



# **SECOND PERIODIC REVIEW REPORT FINAL**

## **BOWER HOME PORT TOWNSEND**

**Facility Site ID#: 4516080**

**Cleanup Site ID#: 2806**

**914 F STREET  
PORT TOWNSEND, WA 98368**

**Southwest Regional Office  
TOXICS CLEANUP PROGRAM**

**October 2019**

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## 1.0 INTRODUCTION

This document is a review by the Washington State Department of Ecology (Ecology) of post-cleanup conditions and monitoring data to ensure that human health and the environment are being protected at the Bower Home Port Townsend site (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA) regulations, Chapter 173-340 Washington Administrative Code (WAC). The first periodic review was conducted in June 2014. This periodic review evaluates the period from July 2014 through June 2019.

Cleanup activities at this Site were completed under the Voluntary Cleanup Program (VCP). The cleanup actions resulted in concentrations of diesel-range total petroleum hydrocarbons (TPH-D) in soil that exceeds MTCA Method B cleanup levels. The MTCA Method B cleanup levels for soil are established under WAC 173-340-740(3). WAC 173-340-420 (2) requires that Ecology conduct a periodic review of a site every five years under the following conditions:

- Whenever the department conducts a cleanup action.
- Whenever the department approves a cleanup action under an order, agreed order or consent decree.
- Or, as resources permit, whenever the department issues a no further action (NFA) opinion.
- And one of the following conditions exists:
  - (a) Institutional controls or financial assurance are required as part of the cleanup.
  - (b) Where the cleanup level is based on a practical quantitation limit.
  - (c) Where, in the department's judgment, modifications to the default equations or assumptions using site-specific information would significantly increase the concentration of hazardous substances remaining at the site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(4)]:

- (a) The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the Site.
- (b) New scientific information for individual hazardous substances of mixtures present at the Site.
- (c) New applicable state and federal laws for hazardous substances present at the Site.
- (d) Current and projected Site use.
- (e) Availability and practicability of higher preference technologies.
- (f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

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The department shall publish a notice of all periodic reviews in the Site Register and provide an opportunity for public comment.

## **2.0 SUMMARY OF SITE CONDITIONS**

### **2.1 Site History**

The Site is located at 914 F Street in Port Townsend, Washington. The Site is a residential house located in a residential area on a hillside on the northeast corner of F Street and Beach Street. A Site vicinity map and a Site Plan are available as Appendix 6.1 and 6.2 respectively. Soil was impacted as a result of leakage/spill from an above ground storage heating oil tank (AST).

### **2.2 Site Investigations and Remedial Actions**

#### **2.2.1 Heating Oil Release and Initial Investigation**

On October 25, 2003, a corrosion/equipment failure on the residential 250-gallons AST resulted in a release of approximately 180 to 190 gallons of heating oil impacting the soil below the tank. About 40 gallons of oil was recovered from the tank. There are no wells or streams in the immediate area of the spill. Pacific Environmental was retained by the property owner for the cleanup. On October 31, 2003, approximately two to three yards of soil were excavated from the area where heating oil had been spilled. The excavation was conducted to about 6 feet below ground surface (bgs), until further excavation could not be done due to the closeness to the foundation of the house. The old tank was removed and replaced with a new tank.

DLH Environmental Consulting (DLH) was retained by the property owner for collecting the confirmation soil samples following the removal of some heating oil impacted soils. On November 7, 2003, five soil samples, four from each sidewall at approximately 5 feet below ground surface (bgs), and one from bottom of the pit at 6 feet bgs were collected for laboratory analysis. Results of soil samples indicated that even though some TPH-D impacted soils were removed, additional soils remained above the current MTCA Method A cleanup level of 2,000 milligrams per kilogram (mg/Kg). Soil concentrations ranged from 14,000 mg/Kg to 31,000 mg/Kg. After consultation with Ecology, DLH placed oxygen releasing compound (ORC) into the excavation to enhance bioremediation until further action could be taken. Soil sampling locations and results are available as Appendix 6.3.

#### **2.2.2 2007 Additional Investigation and Final Remedial Action**

In April 2007, additional excavation was conducted by the Pesco Environmental Services Company to remove approximately 40 cubic yards of TPH-D contaminated soils and transferred to the Olympic View Landfill for final disposal. Following the excavation, sub-surface confirmation soil samples were collected for laboratory analysis. The results indicated that the TPH-D impacted soils still remain at depths greater than 15 feet. These soils were not removed due to the close proximity to the house foundation. As a result, a soil sample was collected to analyze for volatile Petroleum Hydrocarbons (VPH) and Extractable Petroleum Hydrocarbons (EPH) for calculating a site-specific MTCA Method B cleanup level for TPH-D. Whitman Environmental Sciences conducted all of the modeling and calculated a MTCA Method B cleanup level of 3,247 mg/Kg for TPH-D. This cleanup level was based on the direct contact

pathway. However, some soils at a depth of 15 feet bgs still persisted above the calculated Method B cleanup level. The sidewall and bottom samples collected at actual depths that exceeded 15 feet bgs. Since this contamination was at greater than 15 feet bgs, it was decided to leave these petroleum-impacted soils in place at this depth. Soil sampling locations and results and MTCA Method B cleanup level calculations are presented as Appendix 6.4 and 6.5 respectively. Also the excavation area and the new heating oil tank are shown in Photo 5 and Photo 7 respectively in Appendix 6.7.

