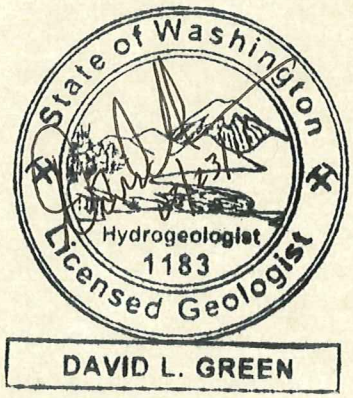
Third Quarter Groundwater Monitoring Report

Comet Trailer Facility – Site ID #503
501 South First Street,
Selah, WA

Prepared For:

Owens Family Partnership
P.O. Box 129
Selah, WA 98942

Prepared By:



SAGE
Earth Sciences, Inc.

1705 S. 24th Ave.
Yakima, WA 98902

February 23, 2011

Executive Summary

The Comet Trailer facility is located at 501 South First Street, Selah, WA. To remove petroleum impacted soil and free diesel that was in contact with groundwater, approximately 5280 cubic yards of diesel impacted soil was excavated from the site on January 2 - February 24, 2010. These soil remediation activities are documented in Sage's *Independent Remedial Action Report, April 9, 2010.* Although removal of diesel/motor oil impacted soil appeared to be adequate, analysis of a post remediation sample of groundwater exposed within the remedial excavation found diesel range petroleum hydrocarbons at a concentration of 52,000 µg/L and motor oil range petroleum hydrocarbons at a concentration of 2,600 µg/L. Although the free product was removed, residual diesel/motor oil range petroleum hydrocarbons concentrations remained in excess of the *Method A Groundwater Cleanup Levels of WAC 173-340-720.* Soil remediation activities are documented in Sage's *Independent Remedial Action Report, April 9, 2010.*

Since residual diesel/motor oil range petroleum hydrocarbon concentrations remained in excess of the *Method A Groundwater Cleanup Levels of WAC 173-340-720* within the final soil remediation excavation, Environmental Drilling Inc. (EDI) of Snohomish, WA installed three (3) additional groundwater-monitoring wells CT-0301-MW6 through CT-0301-MW8) to monitor diesel and motor oil range petroleum hydrocarbon concentrations in groundwater adjacent to the remedial excavation. Analysis of soil samples, collected at each well location found no detectable diesel or motor oil range petroleum hydrocarbons.

Sage collected a groundwater sample from MW-6 through MW8 on August 12, 2010. FBI analysis of groundwater samples, collected from the wells adjacent to the final remedial excavation, found no detectable motor oil range petroleum hydrocarbons in any of the samples. However, diesel range petroleum hydrocarbons were found in one sample, collected from MW6, at a concentration of 250 µg/L. The analyses found no diesel or motor oil concentrations in excess of the *Method A Groundwater Cleanup Levels* of WAC 173-340-720. Based upon groundwater level and survey measurements collected on August 12, 2010, Sage found the groundwater gradient is roughly toward east-southeast.

Sage conducted second quarter groundwater monitoring activities on November 8, 2010. Sage found the groundwater gradient is roughly toward east-southeast. FBI analysis of the groundwater samples collected from MW-6 through MW8 found no detectable motor oil range petroleum hydrocarbons in any of the samples. However, diesel range petroleum hydrocarbons were found in one sample, collected from MW6, at a concentration of 110 µg/L. The analyses found no diesel or motor oil concentrations in excess of the *Method A Groundwater Cleanup Levels* of WAC 173-340-720.

Sage conducted third quarter groundwater monitoring activities on February 15, 2011. Sage found the groundwater gradient is roughly toward east-southeast. FBI analysis of groundwater samples collected from MW-6 through MW8 found no detectable diesel or motor oil range petroleum hydrocarbons in any of the samples. The analyses found no diesel or motor oil concentrations in excess of the *Method A Groundwater Cleanup Levels* of WAC 173-340-720.

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1.0 Introduction

1.1 Purpose

The purpose of this report is to describe findings and actions taken associated with groundwater monitoring activities conducted to evaluate diesel and motor oil range petroleum hydrocarbon concentrations in the vicinity of a diesel remediation excavation at the former Comet Trailer facility located in Selah, Washington. The limited soil remediation and groundwater monitoring project was performed to comply with regulatory requirements established by the Washington State Department of Ecology (WSDOE).

1.2 Scope of Work

Sage Earth Sciences, Inc. (Sage) provided groundwater sampling services for groundwater monitoring wells in the vicinity of the diesel remediation location. Groundwater samples were submitted to Friedman and Bruya, Inc. (FBI), Seattle, WA for independent laboratory analysis.

