11 Septic System	
5D2 Stormwater	5R21 Aquifer Recharge	5W20 Industrial Process Water	5X26 Aquifer Remediation
5D4 Industrial Storm Runoff	5W9 Untreated Sewage	5W31 Septic System (well disposal)	5X27 Other Wells
5G30 Special Drainage Water	5W10 Cesspool	5W32 Septic System (drainfield)	5X28 Motor Vehicle Waste

Signature of authorized representative

I hereby certify that the information contained in this registration is true and correct to the best of by knowledge.

Michael D. Noll	Senior Project Manager
Name of legally authorized representative	Title
	7/29/2015
Signature of legally authorized representative	Date

For Department Use Only	
Site ID:	
Date received:	
Date acknowledged:	
Date Entered:	
Final Disposition:	

Please send completed form to:
UIC Coordinator
Water Quality Program,
Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

If you need this document in a format for the visually impaired, call the Water Quality Program at 360-407-6404. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

Underground Injection Control (UIC)

Print Voluntary

Voluntary or Independent Cleanup Sites

For aquifer injection UIC wells at Voluntary or independent cleanup sites.

*****Please ensure to provide the following documents along with your signature page:**

- A site map that includes the location of monitoring wells, UIC wells and the plume, ground water flow direction,
- Drill logs and as-built drawings of monitoring wells.
- Description of the monitoring plan, including the monitoring frequency, list of monitored wells and analytes tested.
- Copy of access agreement if working on neighboring property.

Registration Status

Site Number: 32843
Authorization Status: Rule-Authorized
Comments: Received confirmation that local purveyor was notified. Battleground School no longer uses their old well and gets water from the City of Battleground.

Facility/Site Information

Facility Name: Former Jims BP & Union 76 Mini Mart
Address: 13 East Main Street
PO Box/Suite/Building:
City: Battle Ground
State: WA **ZIP:** 98604
Phone: 425-409-2602
County: Clark
Facility Site ID:

Contact Information

Well Owner
Name: Todd Cansler
Organization: CXA Corporation
Address: 7195 Dallas Parkway
PO Box/Suite/Building: 4E
City: Plano
State: TX **ZIP:** 75024
E-mail: tcansler@clmgcorp.com
Phone: 469-467-5558

Property Owner
Name: Todd Cansler
Organization: CXA Corporation
Address: 7195 Dallas Parkway
PO Box/Suite/Building: 4E
City: Plano
State: TX **ZIP:** 75024
E-mail: tcansler@clmgcorp.com
Phone: 469-467-5558

Technical Contact
Name: Michael Noll
Organization: Terracon Consultants, Inc.
Address: 21905 64th Avenue West
PO Box: Suite 100
City: Mountlake Terrace
State: WA **ZIP:** 98043
E-mail: mdnoll@terracon.com
Phone: 425-409-2602

Voluntary Specific Information

NAIC Code: 445310
SIC Code:
Briefly describe the type or nature of business at this facility: Liquor/convenience store. Former gas station with USTs closed in place in 2014.
Briefly describe the overall process: Shallow soil and groundwater in the area of existing monitoring wells MW-5 and MW-7 will be treated using a combination of Regenesis ORC Advanced® (ORC-A) and RegenOx® Part A. The area to be treated measures approximately 15 feet by 20 feet (300 square feet), and the proposed treatment zone extends from approximately 5 feet bgs (the top of the groundwater table) to 20 feet bgs. Up to 480 pounds of ORC-A and 25 pounds of RegenOx® Part A mixed with 230 gallons of potable water will be injected into five direct-push soil borings advanced to 20 feet bgs. A ratio of 96 pounds of ORC-A and 5 pounds of RegenOx® Part A to 46 gallons of water will be injected, for a slurry concentration of approximately 20%. Approximately 50 gallons of slurry will be injected into each boring. This is a one-time injection

event. The injectate is expected to be consumed over a 1-month period.

Depth to ground water: 5

Characterization of the hydrogeology at the site: The site is underlain by a clayey silt. Groundwater occurs at about 12 feet bgs, but stabilizes in monitoring wells at 5 to 15 feet bgs. Groundwater flow is predominantly toward the east and SE at 0.2 to 0.4 ft/ft.

Injected products and by products will be contained on the site: No

Description of potential by-products of the process: Carbonates, silicates, iron oxide, carbon dioxide, and water.

Description of existing ground water quality: The site is underlain by a clayey silt. Groundwater occurs at about 12 feet bgs, but stabilizes in monitoring wells at 5 to 15 feet bgs. Groundwater flow is predominantly toward the east and SE at 0.2 to 0.4 ft/ft.

