SITE DISCOVERY AND INDEPENDENT REMEDIAL ACTION REPORT

Olympic Pipeline Company

Tacoma Junction

2660 Frank Albert Road East

Fife, Washington

October 12, 2015

Prepared for:
Washington State Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia, Washington 98504-7775

And

Olympic Pipeline Company
600 SW 39th Street, Suite 275
Renton, Washington 98057

Prepared by:
Antea Group
4006 148th Avenue NE
Redmond, WA 98052
800 477 7411

TABLE OF CONTENTS

Tables

Figures

Photographs

Site Discovery and Independent Remedial Action Report

OPLC Tacoma Junction Facility
2660 Frank Albert Road East, Fife, Washington

1.0 INTRODUCTION

On behalf of Olympic Pipeline Company (OPLC), Antea Group has prepared this *Site Discovery and Independent Remedial Action Report* regarding petroleum hydrocarbon impacted soil that was discovered at the OPLC Tacoma Junction Facility located at 2660 Frank Albert Road East, Fife, Pierce County, Washington (hereinafter referred to as the "Site"). This report details the initial discovery, removal, and replacement of impacted soil at the Site, and is consistent with the reporting requirements outlined under Washington Administrative Code (WAC) 173-340-300 and WAC 173-340-515.

2.0 SITE DESCRIPTION

The Site is an operating OPLC facility. The Site has been operating since the 1965 and is not listed on the Washington State Department of Ecology (Ecology) *Confirmed and Suspected Site List*. The Site is located on the west side of Frank Albert Road East, and south of 20th Street East in Fife, Washington. The Site is adjacent to a Burlington Northern Santa Fe (BNSF) rail yard and is approximately 0.3 acres in size. A Site Location Map is presented as Figure 1. Frank Albert Road East runs north-south between 20th Street East and North Levee Road East. The Site is located within an industrial zoned area which is occupied by warehouses, a rail yard, and undeveloped fields. The north property boundary of the Site is bound by a drainage ditch and railroad tracks. The east property boundary is located at the toe of a slope that leads up to Frank Albert Road East. Beyond the south and west borders of the Site are undeveloped fields. Site features include a control building, a stormwater retention vault, and pipeline equipment. A Site Map detailing the structures is presented as Figure 2.

The surface of the Site consists of gravel with the exception of concrete secondary containment where above-ground pipeline equipment is located. The topography of the Site is generally flat. The vicinity of the Site is primarily industrial and undeveloped land. A residential neighborhood is located approximately 1,600 feet to the east. The Site elevation is approximately 15 feet above sea level. The nearest surface water bodies are the drainage ditch running along the BNSF railroad line, a water retention pond on the east side of Frank Albert Road East, approximately 410 feet to the east-southeast of the Site, Wapato Creek, approximately 900 feet to the north-

northeast, the Puyallup River, approximately 1,770 feet to the south, and the Port of Tacoma turning basin at the south end of Commencement Bay approximately 1.5 miles to the north.

3.0 SITE DISCOVERY

On August 3, 2015, OPLC personnel were directing an excavation associated with a facility upgrade project. The project scope included the installation of a new control building, secondary containment, a storm water retention vault, the removal of an existing pressure relief sump, and the removal/replacement of an aboveground section of 8" diameter pipe. The excavation work was being completed so the removed section of aboveground pipe could be replaced with a new section of 8" diameter pipe installed belowground. While excavating the trench for the belowground pipe, OPLC personnel noted petroleum odors and soil staining in a section of the trench. Upon discovery, OPLC personnel contacted Antea Group to collect soil samples to confirm the presence or absence of petroleum hydrocarbons. On the evening of August 3, 2015, Antea Group personnel collected two soil samples (S1 and S2) at varying depths from the affected area of the trench, and three water samples. The first water sample {Water-1-Pond (W1)} was collected from water that had ponded in the trench north of the affected area. The second water sample {Water-2-Pipe Bedding (W2)} was collected from water that had accumulated within the affected area of the trench. A third water sample {Excavation Sheen (SH)} was collected from water that displayed an iridescent sheen on its surface. All samples were submitted to ALS Laboratory Group (ALS) in Everett, Washington for quantitative chemical analysis. Laboratory analytical results indicated concentrations of petroleum hydrocarbons in the form of total petroleum hydrocarbons as gasoline (TPH-G), benzene, ethylbenzene, and total xylenes in soil samples S1 and S2 above the Model Toxic Control Act (MTCA) Method A Cleanup Levels. Petroleum hydrocarbons were also detected in water sample W2 in the form of TPH-G, total petroleum hydrocarbons as diesel (TPH-D), and benzene at concentrations of 1,600 µg/L, 1,300 µg/L, and 23 µg/L, respectively. Petroleum hydrocarbon concentrations in excess of MTCA Method A Cleanup Levels were not detected in water sample W1. The SH sample was non-detect for petroleum constituents and the sheen was determined to be biological in nature. All soil removed during the trenching was stockpiled onsite within a temporary soil containment area. A vacuum truck was used to extract the water that had accumulated in the trench. The sampling locations are depicted on the Site Map presented as Figure 2, and the analytical data is summarized in Table 1. Field screening data and sample observations are presented in Table 2.

