

REMEDIATION SYSTEM MODIFICATION REPORT

Former Pacific Convenience and Fuels Service Station No. 2705525

Facility Site ID No. 63412867

10302 S. Tacoma Way, Lakewood, Washington

Antea[®] Group Project No. 142705525

November 9, 2016

Prepared for:

Pacific Convenience & Fuels, LLC

7180 Koll Center Parkway Suite 100

Pleasanton, CA 94566

Prepared by:

Antea Group

4006 148th Avenue NE

Redmond, WA 98052

800 477 7411

TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY.....	1
2.0	CONSTRUCTION IMPLEMENTATION.....	2
2.1	Pre-Construction Meeting.....	2
2.2	Well Installation	2
3.0	CONSTRUCTION COMPLETION AND SYSTEM STARTUP	3
4.0	CONCLUSION AND RECOMMENDATIONS	4
5.0	REMARKS	5

Figures

Figure 1	Property Layout
Figure 2	Soil Vapor Extraction / Air Sparge Layout

Appendices

Appendix A	Boring Logs
Appendix B	Waste Manifest

Remediation System Modification Report

*Former Pacific Convenience & Fuels Service Station No. 2705525
10302 S. Tacoma Way, Lakewood, Washington*

Antea®Group (Antea Group) has prepared this report to summarize remediation system modification activities performed at the former Pacific Convenience and Fuels Service Station No. 2705525 located at 10302 South Tacoma Way in Lakewood, Pierce County, Washington (the Property, Figure 1). Groundwater and remediation system monitoring indicated that the current remediation system has not been removing hydrocarbons as effectively in the southeast portion of the Property due to the presence of a silt layer. Therefore, existing air sparge (AS) wells AS-1 through AS-3, AS-7, AS-9 and existing soil vapor extraction (SVE) well VE-2 were replaced with wells AS-1A through AS-3A, AS-7A, AS-9A, and AS-18, respectively, in May 2016. These new wells were installed in order to place the well screen at a shallower depth, thus improving remediation efficacy.

1.0 EXECUTIVE SUMMARY

Antea Group provided project management, oversight and quality assurance during the construction of six new AS wells (AS-1A through AS-3A, AS-7A, AS-9A, and AS-18) and the plumbing retrofit to attach the new wells to the existing AS/SVE system. The existing system was installed by Antea Group in the fall of 2013 and has not successfully remediated the Property to the point of obtaining a “No Further Action” status. The six new air sparge wells were installed in order to place the screens above a silt layer located at approximately 40 feet below ground surface (bgs). The location of the silt layer was confirmed in October 2015 when wells AS-16 and AS-17 were drilled using sonic methods and continuous sampling, and were added to the remediation system.

Holocene Drilling, Inc. (Holocene) of Puyallup, Washington was contracted to perform drilling and well installation activities. During the drilling, Antea Group closely monitored soil types from 30 to 40 feet bgs to determine where best to screen the new air sparge wells to avoid setting screened intervals within or beneath silt layers which prevent efficient sparging. The work took place between May 2 and 5, 2016.

Upon completion of the drilling activities, Antea Group retrofitted the system conveyance piping to connect the new AS wells to the remediation system. System operations resumed on May 16, 2016 and all wells were able to maintain flow upon system startup. Air flow was initially balanced at six cubic feet per minute (cfm) on each new air sparge well and wells AS-16 and AS-17 to focus the remedial efforts on the southeastern portion of the Property (Figure 2).

2.0 CONSTRUCTION IMPLEMENTATION

2.1 Pre-Construction Meeting

On Monday, May 2, 2016, an on-site pre-construction tailgate meeting was conducted by Antea Group and Holocene. Applied Professional Services (APS) was onsite and performed a private utility locate during the meeting. Antea Group and Holocene discussed the method in which each air sparge well would be drilled and plumbed into the existing AS/SVE system. While vacuum clearing boreholes for the new wells, existing system piping was to be uncovered and cut to an appropriate length to connect the new wells. It was also decided that the concrete pads surrounding sparge wells AS-1 and AS-7 would have to be removed in order to install the new wells.

2.2 Well Installation

During the week of May 2, 2016, Antea Group personnel directed Holocene in the installation of air sparge wells AS-1A, AS-2A, AS-3A, AS-7A, AS-9A, and AS-18 to replace five original AS wells and one original SVE well. The goal of the system modification was to improve remediation effectiveness by installing new air sparge wells with screens placed above silty soils which had been identified after the original wells were installed.

Prior to well installation, each well borehole location was vacuum cleared to 5 feet bgs. During the clearing, existing horizontal system piping was located and cut so that the new well could be connected to the system conveyance piping. While clearing borehole AS-9A, pea gravel and a geotechnical fabric were encountered. Based on Property features, the pea gravel and geotechnical fabric were likely associated with a storm drain line. Antea Group moved the AS-9A boring to the northwest to avoid the storm drain line.

The new AS wells were drilled and installed using a 6-inch diameter sonic drill rig. Antea Group directed Holocene to collect continuous soil samples beginning at 32.5 feet bgs. If silt was encountered in the borehole location, Antea Group directed Holocene to set the 2-foot sparge well screen above the silt. Once the soils were observed and classified, the new AS wells were constructed of two-inch schedule 40 polyvinyl chloride (PVC) piping, with a one-foot sump and two feet of 0.020-inch slotted screen set above the sump. Unless noted otherwise, the sand pack extends from the bottom of the well sump to one foot above the top of the well screen and is topped with a bentonite plug filled to ground surface where the well was completed at the monument.

