

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

## TRANSMITTAL MEMO

Date: September 26, 2011

TO: Ms. Kim Gilmore  
LCP Properties LLC

RE: Longview Goodwill Properties  
SW1090

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: September 26, 2011

Email Customer Notification: September 26, 2011

Payment received date: October 21, 2011

EIM Data successfully uploaded: October 14, 2011

Ecology Determination letter mailed/sent: October 24, 2011





STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

September 26, 2011

Ms. Kim Gilmore  
LCP Properties, LLC  
PO Box 3012  
Longview, Washington 98632

**Re: No Further Action at a Property associated with a Site:**

- **Property Address:** 1362 Tennant Way, Longview, Washington 98632
- **Facility/Site No.:** 85882241
- **VCP Project No.:** SW1090

Dear Ms. Gilmore:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of a Property associated with the Longview Goodwill Industries 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.

**Issues Presented and Opinion**

1. Is further remedial action necessary at the Property to clean up contamination associated with the Site?

**NO.** Ecology has determined that no further remedial action is necessary at the Property to clean up contamination associated with the Site.

2. Is further remedial action still necessary elsewhere at the Site?

**YES.** Ecology has determined that further remedial action is still necessary elsewhere 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 Property and the Site**

This opinion applies only to the Property and the Site described below. This opinion does not apply to any other sites that may affect the Property. Any such sites, if known, are identified separately below.



1. **Description of the Property.**

The Property includes the following tax parcel in Cowlitz County that was affected by the Site and addressed by your cleanup:

- [TAX PARCEL #02188].

The Property does not include portions of the following right-of-way, which is located on that parcel:

- 14<sup>th</sup> Avenue

Enclosure A includes a legal description of the Property. Enclosure B includes a diagram of the Site that illustrates the location of the Property within the Site.

2. **Description of the Site.**

The Site is defined by the nature and extent of contamination associated with the following release:

- Total petroleum hydrocarbons (TPH) in the diesel and oil ranges (TPH-D and TPH-O) and polynuclear aromatic hydrocarbons (PAHs) into the Soil and Groundwater.

That release has affected more than one parcel of real property, including the parcel identified above.

Enclosure B includes a detailed description and diagram of the Site, as currently known to Ecology.

3. **Identification of Other Sites that may affect the Property.**

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the Property is affected by other sites.

**Basis for the Opinion**

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

1. Geocon Northwest, Inc., **Underground Storage Tank Assessments, Lower Columbia Pathology, 14<sup>th</sup> Avenue and Tennant Way, Longview, Washington, January 14, 2010.**
2. Geocon Northwest, Inc., **Feasibility Study, Lower Columbia Pathology, 14<sup>th</sup> Avenue and Tennant Way, Longview, Washington, January 27, 2010.**

3. Geocon Northwest, Inc., **Lower Columbia Pathology, Longview, Washington, Response to Department of Ecology Comments**, May 19, 2010.
4. Geocon Northwest, Inc., **Lower Columbia Pathology, Longview, Washington, Work Plan for Expanded Assessment**, June 23, 2010.
5. Geocon Northwest, Inc., **Expanded Soil and Groundwater Assessment, Lower Columbia Pathology, 14<sup>th</sup> Avenue and Tennant Way, Longview, Washington**, October 2010.
6. Geocon Northwest, Inc., **Lower Columbia Pathology, Longview, Washington, Work Plan for Groundwater Monitoring**, April 27, 2011.

Those 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 those documents is materially false or misleading.

### **Analysis of the Cleanup**

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#### **1. Cleanup of the Property located within the Site.**

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

##### **a. Characterization of the Site.**

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards for the Site and select a cleanup for the Property. The Site is described above and in **Enclosure B**.

In 2008, 3 Kings Environmental, Inc. was reported to have conducted a heating oil underground storage tank (UST) characterization and decommissioning. It was further reported they had collected two soil samples from around the bottom of the UST and determined no contamination existed. The decommissioning report was not submitted to Ecology for review.

In September 2009, Lower Columbia Pathology (LCP) retained Geocon Northwest, Inc. (Geocon) for geotechnical construction services. During foundation construction and lot development activities for the new LCP building, a gasoline UST was also

uncovered on the north side of the property. The gasoline UST had been previously investigated and decommissioned in place in 1996. Geocon removed the UST and sampled the soil surrounding the gasoline UST. Analytical results indicated no residual gasoline compounds were present at that location.