2.0 Background Information

2.1 Site Location

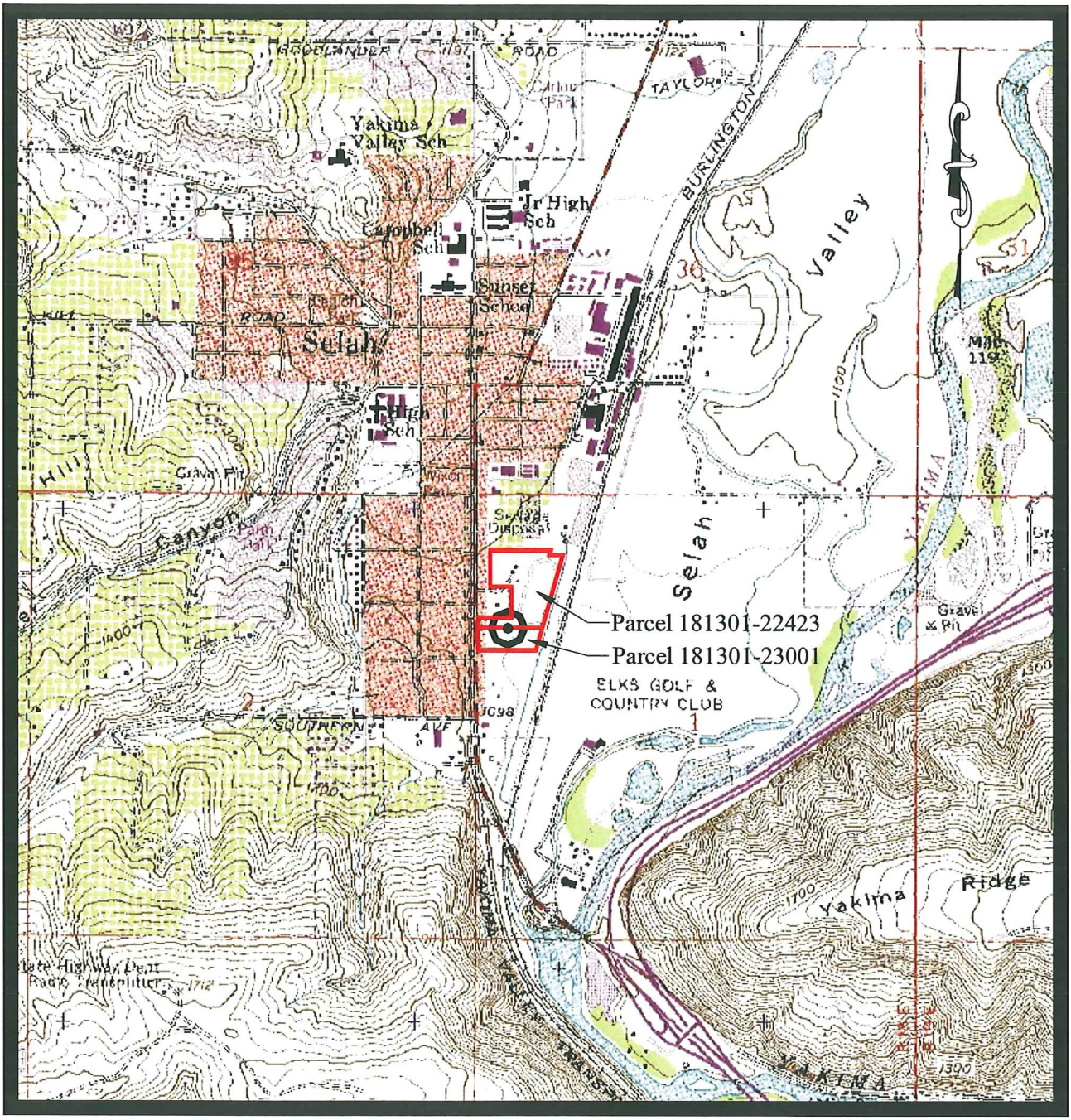
The Comet Trailer facility is located at 501 South First Street, Selah, WA. It is situated within the W 1/2 of the NW 1/4, Section 01, Township 13 North, Range 18 East, Willamette Meridian. Project activities were conducted on Yakima Tax Parcel Numbers: 181301-22423 & 181301-23001. The approximate site latitude is 46° 38' 46.1" and the approximate longitude is 120° 31' 42.9". Figure 1 shows the location of the site.

2.2 Site Description & Adjacent Land Use

The facility is owned by:

Bud Owens Family Limited Partnership
P.O. Box 129
Selah, WA 98942
(509) 697-7264

The authorized site contact is Mrs. Terra Rudick.



Graphic Scale

Contour Interval - 20 Feet

◎ = Site Location

Figure 1. Site Location Map

As shown by Figure 2, the eastern portion of Parcel Number 181301-22423 is occupied by the former Comet Trailer manufacturing building, which currently houses the following commercial businesses: Tree Top & Ross Plant Ingredient Division Warehouse, Graham Packaging and Yakama Juice. The area surrounding the building is covered by asphalt surface. The northwestern portion of this parcel is occupied by a gravel parking lot. The southwestern portion of this parcel is occupied by a storage buildings and a residential dwelling. These western areas are separated from the asphalted area by fencing.

