KSIR

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Southwest Regional Office
Toxics Cleanup Program
PO Box 47775
Olympia, WA 98504-7775
360-407-6240

TRANSMITTAL MEMO

Date: November 12, 2013

TO: Mr. Kevin DeWhitt

RE: Plas2Fuel Corp.
SW1094

Subject: Explanation of Timeline

NOTE: **The determination date is the date Ecology approved the No Further Action status for the site. Final payment, EIM Data submission, once received, the NFA letter was released.**

Ecology Determination date: October 21, 2013

Email Customer Notification: October 21, 2013

Payment received date: October 3, 2013

EIM Data successfully uploaded: November 12, 2013

Ecology Determination letter mailed/sent: November 12, 2013

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

November 12, 2013

Mr. Kevin DeWhitt
7904 SW Hunziker St.
Tigard, OR 97223

Re: No Further Action at the following Site:

- **Site Name:** Plas2Fuel Corp.
- **Site Address:** 2300 Talley Way, Suite B, Kelso, WA
- **Facility/Site No.:** 11149
- **Cleanup Site ID No.:** 1403
- **VCP Project No.:** SW1094

Dear Mr. DeWhitt:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Plas2Fuel Corp. facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Is further remedial action necessary to clean up contamination at the Site?

No. Ecology has determined that no further remedial action is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following release:

- Petroleum Hydrocarbons and total metals in Soil and Groundwater.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. Request for No Further Action, Renaud Electric, Heating, and Cooling/Plas2Fuel Site, 2300 Talley Way, Kelso, WA dated May 17, 2013 by IO Environmental & Infrastructure, Inc (IO).

2. Subsurface Investigation and Cleanup Action Summary Report, Renaud Electric, Heating, and Cooling/Plas2Fuel Site, 2300 Talley Way, Kelso, WA dated August 3, 2011 by Cherokee Construction Services, LLC (Cherokee).

3. Additional Subsurface Investigation Work Plan, Renaud Electric, Heating, and Cooling/Plas2Fuel Site, 2300 Talley Way, Kelso, WA dated February 4, 2011 by Cherokee.

4. Renaud Electric Heating and Cooling Property Phase 1 Environmental Assessment dated February 7, 2011 by Cherokee.

These documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. You can make an appointment by calling the SWRO resource contact at (360) 407-6365.

This opinion is void if any of the information contained in these documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that no **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described below.

The Site is a warehouse located in a commercial/industrial area of Kelso, Washington. The previous business operating in the warehouse (Plas2Fuel) was a company that recycled plastic using a machine that melts the plastic and converts it to a type of heavy crude oil. This oil resembles a thick paraffinic type of substance that does not flow easily. Scrubbers associated with the operation separate the oil and acidic water, both of which are stored in metal drums or plastic totes. These drums and totes are then moved outside the warehouse for storage in an unpaved area adjacent to the warehouse. A Site Location Map is included as Figure 1 in the Enclosures.

An environmental report tracking system record notes that two spills were called in on November 13, 2008 and December 11, 2008. One was from an oil tote, and the other was for oil near a corroded oil drum. Ecology conducted an Initial Investigation (II) Site visit and collected five soil samples from areas of potential impact. Three of the five samples indicated impacts of lube oil-range total petroleum hydrocarbons (TPH-O) in the surface soils greater than MTCA Method A Cleanup Levels.

The owner of the business conducted a limited soil excavation and collected confirmation soil samples in two of the previously identified areas. The soil sample results from these two areas indicated that both were cleaned up to below MTCA Method A Cleanup Levels.

During a Dangerous Waste Compliance inspection conducted by Ecology in May 2009, it was noted that acidic scrubber water was being discharged to a surge tank associated with the sewer system on the Site. The hazardous waste inspector collected a sample of the water sludge within the surge tank. The analytical results identified the waste as having metals concentrations high enough to label it as a hazardous waste. It was recommended the surge tank be tested for integrity, the waste within the tank removed and disposed of properly, and the entire system cleaned. During tank cleaning and integrity testing, it was identified that the system was not holding a static water level and that a seal was compromised. The tank also overflowed during testing possibly releasing some of its contents to the surrounding soils. Following the replacement of the seal, the tank was functioning as designed.

Ecology conducted an additional Site visit in May 2010, to review the locations of the soil excavations. One additional area further to the east, identified during the II, where equipment was parked, had not been addressed at the time of the Site visit.

Ecology issued a further action opinion letter in August 2010 outlining the need for additional investigation surrounding the surge tank (for metals that had been released from the malfunctioning tank) and additional sampling to determine the extent of TPH-O surrounding former oil spill areas in the parking lot.

To address the concerns outlined in the opinion letter, Cherokee conducted a Phase 1 Environmental Site Assessment in December 2010. This investigation identified a former underground storage tank (UST) area on the northwest portion of the. In January 2011, Cherokee advanced 11 soil borings at the Site (three adjacent to the surge tank), one near a spill area, and seven in and around the former UST area. These locations are shown on Figures 2 and 3 included in the Enclosures. A total of eight soil samples were collected and submitted for testing. Samples collected near the former surge tank area were submitted for priority pollutant metals (antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, thallium, and zinc). Soil samples collected in the former UST area were submitted for gasoline-range TPH (TPH-Gx), diesel-range TPH (TPH-Dx), TPH-O, benzene, toluene, ethylbenzene, xylenes (BTEX), 1-2 Dibromoethane (EDB), 1-2 Dichloroethane (EDC), Methyl tertiary-butyl ether (MTBE), total lead, and Naphthalenes.

No priority pollutant metals were detected in any of the soil samples collected from the surge tank area at levels greater than their respective MTCA Cleanup Levels. A summary of the metals results is presented in Table 2 included in the Enclosures. A sample collected from the oil spill area identified during the Ecology Site visit did not have concentrations of TPH-Dx or TPH-O greater than their respective MTCA Method A Cleanup Levels [2,000 milligrams/kilogram (mg/kg)]. Results from the soil samples collected in and around the former UST area indicated that one sample (from the center of the area) had TPH-Gx and ethylbenzene at levels greater than their MTCA Method A Cleanup Levels (100 mg/kg and 6 mg/kg, respectively). Groundwater samples were also collected from select borings. Results from the groundwater testing at SB-2 and SB-4 identified total arsenic and lead at levels greater than their respective MTCA Method A Cleanup Levels of 5 micrograms per liter (µg/l) and 15 µg/l at SB-2 and SB-3 (surge tank area).