At the previously investigated heating oil UST (HOT) location, the soil and groundwater were evaluated for PAHs, TPH-D, and TPH-O. Only PAHs and TPH-D in the HOT excavation were detected above the applicable MTCA Method A Soil Cleanup Levels for unrestricted land uses. The soil contamination was found down to approximately 13 feet below ground surface (bgs). PAHs in the soil and groundwater were found at one location and the soil was excavated. After an evaluation of groundwater and soil analytical results at that location (LCPHOT-3) and a follow up discussion with Ecology in May 2010, the PAHs were thought to pose a low-risk to the environment and human health at the Site (see Figure 3[b]) and were dropped as a constituent of concern. The bulk of the contamination was found east of the HOT. The source of the heating oil release was from the open end of a one-half inch copper feeder pipe that was traced back to the HOT; the open end of the pipe was approximately 10 feet east of the HOT and under the former building footprint (see Figure 3[b]) and that was where the heating oil was released to the environment. Geocon excavated petroleum-contaminated soil (PCS) from around the open end of the pipe and disposed of it at a permitted disposal facility. The PCS excavation was approximately 12 feet bgs and was backfilled with controlled density fill (CDF) due to concerns of undermining 14<sup>th</sup> Avenue. A portion of the top surface of the HOT, adjacent to 14<sup>th</sup> Avenue, had been exposed during the tracing of the pipe back to the HOT. During the excavation activities, the road bed and soil below 14<sup>th</sup> Avenue was exposed. In October 2009, Geocon continued the PCS excavation to the west and fully exposed the top of the HOT and that excavation was approximately 2 feet to 3 feet bgs. Geocon decided to decommission the HOT in place using CDF, again due to concerns of undermining 14<sup>th</sup> Avenue.

In November 2009, Geocon collected additional soil samples from around the HOT and into 14<sup>th</sup> Avenue. The samples were analyzed for TPH-D and TPH-O. Laboratory analytical results indicated that only TPH-D exceeded MTCA Method A Soil CUL. TPH-D concentrations indicated the groundwater contamination had migrated into the 14<sup>th</sup> Avenue right-of-way; the highest TPH-D groundwater analytical result was found in GP-3 (see Table 2). Groundwater TPH-D concentrations exceeding the applicable MTCA Method A Groundwater CUL were encountered in six borings. The limits of the soil and groundwater contamination for the Site were not delineated.

In their January 2010 Underground Storage Tank Assessments report, Geocon was seeking a no further action (NFA) opinion conditioned with institutional controls at that time. Ecology did not concur with this request at that time and requested the contamination be fully delineated and that a Feasibility Study (FS) and

Disproportionate Cost Analysis (DCA) be developed and provided to Ecology for review.

In January through March 2010, Geocon submitted a FS, DCA, and Terrestrial Ecological Evaluation (TEE) form to Ecology for review. The FS/DCA proposed cleanup alternatives for Ecology's review. Those proposed alternatives were:

1. No Action.
2. Institutional Controls.
3. Treatment.
4. Excavation and Off-Site Disposal.

In August 2010, Geocon conducted an Expanded Soil and Groundwater Assessment. Geocon developed a Conceptual Site Model (CSM) and conducted a risk evaluation of that CSM. After reviewing the CSM, Ecology concurred with Geocon's CSM evaluation that indicated a low risk for exposure to the contaminants in the affected Site media (see Table 6). Geocon evaluated the Site for TPH-D, TPH-O, and volatile organic compounds (VOCs) (see Table 4 and Table 5). Boring GP-11 was advanced at an angle underneath the LCP building to provide confirmation data that the contaminated soil had been removed from the south side of the 2009 excavation, no previous analytical data had confirmed this location to be free of impacts. No TPH-D, TPH-O, or VOCs were detected or were below the applicable MTCA CULs at the GP-11 location, which indicated the soil and groundwater were no longer impacted by the hydrocarbon contamination. Ecology determined that Geocon had fully delineated the vertical and horizontal extents of the off-Property soil and groundwater contamination (see Table 2, Table 3, Figure 2, and Figure 3[a]).

**b. Establishment of cleanup standards for the Site.**

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

Applicable MTCA Method A CULs for soil and groundwater were used to characterize the Site. 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.