The eastern portion of Parcel Number 181301-23001 is occupied by an asphalt parking, equipment storage area and a forklift repair business. The western portion of this parcel is occupied by a strip mall, an apartment complex and a residential dwelling. Goodwill Industries and small commercial businesses lie west of the northern portion of Parcel Number 181301-22423. South First Street lies immediately west of the Parcel Number 181301-23001 and the southern portion of Parcel Number 181301-22423.

The local topography slopes gently southeast. A drainage ditch, which discharges effluent from the municipal sewer treatment plant, lies immediately east of the subject parcels. The drainage ditch discharges into the Yakima River, which lies approximately three-tenths of a mile southeast of the site.

2.2 Previous Work

During the course of Environmental Site Assessment activities, Kleinfelder, Inc. directed installation of five (5) groundwater monitoring wells (MW-1 through MW-5) on the subject site during March of 1995. The wells were installed by Cascade Drilling, Inc. Monitoring well locations are shown by Figure 2.

During soil and groundwater investigations conducted during August 2004, Technico Environmental Services of Kennewick, WA discovered approximately four (4) inches of Diesel #2 floating on groundwater within MW-3.

Sage performed limited site characterization activities as documented in Sage's *Limited Free Product Removal & Site Characterization Report, February 26, 2006.* Field observations and FBI analytical results for soil and groundwater samples collected from exploratory test pits indicated that diesel range impacted soil and/or groundwater, requiring remedial action, was limited to an aerial extent of approximately 26,750 square feet.

Sage collected a sample of the petroleum product on July 30, 2008 and submitted it to FBI for forensic evaluation. The FBI analyses found medium boiling compounds indicative of diesel fuel No. 2 or heating oil, which has undergone substantial biological degradation. Additional analysis indicated that if the product was used as road fuel, it was produced prior to October 1, 1993, when the EPA mandated the limit of sulfur to 0.05 percent.

