



PORTLAND  
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BEND  
TRI-CITIES

August 24, 2006

Mr. Marty Gardner  
Welch's Foods  
10 East Bruneau  
Kennewick, WA 99336

**Re: SOIL REMEDIAL ACTION REPORT AT THE LOCATION OF FORMER  
UNDERGROUND STORAGE TANKS (USTS), 10 EAST BRUNEAU,  
KENNEWICK, WASHINGTON  
PBS PROJECT NUMBER #61405.00**

Dear Mr. Gardner:

In August 2006, at your request PBS Engineering and Environmental (PBS) and Welch's Foods (Welch's) began a soil based remedial action for the removal of bunker fuel contaminated soil at the Welch's property. This report provides a summary of the remedial action results.

## **BACKGROUND**

Food processing has occurred at the Welch's plant location since approximately 1925. PBS completed a Phase I Environmental Site Assessment (Phase I) in July 2006, followed by a Phase II Environmental Assessment (Phase II) on the property in August 2006. Bunker fuel contamination was detected in groundwater during the Phase II in borings #4 and #7. Further study of the results, plans and early photographs of the site indicated that two – 12,000 gallon USTs containing bunker fuel were removed from the site in the late 1980s. The location of the earlier USTs were 120 feet east of the southwest corner of the subject property, with the pump unit on the south side of the two north oriented USTs (see Figure 1). A 50,000 gallon UST provides backup fuel at this time. This report summarizes excavation based remedial action and soil disposal associated with the project and the former USTs.

## **FIELD METHODS/ACTIVITIES**

The fieldwork for this project was conducted from August 10 through 17, 2006; with a utility locate completed on the property prior to beginning work. K. Kaser Company completed the excavation and contaminated soil removal with a Case 9030 B Trackhoe. The original intent was to locate contamination along an existing set of fuel lines from the Welch's Boiler Building to the existing 50,000-gallon UST. As excavation proceeded along the lines in the vicinity of contaminated Boring #4, it was concluded that no leakage had occurred from that system. A plans search indicated that the two 12,000 gallon USTs had previously been located immediately to the south of Boring #4, so excavation at the former location of the USTs for the earlier system was initiated. The excavator first encountered contamination at approximately 14 feet below ground surface, with contamination continuing down to groundwater at 21 feet below ground surface.

320 N. Johnson St.  
Suite 700  
Kennewick, WA 99336  
509.735.2698 PHONE  
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The project continued by excavating into and progressively removing the contamination. Contaminated soil was removed by the excavator and placed into a dump truck for removal from the immediate area and temporary storage in the northeast quadrant of the Welch's site (see Figure 2). Because of lack of room in the excavation area clean soil was also removed and separately stacked in the northeast corner of the Welch's facility. The temporary soil storage areas were asphalt covered, with a catch basin in that area temporarily plugged to disallow contaminant discharge from the site if rain occurred.

Soil remediation was the main target of this project, with all of the contaminated soil from above the water table removed. Contaminated soil from below the water table was left, due to the ineffectiveness of attempts to remediate that soil and groundwater by excavation. As excavation proceeded, a gas line and then the main oil lines between the boiler and 50,000 gallon UST were cut and removed to make room to the northwest for excavation to proceed.

When all contamination above the water table was removed, soil samples from the lower portion of the excavation sidewalls, clean soil stockpile and contaminated soil stockpile were collected into 4-ounce glass jars (see Figures 1 & 2 for the sample locations). All samples were shipped in iced coolers to a certified environmental laboratory, within the required holding time of the relevant analytical method.

Mixed sand and gravel, with many pieces of brick, pipe, rebar and other former construction components were excavated from the former tank basin. Much of the material excavated from the upper 12 feet of the former UST area was fill from within the previous tank basin. Within the excavation, gravel with sand was observed to 10 feet below ground surface, with sand beneath to 18 feet below ground surface. Beneath the sand was sandy gravel down into the water table. Groundwater was encountered in the excavation at 21 feet below ground surface.

Backfill of the remedial excavation zone with clean backfill is underway concurrent with the completion of this report. The clean soil excavated from the hole, as well as clean offsite backfill are being used to complete the backfill.

## **LABORATORY RESULTS**

All samples were submitted to Friedman and Bruya Laboratory in Seattle, Washington for analysis by total petroleum hydrocarbons – diesel extended (NWTPH-Dx) a method that quantifies heavy hydrocarbon oil components. To make the quantifications necessary for contaminated soil disposal at Allied Waste (Rabanco) other analysis was completed including: total metals for lead (Pb), cadmium (Cd) and chromium (Cr), benzene, ethylbenzene, toluene and xylenes (BTEX) and total organic halogens (TOX). Table 1 provides a summary of analytical results. The analyses indicate that fuel contamination was present in the contaminated stockpile, with minimal contaminant impact indicated in the clean stockpile and the final excavation sidewalls. Final analytical results for the clean soil transferred onto the property from offsite have not yet been completed, with that data to be provided in an addendum letter to follow. The laboratory report is attached following this report.