Well AS-18, set to replace and utilize conveyance piping to former SVE well VE-2, was the first well drilled by Holocene. The boring was advanced to 42.5 feet bgs. A gravelly sand layer was present in the well from 37 to 42 feet bgs. Thus, the screen was placed at 39.5 to 41.5 feet bgs. Antea Group connected well AS-18 to the sparge system via piping that was formerly connected to SVE well VE-2. The necessary manifold plumbing to supply the well with airflow was completed by Antea Group at a later date (refer to Section 3 below).

Well AS-2A was drilled on May 3rd. The boring was advanced to 43 feet bgs. Similar to well AS-18, a sandy gravel layer identified between 34 and 42 feet bgs proved suitable for screen location. The well screen was set from 40 to 42 feet bgs. Well AS-9A was drilled on the morning of May 4th. During the drilling, a dense silt soil was discovered at 38 feet bgs and therefore, the well screen was set at 35 to 37 feet bgs to avoid the silt. This screen, although shallower than preferred based on annual groundwater measurement data, will allow air to flow above the observed silt. Sand was added at the bottom of the boring (40 feet) in order to ensure the sump of the well was located at 38 feet bgs. Well AS-3A was also drilled on May 4th and screened from 36 to 38 feet bgs, with the sump at 39 feet bgs and the boring bottom at 40 feet bgs. The sand pack was extended to 40 feet bgs in order to ensure the screen depth was set properly and to avoid the silt soil which was encountered at 40 feet bgs.

Sparge well AS-1A was drilled the morning of May 5th. The boring was advanced to 43 feet bgs and the well screen was placed from 40 to 42 feet bgs. The screen was set in a sand which should be favorable for air flow in the subsurface. Sparge well AS-7A was drilled the afternoon of May 5th and was also screened from 40 to 42 feet bgs. A similar sandy soil was discovered at this depth.

Upon completion of the drilling and well installation activities, the new AS wells were connected to the existing system piping by Antea Group and Holocene. Horizontal 1-inch schedule 80 PVC system piping was connected to the new wells via a PVC "T" which attached the vertical wells to the system piping at approximately 2 feet bgs. The piping connection was allowed to air dry and then concreted in place as part of the monument installation. The connections are located below the completed ground surface.

3.0 CONSTRUCTION COMPLETION AND SYSTEM STARTUP

An Antea Group field technician returned to the Property on May 11 to restart the system after allowing the piping glue to dry. While on-site, the Antea Group staff observed the City of Lakewood laying a water utility pipe through the Antea Group system piping located in the western planter. The City's contractor cut and re-glued the system piping successfully and documented the repair with photos. During this site visit, Antea Group discovered that the air sparge blower had a broken drive belt and a cracked discharge silencer. Therefore, the remediation system remained off until repairs were made.

One May 16, 2016, Antea Group successfully repaired and restarted the AS/SVE system. Upon system startup, Antea Group balanced flow to five of the six new air sparge wells (AS- 1A, AS-2A, AS-3A, AS-7A, and AS-9A) and the two system expansion wells (AS-16 and AS-17) which were installed in fall 2015. Well AS-18, drilled during the most recent round of construction and utilizing conveyance piping from SVE well VE-2, had not yet been plumbed into the system at the manifold. The seven air sparge wells were adjusted, via gate valves, to each hold flow of approximately 6 cfm, with pressures ranging from 0.5 pounds per square inch (psi) to 7.5 psi, the difference being

due to water levels, soil formations, and conveyance pipe run lengths. The soil vapor extraction influent stream on this date registered at 13.0 parts per million (ppm) on a portable photo-ionization detector (PID).

On June 16, 2016, Antea Group completed plumbing the AS/SVE system to bring well AS-18 online. The plumbing modification re-directed air from well AS-15, which is located in the clean northeastern portion of the Property, to supply air to AS-18. Well AS-18 uses conveyance piping from original vapor extraction well VE-2. An air flow of 6 cfm at 4 psi was established in this well upon startup. The system remained on and continues to operate at eight air sparge wells and five SVE wells.

4.0 CONCLUSION AND RECOMMENDATIONS

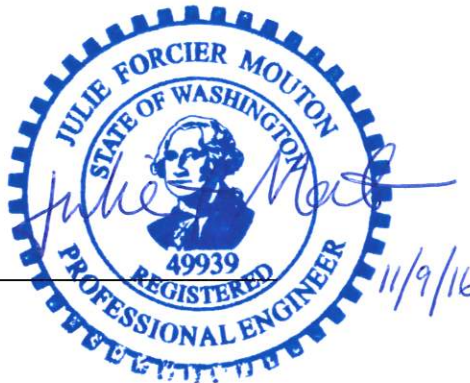
During the week of May 2, 2016, Antea Group drilled six new air sparge wells at the Property. The goal of the drilling event was to improve remediation effectiveness by installing the new air sparge wells with screens placed above a silty soil which had been previously identified at the Property and was likely affecting the successful injection of air for remediation. The upgraded system has been consistently operating since these adjustments were made and has been optimized by Antea Group to promote air flow in areas of the Property which contain petroleum hydrocarbon impacted groundwater. Monthly system monitoring and quarterly groundwater monitoring events will continue to be implemented to confirm that operation of the AS/SVE system is effective.