Dept. of Ecology Voluntary or Independent Cleanup Program Site Manager: Paul Turner

Dept. of Ecology Voluntary or Independent Cleanup Program Site Number: SW1423

Approximately when will the injection project start? 8/13/2015

Approximately when will the injection project end? 8/14/2015

Distance from property line to the nearest surface water (approx. feet): 1347

Distance from property line to the nearest drinking water well (approx. feet): 268

In which drinking water supply wellhead protection area is the site located in? Salmon / Washougal Water Resource Area

Main Well Information

Well Name	Construction Date	EPA Well Type	Status	Depth of UIC Well (ft.)	Latitude	Longitude
1	8/13/2015	5B5 - Aquifer remediation	Active	20	45.780800	-122.536900

Injectate Information

Well Name	Injection Substance	Mass	Mass Units	Volume	Volume Units	Concentration	Concentration Units
1	ORC-A	480	lbs	200	gal	20	%

Appendix B

Site Photographs

Photo 1 View looking west. Injecting ISCO into IP-01.

Photo 2 View looking north. Injecting ISCO into IP-01.

Photo 3 View looking east. Injecting ISCO into IP-01. Injection equipment in foreground.

Photo 4 View looking north. Injecting ISCO into IP-02 and rinsing equipment.

Appendix C

Analytical Report and Chain-of-Custody Documentation

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

September 22, 2015

Mike Noll
Terracon
21905 64th Ave W
Ste. #100
Mountlake Terrace, WA 98043

RE: Project: FORMER JIM'S BP
Pace Project No.: 1253543

Dear Mike Noll:
Enclosed are the analytical results for sample(s) received by the laboratory on September 15, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Troy G Turpen
troy.turpen@pacelabs.com
Project Manager

Enclosures

cc: Jamie Hoffmann, Terracon

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

CERTIFICATIONS

Project: FORMER JIM'S BP
Pace Project No.: 1253543

Davis Cerification IDs
2795 Second Street Suite 300 Davis, CA 95618
North Dakota Certification #: R-214
Oregon Certification #: CA300002
Washington Certification #: C926-14a
California Certification #: 08263CA

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

SAMPLE SUMMARY

Project: FORMER JIM'S BP
Pace Project No.: 1253543

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1253543001	**MW-5**	Water	09/11/15 10:59	09/15/15 09:55
1253543002	**MW-7**	Water	09/11/15 11:50	09/15/15 09:55
1253543003	**TRIP BLANK**	Water	09/11/15 00:00	09/15/15 09:55

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

SAMPLE ANALYTE COUNT

Project: FORMER JIM'S BP
Pace Project No.: 1253543

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1253543001	**MW-5**	NWTPH-Dx	DRM	3	PASI-DAV
		EPA 8260B	JMB	7	PASI-DAV
		NWTPH-Gx	MJY	4	PASI-DAV
1253543002	**MW-7**	NWTPH-Dx	DRM	3	PASI-DAV
		EPA 8260B	JMB	7	PASI-DAV
		NWTPH-Gx	MJY	4	PASI-DAV
1253543003	**TRIP BLANK**	EPA 8260B	JMB	7	PASI-DAV
		NWTPH-Gx	MJY	4	PASI-DAV

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

ANALYTICAL RESULTS

Project: FORMER JIM'S BP
Pace Project No.: 1253543

Sample: MW-5 **Lab ID: 1253543001** Collected: 09/11/15 10:59 Received: 09/15/15 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510							
Diesel Fuel Range	**0.45**	mg/L	0.10	1	09/22/15 06:46	09/22/15 10:56		
Motor Oil Range	ND	mg/L	0.25	1	09/22/15 06:46	09/22/15 10:56		
Surrogates								
n-Octacosane (S)	115	%.	70-130	1	09/22/15 06:46	09/22/15 10:56	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		09/17/15 23:15	71-43-2	
Toluene	ND	ug/L	0.50	1		09/17/15 23:15	108-88-3	
Ethylbenzene	ND	ug/L	0.50	1		09/17/15 23:15	100-41-4	
Xylene (Total)	**1.1**	ug/L	1.0	1		09/17/15 23:15	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%.	70-130	1		09/17/15 23:15	17060-07-0	
Toluene-d8 (S)	99	%.	70-130	1		09/17/15 23:15	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	70-130	1		09/17/15 23:15	460-00-4	
NWTPH-Gx MSV	Analytical Method: NWTPH-Gx							
TPH as Gas	ND	ug/L	250	1		09/17/15 21:56		
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	70-130	1		09/17/15 21:56	17060-07-0	
Toluene-d8 (S)	100	%.	70-130	1		09/17/15 21:56	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	70-130	1		09/17/15 21:56	460-00-4	