**TABLE 1**  
**ANALYTICAL RESULTS**

Sample Number	Sample Location	Diesel/Oil Results	BTEX	Pb/Cd/Cr	TOX
61405.00-1	Excavation 33W/39S/-21'	All ND	NA	NA	NA
61405.00-2	Excavation 31W/48S/-20'	All ND	NA	NA	NA
61405.00-3	Excavation 23W/31S/-20'	All ND	NA	NA	NA
61405.00-4	Excavation 23W/58S/-19'	All ND	NA	NA	NA
61405.00-5	Excavation 8W/66S/-17'	All ND	NA	NA	NA
61405.00-6	Excavation 5W/57S/-19'	62/ND	NA	NA	NA
61405.00-7	Excavation 6W/45S/-18'	420/1100	NA	NA	NA
61405.00-8	Contaminated Stockpile	<b>8900/12000</b>	All ND	9.31/<1/2.58	<5
61405.00-9	Contaminated Stockpile	NA	NA	NA	NA
61405.00-10	Contaminated Stockpile	<b>8300/11000</b>	ND/ND/ND/0.6	20.6/<1/3.33	<5
61405.00-11	Contaminated Stockpile	NA	NA	NA	NA
61405.00-12	Contaminated Stockpile	<b>1400/2400</b>	ND/ND/ND/0.8	5.46/<1/2.6	<5
61405.00-13	Clean Stockpile	55/ND	NA	NA	NA
61405.00-14	Clean Stockpile	140/ND	NA	NA	NA
61405.00-15	Clean Stockpile	All ND	NA	NA	NA
61405.00-16	Imported Clean Soil	In Progress	NA	NA	NA
61405.00-17	Imported Clean Soil	In Progress	NA	NA	NA
61405.00-18	Imported Clean Soil	In Progress	NA	NA	NA
Soil Cleanup Levels		2000/2000	0.03/7/6/9	250/2/19	NA

**NOTES:**

All sample matrix materials are soil.

WDOE – MTCA Method A Cleanup levels for each constituent are indicated in the last line.

**Bolded** numbers indicate analysis exceeding cleanup levels

All analytical results are in milligrams/kilogram (mg/kg)

ND – Soil sampled and analyzed but constituent not detected.

NA - indicates not applicable or not analyzed.

Excavation sample locations (and depth) are measured (in feet) from the southeast corner of the Welch's Office Building

See Figures 1 & 2 for further sample location information

**CONCLUSIONS**

Analytical results indicate that petroleum hydrocarbon impact above Washington State Department of Ecology (WDOE) Model Toxic Control Act (MTCA) Method A cleanup levels were found in soil from the excavation (see analytical results for the contaminated stockpile, which originated from contaminated soil in the excavation). Field indications of significant bunker fuel contamination were observed within the excavation during remedial action. Approximately 516 cubic yards of contaminated soil were removed from the excavation, with approximately 348 cubic yards of clean soil separately stockpiled in the northeast portion of the site.

The origin of the fuel contamination was judged to be approximately below the south end of the west former 12,000-gallon UST. Excavating and removing the contaminated soil above the water table has reduced potential future groundwater contamination by ending the previously ongoing gravity transfer of oil from soil to groundwater.

Groundwater is contaminated due to the release of bunker fuel. From the previous Phase II, Boring #4 groundwater was most contaminated because it was located closest to the former USTs (approximately at the north end of the tanks and downgradient). Boring #7 (10' – 15" upgradient) indicated much less fuel contamination on groundwater. Downgradient flow of contamination in groundwater did not transport contamination as far as Boring #5 (approximately 75' northeast of the former USTs).

Allied waste "Generator Waste Profile Sheets" have been prepared, with analytical results supplied to the Rabanco Landfill in Klickitat County, Washington (see attached). Removal and offsite disposal of the contaminated soil is to be completed within approximately one-month. At that time waste disposal receipts, a more accurate shipping weight and other not yet available information will be supplied as an addendum to this report.

In accordance with WDOE – MTCA regulations in Chapter 173-340 WAC, the release associated with this cleanup has been reported to the WDOE with a Facility Site ID Number (#89931898) provided by the agency. In conjunction with the contact with WDOE, Welch's is in communication with WDOE for the purposes of joining the Voluntary Cleanup Program (VCP). Joining the VCP will involve submitting this report (and the recently completed Phase II report) and receiving a decision from WDOE concerning whether further groundwater cleanup action, risk assessment, installing monitoring wells (with monitoring) or further assessment is necessary at the Welch's site.