A preliminary review of the data collected during the second quarter groundwater monitoring event of 2016 indicates that four monitoring wells (MW-8, MW-10, MW-11, and MW-12) at the Property remain above MTCA Method A cleanup levels. Antea Group will continue to operate the AS/SVE system until groundwater levels at the Property consistently meet the MTCA Method A cleanup levels. Once a practical remediation endpoint is achieved, Antea Group will shut down the system. One year (four consecutive quarters) of groundwater compliance monitoring will be performed and a "No Further Action" status will be requested from Ecology.

5.0 REMARKS

Any recommendations contained in this report represent Antea USA, Inc.'s professional opinions based upon the currently available information and are arrived at in accordance with currently accepted professional standards. This report is based upon a specific scope of work requested by the client. The contract between Antea USA, Inc. and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Antea USA, Inc.'s client and anyone else specifically identified in writing by Antea USA, Inc. as a user of this report. Antea USA, Inc. will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Antea USA, Inc. makes no express or implied warranty as to the contents of this report.

Julie Mouton, PE
Project Manager



Date: November 9, 2016


Eric Larsen, LHG
Consultant

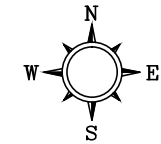
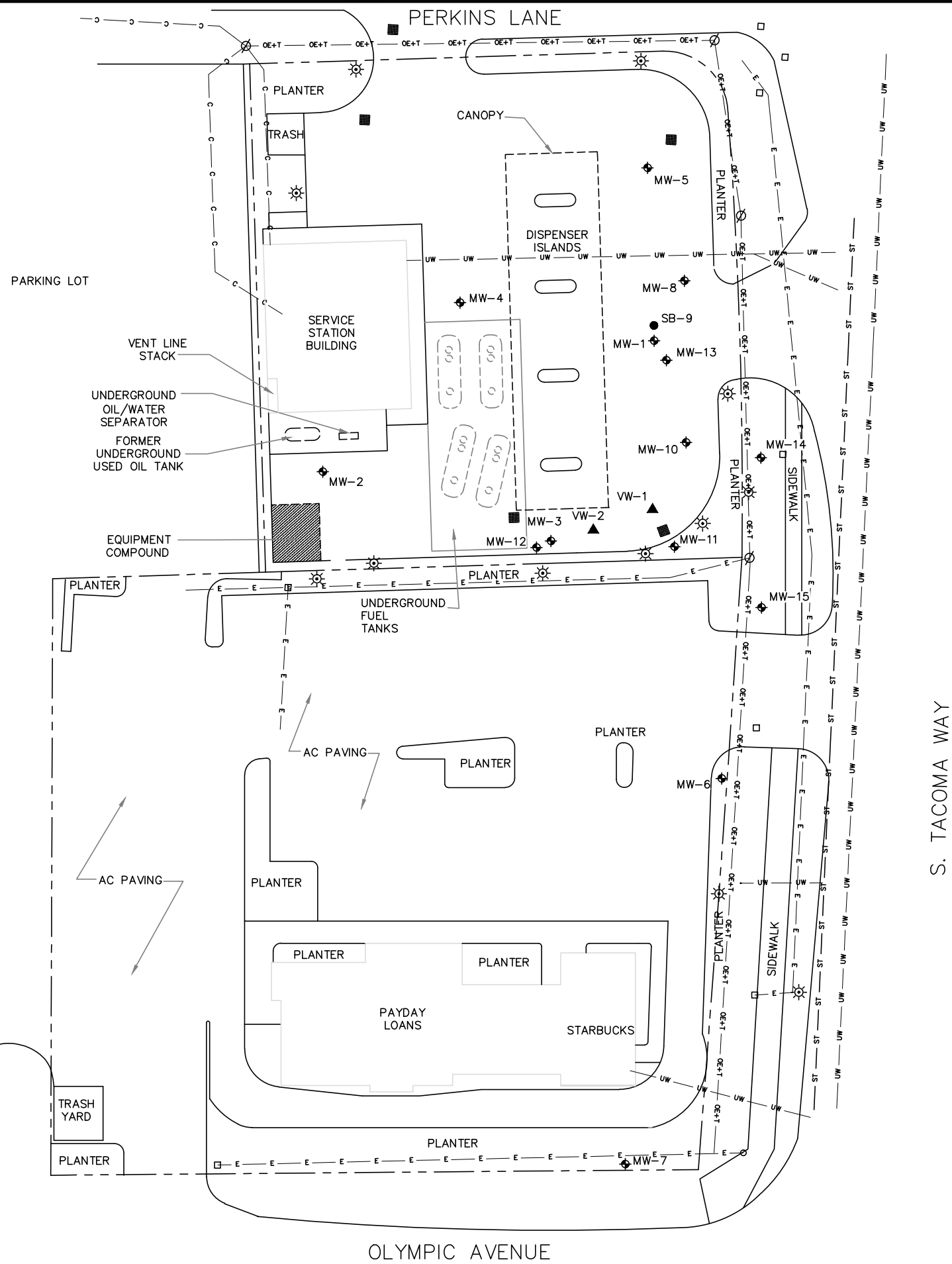
Date: November 9, 2016

cc: LUST Coordinator, Washington State Department of Ecology, Southwest Regional Office
Mr. Rob Olsen, Tacoma-Pierce County Health Department
Manager, Environmental Services, 7-Eleven, Inc. (Electronic Copy)
File, Antea Group