Cherokee excavated and removed the impacted soils from the former UST area of the Site. A separate area, identified during the boring program, where machinery was noted to be leaking diesel fuel was also excavated at this time. Confirmation soil samples collected at the extents of each excavation area (shown on Figure 4 and in Tables 1 and 3 in the Enclosures) did not have any exceedances of MTCA Method A Cleanup Levels. A total of 427 tons of soil were removed from the Site. An additional 3,800 gallons of groundwater that collected in the UST excavation was also pumped and removed from the Site to aid in the removal of soils in the excavation.

Following completion of the excavation activities, Cherokee installed three groundwater monitoring wells (MW-1 through MW-3) surrounding the surge tank area, and three monitoring wells (MW-4 through MW-6) in the former UST excavation area. These locations along with May 2011 groundwater contours are shown on Figure 8 included in the Enclosures. Cherokee conducted two quarterly groundwater sampling events (February 2011 and May 2011) to assess groundwater quality following the excavation activities. Groundwater samples from the surge tank area were collected for analysis of total arsenic and total lead. Samples collected from the former UST area wells were tested for TPH-Gx, BTEX, and naphthalenes. None of the samples collected were detected at concentrations greater than their respective MTCA Method A Cleanup Levels. Following discussions with Ecology, Cherokee conducted an additional two quarterly sampling events (August and November 2011). Total arsenic was detected in MW-2 at 6.4 µg/l, which is greater than the MTCA Method A Cleanup Level of 5 µg/l. Quarterly sampling continued for two additional quarters (February and May 2012). Sporadic detections of total arsenic in wells MW-2 and MW-3, and in wells MW-4 through MW-6 (outside the surge tank area), greater than MTCA Method A Cleanup Levels were noted. Total lead was not detected during any event at concentrations greater than method detection limits.

IO took over the project in August 2012 and performed an evaluation of the data generated at the Site. Ecology was again consulted and it was recommended that low-flow sampling as well as measuring total suspended sediment (TSS) to characterize the amount of suspended solids in the samples should be undertaken during the next sampling events. It was also recommended that dissolved arsenic be tested for comparison. IO conducted an additional three quarterly sampling events (August 2012, November 2012, and February 2013). Although low-flow sampling was used, TSS continued to be an issue [average of 15 nephelometric turbidity units (NTU)] and

sporadic exceedances of the MTCA Method A Cleanup Level for total arsenic were again encountered. A value of 5 or better NTUs is recommended during sampling. Dissolved arsenic also sporadically exceeded the MTCA Method A Cleanup Levels; however, at reduced concentrations when compared to the total arsenic numbers. In the well closest to the surge tank (MW-1), no arsenic or lead was detected above MTCA Method A Cleanup Levels. A summary of arsenic and lead results in groundwater is presented in Table 1 (IO 2013) included in the Enclosures.

The Kelso area primarily consists of alluvium underlain by Miocene volcanic basalts. Soils encountered during the Site investigations were predominantly coarse sands with interbedded silts and a trace of gravel. Groundwater was encountered between 4 to 6 feet below ground surface (bgs) and flows to the west to southwest under a low hydraulic gradient.

IO reviewed the general soil types deposited in the area and surmised that arsenic detections in groundwater are likely a result of deposition by volcanic activity that was carried as sediment in the Cowlitz River and deposited across the Region. This combined with the high TSS in the samples suggests that the arsenic detections in groundwater are a result of natural processes rather than related to the surge tank on the Site.

2. **Establishment of cleanup standards.**

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

a. **Cleanup levels.**

MTCA Method A Cleanup Levels for unrestricted land use for soil and groundwater were used to characterize the Site.

b. **Points of compliance.**

Standard points of compliance were used for the Site. The point of compliance for protection of groundwater was established in the soils throughout the Site. For soil cleanup levels based on human exposure via direct contact or other exposure pathways where contact with the soil is required to complete the pathway, the point of compliance was established in the soils throughout the Site from the ground surface to 15 feet bgs. In addition, the point of compliance for the groundwater was established throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest most depth that could potentially be affected by the Site.

3. **Selection of cleanup action.**

Ecology has determined the cleanup action you selected for the Site meets the substantive requirements of MTCA.

The cleanup action selected for the Site was the excavation and off-Site disposal of contaminated soil and collection of confirmation soil samples.

4. **Cleanup.**

Ecology has determined the cleanup you performed meets the cleanup standards established for the Site.

In 2010, approximately 10 tons of impacted soils were removed from the oil-stained areas on the Site. In 2011, approximately 427 tons of petroleum-impacted soil was removed from the Site and taken to the Hillsboro Landfill. Groundwater monitoring did not identify any petroleum-related constituents in the groundwater. Arsenic detections in groundwater were surmised to be related to natural processes rather than Site activities.

Listing of the Site

Based on this opinion, Ecology will remove the Site from our Confirmed and Suspected Contaminated Sites List.

Limitations of the Opinion

1. **Opinion does not settle liability with the state.**

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. **Opinion does not constitute a determination of substantial equivalence.**

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. **State is immune from liability.**

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Termination of Agreement

Thank you for cleaning up the Site under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project (#SW1094)

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion or the termination of the Agreement, please contact me by phone at 360-407-7263 or e-mail at tmid461@ecy.wa.gov.