## **RECOMMENDATIONS**

PBS recommends that, in conjunction with the cleanup process and the VCP, Welch's should consider requesting that WDOE provide a No Further Action (NFA) letter regarding remediation of the soil at the site. The WDOE will provide further recommendations concerning how to proceed regarding the remaining onsite groundwater contamination, with further work including, but not necessarily limited to, well installation and monitoring expected.

## **LIMITATIONS**

This work was performed in accordance with generally accepted practices of other consultants undertaking similar studies during the same time period and geographical area. PBS Environmental observed the same degree of care and skill generally exercised by other consultants under similar circumstances and conditions. The findings and conclusions of this report are not scientific certainties, but rather, are based on professional judgement concerning the significance of data gathered during the course of this assessment. The recommendations of this report, or lack thereof, are not considered a legal opinion as to the clients duty concerning due diligence relating to potential liabilities in leasing, owning, or purchasing real estate.

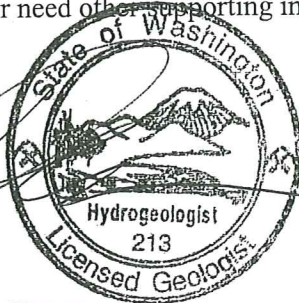
PBS is not able to represent that the site or adjoining land contains no hazardous waste, oil or other latent conditions beyond that detected or observed by PBS during this study. The possibility always exists for contaminants to migrate through surface water, air, or groundwater. The ability to accurately address the environmental risk associated with transport in these media is beyond the scope of this investigation.

PBS very much appreciates the opportunity to provide this report. If you have any questions, need further services or need other supporting information please contact us at (509) 735-2698.