Figures

- Figure 1 Property Layout
- Figure 2 Soil Vapor Extraction / Air Sparge Layout

BUILDING



LEGEND

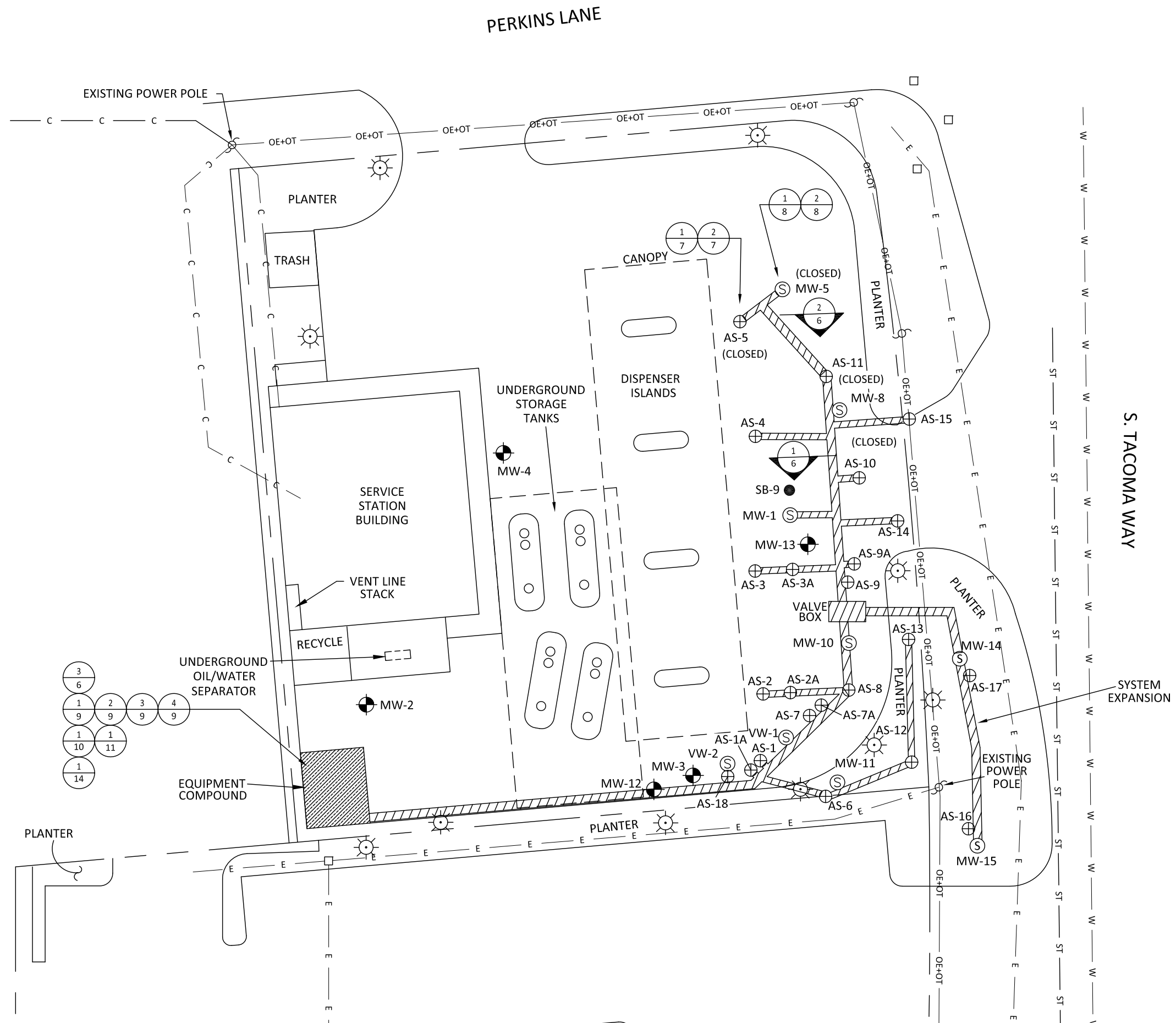
- | | | |
|----------|---|--|
| MW-1 | ◆ | GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION |
| VW-1 | ▲ | VAPOR EXTRACTION WELL LOCATION |
| SB-9 | ● | SOIL BORING LOCATION |
| — E — | | ELECTRIC LINE |
| — OE+T — | | OVERHEAD ELECTRIC AND TELEPHONE LINE |
| — C — | | QWEST COMMUNICATION LINE |
| — UW — | | UNDERGROUND WATER LINE |
| — ST — | | STORM SEWER |
| ☼ | | LIGHT POLE |
| ■ | | STORM DRAIN |
| ⊕ | | FIRE HYDRANT |
| ⊙ | | UTILITY POLE |

0 20 40
SCALE IN FEET



FIGURE 1
PROPERTY LAYOUT

FACILITY No. 2705525
10302 SOUTH TACOMA WAY
TACOMA, WASHINGTON



NOTES

1. All wells previously installed.
2. The valve box contains piping and valves used to change flow from AS-5, AS-11, MW-5, and MW-8 to wells AS-16, AS-17, MW-14, and MW-15.
3. Air flow to AS-1, 2, 3, 7, and 9 has been redirected to redrilled wells AS-1A, 2A, 3A, 7A and 9A. Air flow to well AS-15 has been redirected to well AS-18.