A second bottom soil sample was collected at a depth greater than 15 feet bgs for the VPH and EPH analysis. The total petroleum hydrocarbon concentration for this sample exceeded the direct contact cleanup level of 3,247 mg/Kg. The summed fractional result was 6,767 mg/Kg. However, this concentration was considered protective of groundwater, based on the Method B four-phase model analysis for the groundwater pathway. Ecology ran the model and a concentration of 20,000 mg/Kg would have been protective of the groundwater pathway. Residual saturation would be a concern at concentrations greater than 2,000 mg/Kg in coarse sand and gravels. Nonetheless, the residual concentration is located in silts and residual saturation should not be an issue at concentrations below 20,000 mg/Kg. The petroleum concentration present in the soil is less than the cleanup level from the land surface to the MTCA point of compliance (15 feet) for the direct contact pathway; hence the direct contact pathway is not a concern. However, because contamination is present in the vicinity of the house exceeding MTCA Method B cleanup level, an environmental covenant will be required.

### **2.3 Cleanup Levels**

WAC 173-340-704 states that MTCA Method A may be used to establish cleanup levels at sites that have few hazardous substances, are undergoing a routine cleanup action, and where numerical standards are available for all indicator hazardous substances in the media for which the Method A cleanup level is being used.

However, WAC 173-340-705 and WAC 173-340-740(3) also provide provisions for developing a modified Site-specific Method B cleanup levels at all sites. At this Site, MTCA Method B soil cleanup level of 3,247 mg/Kg was developed for TPH-D.

### **2.4 Restrictive Covenant**

The required RC (now referred to as an environmental covenant) was recorded for the Site on June 11, 2009 and an NFA determination for the Site was issued on June 3, 2009. The Covenant was required because the Remedial Action resulted in residual concentrations of TPH-D (heating oil) exceeding MTCA Method B cleanup levels for soils established under WAC 173-340-740. The Environmental Covenant (EC) imposes the following limitations:

**Section 1:** Soil contaminated with diesel-range petroleum hydrocarbons was removed from the residential property owned by Ms. Bower. A leak from an old above ground heating oil tank caused the contamination. A cleanup occurred that involved the removal of contaminated soil and testing of remaining soils. A limited quantity of heating oil contaminants remain on a portion of the property located near the basement door of the house on the north side. Such contaminants occur approximately 12 to 15 feet below the ground surface below the level of the

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basement floor, which lies 4 to 6 feet lower than the average grade of the surrounding grounds. The residual contaminants on the property pose no threat to groundwater, surface water, or neighboring properties.

**Section 2:** Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited. No groundwater may be taken for any use from the Property. (Note: City of Port Townsend laws forbid installation of wells on residential property).

**Section 3:** Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

**Section 4:** The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

**Section 5:** The Owner must restrict leases to uses and activities consistent with the Covenant and notify all lessees of the restrictions on the use of the Property.

**Section 6:** The Owner must notify and obtain from Ecology prior to any use of the Property that is inconsistent with the terms of this EC. Ecology may approve any inconsistent use only after public notice and comment.

**Section 7:** The Owner shall allow authorized representatives of Ecology the right to enter the property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the property, to determine compliance with this Covenant, and to inspect records that are related to the Remedial Action.

**Section 8:** The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this EC shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

The EC is available as Appendix 6.6.

### **3.0 PERIODIC REVIEW**

#### **3.1 Effectiveness of completed cleanup actions**

Based upon the Site visit conducted on May 9, 2014, the contaminated soils are below the building basement slab. The basement concrete slab is in good condition and continues to eliminate direct exposure pathways (ingestion, contact) to contaminated soils. The concrete slab appears in satisfactory condition and no repair, maintenance or contingency actions are required. A photo log is available as Appendix 6.7

Soils remain at the Site with TPH-D concentrations exceeding MTCA Method B cleanup level. These soils remain contained at 20 feet bgs underneath the building basement slab.

An EC was recorded for the Site and remains active. This EC prohibits any use of the property that is inconsistent with the Covenant or will release contaminants remaining in soil at the Site.

#### **3.2 New scientific information for individual hazardous substances for mixtures present at the Site**

There is no new relevant scientific information for hazardous substances remaining at the Site.

#### **3.3 New applicable state and federal laws for hazardous substances present at the Site**

MTCA Method A cleanup levels for contaminants of concern at the Site have not changed since the NFA determination was issued on June 3, 2009. Nevertheless, a Site-Specific Method B cleanup level was developed for TPH-D at this Site.

#### **3.4 Current and projected Site use**

The Site is located in a residential area and currently occupied by a residential building. This use is not likely to have a negative impact on the risk posed by hazardous substances contained at the Site. There are no changes projected in the Site use.

#### **3.5 Availability and practicability of higher preference technologies**

The remedy implemented included the excavation and disposal of majority of the TPH-D contaminated soils leaving a small quantity in place at a depth greater than 15 feet bgs underneath the basement floor. The concrete basement floor acts as a cap to the hazardous substances that remain at the Site and continues to be protective of human health and the environment. While higher preference cleanup technologies may be available, they are still not practicable at this Site.