4.0 ADDITIONAL SOIL REMOVAL

Between August 4 and August 12, 2015, the majority of excavation work associated with the project was completed. On August 13, 2015, Antea Group personnel returned to the Site to conduct additional soil sampling in an effort to remove any impacted soil that remained after the project scope of work was completed. The excavation was expanded laterally in all directions. Soil samples were collected from the sidewalls of the excavation limit at 12 locations and field screened with a photoionization detector (PID). The PID was equipped

with a 10.6 electron volt (eV) ultraviolet (UV) lamp and calibrated to benzene standards with isobutylene for direct readings in parts per million (ppm). The operating range of the detector was from 0 to 15,000 parts per million (ppm) with a minimum detection limit of 0.1 ppm. It should be noted that the PID measurements are considered semi-quantitative data since the instrument detects all organic compounds with ionization potentials less than 10.6 eV. The soil samples were placed in plastic bags, sealed, and brought to approximately ambient air temperature. The PID probe was inserted into an opening in the plastic bag and the reading noted. The soil within the bag was agitated during the reading process to aid in mobilization of volatile organic vapors. Although the PID is not capable of quantifying or identifying specific organic compounds, it is capable or measuring a variety of organic vapors frequently associated with petroleum hydrocarbons. Field screening of soils collected along the northeast, east, and southeast sidewalls of the excavation indicated that additional soil removal was necessary. The excavation was expanded in each of these directions to the maximum extent possible; however, the excavation was limited by the presence of onsite structures which prevented the removal of all impacted soil. The excavation was limited to the east and southeast by a utility vault, fiber optic conduit, and the foundation of the newly completed control building. In order to prevent undermining these structures, excavation work in these directions was halted. Of the 12 soil samples collected, six soil samples (2.2, 3.2, 4, 5, 6, and 10) were submitted to ALS for quantitative chemical analysis. TPH-G was detected in samples 2.2, 3.2, 5, and 10 at concentrations ranging from 84 to 560 mg/kg. Sample 3.2 contained benzene at a concentration of 3.2 mg/kg.

On August 17, 2015, the northeast portion of the excavation was expanded and approximately 15 additional yards of petroleum impacted soil was removed. The northern limit of the excavation was dictated by the presence of quarry spalls which were used as the bedding for the drainage ditch that runs along the northern property boundary. The drainage ditch serves as an outlet for the pond located on the east side of Frank Albert Rd E and flows consistently. As the excavation limit approached the side of the drainage ditch, an increasing volume of water flowed into the excavation. Digging to the north was stopped when it appeared that water flow from the ditch would lead to sidewall instability. On August 17, 2015, soil samples 1.2 and 7.2 were collected from the final limits of the north sidewall. Sample 1.2 contained TPH-G and TPH-D at concentrations of 1,100 mg/kg and 2,600 mg/kg, respectively. Sample 7.2 contained TPH-G at a concentration of 110 mg/kg. All other constituents in these two samples were not detected above the respective MTCA Method A Cleanup Levels and/or the laboratory method reporting limits (MRLs). On August 18 and 19, soil from within the foundation of the former control building was removed. The western portion of the excavation was also extended along the 8 inch pipe to remove any additional impacted soil. On August 19, soil samples 8, 9.2, 11.2, and 12 were collected from the western portion of the excavation and from the base of the former control building foundation. Petroleum hydrocarbon concentrations were detected in samples 8, 9.2, 11.2, and 12 in the form of TPH-G and/or benzene at concentrations ranging from 34 to 550 mg/kg for TPH-G, and ranging from 0.036 to 0.042 mg/kg for benzene. Upon reaching the practical limits of the excavation in each direction, the excavation was backfilled with quarry spalls and pit run, compacted, and finished with crushed gravel. During excavation activities, a total of 302.49 tons of petroleum impacted soil was removed from the Site and transported to Roosevelt Landfill in Roosevelt, WA and

Regional Disposal Intermodal in Seattle, WA for disposal. A total of 1,200 gallons of water was removed from the excavation and transported to the PRS Group in Tacoma, WA for disposal.