Date	Revision	Drawn	Review
3/21/13	1 Update Design Package	DD	
8/7/15	2 Update Design Package	DR	
7/11/16	3 Update Design Package	DR	
	4		
	5		

Prepared by SJ	Reviewed by KO	Drawn by DD	Date 09/12/13
-------------------	-------------------	----------------	------------------

Pacific Convenience & Fuels

Remediation
Design Project

SOIL VAPOR EXTRACTION/
AIR SPARGE LAYOUT

Facility No. 2705525
10302 South Tacoma Way
Lakewood, Washington



Project No. I42705525
Filename 2705525
Drawing No. 2

Appendix A

Boring Logs



WELL/BORING: AS-1A	Unique Ecology Well ID: BJL 904
INSTALLATION DATE: 5/3/2016	DRILLING METHOD: Sonic
PROJECT: 2705525	SAMPLING METHOD: Core
CLIENT: ELT	BORING DIAMETER: 6"
LOCATION: 10302 South Tacoma Way	BORING DEPTH: 43'
CITY: Lakewood	WELL CASING: SCH 40 PVC 2"
STATE: WA	WELL SCREEN: 40 - 42' (0.020")
DRILLER: Holocene Drilling, Inc.	SAND PACK: 38 - 43' (10x20)

WELL/BORING COMPLETION	FIRST STABILIZED	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	SURVEY DATE:	DTW:	DESCRIPTION/LOGGED BY: Taylor Roberts
Concrete					1					-	-	-	CDF
Gravel					2								
Gravel					3								
Gravel					4			SP					Gravelly SAND: brown; 80% fine to coarse sand; 20% gravel.
Gravel					5								
Gravel					6								
Gravel					7								
Gravel					8								
Gravel					9								
Gravel					10								
Gravel					11								
Gravel					12								
Gravel					13								
Gravel					14								
Gravel					15			GM					Sandy GRAVEL: brown; 40% fine to coarse sand; 60% fine to medium gravel.
Gravel					16								
Gravel					17								
Gravel					18								
Gravel					19								
Gravel					20								
Gravel					21								
Gravel					22								



WELL/BORING: AS-1A

Unique Ecology Well ID: B JL 904

INSTALLATION DATE: 5/3/2016

DRILLING METHOD: Sonic

PROJECT: 2705525

SAMPLING METHOD: Core

CLIENT: ELT

BORING DIAMETER: 6"

LOCATION: 10302 South Tacoma Way

BORING DEPTH: 43'

CITY: Lakewood

WELL CASING: SCH 40 PVC 2"

STATE: WA

WELL SCREEN: 40 - 42' (0.020")

DRILLER: Holocene Drilling, Inc.

SAND PACK: 38 - 43' (10x20)

WELL/BORING COMPLETION	FIRST	STABILIZED	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	-
	▽	▼									SURVEY DATE:	-
											DTW:	-
											DESCRIPTION/LOGGED BY: Taylor Roberts	
Bentonite Sand						23						
						24						
			-	-	-	25					No Recovery.	
						26						
						27						
						28						
			DRY	1.3	-	29			GM		Sandy <u>GRAVEL</u> : brown; trace silt; 40% fine to coarse sand; 50% medium to coarse gravel; no odor.	
						30						
						31						
						32						
			MST	0.0	-	34			SP		Silty Gravelly <u>SAND</u> : 20% silt; 50% very fine to fine sand; 30% medium to coarse gravel; dense.	
						35						
					36							
					37							
		WET	447.1	-	38			SP		Same as Above: less dense; sheen present; odor.		
					39							
					40			SP		Same as Above: dense.		
					41					Same as Above: less dense; odor.		
		WET	191.8	-	42			SP		Gravelly <u>SAND</u> : gray; 70% medium to coarse sand; 30% fine to coarse gravel; less dense; odor.		
					43							
					44							



WELL/BORING: AS-2A

Unique Ecology Well ID: BJL 902

INSTALLATION DATE: 5/3/2016

DRILLING METHOD: Sonic

PROJECT: 2705525

SAMPLING METHOD: Core

CLIENT: ELT

BORING DIAMETER: 6"

LOCATION: 10302 South Tacoma Way

BORING DEPTH: 43'

CITY: Lakewood

WELL CASING: SCH 40 PVC 2"

STATE: WA

WELL SCREEN: 40 - 42' (0.020")

DRILLER: Holocene Drilling, Inc.

SAND PACK: 38 - 43' (10x20)

WELL/BORING COMPLETION	FIRST STABILIZED	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	-
										SURVEY DATE:	-
										DTW:	-
DESCRIPTION/LOGGED BY: Taylor Roberts											
Concrete					1					Surface = Asphalt	
					2					CDF	
					3					Pea Gravel	
					4			SP		Gravelly <u>SAND</u> : brown; 80% fine to coarse sand; 20% gravel.	
					5						
					6						
					7						
					8						
					9						
					10					Sandy <u>GRAVEL</u> : brown; 40% fine to medium sand; 60% fine to medium gravel.	
					11						
					12						
					13						
					14						
					15			GM			
					16						
					17						
					18						
					19						
					20						
					21						
					22						



WELL/BORING: AS-2A

Unique Ecology Well ID: BJJ 902

INSTALLATION DATE: 5/3/2016

DRILLING METHOD: Sonic

PROJECT: 2705525

SAMPLING METHOD: Core

CLIENT: ELT

BORING DIAMETER: 6"

LOCATION: 10302 South Tacoma Way

BORING DEPTH: 43'

CITY: Lakewood

WELL CASING: SCH 40 PVC 2"

STATE: WA

WELL SCREEN: 40 - 42' (0.020")

DRILLER: Holocene Drilling, Inc.