#### **3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels**

The analytical methods used at the time of the remedial actions were capable of detection below Site cleanup levels. The presence of improved analytical techniques would not affect decisions or recommendations made for the Site.

## **4.0 CONCLUSIONS**

- The cleanup actions completed at the Site appear to be protective of human health and the environment.
- Soil cleanup levels have not been met at the Site; however, under WAC 173-340-740(6) (d), the cleanup action could comply with cleanup standards if the long-term integrity of the containment system was ensured and the requirements for containment technologies in WAC 173-340-360(8) have been met.
- The EC for the property is in place and will be effective in protecting public health from exposure to hazardous substances and protecting the integrity of the cleanup action.

Based on this review, Ecology has determined that the remedial actions conducted at the Site continue to be protective of human health and the environment. The requirements of the EC are being satisfactorily followed and no additional remedial actions are required at this time. It is the property owner's responsibility to continue to inspect the Site to assure that the integrity of the surface cover is maintained.

### **4.1 Next Review**

The next review for the Site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.



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## **5.0 REFERENCES**

DLH Environmental Consultants, November 3003, Soil Sampling Activities, 914 “F” Street, Port Townsend, Washington, November 20, 2003.

Department of Ecology, November 2003, Contamination from heating oil tank at house, an e-mail response from Chuck Cline of Ecology to Jody Bower, November 20, 2003.

Department of Ecology, October 2006, Opinion Letter from Ecology to Jody Bower regarding the Remedial Actions at 914 F Street, Port Townsend, Washington, October 31, 2006.

DLH Environmental Consultants, February 2008, Final Remedial Action Report, 914 F Street, Port Townsend, Washington, February 15, 2008.

Whitman Environmental Sciences, February 2008, Calculation of Method B Soil Cleanup Levels, Jody Bower Property, 914 F Street, Port Townsend, Washington, February 11, 2008.

Department of Ecology, June 2009, No Further Action Letter, Bower Home Port Townsend, 914 F Street, Port Townsend, Washington, June 3, 2009.

Jefferson County Auditor Office, June 2008, Restrictive (Environmental) Covenant, June 11, 2008.

Department of Ecology. Site Visit, May 24, 2019.

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## **6.0 APPENDICES**

## 6.1 Vicinity Map

ACME Mapper 2.0 - 1.1 km W-NW of Port Townsend WA



Site location

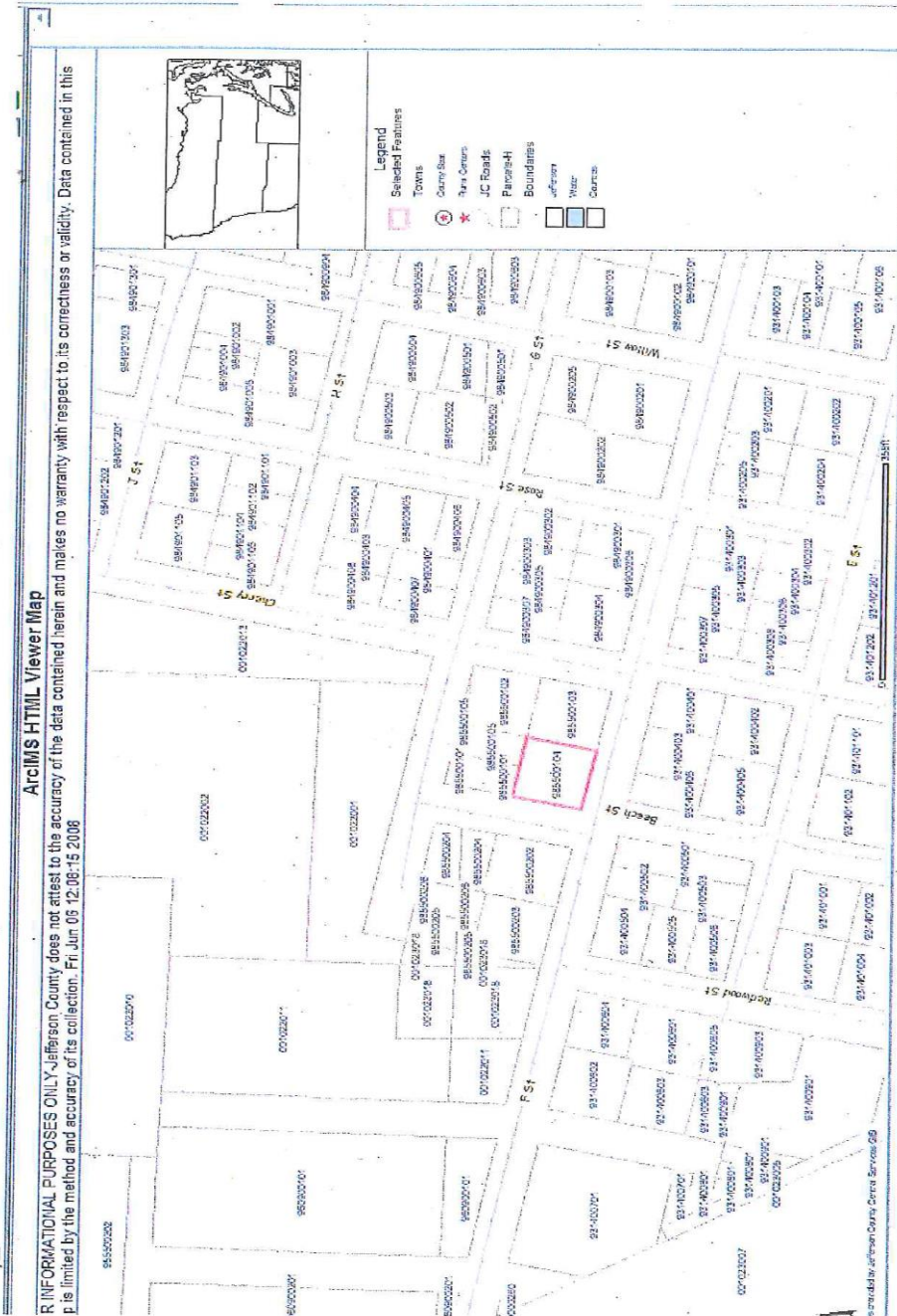
**Site Vicinity Map**  
**914 "F" Street, Port Townsend, WA**