**c. Selection of cleanup for the Property.**

Ecology has determined the cleanup you selected for the Property meets the substantive requirements of MTCA. The cleanup meets the minimum cleanup requirements and does not exacerbate conditions or preclude reasonable cleanup alternatives elsewhere at the Site.

Geocon recommended the selection of alternate number two, the use of CDF, and groundwater monitoring, combined with the excavation of on-Property and some off-Property contaminated soil to prevent recontamination of the Property soil and groundwater. This information was provided in the *Feasibility Study, Lower Columbia Pathology, 14<sup>th</sup> Avenue and Tennant Way, Longview, Washington*, dated January 27, 2010.

This alternative was judged to be the most technically feasible, cost effective alternative to provide a remedial action that would meet the substantive requirements of MTCA. After reviewing the Site groundwater gradient data, the lack of migration of the off-Property contaminant, and the longer temporal record of area groundwater gradient data from surrounding Sites, Ecology determined that the groundwater gradient at and around the Site was predominantly to the southwest. As a result, recontamination of the Property soil and groundwater is considered unlikely.

**d. Cleanup of the Property.**

Ecology has determined the cleanup you performed meets the applicable Site cleanup standards within the Property.

Geocon excavated 118.5 tons of heating oil contaminated soil from beneath the southwest corner of the former Goodwill Industries building and disposed of it at the Waste Management Landfill in Hillsboro, Oregon.

After the excavation of contaminated soil in the source area, CDF was used to backfill the excavation to provide a stable footing for the new building foundation.

Contaminated soil and groundwater remains in the 14<sup>th</sup> Avenue right-of-way above the applicable MTCA Method A CULs. Recontamination of the Property was judged to be unlikely because the predominant groundwater gradient is to the southwest and away from the Property. Furthermore, Ecology does not consider the CDF to be a necessary engineered control to prevent recontamination of the Property. As a result, an Environmental Covenant and associated groundwater monitoring is not required.

**2. Cleanup of the Site as a whole.**

Ecology has concluded that further remedial action under MTCA is still necessary



elsewhere at the Site. In other words, while your cleanup constitutes the final action for the Property, it constitutes only an "interim action" for the Site as a whole.

### Listing of the Site

Based on this opinion, Ecology will update the status of remedial action at the Site on our database of hazardous waste sites. However, because further remedial action is still necessary elsewhere at the Site, we will not remove the Site from our lists of hazardous waste sites. Furthermore, the Property will remain listed as part of the Site because the cleanup of the Property does not change the boundaries of the Site.

### 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:

- Change the boundaries of the Site.
- 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).

Ms. Kim Gilmore  
September 26, 2011  
Page 8


### Termination of Agreement

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Thank you for cleaning up your Property under the Voluntary Cleanup Program (VCP). This opinion terminates the VCP Agreement governing this project SW1090. If you should decide to clean up the remainder of the Site, please do not hesitate to reapply and request additional services under the VCP.

For more information about the VCP and the cleanup process, please visit our web site: [www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm](http://www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm). If you have any questions about this opinion, please contact me by phone at (360) 407-7404 or e-mail at [erad461@ecy.wa.gov](mailto:erad461@ecy.wa.gov).

Sincerely,



Eugene Radcliff, L.G.  
SWRO Toxics Cleanup Program

GER/ksc:Longview Goodwill Property NFA

Enclosures (11):

A – Description and Diagrams of the Site	
Enclosure A	Statutory Warranty Deed
Enclosure B	Description and Diagrams of the Site (including the Property)
Figure 1	Vicinity Map
Figure 2	Extent of Soil Impacts
Figure 3[a]	Extent of Groundwater Impacts
Figure 3[b]	Exploratory Boring Location Map
Table 2	Summary of Petroleum Hydrocarbon Analysis in Soil
Table 3	Summary of Petroleum Hydrocarbon Analysis in Water
Table 4	Summary of Volatile Organic Compound Analysis in Soil
Table 5	Summary of Volatile Organic Compound Analysis in Water
Table 6	Summary of Conceptual Site Model

By certified mail: (7010 0780 0002 3400 7696)

cc: Mr. Kevin Schleh, Geocon Northwest, Inc.  
Scott Rose – Ecology  
Dolores Mitchell – Ecology (without enclosures)

**Enclosure A**

**Legal Description of the Property**



When recorded return to:  
LCP PROPERTIES LLC  
1217 14TH AVENUE  
LONGVIEW, WA. 98632