Sincerely,

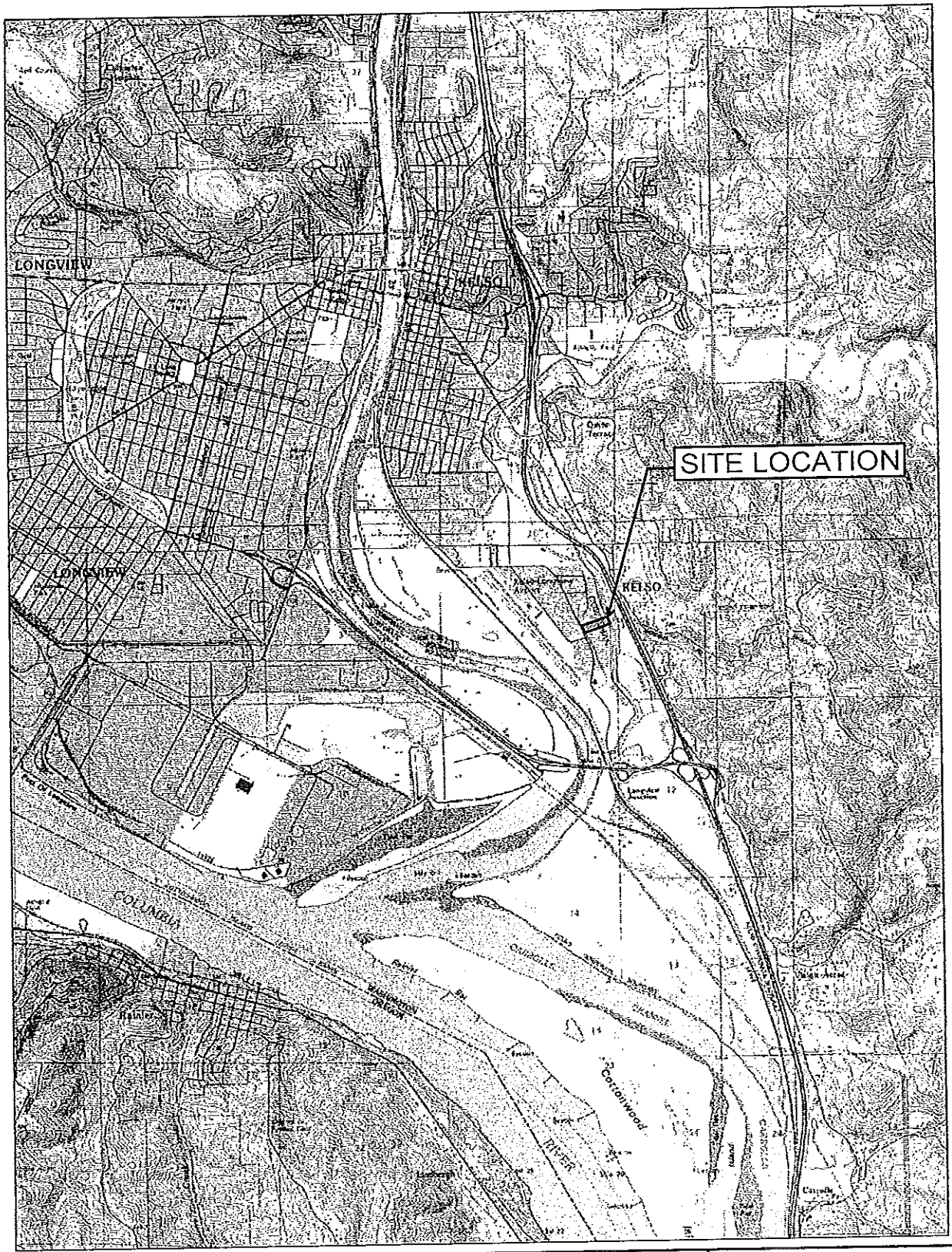
Thomas Middleton L.HG.
SWRO Toxics Cleanup Program

TMM/ksc:Plas2Fuel Kelso NFA

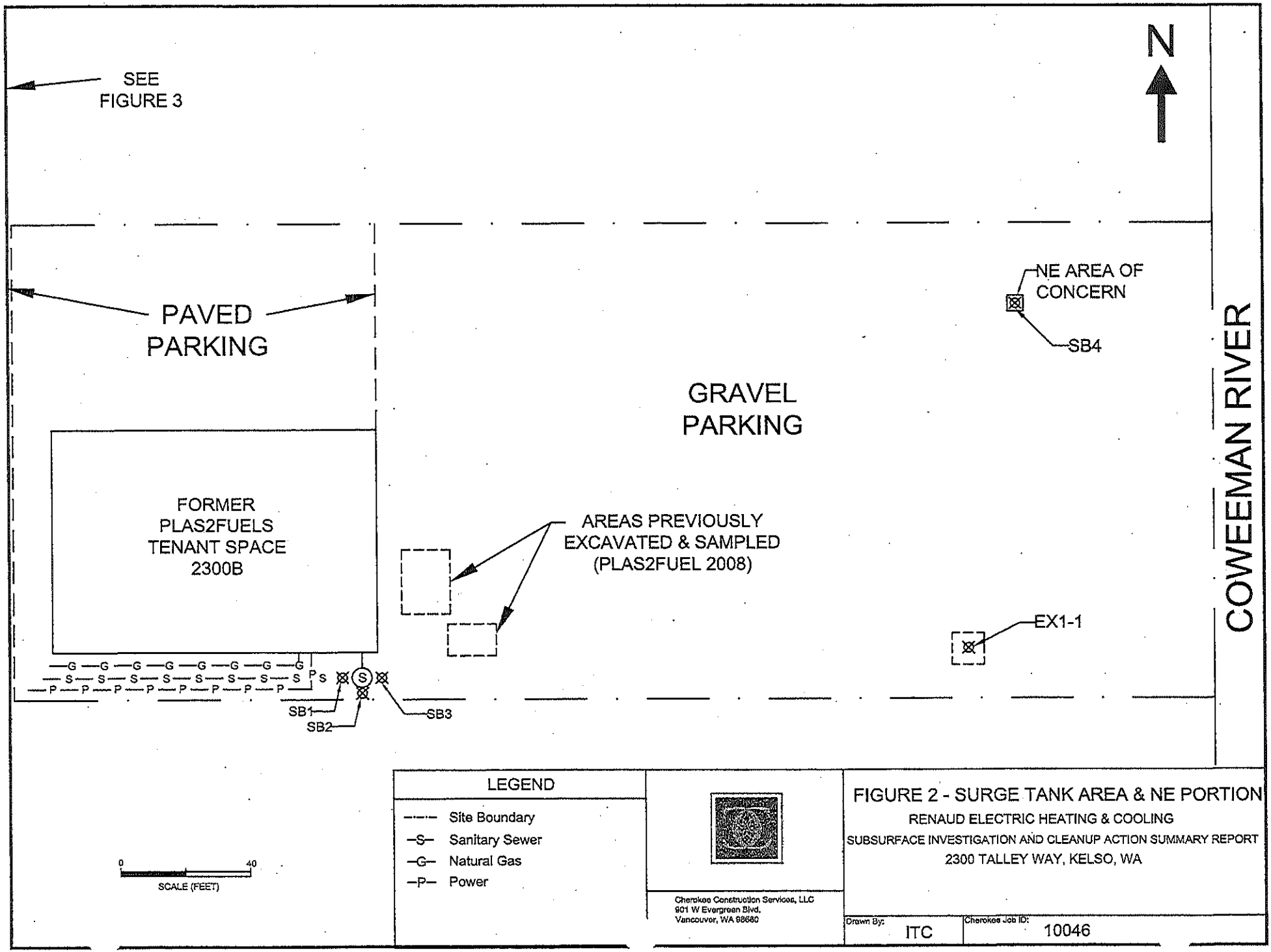
Enclosures:
Figure 1 – Site Location Map
Figure 2 – Surge Tank Area Soil Boring Locations
Figure 3 – Former UST Area Soil Boring Locations
Table 2 – Soil Analytical Results for Priority Pollutant Metals
Figure 4 – Former UST Area Excavation
Table 1 – Soil Analytical Results for TPH Constituents
Table 3 – Soil Analytical Results for EDB, EDC, MTBE, Naphthalenes, and Lead
Figure 8 – May 2011 Groundwater Contours and Well Location Map
Table 1 – Summary of Groundwater Analytical Results for Arsenic and Lead (IO 2013)