Imagery by USGS / Service by TerraServer - [Terms of Use](#)

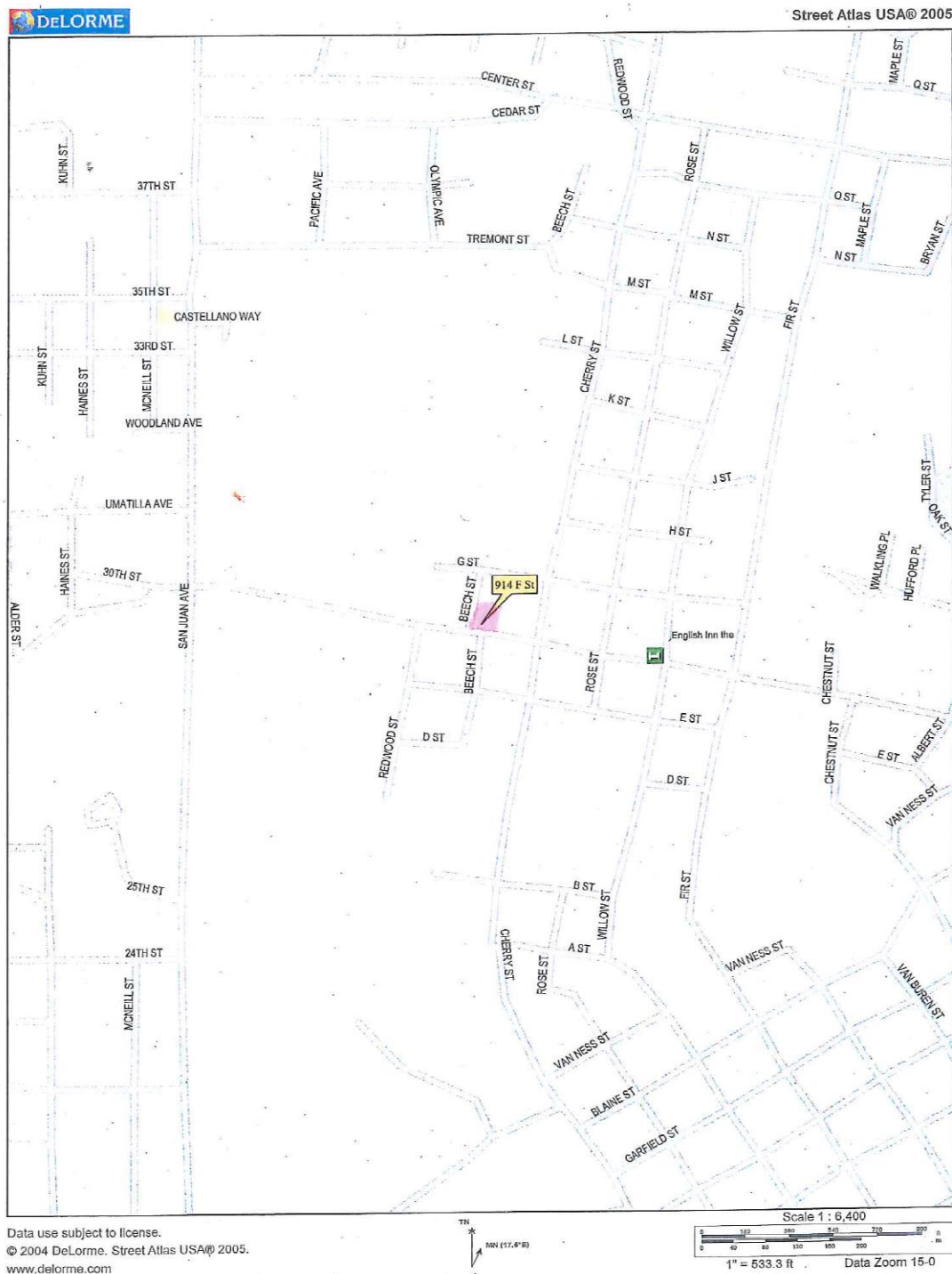




## 6.2 Site Plan



Site Plan  
914 F Street, Port Townsend, WA

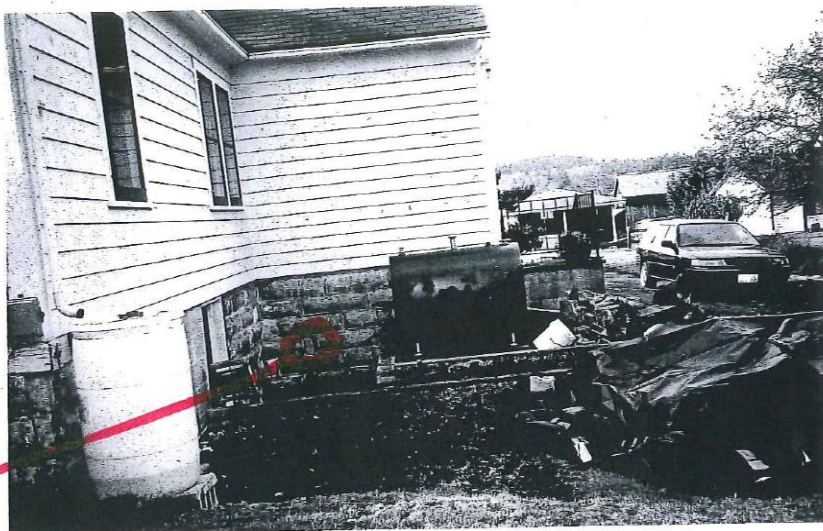


### 6.3 2003 Investigaton Soil Sampling Locations and Results

#### SITE MAP/DIAGRAM

Site Name Jody Bower

**SAMPLE I.D.**  
**11703**



Samples were collected by DLH Environmental Consulting. See attachment.



Sample I.D. 11703 B  
11703 E  
11703 N  
11703 S  
11703 W

Sample Number	Location (excavation)	Analysis	Results
11703-B	Bottom, 6 ft bgl	NWTPH-Dx	14,000 ppm
11703-E	East sidewall, 5 ft bgl	NWTPH-Dx	27,000 ppm
11703-N	North sidewall, 5 ft bgl	NWTPH-Dx	31,000 ppm
11703-S	South sidewall, 5 ft bgl	NWTPH-Dx	31,000 ppm
11703-W	West sidewall, 5 ft bgl	NWTPH-Dx	21,000 ppm