Sample: MW-7 **Lab ID: 1253543002** Collected: 09/11/15 11:50 Received: 09/15/15 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3510							
Diesel Fuel Range	**0.77**	mg/L	0.10	1	09/22/15 06:46	09/22/15 11:31		
Motor Oil Range	**0.48**	mg/L	0.25	1	09/22/15 06:46	09/22/15 11:31		
Surrogates								
n-Octacosane (S)	135	%.	70-130	1	09/22/15 06:46	09/22/15 11:31	630-02-4	
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		09/17/15 23:40	71-43-2	
Toluene	ND	ug/L	0.50	1		09/17/15 23:40	108-88-3	
Ethylbenzene	ND	ug/L	0.50	1		09/17/15 23:40	100-41-4	
Xylene (Total)	ND	ug/L	1.0	1		09/17/15 23:40	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%.	70-130	1		09/17/15 23:40	17060-07-0	
Toluene-d8 (S)	90	%.	70-130	1		09/17/15 23:40	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	70-130	1		09/17/15 23:40	460-00-4	
NWTPH-Gx MSV	Analytical Method: NWTPH-Gx							
TPH as Gas	ND	ug/L	250	1		09/17/15 23:36		
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%.	70-130	1		09/17/15 23:36	17060-07-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

ANALYTICAL RESULTS

Project: FORMER JIM'S BP
Pace Project No.: 1253543

Sample: MW-7 **Lab ID: 1253543002** Collected: 09/11/15 11:50 Received: 09/15/15 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Gx MSV	Analytical Method: NWTPH-Gx							
Surrogates								
Toluene-d8 (S)	100	%.	70-130	1		09/17/15 23:36	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	70-130	1		09/17/15 23:36	460-00-4	

Sample: TRIP BLANK **Lab ID: 1253543003** Collected: 09/11/15 00:00 Received: 09/15/15 09:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	0.50	1		09/17/15 22:50	71-43-2	
Toluene	ND	ug/L	0.50	1		09/17/15 22:50	108-88-3	
Ethylbenzene	ND	ug/L	0.50	1		09/17/15 22:50	100-41-4	
Xylene (Total)	**2.0**	ug/L	1.0	1		09/17/15 22:50	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%.	70-130	1		09/17/15 22:50	17060-07-0	
Toluene-d8 (S)	100	%.	70-130	1		09/17/15 22:50	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	70-130	1		09/17/15 22:50	460-00-4	
NWTPH-Gx MSV	Analytical Method: NWTPH-Gx							
TPH as Gas	ND	ug/L	250	1		09/17/15 23:55		
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	70-130	1		09/17/15 23:55	17060-07-0	
Toluene-d8 (S)	100	%.	70-130	1		09/17/15 23:55	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	70-130	1		09/17/15 23:55	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
2795 Second Street - Suite 300
Davis, CA 95618
(530) 297-4800

QUALITY CONTROL DATA

Project: FORMER JIM'S BP
Pace Project No.: 1253543

QC Batch: DAOP/1346
QC Batch Method: EPA 3510
Analysis Method: NWTPH-Dx
Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 1253543001, 1253543002

METHOD BLANK: 249057 Matrix: Water
Associated Lab Samples: 1253543001, 1253543002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	mg/L	ND	0.10	09/22/15 09:12	
Motor Oil Range	mg/L	ND	0.25	09/22/15 09:12	
n-Octacosane (S)	%.	105	70-130	09/22/15 09:12	

LABORATORY CONTROL SAMPLE & LCSD: 249058 249059

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	1.2	1.2	1.2	101	97	70-130	4	25	
n-Octacosane (S)	%.				116	114	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FORMER JIM'S BP
Pace Project No.: 1253543

QC Batch: DAVM/2168 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 1253543001, 1253543002, 1253543003

METHOD BLANK: 248105 Matrix: Water
Associated Lab Samples: 1253543001, 1253543002, 1253543003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	0.50	09/17/15 20:46	
Ethylbenzene	ug/L	ND	0.50	09/17/15 20:46	
Toluene	ug/L	ND	0.50	09/17/15 20:46	
Xylene (Total)	ug/L	ND	1.0	09/17/15 20:46	
1,2-Dichloroethane-d4 (S)	%.	110	70-130	09/17/15 20:46	
4-Bromofluorobenzene (S)	%.	99	70-130	09/17/15 20:46	
Toluene-d8 (S)	%.	100	70-130	09/17/15 20:46	