Sincerely,

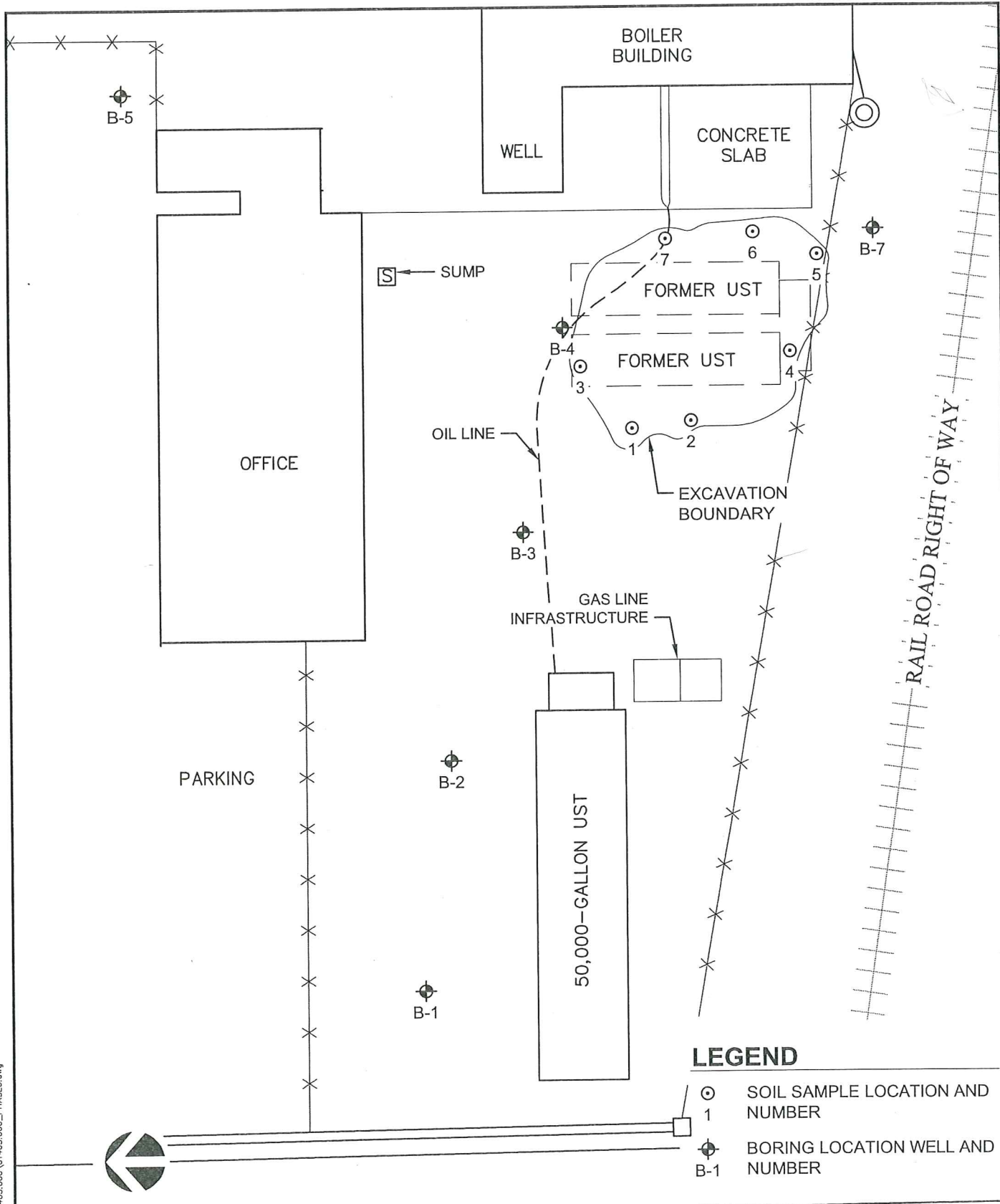


Paul Danielson, LHG  
Project Manager



**Paul E. Danielson**

Attachments: Figure 1 & Figure 2  
Pictures  
Generator Waste Profile Sheets  
Analytical Results



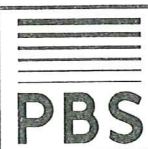
**LEGEND**

- ⊙ 1 SOIL SAMPLE LOCATION AND NUMBER
- ⊕ B-1 BORING LOCATION WELL AND NUMBER

SCALE: 1" = 20'

Prepared for: WELCHS FOODS

8/23/06 10:37 V:\60000\61405.000\61405.000\_PHASE3.dwg



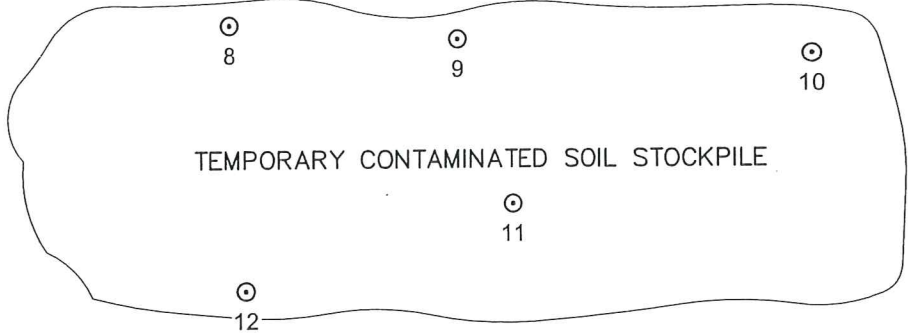
Project #: 61405.000  
Date: AUGUST 2006

**SITE VICINITY AND EXCAVATION REMEDIAL ACTION PLAN**  
10 EAST BRUNEAU  
KENNEWICK, WASHINGTON

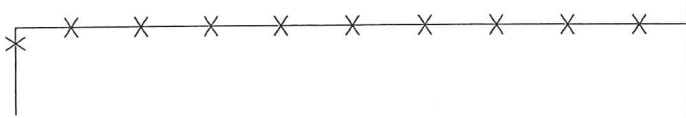
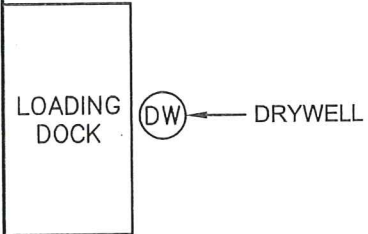
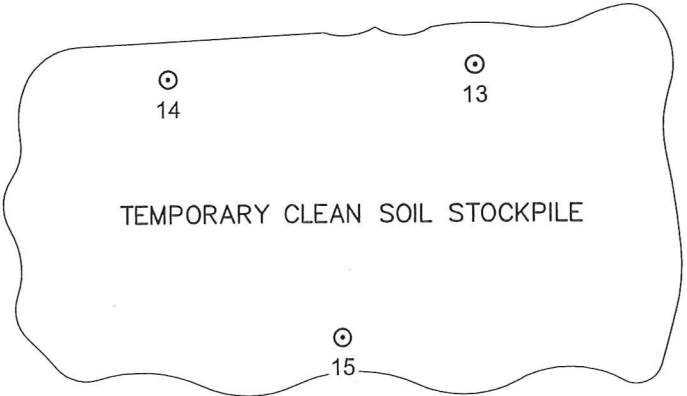
FIGURE  
**1**



NORTHEAST AREA OF WELCH'S FOODS



COVERED DRYWELL → (DW)