↑  
North

Approximate scale: \_\_\_\_\_ inch = \_\_\_\_\_ feet

ERTS Number 537070

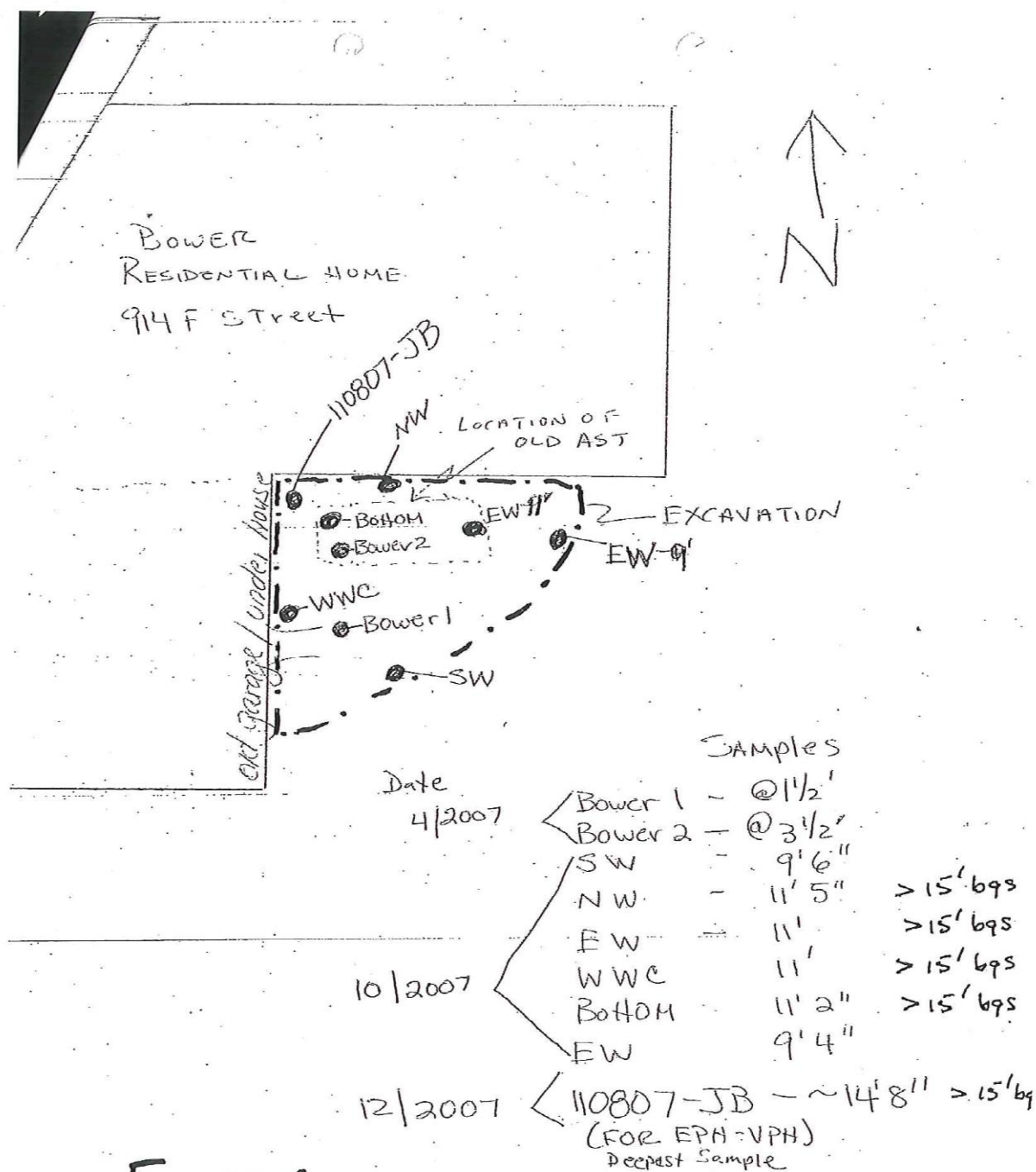
County: Clallam

Inspector: Fern A. Svendsen-Washington State Department of Ecology

Date 12/1/03



## 6.4 2007 Soil Sampling Locations and Results



**Figure 4**

DLH ENVIRONMENTAL CONSULTING SEATTLE, WASHINGTON 206-632-3123



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

TABLE 1

Date of Report: 04/04/07  
Date Received: 03/28/07  
Project: Bower, F&BI 703294  
Date Extracted: 03/29/07  
Date Analyzed: 03/30/07

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 53-144)
Bower-1 703294-01	10,000	<250	100
Bower-2 703294-02	12,000	270 x	103
Method Blank	<50	<250	88

x - The pattern of peaks present is not indicative of motor oil. The result is due to overlap from the diesel range.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/29/07  
Date Received: 10/24/07  
Project: Jody Bower, F&BI 710317  
Date Extracted: 10/25/07  
Date Analyzed: 10/25/07

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**  
Results Reported on a Dry Weight Basis  
Results Reported as mg/kg (ppm)

<u>Sample ID</u> <u>Laboratory ID</u>	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
SW-9'6" 710317-01	<50	<250	102
NW-11'5" 710317-02	4,600	<250	94
EW-11' 710317-03	<50	<250	93
WW-@11' 710317-04	4,500	<250	98
Bottom-11'2" 710317-05	5,000	<250	99
Method Blank	<50	<250	98

## 6.5 MTCA Method B Soil Cleanup Level Calculations for TPH-D

Washington State Department of Ecology, Toxics Cleanup Program: Soil Cleanup Level for TPH Sites - Main Data Entry Form and Calculation Summary

### A1 Soil Cleanup Levels: Worksheet for Soil Data Entry: Refer to WAC 173-340-720, 740,745, 747, 750

#### 1. Enter Site Information

Date: 01/21/08

Site Name: DLH Environmental Consulting Jody Bowers Port Townsend Site

Sample Name: 110807-JB

#### 2. Enter Soil Concentration Measured

Chemical of Concern or Equivalent Carbon Group	Measured Soil Conc		Composition Ratio