5.0 SUMMARY

On August 3, 2015, petroleum hydrocarbon impacted soil was discovered during excavation activities associated with a facility upgrade project at OPLC's Tacoma Junction. Between August 3 and August 19, 2015, excavation activities were conducted in an effort to remove all petroleum impacted soil discovered at the Site. The excavation was completed to the practical limits possible without compromising the stability of on-site structures. During excavation activities, a total of 302.49 tons/cubic yards of petroleum impacted soil was removed and transported to Rosevelt Landfill in Roosevelt, Washington and Regional Disposal Intermodal in Seattle, Washington for disposal. A total of 1,200 gallons of water was removed from the excavation and transported to the PRS Group in Tacoma, Washington for disposal. Laboratory analytical results of sidewall samples collected from the final limits of the excavation indicated petroleum hydrocarbon concentrations in the form of TPH-G, TPH-D, benzene, ethylbenzene, and/or xylenes in excess of the respective MTCA Method A Cleanup Levels remain at the limits of the excavation.

6.0 REMARKS

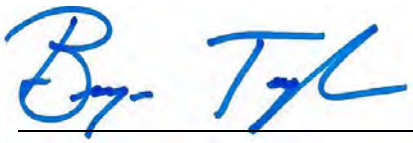
The recommendations contained in this report represent Antea USA, Inc.'s professional opinions based upon the currently available information and are arrived at in accordance with currently accepted professional standards. This report is based upon a specific scope of work requested by the client. The 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.

Prepared by:

Date: October 12, 2015

Eric Sanchez
Staff Professional

Reviewed by:



Date: October 12, 2015

Bryan Taylor
Consultant

cc: File, Antea Group

Tables

TABLE 1
Groundwater and Soil Analytical Data
Tacoma Junction
2660 Frank Albert Road East
Fife, Washington

		CONSTITUENT	B	T	E	X	GRO	DRO	ORO
		UNIT	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Map ID	**Sample ID**	**Date**							
MTCA METHOD A CLEANUP LEVELS			**5**	**1000**	**700**	**1000**	**1000/800***	**500**	**500**
W1	Water 1 - Pond	8/3/2015	1.2	<1.0	1.2	<3.0	51	150	<250
W2	Water 2 - Pipe Bedding	8/3/2015	**23**	3.6	44	30	**1600**	**1300**	320
Sh	Excavation Sheen	8/3/2015	--	--	--	--	<50	<360	<720
W3	EX-Water	8/13/2015	**82**	9.6	44	50	**2900**	**3200**	<250
		CONSTITUENT	B	T	E	X	GRO	DRO	ORO
		UNIT	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Map ID	**Sample ID**	**Date**							
MTCA METHOD A CLEANUP LEVELS			**0.03**	**7**	**6**	**9**	**100/30****	**2000**	**2000**
S1	Soil 1 - Pipe Bedding	8/3/2015	**0.91**	1.2	**8.9**	5.1	**670**	180	<50
S2	Soil 2	8/3/2015	**1.5**	3.9	**7.4**	**11**	**1700**	290	58
1.2	EX-NE2-5	8/17/2015	<0.005	<0.068	2.4	0.312	**1100**	**2600**	<110
2.2	EX-SE4-3	8/13/2015	0.0059	<0.01	<0.01	<0.03	**84**	<25	<50
3.2	EX-SE3-3	8/13/2015	**0.34**	<0.01	0.013	<0.03	**240**	76	<50
4	EX-SE1-5	8/13/2015	0.0092	<0.01	<0.01	<0.03	9.3	<25	<50
5	EX-S1-5	8/13/2015	0.018	<0.01	0.042	<0.03	**320**	240	140
6	EX-SW1-5	8/13/2015	0.0092	<0.01	<0.01	<0.03	14	<25	<50
7.2	EX-N2-3	8/17/2015	0.015	<0.010	0.018	<0.030	**110**	<25	<50
8	EX-NW2-4	8/19/2015	**0.042**	<0.010	0.015	0.059	22	<25	<50
9.2	EX-W3-4	8/19/2015	**0.036**	<0.010	<0.010	<0.030	**34**	<25	<50
10	EX-B1-7	8/13/2015	<0.005	0.086	4.1	2.3	**560**	310	<50
11.2	EX-W4-7	8/19/2015	0.0054	<0.010	0.053	0.033	**550**	35	<50
12	EX-SW2-7	8/19/2015	**0.042**	0.018	0.350	**2.400**	**58**	<25	<50