SCALE: 1" = 20'

**LEGEND**

- ⊙ SOIL SAMPLE LOCATION AND NUMBER

Prepared for: WELCHS FOODS

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Project #: 61405.000  
 Date: AUGUST 2006

**SITE VICINITY PLAN**  
 10 EAST BRUNEAU  
 KENNEWICK, WASHINGTON

FIGURE

**2**



**PHOTO 1: LOOKING SW AT FINAL EXCAVATION**





**PHOTO 2: GROUNDWATER IN BASE OF EXCAVATION**



**PHOTO 3: LOOKING NORTH AT OIL LINES & DRAINS DURING EXCAVATION PROCESS**



**PHOTO 4: LOOKING EAST AT FINAL EXCAVATION**



**PHOTO 5: LOOKING NORTHEAST ACROSS EXCAVATION**



**PHOTO 6: CONTAMINATED SOIL IN BASE OF EXCAVATION BEFORE PROJECT COMPLETION**



**PHOTO 7: LOOKING WEST ACROSS FINAL EXCAVATION**



**PHOTO 8: LOOKING NE ACROSS FINAL EXCAVATION**



### GENERATOR WASTE PROFILE SHEET

Waste Profile #

Requested Disposal Facility: Roosevelt  
*an Allied Waste Company*

Date: <u>8-21-06</u>
----------------------

#### I. Generator Information

Generator Name: <u>Welch's Foods</u>			
Generator Site Address: <u>10 East Bruneau</u>			
City: <u>Kennecook</u>	County: <u>Benton</u>	State: <u>WA</u>	Zip: <u>99336</u>
Generator State ID Number:		SIC Code Number: <u>2087</u>	
Generator Mailing Address (if different):			
City:	County:	State:	Zip:
Generator Contact Name: <u>Marty Gardner</u>			
Phone Number: <u>(509) 582-2131 ext 301</u>		Fax Number: <u>(509) 582-1710</u>	

#### II. Transporter Information

Transporter Name: <u>To be determined</u>			
Transporter Address:			
City:	County:	State:	Zip:
Transporter Contact Name:			
Phone Number:		Fax Number:	
State Transportation Number:			

#### III. Waste Stream Information

Name of Waste: <u>Bunker fuel contaminated soil</u>	
Process Generating Waste: <u>Leak from underground storage tank</u>	
Type of Waste:	<input type="checkbox"/> INDUSTRIAL PROCESS WASTE or <input checked="" type="checkbox"/> POLLUTION CONTROL WASTE
Physical State:	<input type="checkbox"/> SOLID <input type="checkbox"/> SEMI-SOLID <input type="checkbox"/> POWDER <input type="checkbox"/> LIQUID <input checked="" type="checkbox"/> OTHER: <u>soil</u>
Method of Shipment:	<input checked="" type="checkbox"/> BULK <input type="checkbox"/> DRUM <input type="checkbox"/> BAGGED <input type="checkbox"/> OTHER: _____
Estimated Annual Volume:	<input checked="" type="checkbox"/> CUBIC YARDS: <u>516</u> <input type="checkbox"/> TONS: _____ <input type="checkbox"/> OTHER: _____
Frequency:	<input checked="" type="checkbox"/> ONE TIME <input type="checkbox"/> DAILY <input type="checkbox"/> WEEKLY <input type="checkbox"/> MONTHLY <input type="checkbox"/> OTHER: _____
Special Handling Instructions:	

#### IV. Representative Sample Certification

Is the representative sample collected to prepare this profile and laboratory analysis, collected in accordance with U.S. EPA 40 CFR 261.20(c) guidelines or equivalent rules?		<input type="checkbox"/> NO SAMPLE TAKEN
		<input type="checkbox"/> YES or <input type="checkbox"/> NO
Sample Date: <u>8-16-06</u>	Type of Sample: <input type="checkbox"/> COMPOSITE SAMPLE <input checked="" type="checkbox"/> GRAB SAMPLE	
Sampler's Employer: <u>PBS Engineering &amp; Environmental</u>		
Sampler's Name (printed): <u>Paul Danielson</u>		Signature:



### GENERATOR WASTE PROFILE SHEET (continued)

Waste Profile #

#### V. Physical Characteristics of Waste

Characteristic Components	% by Weight (range)
1. Soil	99.5 %
2. Bunker Fuel	0.5 %
3.	