SAND PACK: 38 - 43' (10x20)

WELL/BORING COMPLETION	FIRST STABILIZED	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	-
										SURVEY DATE:	-
										DTW:	-
										DESCRIPTION/LOGGED BY: Taylor Roberts	
Bentonite		DRY	0.1	-	23						
					24						
					25			GM			Sandy GRAVEL: brown; 15% medium to coarse sand; 85% gravel.
					26						
					27						
					28						
		DRY	0.0	-	29			GM			Same as Above:
					30						
					31						
					32			GM			Same as Above:
Sand					33						
		MST	0.7	-	34			GM			Sandy GRAVEL: brown; trace silt; 30% fine to coarse sand; 60% gravel; iron staining.
					35						
					36			SP			Gravelly Silty SAND: gray; 30% silt; 60% very fine to fine sand; 10% gravel.
					37						
					38			ML			Gravelly SILT: gray; 60% silt; 40% coarse gravel.
					39						
		WET	256.8	-	40			GM			Sandy GRAVEL: 40% very fine to medium sand; 60% gravel; dense; odor.
					41						
		WET	393.9	-	42			GM			Same as Above:
					43						
					44						



WELL/BORING: AS-3A	Unique Ecology Well ID: BJL 900
INSTALLATION DATE: 5/4/2016	DRILLING METHOD: Sonic
PROJECT: 2705525	SAMPLING METHOD: Core
CLIENT: ELT	BORING DIAMETER: 6"
LOCATION: 10302 South Tacoma Way	BORING DEPTH: 40'
CITY: Lakewood	WELL CASING: SCH 40 PVC 2"
STATE: WA	WELL SCREEN: 36 - 38' (0.020")
DRILLER: Holocene Drilling, Inc.	SAND PACK: 34 - 40' (10x20)

WELL/BORING COMPLETION	FIRST ✓	STABILIZED ▼	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	SURVEY DATE:	DTW:	DESCRIPTION/LOGGED BY: Taylor Roberts
Concrete						1					-	-	-	Surface = Asphalt
						2								
						3								
						4			SP					Gravelly <u>SAND</u> : brown; 80% medium to coarse sand; 20% gravel.
						5								
						6								
						7								
						8								
						9								
						10								
						11								
						12								
						13								
						14								
			MST	0.1	-	15			GM					Sandy <u>GRAVEL</u> : brown; trace silt; 15% coarse sand; 85% gravel.
						16								
						17								
						18								
						19								
						20								
						21								
						22			ML					Sandy Gravelly <u>SILT</u> : gray; 50% silt; 25% coarse sand; 25% gravel.



WELL/BORING: AS-3A

Unique Ecology Well ID: B JL 900

INSTALLATION DATE: 5/4/2016

DRILLING METHOD: Sonic

PROJECT: 2705525

SAMPLING METHOD: Core

CLIENT: ELT

BORING DIAMETER: 6"

LOCATION: 10302 South Tacoma Way

BORING DEPTH: 40'

CITY: Lakewood

WELL CASING: SCH 40 PVC 2"

STATE: WA

WELL SCREEN: 36 - 38' (0.020")

DRILLER: Holocene Drilling, Inc.

SAND PACK: 34- 40' (10x20)

WELL/BORING COMPLETION	FIRST STABILIZED	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	DEPTH (FEET)	RECOVERY SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	SURVEY DATE:	DTW:	DESCRIPTION/LOGGED BY: Taylor Roberts
	☑	▼							-	-	-	
					23							
					24							
		MST	0.0	-	25		SP					Gravelly <u>SAND</u> : brown; trace silt; 70% medium to coarse sand; 25% medium to coarse gravel.
					26							
					27							
					28							
		MST	0.0	-	29		GM					<u>GRAVEL</u> : brown; trace silt; trace medium to coarse sand; 80% gravel.
					30							
					31							
					32							
					33							
		MST	1.1	-	34		GM					Sandy <u>GRAVEL</u> : gray; trace silt; 30% very fine to fine sand; 70% medium to coarse gravel.
					35							
					36		SP					Silty Gravelly <u>SAND</u> : brown; 20% silt; 50% very fine to fine sand; 30% coarse gravel.
					37							
					38		SP					Gravelly <u>SAND</u> : brown; trace silt; 60% coarse sand; 40% gravel.
					39							
		MST	260	-	40		SP					Gravelly <u>SAND</u> : brown; 10% silt; 50% very fine to fine sand; 40% gravel; odor.
					41							
					42							
					43							
					44							



WELL/BORING: AS-7A

Unique Ecology Well ID: B JL 899

INSTALLATION DATE: 5/5/2016

DRILLING METHOD: Sonic

PROJECT: 2705525

SAMPLING METHOD: Core

CLIENT: ELT

BORING DIAMETER: 6"

LOCATION: 10302 South Tacoma Way

BORING DEPTH: 42.5'

CITY: Lakewood

WELL CASING: SCH 40 PVC 2"

STATE: WA

WELL SCREEN: 39.5 – 41.5' (0.020")

DRILLER: Holocene Drilling, Inc.