Notes:

*1,000 ug/l if no detectable levels of Benzene in the sample - otherwise 800 ug/l

** = 100 mg/kg if no detectable levels of Benzene in the sample - otherwise 30 mg/kg

B = Benzene, T = Toluene, E = Ethylbenzene, X = Total Xylenes

GRO = Gasoline Range Organics

DRO = Diesel Range Organics

ORO = Oil Range Oranics

<1.0 = Concentrations were not detected above the laboratory method reporting limit.

ug/l = Micrograms per liter (ppb)

mg/kg = milligrams per killigram (ppm)

-- = Not analyzed

TABLE 2
Sample Log and Field Screening Data
Tacoma Junction
2660 Frank Albert Road East
Fife, Washington

Map ID	Sample ID	Time	Date	PID Reading	Comments	Lab Analyzed
Sh	Excavation Sheen	0715	8/3/2015	--	Sheen on excavation water surface	Y
W1	Water1-Pond	0715	8/3/2015	--		Y
W2	Water2-Pipe Bedding	0725	8/3/2015	--		Y
W3	EX-Water	0800	8/14/2015	--		Y
S1	Soil1-Pipe Bedding	0735	8/3/2015	1364		Y
S2	Soil2	0750	8/3/2015	416	Collected from soils approximately 2 feet above S1	Y
1	EX-NE1-3	0845	8/14/2015	1407		Hold
1.2	EX-NE2-5	0810	8/17/2015	1059	Overexcavated area of sample 1, saturated sample	Y
2	EX-SE2-3	0835	8/14/2015	172	Not analyzed, overexcavated to sample 2.2	N
2.2	EX-SE4-5	1400	8/14/2015	150	Overexcavated area of sample 2	Y
3	--	--		--	Not collected – Overexcavated to 3.2	--
3.2	EX-SE3-3	1405	8/14/2015	889	Overexcavated area of sample 3	Y
4	EX-SE1-5	0810	8/14/2015	49		Y
5	EX-S1-5	0815	8/14/2015	443		Y
6	EX-SW1-5	0825	8/14/2015	68		Y
7	EX-N1-5	0830	8/14/2015	1119		Hold
7.2	EX-N2-5	0940	8/17/2015	334	Overexcavated area 3 feet east of sample 7	Y
8	EX-NW2-4	1125	8/19/2015	54		Y
9	EX-W1-4	0850	8/14/2015	229		Hold
9.2	EX-W3-4	1130	8/19/2015	61		Y
10	EX-B1-7	0805	8/14/2015	648	Saturated Sample	Y
11	EX-W2-4	0855	8/14/2015	1597		Hold
11.2	EX-W4-4	1135	8/19/2015	757		Y
12	EX-SW2-7	1120	8/19/2015	250	Collected from below former MTC building foundation	Y