Color: Dark Brown	Odor (describe): Mild fuel odor	Free Liquids: <input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO Content _____ %	% Solids: 100 %	pH: 17	Flash Point: ____ °F	Phenol ____ ppm
----------------------	------------------------------------	--	--------------------	-----------	-------------------------	--------------------

**Attach Laboratory Analytical Report (and/or Material Safety Data Sheet)  
Including Required Parameters Provided for this Profile**

Does this waste or generating process contain regulated concentrations of the following Pesticides and/or Herbicides: Chlordane, Endrin, Heptachlor (and it epoxides), Lindane, Methoxychlor, Toxaphene, 2,4-D, or 2,4,5-TP Silvex as defined in 40 CFR 261.33?	<input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO
Does this waste or generating process cause it to exceed OSHA exposure limits from high levels of Hydrogen Sulfide or Hydrogen Cyanide as defined in 40 CFR 261.23?	<input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO
Does this waste contain regulated concentrations of Polychlorinated Biphenyls (PCBs) as defined in 40 CFR Part 761?	<input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO
Does this waste contain regulated concentrations of listed hazardous wastes defined in 40 CFR 261.31, 261.32, 261.33, including RCRA F-Listed Solvents?	<input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO
Does this waste contain regulated concentrations of 2,3,7,8-Tetrachlorodibenzodioxin (2,3,7,8-TCDD), or any other dioxin as defined in 40 CFR 261.31?	<input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO
Is this a regulated Toxic Material as defined by Federal and/or State regulations?	<input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO
Is this a regulated Radioactive Waste as defined by Federal and/or State regulations?	<input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO
Is this a regulated Medical or Infectious Waste as defined by Federal and/or State regulations?	<input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO
Is this waste generated at a Federal Superfund Clean Up Site?	<input type="checkbox"/> YES or <input checked="" type="checkbox"/> NO

#### VI. Generator Certification

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true and accurate description of the waste material being offered for disposal. I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic waste, hazardous waste or infectious waste, or any other waste material this facility is prohibited from accepting by law. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inaccurate or untrue. I further certify that the company has not altered the form or content of this profile sheet as provided by Allied Waste Industries, Inc.

Marty Gardner Director of Plant Operations      Welch Foods, Inc.  
AUTHORIZED REPRESENTATIVE NAME AND TITLE (Printed)      COMPANY NAME

     8-23-06  
AUTHORIZED REPRESENTATIVE SIGNATURE      DATE

#### VII. Allied Waste Decision

Approved       Rejected      Expiration: \_\_\_\_\_

Conditions: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\_\_\_\_\_  
Name, Title      Signature      Date



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Charlene Morrow, M.S.  
Yelena Aravkina, M.S.  
Bradley T. Benson, B.S.  
Kurt Johnson, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
TEL: (206) 285-8282  
FAX: (206) 283-5044  
e-mail: fbi@isomedia.com

August 23, 2006

Paul Danielson, Project Manager  
PBS Engineering and Environmental, Inc.  
320 N. Johnson St., Suite 700  
Kennewick, WA 99336

Dear Mr. Danielson:

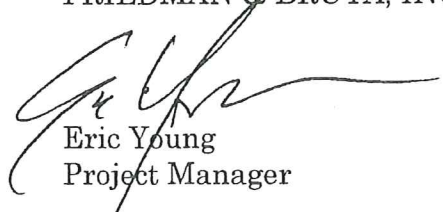
Included are the results from the testing of material submitted on August 18, 2006 from the 61405.00, F&BI 608202 project. There are 11 pages included in this report. Samples 61405.00-8, 61405.00-10, and 61405.00-12 were sent to Spectra Laboratories for TOX analysis. The report generated by Spectra will be forwarded to your office upon receipt.

Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Eric Young  
Project Manager

Enclosures  
pbs0823r.doc

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/23/06  
Date Received: 08/18/06  
Project: 61405.00, F&BI 608202  
Date Extracted: 08/18/06  
Date Analyzed: 08/19/06 and 08/21/06

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES  
USING EPA METHOD 8021B**

Results Reported on a Dry Weight Basis  
Results Reported as µg/g (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Surrogate (% Recovery)</u> (Limit 50-132)
61405.00-8 d 608202-08	<0.2	<0.2	<0.2	<0.6	101
61405.00-10 608202-10	<0.02	<0.02	<0.02	0.06	82
61405.00-12 608202-12	<0.02	<0.02	<0.02	0.08	77
Method Blank	<0.02	<0.02	<0.02	<0.06	100

d - The sample was diluted. Detection limits are raised due to dilution.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/23/06  
 Date Received: 08/18/06  
 Project: 61405.00, F&BI 608202  
 Date Extracted: 08/18/06  
 Date Analyzed: 08/19/06 and 08/21/06