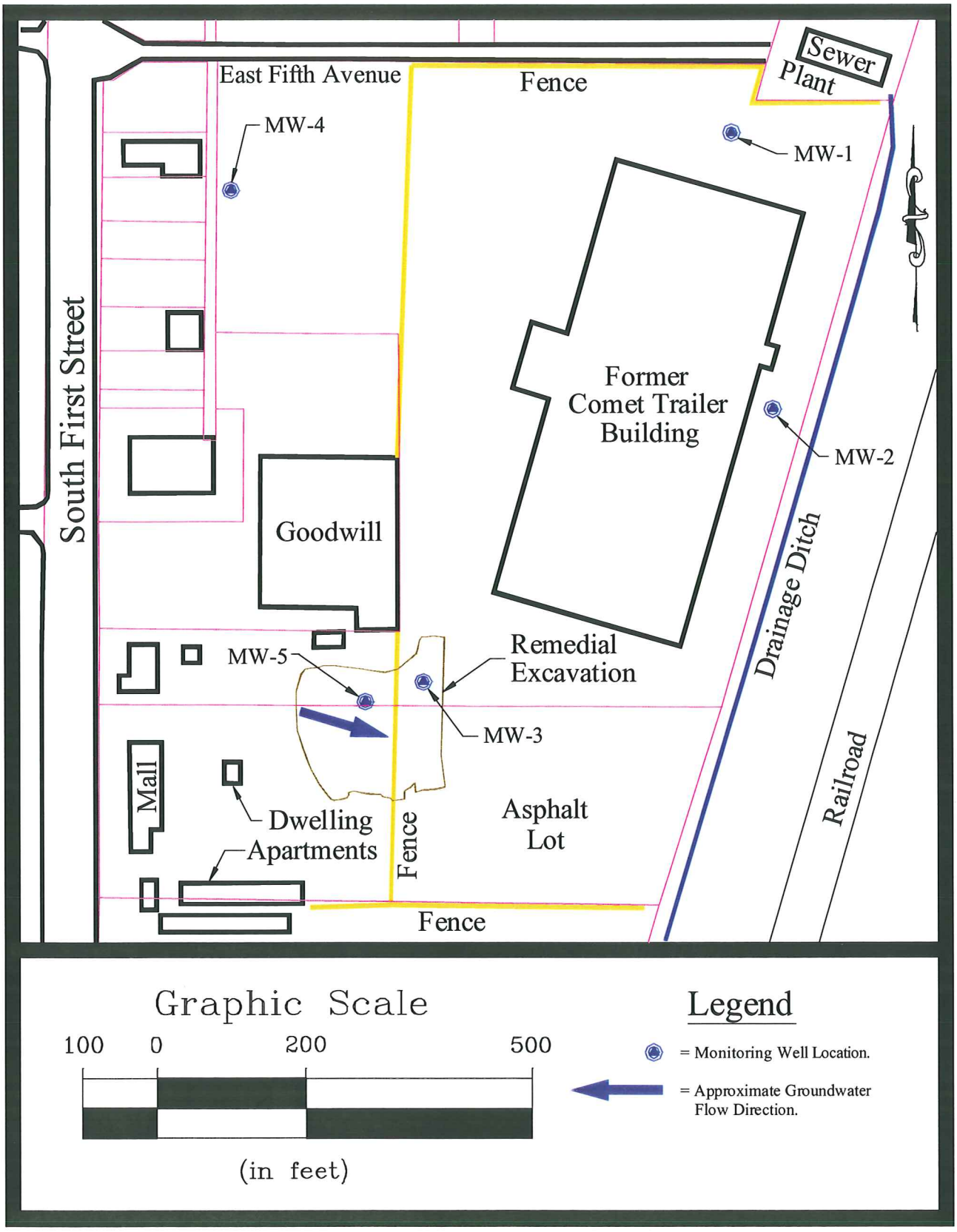


Figure 2. Generalized Site Vicinity Map

Sage conducted groundwater gradient monitoring activities from November 22, 2005 until August 27, 2009, which indicated that the groundwater gradient averaged 0.002 ft/ft and the groundwater flow direction azimuth varied from 101° to 126°. MW-3, which often contained petroleum product, was often "blinded", as the groundwater surface was greater in elevation than the top of the well screen.

To remove petroleum impacted soil that was in contact with groundwater, approximately 5280 cubic yards of diesel impacted soil was excavated from the site on January 2 - February 24, 2010. The remedial excavation perimeter is shown by Figure 2. To facilitate complete removal of impacted soil, MW3 and MW5 were removed completely by excavation. Analysis of final remedial excavation characterization soil samples found no detectable diesel or motor oil range petroleum hydrocarbons, which indicated that residual diesel/motor oil concentrations comply with the *Method A Soil Cleanup Levels of WAC 173-340-740* in the remedial excavation. However, analysis of a post remediation sample of groundwater exposed within the remedial excavation found diesel range petroleum hydrocarbons at a concentration of 52,000 µg/L and motor oil range petroleum hydrocarbons at a concentration of 2,600 µg/L. Although the free product was removed, residual diesel/motor oil range petroleum hydrocarbons concentrations remained in excess of the *Method A Groundwater Cleanup Levels of WAC 173-340-720*. Soil remediation activities are documented in Sage's *Independent Remedial Action Report, April 9, 2010.*

Upon completion of soil remediation activities, Environmental Drilling Inc. (EDI) of Snohomish, WA installed three (3) additional groundwater-monitoring wells (CT-0301-MW6 through CT-0301-MW8) to monitor diesel and motor oil range petroleum hydrocarbon concentrations in groundwater adjacent to the remedial excavation. The well locations are shown by Figure 3. Sage conducted quarterly groundwater monitoring activities on August 12, 2010 and November 8, 2010. Sage found the groundwater gradient is roughly east-southeast. FBI analysis of the groundwater samples found no diesel or motor oil concentrations in excess of the *Method A Groundwater Cleanup Levels* of WAC 173-340-720.

3.0 Groundwater Monitoring

3.1 Groundwater Hydrology

Sage performed groundwater monitoring activities on February 15, 2011. Sage checked for the presence of Light Non-Aqueous Phase Liquid (petroleum product), and collected Depth to Water (DTW) measurements, using a Solinst 122 interface probe during this groundwater monitoring event. No petroleum product was indicated by the interface probe in the groundwater monitoring wells. Groundwater level and survey data for monitoring wells are included in Table 1. The water levels appear to represent the uppermost portion of an unconfined water-bearing unit.