Figures

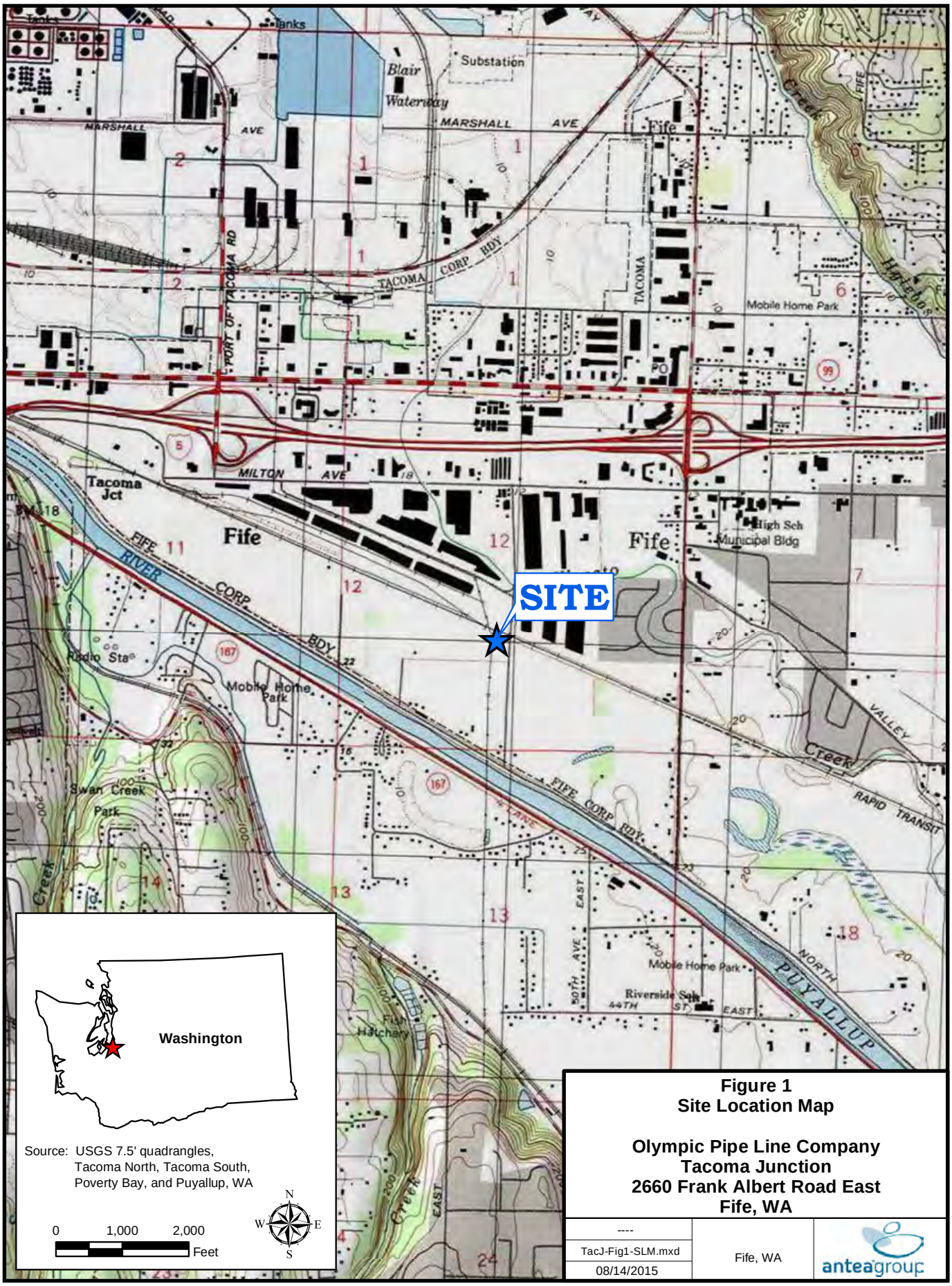


Figure 1
Site Location Map

Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA

----	Fife, WA	anteagroup
TacJ-Fig1-SLM.mxd		
08/14/2015		

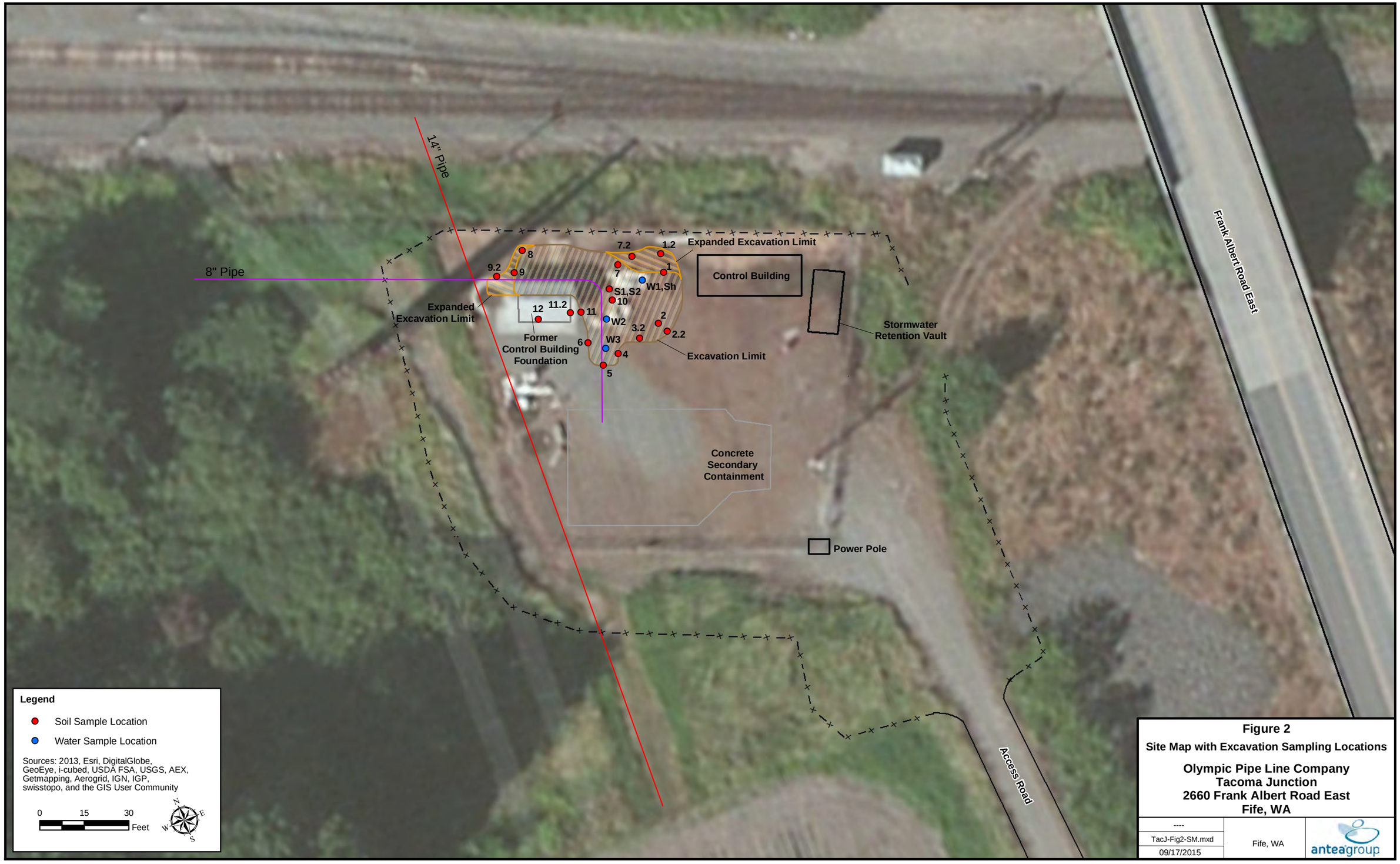


Figure 2

Site Map with Excavation Sampling Locations

Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA

----	Fife, WA	anteagroup
TacJ-Fig2-SM.mxd		
09/17/2015		

Photographs

Photo 1	Samples 7, 10, and 11
Photo 2	Samples 3.2, 4, 5, 6, and 11
Photo 3	Samples 1, 7, 8, 9, and 11
Photo 4	Samples 1, 2, 2.2, and 3.2
Photo 5	Sample 7.2
Photo 6	Samples 1.2 and 7.2
Photo 7	Sample 6
Photo 8	Sump Prior to Removal
Photo 9	Excavation after Removing Sump
Photo 10	East Side of Excavation, Backfilled
Photo 11	Excavation during Backfilling
Photo 12	Sample 12
Photo 13	Sample 11.2

Photo 1—Samples 7, 10, and 11
8/13/15
Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA

Photo 2—Samples 3.2, 4, 5, 6, and 11
8/13/15
Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA

Photo 3—Samples 1, 7, 8, 9, and 11
8/13/15
Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA

Photo 4—Samples 1, 2, 2.2, and 3.2
8/13/15
Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA

Photo 5—Sample 7.2
8/13/15
Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA

Photo 6—Samples 1.2 and 7.2
8/13/15
Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA

Photo 7—Sample 6
8/13/15
Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA

Photo 8—Sump Prior to Removal
8/13/15
Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA

Photo 9—Excavation After Removing Sump
8/13/15
Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA

Photo 10—East Side of Excavation, Backfilled 8/17/15

Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA

Photo 11—Excavation During Backfilling
8/17/15
Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA

Photo 12—Sample 12
8/19/15
Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA

Photo 13—Sample 11.2
8/19/15
Olympic Pipe Line Company
Tacoma Junction
2660 Frank Albert Road East
Fife, WA