	dry basis		
	mg/kg		%
<b>Petroleum EC Fraction</b>			
AL_EC >5-6	2.9		0.04%
AL_EC >6-8	8.4		0.12%
AL_EC >8-10	98		1.45%
AL_EC >10-12	620		9.16%
AL_EC >12-16	1900		28.08%
AL_EC >16-21	2500		36.94%
AL_EC >21-34	520		7.68%
AR_EC >8-10	170		2.51%
AR_EC >10-12	350		5.17%
AR_EC >12-16	160		2.36%
AR_EC >16-21	370		5.47%
AR_EC >21-34	46		0.68%
Benzene	0.015		0.00%
Toluene	0.025		0.00%
Ethylbenzene	1.1		0.02%
Total Xylenes	1.58		0.02%
Naphthalene	2.9		0.04%
1-Methyl Naphthalene	7.3		0.11%
2-Methyl Naphthalene	8.8		0.13%
n-Hexane	0.05		0.00%
MTBE	0.025		0.00%
Ethylene Dibromide (EDB)	0		0.00%
1,2 Dichloroethane (EDC)	0.025		0.00%
Benzo(a)anthracene	0.05		0.00%
Benzo(b)fluoranthene	0.05		0.00%
Benzo(k)fluoranthene	0.05		0.00%
Benzo(a)pyrene	0.05		0.00%
Chrysene	0.13		0.00%
Dibenz(a,h)anthracene	0.05		0.00%
Indeno(1,2,3-cd)pyrene	0.05		0.00%
Sum	6767.55		100.00%

#### 3. Enter Site-Specific Hydrogeological Data

Total soil porosity:	0.43	Unitless
Volumetric water content:	0.3	Unitless
Volumetric air content:	0.13	Unitless
Soil bulk density measured:	1.5	kg/L
Fraction Organic Carbon:	0.001	Unitless
Dilution Factor:	20	Unitless

#### 4. Target TPH Ground Water Concentration (if adjusted)

If you adjusted the target TPH ground water concentration, enter adjusted value here: 500 ug/L

Notes for Data Entry

Set Default Hydrogeology

Clear All Soil Concentration Data Entry Cells

Restore All Soil Concentration Data cleared previously

#### REMARK:

Laboratory reports no detectable concentrations of C5-6 aliphatics, benzene, toluene, n-Hexane, MTBE, EDB, EDC or cPAH compounds (except chrysene). In accordance with Ecology's required procedures, one half of the laboratory reporting limit was used in this data summary for each of these non-detectable compounds except EDB. Since no EDB was detected or anticipated based on the petroleum product profile, EDB was assigned a zero value for this calculation.