By certified mail: (7012 2210 0002 6581 1147)

cc: Tom Renaud – Renaud Electric
Jeff Keller, IO Environmental and Infrastructure, Inc.
Scott Rose – Ecology
Paul Turner - Ecology
Dolores Mitchell – Ecology (w/o enclosure)



LEGEND		Figure 1 - Site Vicinity Map
Approximate Site Boundary	IO Environmental and Infrastructure 5110 River Road Tacoma, Washington 98443	Renaud Electric Heating and Cooling Final Closure Report 2300 Talley Way, Kelso, WA
		Drawn By: TCW | Date: 11/07/2012 | Drawing No. 040-010-001


SEE
FIGURE 3
N
PAVED
PARKING
GRAVEL
PARKING
NE AREA OF
CONCERN
SB4
COWEEMAN RIVER
FORMER
PLAS2FUELS
TENANT SPACE
2300B
AREAS PREVIOUSLY
EXCAVATED & SAMPLED
(PLAS2FUEL 2008)
EX1-1
SB1
SB2
SB3
0
40
SCALE (FEET)
LEGEND
Site Boundary
Sanitary Sewer
Natural Gas
Power
Cherokee Construction Services, LLC
901 W Evergreen Blvd.
Vancouver, WA 98660
FIGURE 2 - SURGE TANK AREA & NE PORTION
RENAUD ELECTRIC HEATING & COOLING
SUBSURFACE INVESTIGATION AND CLEANUP ACTION SUMMARY REPORT
2300 TALLEY WAY, KELSO, WA
Drawn By:
ITC
Cherokee Job ID:
10046