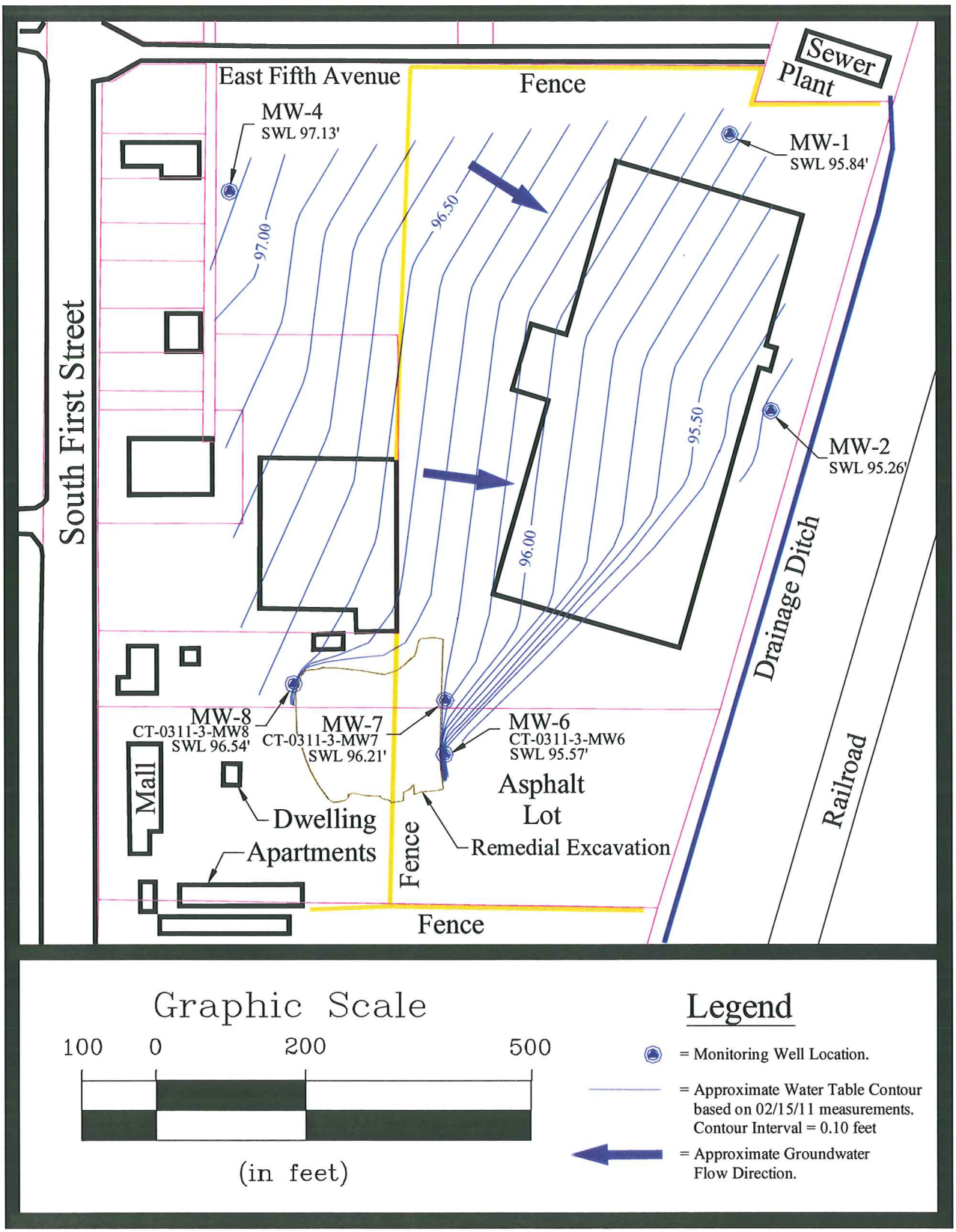


Figure 3. Monitoring Wells, Sampling Locations & Interpolated Water Table Contours.

Table 1. Well Survey and Groundwater Level Data

Site Well ID	WSDOE Unique Well ID	Date Measured	Top of Casing Elevation (TBM)	Bottom Hole Depth (TOC)	Well Screen Depth (feet TOC)	Depth to Groundwater (feet TOC)	Groundwater Elevation (feet TBM)
MW-1	unknown	09/07/10	100.13	--	--	4.31	95.82
		11/08/10				4.23	95.90
		02/15/11				4.29	95.84
MW-2	ABZ361	09/07/10	98.92	--	--	3.64	95.28
		11/08/10				3.53	95.39
		02/15/11				3.66	95.26
MW-3	Removed by excavation during soil remediation activities.						
MW-4	ABZ470	09/07/10	106.13	--	--	9.48	96.65
		11/08/10				9.13	97.00
		02/15/11				9.00	97.13
MW-5	Removed by excavation during soil remediation activities.						
MW-6	BCB696	09/07/10	101.14	14.7	4.7 – 14.7	5.87	95.27
		11/08/10				5.59	95.55
		02/15/11				5.57	95.57
MW-7	BCB697	09/07/10	101.23	14.2	4.2 – 14.2	5.45	95.78
		11/08/10				5.09	96.14
		02/15/11				5.02	96.21
MW-8	BCB698	09/07/10	103.70	14.4	4.4-14.4	7.59	96.11
		11/08/10				7.23	96.47
		02/15/11				7.16	96.54

TBM – Relative to Temporary Bench Mark, TOC – Relative to Top Of Casing

On February 15, 2011, the groundwater surface was found to lie at depths ranging from 3.66 to 9.00 feet below top of casing in the monitoring wells. The local groundwater gradient in the vicinity of the remedial excavation was found to be approximately from the north-northwest to the south-southeast. Figure 3 depicts the interpolated potentiometric surface (water table) derived from water level measurements in wells MW-1, MW-2, MW-4 and MW-6 through MW-8 on February 15, 2011. The precise groundwater flow direction in the area of the remedial excavation was not calculated since groundwater is currently exposed at the excavation floor, which provides a preferred groundwater migration pathway with no resistance (water surface elevation is the same throughout the remedial excavation). The current data suggests that MW-6 and MW-7 are downgradient of the final remedial excavation.