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES  
 FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL  
 USING METHOD NWTPH-Dx  
 Extended to Include Motor Oil Range Compounds  
 Results Reported on a Dry Weight Basis  
 Results Reported as µg/g (ppm)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>TRPH</u> (C <sub>10</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 67-127)
61405.00-1 608202-01	<50	<250	84
61405.00-2 608202-02	<50	<250	86
61405.00-3 608202-03	<50	<250	84
61405.00-4 608202-04	<50	<250	88
61405.00-5 608202-05	<50	<250	103
61405.00-6 608202-06	62	<250	86
61405.00-7 x 608202-07	420	1,100	87
61405.00-8 x 608202-08	8,900	12,000	120
61405.00-10 x 608202-10	8,300	11,000	ip

x - The pattern of peaks present is not solely indicative of diesel. Samples were analyzed for motor oil.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/23/06  
Date Received: 08/18/06  
Project: 61405.00, F&BI 608202  
Date Extracted: 08/18/06  
Date Analyzed: 08/19/06 and 08/21/06

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL  
USING METHOD NWTPH-Dx  
Extended to Include Motor Oil Range Compounds  
Results Reported on a Dry Weight Basis  
Results Reported as µg/g (ppm)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>TRPH</u> (C <sub>10</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 67-127)
61405.00-12 x 608202-12	1,400	2,400	96
61405.00-13 608202-13	55	<250	90
61405.00-14 x 608202-14	140	250	89
61405.00-15 608202-15	<50	<250	79
Method Blank	<50	<250	87

x - The pattern of peaks present is not solely indicative of diesel. Samples were analyzed for motor oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/23/06  
Date Received: 08/18/06  
Project: 61405.00, F&BI 608202  
Date Extracted: 08/18/06  
Date Analyzed: 08/19/06

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

Results Reported on a Dry Weight Basis

Results Reported as  $\mu\text{g/g}$  (ppm)

<u>Sample ID</u> Laboratory ID	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 67-127)
61405.00-7 608202-07	1,800	87
61405.00-8 608202-08	7,900	120
61405.00-10 608202-10	6,900	127
61405.00-12 608202-12	2,700	96
61405.00-14 608202-14	290	89
Method Blank	<250	87

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	61405.00-8	Client:	PBS Engineering
Date Received:	08/18/06	Project:	61405.00, F&BI 608202
Date Extracted:	08/21/06	Lab ID:	608202-08
Date Analyzed:	08/21/06	Data File:	608202-08.1109
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	92	60	125
Indium	82	60	125
Holmium	87	60	125

Analyte:	Concentration ug/g (ppm)
Chromium	2.58
Cadmium	<1
Lead	9.31

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	61405.00-10	Client:	PBS Engineering
Date Received:	08/18/06	Project:	61405.00, F&BI 608202
Date Extracted:	08/21/06	Lab ID:	608202-10
Date Analyzed:	08/21/06	Data File:	608202-10.1110
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	91	60	125
Indium	82	60	125
Holmium	85	60	125

Analyte:	Concentration ug/g (ppm)
Chromium	3.33
Cadmium	<1
Lead	20.6

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	61405.00-12	Client:	PBS Engineering
Date Received:	08/18/06	Project:	61405.00, F&BI 608202
Date Extracted:	08/21/06	Lab ID:	608202-12
Date Analyzed:	08/21/06	Data File:	608202-12.1111
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	91	60	125
Indium	81	60	125
Holmium	86	60	125

Analyte:	Concentration ug/g (ppm)
Chromium	2.60
Cadmium	<1
Lead	5.46



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	PBS Engineering
Date Received:	Not Applicable	Project:	61405.00, F&BI 608202
Date Extracted:	08/21/06	Lab ID:	I6-345 mb
Date Analyzed:	08/21/06	Data File:	I6-345 mb.1106
Matrix:	Soil	Instrument:	ICPMS1
Units:	ug/g (ppm)	Operator:	btb

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	91	60	125
Indium	82	60	125
Holmium	83	60	125

Analyte:	Concentration ug/g (ppm)
Chromium	<1
Cadmium	<1
Lead	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/23/06  
 Date Received: 08/18/06  
 Project: 61405.00, F&BI 608202

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
 FOR BENZENE, TOLUENE, ETHYLBENZENE,  
 AND XYLENES USING EPA METHOD 8021B

Laboratory Code: 608202-10 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Benzene	µg/g (ppm)	<0.02	<0.02	nm
Toluene	µg/g (ppm)	<0.02	<0.02	nm
Ethylbenzene	µg/g (ppm)	<0.02	<0.02	nm
Xylenes	µg/g (ppm)	0.06	<0.06	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	µg/g (ppm)	0.5	92	53-123
Toluene	µg/g (ppm)	0.5	92	62-124
Ethylbenzene	µg/g (ppm)	0.5	96	59-124
Xylenes	µg/g (ppm)	1.5	93	58-123