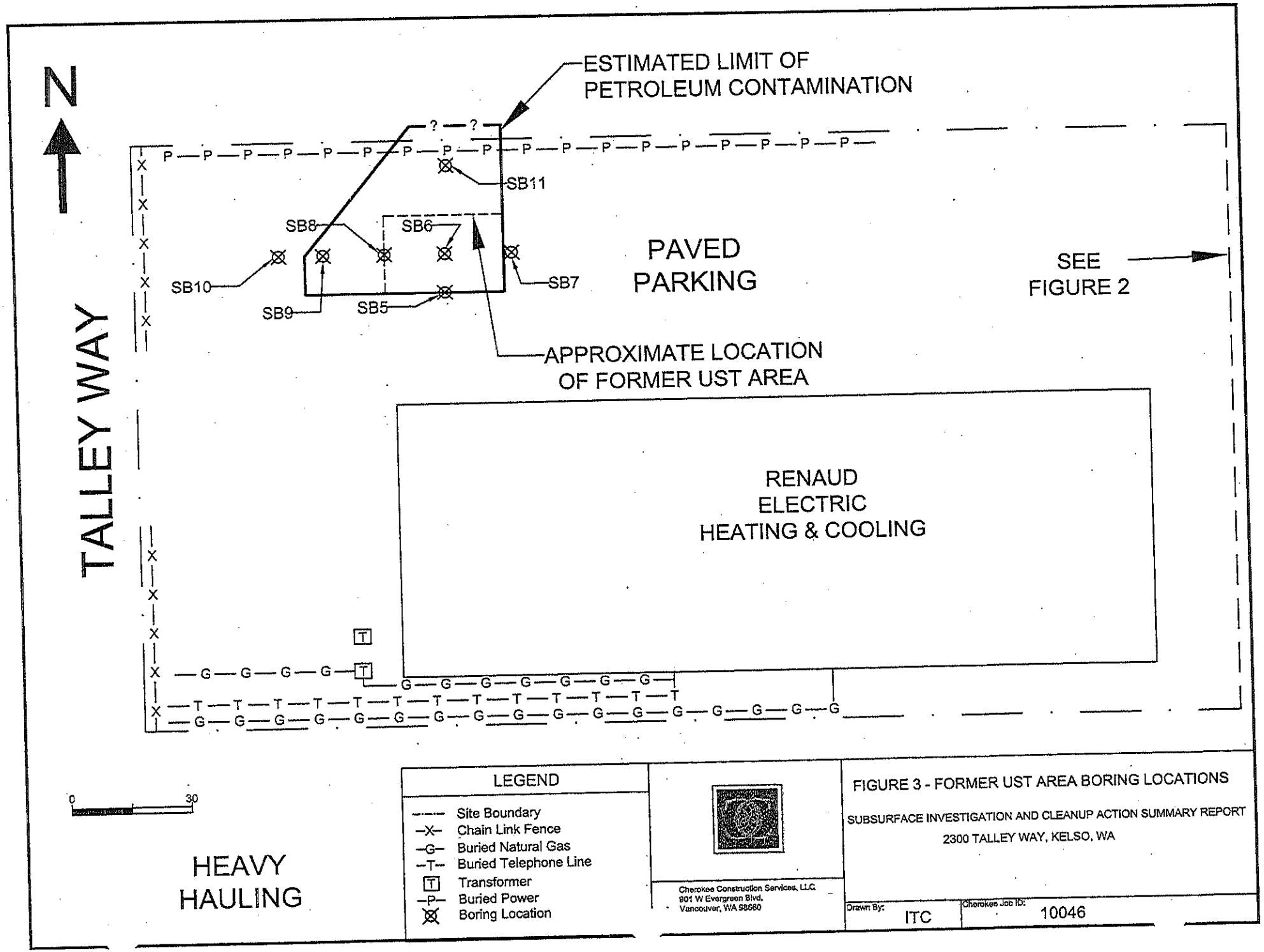

N
ESTIMATED LIMIT OF
PETROLEUM CONTAMINATION
SB11
SB8
SB6
SB10
SB7
SB9
SB5
PAVED
PARKING
SEE
FIGURE 2
APPROXIMATE LOCATION
OF FORMER UST AREA
TALLEY WAY
RENAUD
ELECTRIC
HEATING & COOLING
HEAVY
HAULING
0
30
LEGEND
Site Boundary
Chain Link Fence
Buried Natural Gas
Buried Telephone Line
Transformer
Buried Power
Boring Location
Cherokee Construction Services, LLC
901 W Evergreen Blvd.
Vancouver, WA 98660
FIGURE 3 - FORMER UST AREA BORING LOCATIONS
SUBSURFACE INVESTIGATION AND CLEANUP ACTION SUMMARY REPORT
2300 TALLEY WAY, KELSO, WA
Drawn By:
ITC
Cherokee Job ID:
10046

Table 2
Soil Analytical Results for Priority Pollutant Metals
Renaud Electric Heating and Cooling Site
Kelso, Washington
Cherokee PN:10046

Sample Identifier	Date Collected	Location	Depth (feet)	Analytical Results for Priority Pollutant Metals milligrams/kilogram (mg/kg)												
				Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Thallium	Zinc
SB1-011011-0-0.5	1/10/2011	SB1	0-0.5	<20	5.8	64	<20	<1.0	10	42	41	<0.5	<20	<20	<20	75
SB1-011011-4-6	1/10/2011	SB1	4-6	<20	<5.0	57	<20	<1.0	11	27	6.1	<0.5	<20	<20	<20	20
SB2-011011-0-0.5	1/10/2011	SB2	0-0.5	<20	<5.0	<20	<20	<1.0	<5	33	5.7	<0.5	<20	<20	<20	24
SB2-011011-4-6	1/10/2011	SB2	4-6	<20	<5.0	<20	<20	<1.0	7.9	31	<5	<0.5	<20	<20	<20	22
SB3-011011-0-0.5	1/10/2011	SB3	0-0.5	<20	<5.0	51	<20	<1.0	9.2	56	14	<0.5	<20	<20	<20	53
SB3-011011-2.5-4	1/10/2011	SB3	2.5-4	<20	<5.0	<20	<20	<1.0	5	27	<5	<0.5	<20	<20	<20	12
020911-MW2-4	2/9/2011	MW2	4	<0.19	1.4	--	<0.19	<0.19	6.1	24	1.7	<0.016	4.9	<0.66	<0.37	20
020911-MW3-4	2/9/2011	MW3	4	<0.17	1.1	--	<0.17	<0.17	4.1	19	1.2	<0.015	4.2	<0.56	<0.34	13
MTCA Method A Cleanup Level for Soil, Unrestricted Land Use (mg/kg)				**NE**	**20**	**NE**	**NE**	**2**	**2,000**	**NE**	**250**	**2.0**	**NE**	**NE**	**NE**	**NE**

Definitions:

MTCA = Washington State Department of Ecology, Model Toxics Control Act (Washington Administrative Code 173-340)

< = Analytical Results is less than or equal too the laboratory reporting limit.