Washington State Department of Ecology, Toxics Cleanup Program: Soil Cleanup Level for TPH Sites - Main Data Entry Form and Calculation Summary

**A2 Soil Cleanup Levels: Calculation and Summary of Results.** Refer to WAC 173-340-720, 740, 745, 747, 750

**Site Information**

Date:	1/21/2008
Site Name:	DLH Environmental Consulting Jody Bowers Port Townsend Site
Sample Name:	110807-JB
Measured Soil TPH Concentration, mg/kg:	6,767.550

**1. Summary of Calculation Results**

Exposure Pathway	Method/Goal	Protective Soil TPH Conc, mg/kg	With Measured Soil Conc		Does Measured Soil Conc Pass or Fail?
			RISK @	HI @	
Protection of Soil Direct Contact: Human Health	Method B	3,247	8.84E-07	2.08E+00	Fail
	Method C	44,099	2.19E-07	1.53E-01	Pass
Protection of Method B Ground Water Quality (Leaching)	Potable GW: Human Health Protection	100% NAPL	4.78E-06	9.48E-01	Pass
	Target TPH GW Conc. @ 500 ug/L	100% NAPL	NA	NA	Pass

Warning! Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (Refer to WAC 173-340-7490 through ~7494).

Warning! Check Residual Saturation (WAC340-747(10)).

**2. Results for Protection of Soil Direct Contact Pathway: Human Health**

	Method B: Unrestricted Land Use	Method C: Industrial Land Use
Protective Soil Concentration, TPH mg/kg	3,247.27	44,099.03
Most Stringent Criterion	HI=1	HI=1

Soil Criteria	Protective Soil Concentration @Method B				Protective Soil Concentration @Method C			
	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @	Most Stringent?	TPH Conc, mg/kg	RISK @	HI @
HI=1	YES	3.25E+03	4.24E-07	1.00E+00	YES	4.41E+04	1.43E-06	1.00E+00
Total Risk= 1E-5	NO	7.66E+04	1.00E-05	2.36E+01	NO	3.09E+05	1.00E-05	7.00E+00
Risk of Benzene= 1E-6	NO	8.19E+06	1.07E-03	2.52E+03	NA			
Risk of cPAHs mixture= 1E-6	NO	7.68E+03	1.00E-06	2.37E+00				
EDB	NA	NA	NA	NA				
EDC	NO	2.75E+06	3.59E-04	8.46E+02				

**3. Results for Protection of Ground Water Quality (Leaching Pathway)**

**3.1. Protection of Potable Ground Water Quality (Method B): Human Health Protection**

Most Stringent Criterion	NA
Protective Ground Water Concentration, ug/L	NA
Protective Soil Concentration, mg/kg	Soil-to-Ground Water is not a critical pathway!

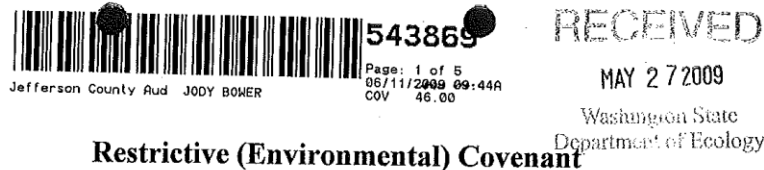
Ground Water Criteria	Protective Potable Ground Water Concentration @Method B				Protective Soil Conc, mg/kg
	Most Stringent?	TPH Conc, ug/L	RISK @	HI @	
HI=1	YES	2.93E+02	7.17E-06	9.67E-01	100% NAPL
Total Risk = 1E-5	YES	2.93E+02	7.17E-06	9.67E-01	100% NAPL
Total Risk = 1E-6	YES	2.23E+02	1.00E-06	8.04E-01	5.66E+02
Risk of cPAHs mixture= 1E-5	YES	2.93E+02	7.17E-06	9.67E-01	100% NAPL
Benzene MCL = 5 ug/L	YES	2.93E+02	7.17E-06	9.67E-01	100% NAPL
MTBE = 20 ug/L	YES	2.93E+02	7.17E-06	9.67E-01	100% NAPL

Note: 100% NAPL is 69000 mg/kg TPH.