3.2 Groundwater Sampling & Analysis

Upon completion of monitoring well development, Sage collected a groundwater sample from each well (CT-0310-3-MW6 through CT-0310-3-MW8) on February 15, 2011. Sampling methods are described in Appendix A and sample descriptions are documented on the *Daily Field Sampling Log* (Appendix B). The groundwater samples were submitted to FBI for independent laboratory analysis. The FBI analytical results are included as Appendix C. FBI analysis of the groundwater samples found no detectable diesel or motor oil range petroleum hydrocarbons in any of the samples.

Comparison of the FBI analytical results (Appendix C) with the *Method A Groundwater Cleanup Levels* of WAC 173-340-720 (Appendix D) indicates that no remediation is required at the MW6 through MW8 sampling locations.

Based upon the analytical results for the groundwater samples well development purge water was spread over impacted soil in a soil treatment area established at the northwest portion of the property.

4.0 Recommendations

4.1 Quarterly Groundwater Monitoring

Sage recommends continuing the quarterly groundwater-monitoring program to monitor groundwater gradient (flow direction) as well as concentrations of diesel and motor oil range petroleum hydrocarbons. Sage recommends collection and analysis of groundwater samples on a quarterly schedule (every three months) until petroleum hydrocarbon concentrations do not exceed risk based "Cleanup Levels" established in WAC 173-340-720 for four consecutive quarters. Groundwater level measurements should be performed at this time to ensure that a downgradient monitoring well is in place in the case of changing groundwater flow directions.

5.0 Limitations

In performance of this project, Sage Earth Sciences has conducted its activities in accordance with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. The conclusions and recommendations are based upon our field observations and independent laboratory analyses. Since the scope of work for this project is confined to limited groundwater characterization, this document does not imply that the property is free of other environmental constraints. This report is solely for the use and information of our client. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and other parameters indicated. Sage Earth Sciences, Inc. is not responsible for the impacts of changes in environmental standards, practices, or regulations subsequent to the performance of services. Sage Earth Sciences, Inc. does not warrant the accuracy of information supplied by others, nor use of segregated portions of this report. Sage Earth Sciences, Inc. assumes no liability for conditions we were not authorized to evaluate, or conditions not generally recognized as predictable when services were performed.

Appendix A

Groundwater Sampling Methodology – Low Flow Purging

Prior to introducing groundwater-sampling equipment into the monitoring well, Sage collected a Depth to Water (DTW) measurement and checked for the presence of floating product (LNAPL) on the water table using a Solinst Model 122 Interface Probe. DTW measurements are recorded on the Daily Field Sampling Log.

Unless sampling was conducted immediately after well development, Sage purged three (3) well column volumes of water from each well, prior to collecting groundwater samples, to introduce formation water into each well. Each well was purged using a Geotech Series II® Peristaltic Pump using a flow rate less than 1.0 liter per minute to minimize drawdown of the well. The flow rate was determined by measuring the volume of effluent collected in a graduated beaker in one-minute intervals (mL/min).

The peristaltic pump operates by mechanical peristalsis so the sample is only exposed to new polyethylene sampling tubing and norprene tubing. Water was pumped from depths between 2 feet and 3 feet below the water table. Pumped water was discharged into a 5-gallon pail for transfer into Investigative Derived Waste (IDW) storage barrels.

When three (3) well column volumes of water were purged from the well, water was discharged from the pump system directly into laboratory supplied sample containers. Sample containers consisted of:

- 40 mL VOA's preserved with HCl for NWTPH-G/VOC analysis,
- 500 mL amber jars with no preservative for NWTPH-Dx/SVOC analysis and
- 500 mL Poly containers preserved with HNO_3 for metals analysis.

Upon filling each sample container, the following methodology for sample handling was used:

1. Replace the sample container cap. Invert VOA's to ensure there is no airspace in the sample.
2. Label sample containers with a unique identification number, the analytical procedure to be used, the time/date of sample collection, and sample preservation method.
3. Log each sample on the Chain-of-Custody form.
4. Place samples in coolers containing wet ice to cool the samples to 4°C ± 2°C until transferred to a refrigerator at the Sage office for temporary storage.
5. Samples were packed on the day of transport in a shipping cooler packed with absorbent material and blue ice for shipment to the fixed laboratory.
6. The signed Chain-of-Custody forms were taped on the underside of the cooler lid in a sealed plastic bag.
7. The lid of the cooler was secured with strapping tape and custody seals were affixed across the lid/cooler interface. Appropriate waybills were taped to the top of the cooler.
8. The samples were transported to the fixed analytical laboratory via commercial carrier.

Appendix B

Monitoring Well Sampling Log

Project# CT-0311-3 Date 2-15-11

Field Personnel Rodney Heit

Project Location Comet Trailer Site
501 1st Street Selah, WA.