LABORATORY CONTROL SAMPLE: 248106

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	40	40.1	100	70-130	
Ethylbenzene	ug/L	40	41.1	103	70-130	
Toluene	ug/L	40	41.5	104	70-130	
Xylene (Total)	ug/L	120	118	98	70-130	
1,2-Dichloroethane-d4 (S)	%.			110	70-130	
4-Bromofluorobenzene (S)	%.			99	70-130	
Toluene-d8 (S)	%.			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 248109 248110

Parameter	Units	1253560001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	89.1	40	40	118	110	72	53	70-130	7	25	
Ethylbenzene	ug/L	649	40	40	430	384	-550	-663	70-130	11	25	E
Toluene	ug/L	878	40	40	505	455	-932	-1060	70-130	10	25	E
Xylene (Total)	ug/L	3610	120	120	2870	2580	-619	-858	70-130	11	25	ES
1,2-Dichloroethane-d4 (S)	%.						106	107	70-130			
4-Bromofluorobenzene (S)	%.						103	102	70-130			
Toluene-d8 (S)	%.						106	105	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: FORMER JIM'S BP
Pace Project No.: 1253543

QC Batch: DAVM/2166 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Water MSV
Associated Lab Samples: 1253543001, 1253543002, 1253543003

METHOD BLANK: 247996 Matrix: Water
Associated Lab Samples: 1253543001, 1253543002, 1253543003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	250	09/17/15 21:36	
1,2-Dichloroethane-d4 (S)	%.	100	70-130	09/17/15 21:36	
4-Bromofluorobenzene (S)	%.	99	70-130	09/17/15 21:36	
Toluene-d8 (S)	%.	100	70-130	09/17/15 21:36	

LABORATORY CONTROL SAMPLE: 247997

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH as Gas	ug/L	480	489	102	70-130	
1,2-Dichloroethane-d4 (S)	%.			99	70-130	
4-Bromofluorobenzene (S)	%.			105	70-130	
Toluene-d8 (S)	%.			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 247998 247999

Parameter	Units	1253543001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH as Gas	ug/L	ND	480	480	608	599	91	89	70-130	1	25	
1,2-Dichloroethane-d4 (S)	%.						102	102	70-130			
4-Bromofluorobenzene (S)	%.						107	107	70-130			
Toluene-d8 (S)	%.						100	101	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: FORMER JIM'S BP
Pace Project No.: 1253543

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-DAV	Pace Analytical Services - Davis

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
ES	The reported result is estimated because one or more of the constituent results are qualified as such.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: FORMER JIM'S BP
Pace Project No.: 1253543

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1253543001	**MW-5**	EPA 3510	DAOP/1346	NWTPH-Dx	DASG/1321
1253543002	**MW-7**	EPA 3510	DAOP/1346	NWTPH-Dx	DASG/1321
1253543001	**MW-5**	EPA 8260B	DAVM/2168		
1253543002	**MW-7**	EPA 8260B	DAVM/2168		
1253543003	**TRIP BLANK**	EPA 8260B	DAVM/2168		
1253543001	**MW-5**	NWTPH-Gx	DAVM/2166		
1253543002	**MW-7**	NWTPH-Gx	DAVM/2166		
1253543003	**TRIP BLANK**	NWTPH-Gx	DAVM/2166		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A — Required Client Information:

Company: TERRACON
Address: 21905 64th AVE W STE 100
MOUNTLAKE TERRACE WA
Email To: MDNOLL@TERRACON.COM
Phone: 425.771.3304 Fax: 425.771.3549
Requested Due Date/TAT: STANDARD

Section B — Required Project Information:

Report To: MIKE NOLL
Copy To: JAMIE HOFFMAN
JLHOFFMAN@TERRACON.COM
Purchase Order No.:
Project Name: FORMER JIM'S BP
Project Number: 81157108

Section C — Invoice Information:

Attention: ACCOUNTING
Company Name: TERRACON
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
UST RCRA OTHER

Site Location STATE: WA

Section D — Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis Filtered (Y/N)	Analysis Test: TPH-6x/BTEX (Y/N)	Analysis Test: TPH-Dx/BRO+PRO (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 1253543
	MW-5	WT	G	9/11/15	1059		6				X						X	X		001
	MW-7	"	"	"	1150		6				X						X	X		002
	TRIP BLANK	"		"			2				X						X			003

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Jamie Hoffman / TERRACON	9/14/15	1230	FEDEX Trk# [illegible]	091515	0955	0.4	Y	Y	Y

Electronic Data Deliverable (EDD): ☐ EQuIS (format) ☐ Excel

State Specific: ☐ CA EDF (Global ID: _____) ☐ WA EIM ☐ CA WriteOn (Site: _____) ☐ Other _____

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: JAMIE HOFFMAN

SIGNATURE of SAMPLER: Jamie Hoffman

DATE Signed (MM/DD/YY): 9/14/15