Analytical Methods

All Metals except Mercury Analyzed by EPA Method 6020

Mercury analyzed by EPA Method 7470

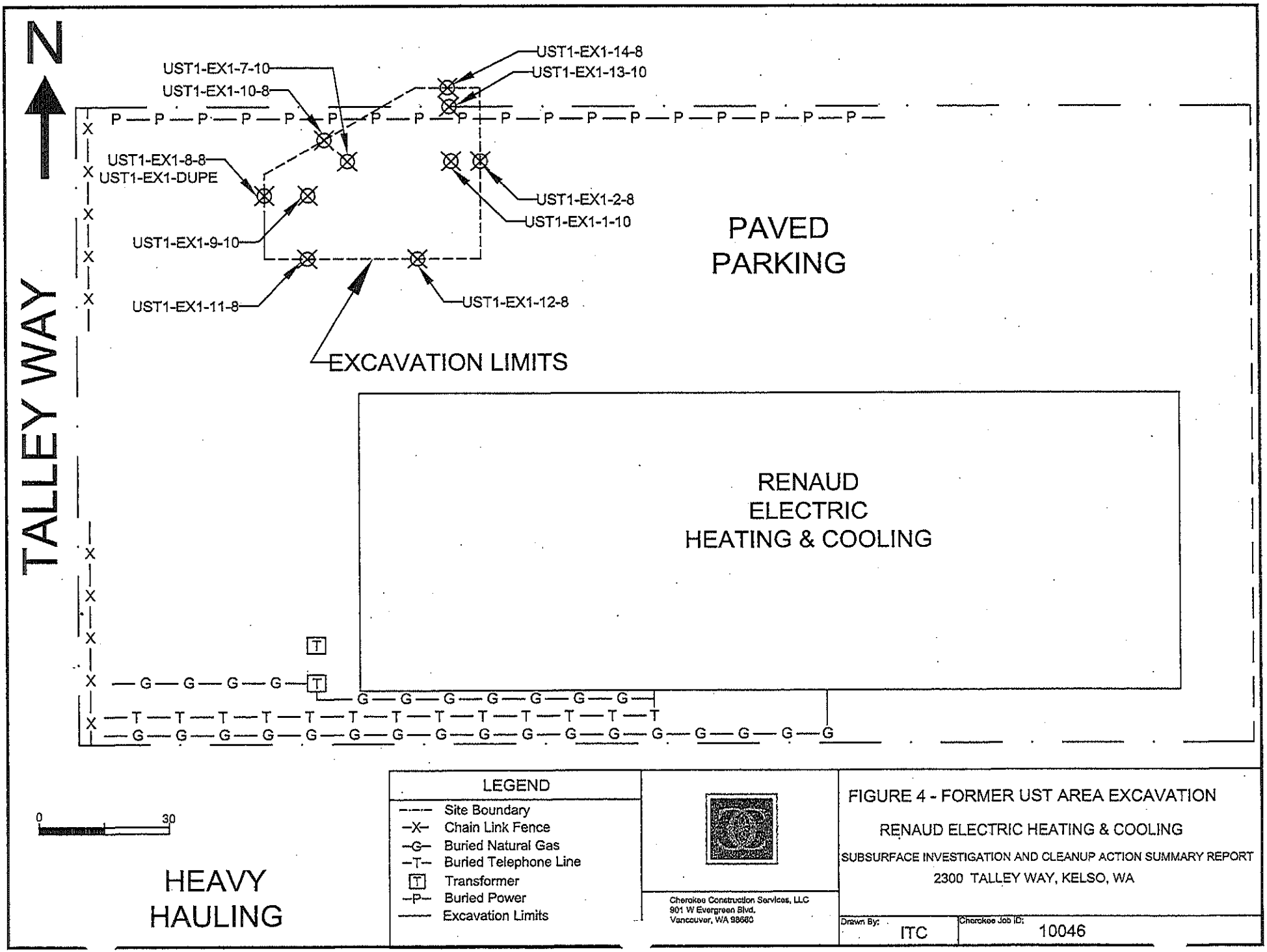

N
TALLEY WAY
UST1-EX1-7-10
UST1-EX1-10-8
UST1-EX1-14-8
UST1-EX1-13-10
UST1-EX1-8-8
UST1-EX1-DUPE
UST1-EX1-2-8
UST1-EX1-1-10
UST1-EX1-9-10
UST1-EX1-11-8
UST1-EX1-12-8
EXCAVATION LIMITS
PAVED
PARKING
RENAUD
ELECTRIC
HEATING & COOLING
HEAVY
HAULING
0
30
LEGEND
Site Boundary
Chain Link Fence
Buried Natural Gas
Buried Telephone Line
Transformer
Buried Power
Excavation Limits
Cherokee Construction Services, LLC
901 W Evergreen Blvd.
Vancouver, WA 98660
FIGURE 4 - FORMER UST AREA EXCAVATION
RENAUD ELECTRIC HEATING & COOLING
SUBSURFACE INVESTIGATION AND CLEANUP ACTION SUMMARY REPORT
2300 TALLEY WAY, KELSO, WA
Drawn By:
ITC
Cherokee Job ID:
10046

Table 1
Soil Analytical Results for Total Petroleum Hydrocarbon Constituents
Renaud Electric Heating and Cooling Site
Kelso, Washington
Cherokee PN:10046

Sample Identifier	Date Collected	Sampled by	Location	Depth (feet)	Sample Results in milligrams/kilogram (mg/kg)						
					DRO	ORO	GRO	Benzene	Toluene	Ethylbenzene	Xylene
Northeastern Portion of Site-Soil Boring											
SB4-011011-3-4	1/10/2011	Cherokee	Northeast Site	3-4	<50	<100	-	-	-	-	-
Former UST Area Soil Borings/Monitoring Wells											
SB5-011011-3-4	1/10/2011	Cherokee	SB-5	4-Mar	-	-	<10	<0.02	<0.05	<0.05	<0.15
SB6-011011-1-2	1/10/2011	Cherokee	SB-6	1-2	-	-	<10	<0.02	<0.05	<0.05	<0.15
SB6-011011-3-4	1/10/2011	Cherokee	SB-6	3-4	-	-	**11,800**	<0.02	0.33	**93**	4.4
SB6-011011-5-6	1/10/2011	Cherokee	SB-6	5-6	-	-	**48,000**	<0.02	0.14	8.7	0.40
SB6-011011-7-8	1/10/2011	Cherokee	SB-6	7-8	-	-	**430**	<0.02	<0.5	1.2	<0.15
SB7-011011-3-4	1/10/2011	Cherokee	SB-7	3-4	-	-	<10	<0.02	<0.05	<0.05	<0.15
SB10-011011-3-4	1/10/2011	Cherokee	SB-10	3-4	-	-	<10	<0.02	<0.05	<0.05	<0.15
SB11-011011-3-4	1/10/2011	Cherokee	SB-11	3-4	-	-	**1,200**	<0.02	<0.05	0.7	<0.15
020911-MW4-5-6	2/9/2011	Cherokee	MW4	5-6	-	-	20.8	<0.02	<0.10	0.091	<0.10
020911-MW5-5-6	2/9/2011	Cherokee	MW5	5-6	-	-	<10	<0.02	<0.10	<0.05	<0.10
Heavy Hauling Diesel Spill Area-Excavation											
EX1-1	1/10/2011	Cherokee	Center of Excavation	1	<50	<10	-	-			
Former UST Area Excavation											
UST1-EX1-1-10	2/1/2011	Cherokee	East Bottom	10	-	-	<20	<0.02	<0.10	<0.05	<0.15
UST1-EX1-2-8	2/1/2011	Cherokee	East sidewall	8	-	-	<20	<0.02	<0.10	<0.05	<0.15
UST1-EX1-3-8	2/1/2011	Cherokee	**Performance Sample**	8	-	-	**4,200**	<0.10	0.32	1.85	**20**
UST1-EX1-4-8	2/1/2011	Cherokee	**Performance Sample**	8	-	-	**483**	<0.02	<0.10	<0.05	0.29
UST1-EX1-5-4	2/1/2011	Cherokee	**Performance Sample**	4	-	-	<20	<0.02	<0.10	<0.05	<0.15
UST1-EX1-6-6	2/1/2011	Cherokee	**Performance Sample**	6	-	-	**193**	<0.02	<0.10	<0.05	<0.15
UST1-EX1-7-10	2/1/2011	Cherokee	Eastern Bottom	10	-	-	47	<0.02	<0.10	0.05	<0.15
UST1-EX1-8-8	2/1/2011	Cherokee	Eastern Sidewall	8	-	-	<20	<0.02	<0.10	<0.05	<0.15
UST1-EX1-DUPE	2/1/2011	Cherokee	uplicate of previous samp	8	-	-	<20	<0.02	<0.10	<0.05	<0.15
UST1-EX1-9-10	2/1/2011	Cherokee	Eastern Bottom	10	-	-	<20	<0.02	<0.10	<0.05	<0.15

Table 1
Soil Analytical Results for Total Petroleum Hydrocarbon Constituents
Renaud Electric Heating and Cooling Site
Kelso, Washington
Cherokee PN:10046