Time	Well Identification	Observations	DTW	DTP	Temp	Ph	BHD	TOV
9:18	CT-0311-3-MW6		5.57	NA	NA	NA	NA	NA
9:56	CT-0311-3-MW7		5.02	↓	↓	↓	↓	↓
10:49	CT-0311-3-MW8		7.16	↓	↓	↓	↓	↓

FID
Ambient Vapors ________Units
Solinist Model 122 Interface Meter

DTW = Depth to water
DTP = Depth to product, water interface.
BHD = Bottom of hole depth
TOV = Total Organic Vapors

Appendix C

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
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February 22, 2011

Rodney Heit, Project Manager
Sage Earth Sciences, Inc.
1705 S 24th Ave
Yakima, WA 98902

Dear Mr. Heit:

Included are the results from the testing of material submitted on February 17, 2011 from the CT-0311-3, F&BI 102191 project. There are 4 pages included in this report. 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.

Michael Erdahl
Project Manager

Enclosures
SES0222R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 17, 2011 by Friedman & Bruya, Inc. from the Sage Earth Sciences CT-0311-3 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Sage Earth Sciences
102191-01	CT-0311-2-MW6
102191-02	CT-0311-2-MW7
102191-03	CT-0311-2-MW8

All quality control requirements were acceptable.

Date of Report: 02/22/11
Date Received: 02/17/11
Project: CT-0311-3, F&BI 102191
Date Extracted: 02/18/11
Date Analyzed: 02/18/11 and 02/21/11

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 51-134)
CT-0311-2-MW6 102191-01	<50	<250	96
CT-0311-2-MW7 102191-02	<50	<250	98
CT-0311-2-MW8 102191-03	<50	<250	97
Method Blank 01-0297 MB	<50	<250	94

Data Qualifiers & Definitions

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.

A1 – More than one compound of similar molecule structure was identified with equal probability.

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.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

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

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

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

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

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

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Appendix D

Table 720-1
Method A Cleanup Levels for Ground Water.[a]

Hazardous Substance	CAS Number	Cleanup Level
Arsenic	7440-38-2	5 ug/liter[b]
Benzene	71-43-2	5 ug/liter[c]
Benzo(a)pyrene	50-32-8	0.1 ug/liter[d]
Cadmium	7440-43-9	5 ug/liter[e]
Chromium (Total)	7440-47-3	50 ug/liter[f]
DDT	50-29-3	0.3 ug/liter[g]
1,2 Dichloroethane (EDC)	107-06-2	5 ug/liter[h]
Ethylbenzene	100-41-4	700 ug/liter[i]
Ethylene dibromide (EDB)	106-93-4	0.01 ug/liter[j]
Gross Alpha Particle Activity		15 pCi/liter[k]
Gross Beta Particle Activity		4 mrem/yr[l]
Lead	7439-92-1	15 ug/liter[m]
Lindane	58-89-9	0.2 ug/liter[n]
Methylene chloride	75-09-2	5 ug/liter[o]
Mercury	7439-97-6	2 ug/liter[p]
MTBE	1634-04-4	20 ug/liter[q]
Naphthalenes	91-20-3	160 ug/liter[r]
PCB mixtures		0.1 ug/liter[s]
Radium 226 and 228		5 pCi/liter[t]
Radium 226		3 pCi/liter[u]
Tetrachloroethylene	127-18-4	5 ug/liter[v]
Toluene	108-88-3	1,000 ug/liter[w]
Total Petroleum Hydrocarbons[x]		
[Note: Must also test for and meet cleanup levels for other petroleum components--see footnotes!]		
Gasoline Range Organics		800 ug/liter
Benzene present in ground water		1,000 ug/liter
No detectable benzene in ground water		
Diesel Range Organics		500 ug/liter
Heavy Oils		500 ug/liter
Mineral Oil		1,000 ug/liter
1,1,1 Trichloroethane	71-55-6	200 ug/liter[y]
Trichloroethylene	79-01-5	5 ug/liter[z]
Vinyl chloride	75-01-4	0.2 ug/liter[aa]
Xylenes	1330-20-7	1,000 ug/liter[bb]

Footnotes:

a **Caution on misusing this table.** This table has been developed for specific purposes. It is intended to provide conservative cleanup levels for drinking water beneficial uses at sites undergoing routine cleanup actions or those sites with relatively few hazardous substances. This table may not be appropriate for defining cleanup levels at other sites. For these reasons, the values in this table should not automatically be used to define cleanup levels that must be met for financial, real estate, insurance coverage or placement, or similar transactions or purposes. Exceedances of the values in this table do not necessarily mean the ground water must be restored to those levels at all sites. The level of restoration depends on the remedy selected under WAC 173-340-350 through 173-340-390.

b **Arsenic.** Cleanup level based on background concentrations for state of Washington.

c **Benzene.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).

d **Benzo(a)pyrene.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61), adjusted to a 1 x 10^{-5} risk. This value may also be used as the total concentration that all carcinogenic PAHs must meet using the toxicity equivalency methodology in WAC 173-340-708(8).

e **Cadmium.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.62).