**3.2. Protection of Ground Water Quality for TPH Ground Water Concentration previously adjusted and entered**

Ground Water Criteria	Protective Ground Water Concentration			Protective Soil Conc, mg/kg
	TPH Conc, ug/L	Risk @	HI @	
Target TPH GW Conc = 500 ug/L	2.93E+02	7.17E-06	9.67E-01	100% NAPL

## 6.6 Restrictive Covenant



### Restrictive (Environmental) Covenant

After Recording Return to:

Chuck Cline  
Department of Ecology  
Southwest Region  
P.O. Box 47775  
Olympia WA 98504-7775

Grantor: Jody Bower  
Grantee: State of Washington, Department of Ecology  
Legal: 914 F Street, Port Townsend WA 98358  
B.S. Petty Grove's Addition: Block 1, lots 7 & 8  
Tax Parcel Nos.: 985500104

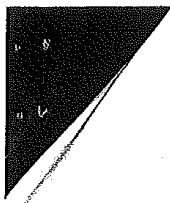
Grantor, Jody Bower, hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights under this environmental covenant (hereafter "Covenant") made this 27th day of April, 2009 in favor of the State of Washington Department of Ecology (Ecology). Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act, RCW 70.105D.030(1)(g), and the Uniform Environmental Covenants Act, 2007 Wash. Laws ch. 104, sec. 12.

This Declaration of Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by Jody Bower, her successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

A remedial action (hereafter "Remedial Action") occurred at the property that is the subject of this Covenant. The Remedial Action conducted at the property is described in the following document[s]:

- Report of Cleanup Activities at 914 F Street by DLH Environmental Consulting, February 15, 2008.
- Calculation of Method B Cleanup Levels for Jody Bower Property by Whitman Environmental Sciences, February 11, 2008.





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Jefferson County Aud JODY BOWER

These documents are on file at Ecology's Southwest Regional Office.

This Covenant is required because the Remedial Action resulted in residual concentrations of diesel-range petroleum hydrocarbons (heating oil), which exceed the Model Toxics Control Act Method B Cleanup Level(s) for Soil established under WAC 173-340-740.

The undersigned, Jody Bower, is the fee owner of real property (hereafter "Property") in the County of Jefferson, State of Washington, that is subject to this Covenant. The Property is legally described as follows:

914 F Street, Port Townsend WA 98368

Lots 7 and 8, of Block 1 of B.S. Pettygrove's Addition to Port Townsend, as per Plat recorded in Volume 2 of Plats, Page 94, Records of Jefferson County, Washington.

Jody Bower makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereafter "Owner").

Section 1. Soil contaminated with diesel-range petroleum hydrocarbons was removed from the residential property owned by Ms. Bower. A leak from an old aboveground heating oil tank caused the contamination. A cleanup occurred that involved the removal of contaminated soil and testing of remaining soils. A limited quantity of heating oil contaminants remain on a portion of the property located near the basement door of the house on the north side. Such contaminants occur approximately 12 to 15 feet below the ground surface below the level of the basement floor, which lies 4 to 6 feet lower than the average grade of the surrounding grounds. The residual contaminants on the property pose no threat to groundwater, surface water, or neighboring properties.

Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited. No groundwater may be taken for any use from the Property. (Note: City of Port Townsend laws forbid installation of wells on residential property.)



Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

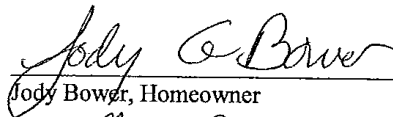
Section 4. The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

Section 5. The Owner must restrict leases to uses and activities consistent with the Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the property, to determine compliance with this Covenant, and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

  
Jody Bower, Homeowner  
Dated: May 26, 2009



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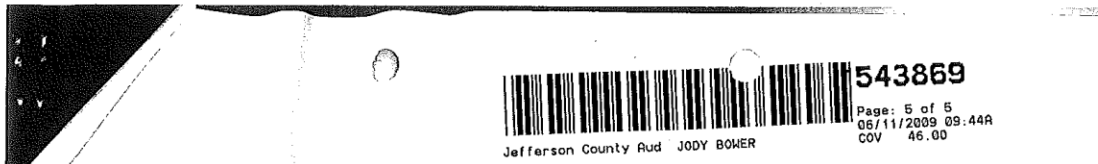
STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

*Rebecca S. Lawson*

Rebecca S. Lawson, PE, LHG  
SWRO Section Manager, Toxics Cleanup Program

Dated: 6/3/09





STATE OF WA  
COUNTY OF Jefferson

On this 21<sup>st</sup> day of May, 2009, I certify that Jody Bower personally appeared before me, and acknowledged that she is the individual described herein and who executed the within and foregoing instrument and signed the same at her free and voluntary act and deed for the uses and purposes therein mentioned.



[Signature]  
Notary Public in and for the State of  
Washington, located at Port Townsend.  
My appointment expires 4/14/2013.

## 6.7 Photo Log



**Photo 1: Southside of the House, Previously Excavated Contaminated Area and New Heating Oil Tank: From the Southeast**



**Photo 2: Basement Door, Previously Excavated Contaminated Area and New Heating Oil Tank: From the Southeast**





**Photo 3: Northside of the House/Front View of the House: From the “F” Street**



**Photo 4: Eastside of the House: From the Northwest.**





**Photo 5: Contaminated Soil Cleanup Conducted in November 2003 and Oxygen Releasing Compound Application Area: From the West**



**Photo 6: Contaminated Soil Excavated Hole and Oxygen Releasing Compound Application Area**





**Photo 7: Additional Soil Cleanup Conducted in April 2007 and Heating Oil Tank-From the Southwest**



**Photo 8: Stockpiled Contaminated Soils**