UST1-EX1-10-8	2/1/2011	Cherokee	Northwest sidewall	8	-	-	<20	<0.02	<0.10	<0.05	<0.15
UST1-EX1-11-8	2/1/2011	Cherokee	Southwest sidewall	8	-	-	<20	<0.02	<0.10	<0.05	<0.15
UST1-EX1-12-8	2/1/2011	Cherokee	South sidewall	8	-	-	<20	<0.02	<0.10	<0.05	<0.15
UST1-EX1-13-10	2/1/2011	Cherokee	Northeast bottom	10	-	-	21	<0.02	<0.10	0.064	0.64
UST1-EX1-14-8	2/1/2011	Cherokee	Northeast sidewall	8	-	-	23	<0.02	<0.10	0.081	0.70
Waste Characterization Samples Diesel Area											
EX1-SP1	1/10/2011	Cherokee	Stockpile	NA	<50	**5,100**	-	-	-	-	-
Waste Characterization Samples Former UST Area Excavation											
UST1-EX1-SP1	2/1/2011	Cherokee	Stockpile	NA	-	-	**706**	<0.02	<0.010	<0.05	0.57
UST1-EX1-SP2	2/1/2011	Cherokee	Stockpile	NA	<25	<40	<20	<0.02	<0.010	<0.05	<0.15
UST1-EX1-SP3	2/1/2011	Cherokee	Stockpile	NA	<25	<40	<20	<0.02	<0.010	<0.05	<0.15
UST1-EX1-SP4	2/1/2011	Cherokee	Stockpile	NA	<25	<40	<20	<0.02	<0.010	<0.05	<0.15
MTCA Method A Cleanup Level for Soil, Unrestricted Land Use (mg/kg)					**2,000**	**2,000**	**30/100**	**0.03**	**7**	**6**	**9**

Definitions:

BTEX = Benzene, Toluene, ethylbenzene, xylenes

DRO = Total petroleum hydrocarbons as diesel-range organics

GRO = Total petroleum hydrocarbons as gasoline-range organics

Analytical Methods Analytical Methods

DRO/ORO = Northwest Method NWTPH-Dx
GRO/BTEX = US Environmental Protection Agency. Method 8260C/8021B

MTCA = Washington State Department of Ecology, Model Toxics Control Act (Washington Administrative Code 173-340)
NA = Not Applicable
ORO = Total petroleum hydrocarbons as oil-range organics
UST = Underground Storage Tank

< = Analytical Results is less than or equal too the laboratory reporting limit.
- = Sample not analyzed.
Performance Sample = Samples collected to guide the excavation of contaminated soil. Soil samples collected from soil removed from excavation.

Table 3
Soil Analytical Results for EDB, EDC, MTBE, Total Naphthalenes, n-Hexane, and lead
Renaud Electric Heating and Cooling Site
Kelso, Washington
Cherokee PN:10046

Sample Identifier	Date Collected	Location	Depth (feet)	Sample Results in milligrams/kilogram (mg/kg)					
				EDB[1]	EDC[1]	MTBE[1]	Total Naphthalenes[1]	n-Hexane[1]	Lead[2]
SB6-011011-3-4	1/10/2011	SB6 -UST Area	3-4	<0.05	<0.05	<0.05	-	-	36
UST-EX1-9-10	2/1/2011	UST Excacavation Bottom	10	-	-	-	<0.20	<0.05	<5.0
MTCA Method A Cleanup Level for Soil, Unrestricted Land Use (mg/kg)				**0.005**	**NE**	**0.1**	**5**	**NE**	**250**

Definitions:

EDB = Ethylene dibromide

EDC = Ethylene dichloride

MTBE = Methyl tertiary butylether

MTCA = Washington State Department of Ecology, Model Toxics Control Act (Washington Administrative Code 173-340)

NE = Not Established

UST = Underground Storage Tank

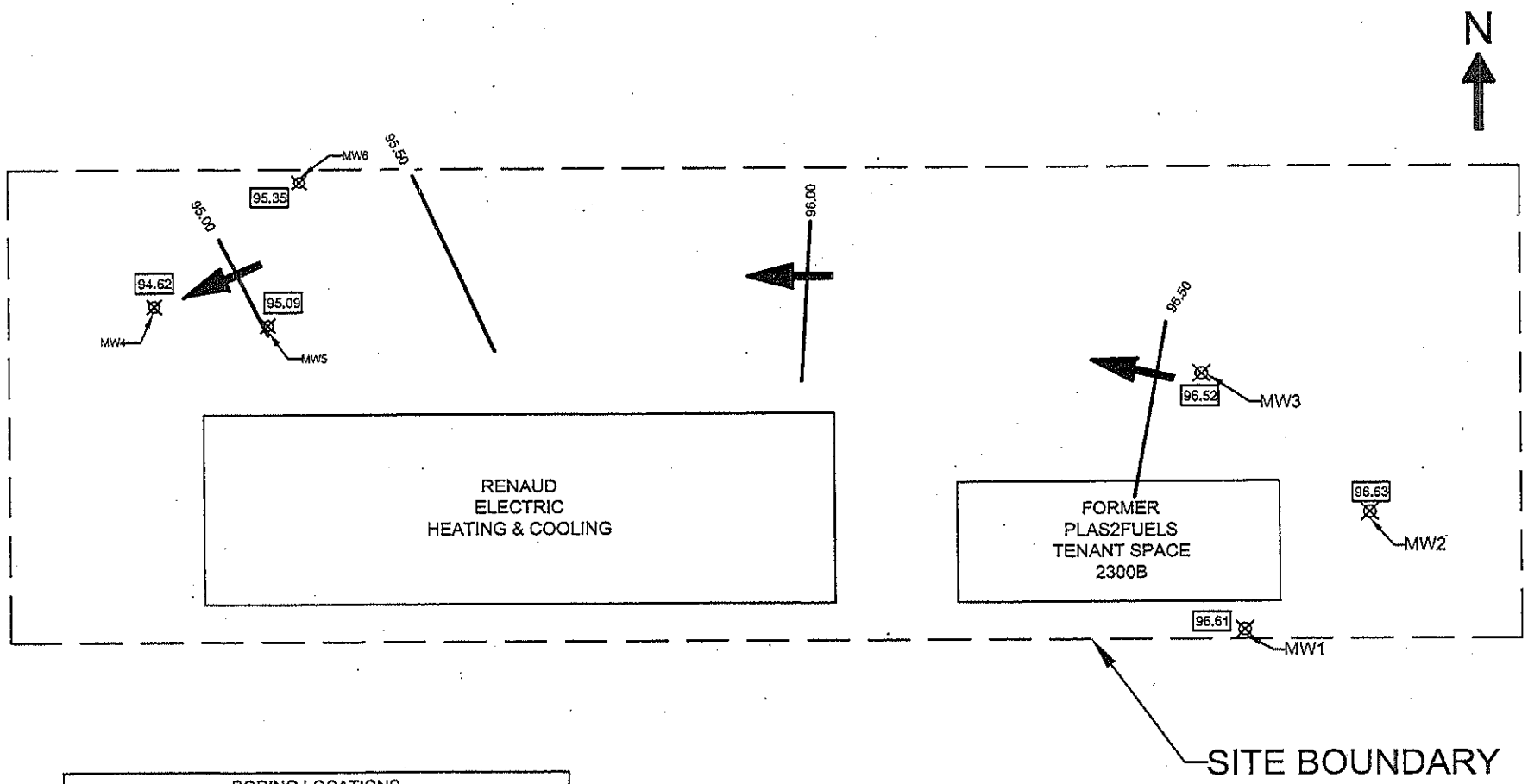
< = Analytical Results is less than or equal too the laboratory reporting limit.