f **Chromium (Total).** Cleanup level based on concentration derived using Equation 720-1 for hexavalent chromium. This is a total value for chromium III and chromium VI. If just chromium III is present at the site, a cleanup level of 100 ug/l may be used (based on WAC 246-290-310 and 40 C.F.R. 141.62).

g **DDT (dichlorodiphenyltrichloroethane).** Cleanup levels based on concentration derived using Equation 720-2.

h **1,2 Dichloroethane (ethylene dichloride or EDC).** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).

i **Ethylbenzene.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).

j **Ethylene dibromide (1,2 dibromoethane or EDB).** Cleanup level based on concentration derived using Equation 720-2, adjusted for the practical quantitation limit.

k **Gross Alpha Particle Activity, excluding uranium.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.15).

l **Gross Beta Particle Activity, including gamma activity.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.15).

m **Lead.** Cleanup level based on applicable state and federal law (40 C.F.R. 141.80).

n **Lindane.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).

o **Methylene chloride (dichloromethane).** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).

p **Mercury.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.62).

q **Methyl tertiary-butyl ether (MTBE).** Cleanup level based on federal drinking water advisory level (EPA-822-F-97-009, December 1997).

r **Naphthalenes.** Cleanup level based on concentration derived using Equation 720-1. This is a total value for naphthalene, 1-methyl naphthalene and 2-methyl naphthalene.

s **PCB mixtures.** Cleanup level based on concentration derived using Equation 720-2, adjusted for the practical quantitation limit. This cleanup level is a total value for all PCBs.

t **Radium 226 and 228.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.15).

u **Radium 226.** Cleanup level based on applicable state law (WAC 246-290-310).

v **Tetrachloroethylene.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).

w **Toluene.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).

x **Total Petroleum Hydrocarbons (TPH).** TPH cleanup values have been provided for the most common petroleum products encountered at contaminated sites. Where there is a mixture of products or the product composition is unknown, samples must be tested using both the NWTPH-Gx and NWTPH-Dx methods and the lowest applicable TPH cleanup level must be met.

– **Gasoline range organics** means organic compounds measured using method NWTPH-Gx. Examples are aviation and automotive gasoline. The cleanup level is based on protection of ground water for noncarcinogenic effects during drinking water use. Two cleanup levels are provided. The higher value is based on the assumption that no benzene is present in the ground water sample. If any detectable amount of benzene is present in the ground water sample, the lower TPH cleanup level must be used. No interpolation between these cleanup levels is allowed. The ground water cleanup level for any carcinogenic components of the petroleum [such as benzene, EDB and EDC] and any noncarcinogenic components [such as ethylbenzene, toluene, xylenes and MTBE], if present at the site, must also be met. See Table 830-1 for the minimum testing requirements for gasoline releases.

– **Diesel range organics** means organic compounds measured using NWTPH-Dx. Examples are diesel, kerosene, and #1 and #2 heating oil. The cleanup level is based on protection from noncarcinogenic effects during drinking water use. The ground water cleanup level for any carcinogenic components of the petroleum [such as benzene and PAHs] and any noncarcinogenic components [such as ethylbenzene, toluene, xylenes and naphthalenes], if present at the site, must also be met. See Table 830-1 for the minimum testing requirements for diesel releases.

– **Heavy oils** means organic compounds measured using NWTPH-Dx. Examples are #6 fuel oil, bunker C oil, hydraulic oil and waste oil. The cleanup level is based on protection from noncarcinogenic effects during drinking water use, assuming a product composition similar to diesel fuel. The ground water cleanup level for any carcinogenic components of the petroleum [such as benzene, PAHs and PCBs] and any noncarcinogenic components [such as ethylbenzene, toluene, xylenes and naphthalenes], if present at the site, must also be met. See Table 830-1 for the minimum testing requirements for heavy oil releases.

– **Mineral oil** means non-PCB mineral oil, typically used as an insulator and coolant in electrical devices such as transformers and capacitors measured using NWTPH-Dx. The cleanup level is based on protection from noncarcinogenic

effects during drinking water use. Sites using this cleanup level must analyze ground water samples for PCBs and meet the PCB cleanup level in this table unless it can be demonstrated that: (1) The release originated from an electrical device manufactured after July 1, 1979; or (2) oil containing PCBs was never used in the equipment suspected as the source of the release; or (3) it can be documented that the oil released was recently tested and did not contain PCBs. Method B (or Method C, if applicable) must be used for releases of oils containing greater than 50 ppm PCBs. See Table 830-1 for the minimum testing requirements for mineral oil releases.

y **1,1,1 Trichloroethane.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).

z **Trichloroethylene.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).

aa **Vinyl chloride.** Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61), adjusted to a 1×10^{-5} risk.

bb **Xylenes.** Cleanup level based on xylene not exceeding the maximum allowed cleanup level for total petroleum hydrocarbons and on prevention of adverse aesthetic characteristics. This is a total value for all xylenes.