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/23/06  
 Date Received: 08/18/06  
 Project: 61405.00, F&BI 608202

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
 FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL  
 USING METHOD NWTPH-D<sub>x</sub>**

Laboratory Code: 608202-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	µg/g (ppm)	5,000	<50	113	113	82-133	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	µg/g (ppm)	5,000	113	69-142

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/23/06  
 Date Received: 08/18/06  
 Project: 61405.00, F&BI 608202

**QUALITY ASSURANCE RESULTS  
 FOR THE ANALYSIS OF SOIL SAMPLES  
 FOR METALS BY EPA METHOD 200.8**

Laboratory Code: 608202-12 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Chromium	ug/g (ppm)	2.60	2.85	9	0-20
Cadmium	ug/g (ppm)	<1	<1	nm	0-20
Lead	ug/g (ppm)	5.46	4.32	23 a	0-20

Laboratory Code: 608202-12 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Chromium	ug/g (ppm)	50	2.60	100	50-150
Cadmium	ug/g (ppm)	10	<1	106	50-150
Lead	ug/g (ppm)	20	5.46	105 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chromium	ug/g (ppm)	50	103	70-130
Cadmium	ug/g (ppm)	10	108	70-130
Lead	ug/g (ppm)	20	112	70-130

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.



# SPECTRA Laboratories

2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com


08/22/2006

Friedman & Bruya, Inc  
3012 16th Ave West  
Seattle, WA 98119-2029

Project: 608202  
Sample Matrix: Soil  
Date Sampled: 08/16/2006  
Date Received: 08/21/2006  
Spectra Project: 2006080321  
Rush

<u>Client ID</u>	<u>Spectra #</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Method</u>
#8	1	Total Organic Halogens	<5	mg/Kg	SW846 9076
#10	2	Total Organic Halogens	<5	mg/Kg	SW846 9076
#12	3	Total Organic Halogens	<5	mg/Kg	SW846 9076

SPECTRA LABORATORIES



Steve Hibbs, Laboratory Manager

a7/llp

608202  
 SAMPLE CHAIN OF CUSTODY EY 08-18-06 BI2

Send Report To Paul Danickson  
 Company PBS Engineering and Environmental, Inc  
 Address 320 N Johnson St., Suite 700  
 City, State, ZIP Kennewick, WA 99336  
 Phone # (509) 735-2698 Fax # (509) 735-1867

SAMPLERS (signature) [Signature]  
 PROJECT NAME/NO. welchs  
 PO # 61405.00  
 REMARKS Total metals  
TPH = Total organic Halogen

Page # 1 of 1  
 TURNAROUND TIME  
 Standard (2 Weeks)  
 RUSH  
 Rush charges authorized by: P.D.  
 SAMPLE DISPOSAL  
 Dispose after 30 days  
 Return samples  
 Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED							Notes			
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	TPH-DX Extract		TPH-DX		
61405.00 - 1	01	8-16	4pm	Soil	1											
2	02															
3	03															
4	04															
5	05															
6	06															
7	07															
8	08															
9	09															
10	10															

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>Paul Danickson</u>	<u>PBS</u>	<u>8-17</u>	<u>3 PM</u>
Received by: <u>[Signature]</u>	<u>Shaw Pham</u>	<u>FBI</u>	<u>8/18/06</u>	<u>8:52</u>
Relinquished by:				
Received by:				

KT-7

SAMPLE CHAIN OF CUSTODY EY 08-18-06

Send Report To: Paul D. Shick

Company PBS Engineering and Environmental, Inc  
Address 320 N Johnson St., Suite 700  
City, State, ZIP Kennewick, WA 99336  
Phone # (509) 735-2698 Fax # (509) 735-1867

Page # 1 of 1

SAMPLERS (signature) \_\_\_\_\_

TURNAROUND TIME  
 Standard (2 Weeks)  
 RUSH  
 Rush charges authorized by: \_\_\_\_\_

PROJECT NAME/NO. 61405.00

REMARKS Lead, Cadmium, Chromium, Total organic Halogen.

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Return samples  
 Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	ANALYSES REQUESTED						Notes		
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS		TPH-Diethylhexyl	TPH-Diethylhexyl
61405-00-11	11													
12	12					X								
13	13													
14	14													
15	15													

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8882  
Fax (206) 283-5044

SIGNATURES

Relinquished by: Paul Shick PRINT NAME: Paul Shick COMPANY: PBS DATE: 8-17 TIME: 3:00

Received by: Shan Phan PRINT NAME: Shan Phan COMPANY: FEBI DATE: 8/18/06 TIME: 09:00

Relinquished by: \_\_\_\_\_

Received by: \_\_\_\_\_