SAND PACK: 37.5 – 42.5' (10x20)

WELL/BORING COMPLETION	FIRST STABILIZED	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	-
										SURVEY DATE:	-
										DTW:	-
DESCRIPTION/LOGGED BY: Taylor Roberts											
Concrete					1					Surface =Concrete CDF	
Gravel					2						
					3						
					4			SP		Gravelly SAND: brown; 80% fine to coarse sand; 20% gravel.	
					5						
					6						
					7						
					8						
					9						
					10						
Bentonite					11						
					12						
					13						
					14						
		MST	0.3	-	15			GM		Sandy GRAVEL: brown; 30% fine to coarse sand; 70% medium gravel.	
					16						
					17						
					18						
					19						
					20						
					21						
					22			SP		Gravelly SAND: brown; 80% medium to coarse sand; 20% gravel; dense.	



WELL/BORING: AS-7A

Unique Ecology Well ID: BJJ 899

INSTALLATION DATE: 5/5/2016

DRILLING METHOD: Sonic

PROJECT: 2705525

SAMPLING METHOD: Core

CLIENT: ELT

BORING DIAMETER: 6"

LOCATION: 10302 South Tacoma Way

BORING DEPTH: 42.5'

CITY: Lakewood

WELL CASING: SCH 40 PVC 2"

STATE: WA

WELL SCREEN: 39.5 – 41.5' (0.020")

DRILLER: Holocene Drilling, Inc.

SAND PACK: 37.5 – 42.5' (10x20)

WELL/BORING COMPLETION	FIRST STABILIZED	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	DEPTH (FEET)	RECOVERY SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	-
									SURVEY DATE:	-
									DTW:	-
									DESCRIPTION/LOGGED BY: Taylor Roberts	
Bentonite		MST	0.2	-	23		GM		Sandy <u>GRAVEL</u> : brown; trace silt; 15% fine to coarse sand; 80% fine to medium gravel; less dense.	
					24					
					25					
					26					
					27					
		MST	0.6	-	29		GM		Same as Above: coarse gravel. @26' grades to fine gravel @29-30'	
					30					
					31				Gravelly <u>SAND</u> : brown; trace silt; 50% medium to coarse sand; 40% fine to coarse gravel.	
					32		SP			
		MST	0.2	-	34		SP		Silty Gravelly <u>SAND</u> : 20% silt; 50% very fine to fine sand; 30% fine to coarse gravel; dense.	
Sand					35					
					36				Gravelly <u>SAND</u> : gray; trace silt; 75% fine to medium sand; 20% medium to coarse gravel; sheen present; less dense; odor.	
		MST	261	-	39		SP			
					40				Gravelly <u>SAND</u> : gray; 70% coarse sand @40-41'; grades to 75% very fine to medium sand; sheen; less dense; odor. @41-42' 30% medium to coarse gravel; sheen; dense; odor.	
		WET	623	-	41		SP			
					42					
					43					
					44					



WELL/BORING: AS-9A

Unique Ecology Well ID: B JL 901

INSTALLATION DATE: 5/4/2016

DRILLING METHOD: Sonic

PROJECT: 2705525

SAMPLING METHOD: Core

CLIENT: ELT

BORING DIAMETER: 6"

LOCATION: 10302 South Tacoma Way

BORING DEPTH: 40'

CITY: Lakewood

WELL CASING: SCH 40 PVC 2"

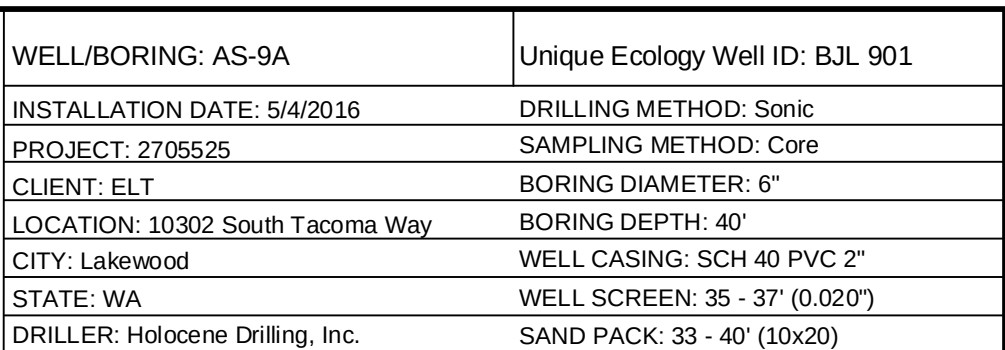
STATE: WA

WELL SCREEN: 35 - 38' (0.020")

DRILLER: Holocene Drilling, Inc.

SAND PACK: 33 - 40' (10x20)

WELL/BORING COMPLETION	FIRST STABILIZED	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	DEPTH (FEET)	RECOVERY SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	-
									SURVEY DATE:	-
									DTW:	-
DESCRIPTION/LOGGED BY: Taylor Roberts										
Concrete					1				CDF	Pea Gravel
					2					
					3					
					4					
					5		SP			Gravelly <u>SAND</u> : brown; 80% fine to coarse sand; 20% gravel.
					6					
					7					
					8					
					9					
					10					
					11					
					12					
					13					
					14					
					15		GM			Sandy <u>GRAVEL</u> : brown; 20% coarse sand; 80% gravel.
					16					
					17					
					18					
					19					
					20		SP			
					21					
					22					



9/8/2016



WELL/BORING: AS-18

Unique Ecology Well ID: B JL 903

INSTALLATION DATE: 5/3/2016

DRILLING METHOD: Sonic

PROJECT: 2705525

SAMPLING METHOD: Core

CLIENT: ELT

BORING DIAMETER: 6"

LOCATION: 10302 South Tacoma Way

BORING DEPTH: 42.5'

CITY: Lakewood

WELL CASING: SCH 40 PVC 2"

STATE: WA

WELL SCREEN: 39.5 – 41.5' (0.020")

DRILLER: Holocene Drilling, Inc.