3380402  
11/07/2008 12:16:48 PM Pages: 1  
Quit Claim Deed COWLITZ COUNTY TITLE COMPANY 42.00  
Cowlitz County Washington

Escrow No.:00157226-BGL

Received \$ 4416<sup>00</sup> excise tax levied  
pursuant to Chap. 11, Laws R.C. 1951  
**083347** JUDY AINSLIE  
AFF. NO. COWLITZ COUNTY TREAS.  
Date NOV 07 2008 Deputy

### Statutory Warranty Deed

THE GRANTOR MARGARET HENDERSON KITTELSON AS PERSONAL REPRESENTATIVE OF THE ESTATE OF E. KENNETH HENDERSON, DECEASED AS TO AN UNDIVIDED 1/3 INTEREST for and in consideration of Ten Dollars and other valuable consideration in hand paid, conveys and warrants to LCP PROPERTIES LLC, a Washington Limited Liability Company the following described real estate, situated in the County of COWLITZ, State of Washington:

LOTS 18 AND 19, EXCEPT FOR THE EASTERLY 60 FEET THEREOF AND LOTS 20 THROUGH 25, BLOCK 5, REPLAT OF CENTRAL MANUFACTURING DISTRICT NO. 3, AN ADDITION TO LONGVIEW, WASHINGTON, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 8 OF PLATS, PAGE 41, RECORDS OF SAID COUNTY.

SITUATE IN THE COUNTY OF COWLITZ, STATE OF WASHINGTON

CENTRAL MFG DIST 3 LOT 18, 19, 20, 21, 22, 23, 24, 25 BLK 5  
Tax Parcel Number(s): 0-2188, 0-2189, 0-2190, 0-2191

SUBJECT TO covenants, conditions, restrictions, reservations, easements and agreements of record, if any.

Dated this 3rd day of November, 2008.

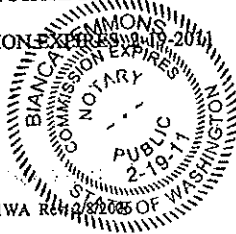
Margaret Henderson Kittelson  
MARGARET HENDERSON KITTELSON AS PERSONAL REPRESENTATIVE OF THE ESTATE  
OF E. KENNETH HENDERSON, DECEASED

STATE OF WASHINGTON)

COUNTY OF COWLITZ )

ON THIS 3rd DAY OF November, 2008, BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR THE STATE OF WASHINGTON, DULY COMMISSIONED AND SWORN, PERSONALLY APPEARED MARGARET HENDERSON KITTELSON TO ME KNOWN TO BE THE INDIVIDUAL WHO EXECUTED THE FOREGOING INSTRUMENT AS PERSONAL REPRESENTATIVE OF THE ESTATE OF E. KENNETH HENDERSON AND ACKNOWLEDGED THAT SHE SIGNED THE SAME AS THE FREE AND VOLUNTARY ACT AND DEED AS PERSONAL REPRESENTATIVE FOR SAID ESTATE FOR THE USES AND PURPOSES THEREIN MENTIONED, AND ON OATH STATE THAT SHE IS AUTHORIZED TO EXECUTE SAID INSTRUMENT.

MY COMMISSION EXPIRES 2-19-11



B. Lemmons  
Bianca Lemmons  
NOTARY PUBLIC IN AND FOR THE STATE OF  
WASHINGTON, RESIDING AT KELSO



**BOUNDARY LINE ADJUSTMENT SURVEY: LCP PROPERTIES LLC, a portion of Lots 18 & 19, together with Lots 20 through 23 (AFN) 3380400, 3380401 and 3380402 of Block 5, Replat of Central Manufacturing District No. 3, recorded in Volume 8 of Plats, page 41, Section 33, Township 8 North, Range 2 West, Willamette Meridian, Cowlitz County, Washington.**

**CITY OF LONGVIEW NO. LV-BLA-2009-5**

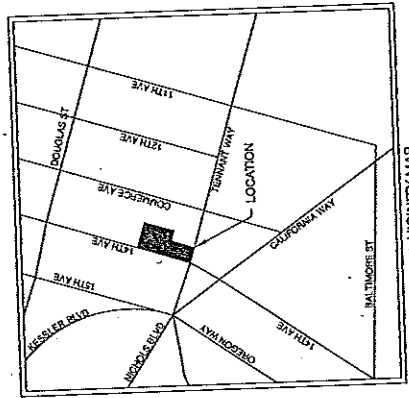
**CITY OF LONGVIEW APPROVALS**

EXAMINED AND APPROVED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 20\_\_\_\_