- = Sample not analyzed for listed compound/analyte.

Analytical Methods

[1]EDB, EDC, MTBE,n-hexane = EPA Method 8260C

[2]Total Lead by EPA Method 7421



BORING LOCATIONS				
Date	Bore #	Northing:	Easting:	Elev:
5/1/2011	MW - 1	4864.698	5289.382	96.61
5/1/2011	MW - 2	4903.717	5307.514	96.63
5/1/2011	MW - 3	4948.595	5255.019	96.52
5/1/2011	MW - 4	4989.402	4824.651	94.62
5/1/2011	MW - 5	4963.841	4961.008	95.09
5/1/2011	MW - 6	5007.744	4969.781	95.35

0 25 50
SCALE (FEET) - (1" = 50')

LEGEND

95.00 Relative Groundwater Elevation

—95.00— Approximate Groundwater Contour

Relative Groundwater Flow Direc

Cherokee Construction Services, LLC
901 W Evergreen Blvd.
Vancouver, WA 98660

FIGURE 8 - MAY 2011 GROUNDWATER CONTOUR MAP

RENAUD ELECTRIC HEATING & COOLING

SUBSURFACE INVESTIGATION AND CLEANUP ACTION SUMMARY REPORT

2300 TALLEY WAY, KELSO, WA

Drawn By: ITC

Cherokee Job ID: 10046

Table 1
Groundwater Analytical Results for Arsenic and Lead
Renaud Electric Heating and Cooling Site
Kelso, Washington
IOEI PN# 040-010-001

Sample Identifier	Date Collected	Collected by	Analytical Results micrograms/Liter (ug/L)				NTUs
			Arsenic (total)	Lead (total)	Arsenic (diss)	Lead (diss)	Turbidity
August 2011 Sampling Event							
MW1-082911-01	8/29/2011	CCS	<5.0	7.1	--	--	--
MW2-092911-01	8/29/2011	CCS	6.4	<5.0	--	--	--
MW3-082911-01	8/29/2011	CCS	<5.0	<5.0	--	--	--
November 2011 Sampling Event							
MW1-110811-01	11/8/2011	CCS	<5.0	<5.0	--	--	--
MW2-110811-01	11/8/2011	CCS	<5.0	<5.0	--	--	--
MW3-110811-01	11/8/2011	CCS	<5.0	<5.0	--	--	--
February 2012 Sampling Event							
MW1-022012-01	2/20/2012	CCS	<5.0	<5.0	--	--	--
MW2-022012-01	2/20/2012	CCS	10.3	<5.0	--	--	--
MW3-022012-01	2/20/2012	CCS	17.8	<5.0	--	--	--
May 2012 Sampling Event							
MW1-053012-01	5/30/2012	CCS	<5.0	5.3	--	--	--
MW2-053012-01	5/30/2012	CCS	11.7	<5.0	--	--	--
MW3-053012-01	5/30/2012	CCS	11.7	<5.0	--	--	--
MW4-053012-01	5/30/2012	CCS	6.8	<5.0	--	--	--
MW5-053012-01	5/30/2012	CCS	8.1	<5.0	--	--	--
MW6-053012-01	5/30/2012	CCS	9.1	<5.0	--	--	--
August 2012 Sampling Event							
MW1-082812-01	8/29/2012	IOEI	<3.0	<5.0	<3.0	<5.0	7
MW2-082812-01	8/29/2012	IOEI	7.2	<5.0	<3.0	<5.0	14
MW3-082812-01	8/29/2012	IOEI	12	<5.0	<3.0	<5.0	14
MW4-082812-01	8/29/2012	IOEI	<3.0	<5.0	<3.0	<5.0	9
MW5-082812-01	8/29/2012	IOEI	28	<5.0	12	<5.0	15
MW6-082812-01	8/29/2012	IOEI	14	<5.0	5.3	<5.0	13
November 2012 Sampling Event							
MW1-112712-01	11/29/2012	IOEI	<3.0	--	<3.0	--	6
MW2-112712-01	11/29/2012	IOEI	7.7	--	6.9	--	8
MW3-112712-01	11/29/2012	IOEI	13	--	13	--	15
MW4-112712-01	11/29/2012	IOEI	<3.0	--	<3.0	--	10
MW5-112712-01	11/29/2012	IOEI	<3.0	--	<3.0	--	12
MW6-112712-01	11/29/2012	IOEI	14.9	--	9.9	--	14
February 2013 Sampling Event							
MW1-022013-01	2/24/2013	IOEI	<3.0	--	<3.0	--	5

Table 1
Groundwater Analytical Results for Arsenic and Lead
Renaud Electric Heating and Cooling Site
Kelso, Washington
IOEI PN# 040-010-001

MW2-022013-01	2/24/2013	IOEI	<3.0	--	<3.0	--	10
MW3-022013-01	2/24/2013	IOEI	10	--	<3.0	--	12
MW4-022013-01	2/24/2013	IOEI	<3.0	--	<3.0	--	8
MW5-022013-01	2/24/2013	IOEI	19	--	11	--	13
MW6-022013-01	2/24/2013	IOEI	10	--	9.4	--	16
MTCA Method A Cleanup Level			**5**	**15**	**NE**	**NE**	**NE**

Definitions:

CCS = Cherokee Construction Services

IOEI = IO Environmental and Infrastructure

MTCA = Washington State Department of Ecology, Model Toxics Control Act (Washington Administrative Code 173-340)

NE = Not Established

< = Analytical Results is less than or equal too the laboratory reporting limit.

-- = Sample not analyzed for compound/analyte