SAND PACK: 37.5 – 42.5' (10x20)

WELL/BORING COMPLETION	FIRST STABILIZED	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	DEPTH (FEET)	RECOVERY SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	-
									SURVEY DATE:	-
									DTW:	-
DESCRIPTION/LOGGED BY: Taylor Roberts										
Concrete					1				CDF	
					2				Pea Gravel	
					3					
					4		SP		Gravelly SAND: brown; 80% fine to coarse sand; 20% gravel.	
					5					
					6					
					7					
					8					
					9					
					10					
Bentonite					11					
					12					
					13					
					14					
		MST	0.0	-	15		GM		Sandy GRAVEL: brown; 25% coarse sand; 75% medium to coarse gravel.	
					16					
					17					
					18					
					19					
					20					
					21					
		DRY	-	-	22		SP		Gravelly SAND: brown; 80% fine to medium sand; 20% medium to coarse gravel.	



WELL/BORING: AS-18

Unique Ecology Well ID: BJJ 903

INSTALLATION DATE: 5/3/2016

DRILLING METHOD: Sonic

PROJECT: 2705525

SAMPLING METHOD: Core

CLIENT: ELT

BORING DIAMETER: 6"

LOCATION: 10302 South Tacoma Way

BORING DEPTH: 42.5'

CITY: Lakewood

WELL CASING: SCH 40 PVC 2"

STATE: WA

WELL SCREEN: 39.5 – 41.5' (0.020")

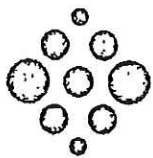
DRILLER: Holocene Drilling, Inc.

SAND PACK: 37.5 – 42.5' (10x20)

WELL/BORING COMPLETION	FIRST STABILIZED	MOISTURE	PID (ppm)	DENSITY BLOWS / 6"	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	USCS SYMBOL	GRAPHIC	CASING ELEVATION	-
										SURVEY DATE:	-
										DTW:	-
DESCRIPTION/LOGGED BY: Taylor Roberts											
Bentonite		DRY	0.2	-	23			SP			Gravelly <u>SAND</u> : gray/brown; trace silt; 50% fine to medium sand; 40% fine to medium gravel.
					24						
					25						
					26						
					27						
					28						
					29						
					30						
					31						
					32						
Sand		DRY WET	0.1	-	33			SP			Silty Gravelly <u>SAND</u> : gray; 25% silt; 50% fine to medium sand; 25% gravel.
					34						
					35						
					36						
					37						
					38						
					39						
					40						
					41						
					42						
		WET	198	-	36			ML			<u>SILT</u> : lens.
					37						
		WET	18.4	-	38			SP			Gravelly <u>SAND</u> : 80% medium to coarse sand; 20% gravel.
					39						
		WET	215.2	-	40			SP			Gravelly <u>SAND</u> : gray; 70% fine sand; 30% coarse gravel; odor. Coarse sand lens; loose; odor.
					41						
		WET	215.2	-	42			SP			Gravelly <u>SAND</u> : gray; 70% fine to medium sand; 30% gravel; odor.
					43						
					44						

Appendix B

Waste Manifest



***24 HOUR EMERGENCY RESPONSE, CALL (877) 577-2669 ***

Stericycle

Environmental Solutions

SHIPPING PAPER

Lading Manifest: 992685-16

SHIPPER / CUSTOMER PC&F 2705525		DELIVERY DATE JUN 24 17 37	
ADDRESS 10301 S Tacoma Way		POINT OF CONTACT Taylor Roberts	
CITY, STATE, ZIP Lakewood WA 98499		PHONE # (425) 498-7712	
CARRIER / TRANSPORTER BURLINGTON ENVIRONMENTAL, LLC		PHONE # (253) 383-3044	
CONSIGNEE / FACILITY BURLINGTON ENVIRONMENTAL, LLC.		POINT OF CONTACT	
ADDRESS 20245 77TH AVENUE SOUTH		PHONE # (253) 872-8030	
CITY, STATE, ZIP KENT, WA 98032			

HM	US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	Containers		Total Quantity	UOM
		No.	Type		
A	MATERIAL NOT REGULATED BY DOT	20	DM	16000	P
B	MATERIAL NOT REGULATED BY DOT	15	DM	3000	P
C	9520				
D					

Special Handling Instruction and Additional Information:

a) 26928SOIL.07-00 - IDW SOIL - LF01 (3) b) 26928WATR.15-00 - IDW WATER - WAT05 (4) fsc 268707

Placards Provided YES _____ NO _____

SHIPPER'S CERTIFICATION: "I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. I also certify that all times listed above are true and correct."

(SHIPPER) PRINT OR TYPE NAME	SIGNATURE	MONTH	DAY	YEAR
X Taylor Roberts	X [Signature]	6	8	16
(CARRIER/TRANSPORTER) PRINT OR TYPE NAME	SIGNATURE	MONTH	DAY	YEAR
X [Signature]	X Robert Benay	6	14	16
(CONSIGNEE/FACILITY) PRINT OR TYPE NAME	SIGNATURE	MONTH	DAY	YEAR
X Stephanie Hutchins	X [Signature]	6	14	16

CONSIGNEE

'16 JUN 16 PM 11:16