DIRECTOR OF COMMUNITY DEVELOPMENT

EXAMINED AND APPROVED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 20\_\_\_\_

DIRECTOR OF PUBLIC WORKS



ORIGINAL LOT 1 DESCRIPTION:  
COWLITZ COUNTY AUDITOR'S FILE NO. (AFN) 3380400, (AFN) 3380401 AND (AFN) 3380402

ADJUSTED LOT 1 DESCRIPTION:  
LOTS 18 AND 19, EXCEPT FOR THE EASTERLY 90 FEET THEREOF AND LOTS 20 THROUGH 23, EXCEPT FOR THE EASTERLY 90 FEET THEREOF, TOGETHER WITH LOTS 24 THROUGH 26, REPLAT OF CENTRAL MANUFACTURING DISTRICT NO. 3, AN ADDITION TO LONGVIEW, WASHINGTON, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 8 OF PLATS, PAGE 41, RECORDS OF COWLITZ COUNTY, STATE OF WASHINGTON.

OWNERS(S) OF RECORD:  
THE UNDERSIGNED OWNERS(S) OF RECORD HAVE MADE APPLICATION FOR AND REQUEST APPROVAL OF A CITY OF LONGVIEW BOUNDARY LINE ADJUSTMENT, PER LONGVIEW MUNICIPAL CODE CHAPTER 19.68

SIGNATURE/TITLE \_\_\_\_\_ DATED \_\_\_\_\_  
SIGNATURE/TITLE \_\_\_\_\_ DATED \_\_\_\_\_  
SIGNATURE/TITLE \_\_\_\_\_ DATED \_\_\_\_\_

COUNTY OF \_\_\_\_\_ STATE OF \_\_\_\_\_  
DAY OF \_\_\_\_\_ 20\_\_\_\_ BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR THE STATE OF \_\_\_\_\_, DULY COMMISSIONED AND SWORN, PERSONALLY APPEARED \_\_\_\_\_ (TITLE) \_\_\_\_\_ TO BE KNOWN TO BE THE \_\_\_\_\_ RESPECTIVELY OF \_\_\_\_\_ THE CORPORATION THAT EXECUTED THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED THE SAID INSTRUMENT TO BE THE FREE AND VOLUNTARY ACT AND DEED OF SAID CORPORATION, FOR THE USES AND PURPOSES THEREIN MENTIONED, AND ON OATH STATED THAT \_\_\_\_\_ AUTHORIZED TO EXECUTE THE SAID INSTRUMENT AND THAT THE SEAL AFFIXED IS THE CORPORATE SEAL OF SAID CORPORATION.  
WITNESS MY HAND AND OFFICIAL SEAL, HERETO AFFIXED THE DAY AND YEAR FIRST ABOVE WRITTEN.

NOTARY PUBLIC IN AND FOR THE STATE OF WASHINGTON  
RESIDING AT \_\_\_\_\_  
MY APPOINTMENT EXPIRES: \_\_\_\_\_

PARCEL NO.(s) 02188, 02189 & 02190



**SURVEYOR'S CERTIFICATE**  
AS SHOWN, THIS MAP REPRESENTS AN ACTUAL SURVEY MADE BY ME OR UNDER MY DIRECTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE SURVEY RECORDING ACT, FILED AT THE REQUEST OF LCP PROPERTIES, LLC, IN JULY 2008.

**AUDITOR'S CERTIFICATE**  
FILED FOR THE RECORD THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 20\_\_\_\_  
AT \_\_\_\_\_ IN BOOK \_\_\_\_\_ OF \_\_\_\_\_  
AT THE REQUEST OF LCP PROPERTIES, LLC  
COUNTY AUDITOR \_\_\_\_\_ DEPUTY AUDITOR \_\_\_\_\_

RICHARD J. WILLIAMS, PLS  
CERTIFICATE NO. 34147  
SHEET 1 OF 2 SHEET  
GIBBS & OLSON FILE NO. 0999-1372



**GIBBS & OLSON INC.**  
Engineers • Planners • Surveyors  
LONGVIEW WASHINGTON









**Enclosure B**

**Description and Diagrams of the Site  
(including the Property)**



## Site Description

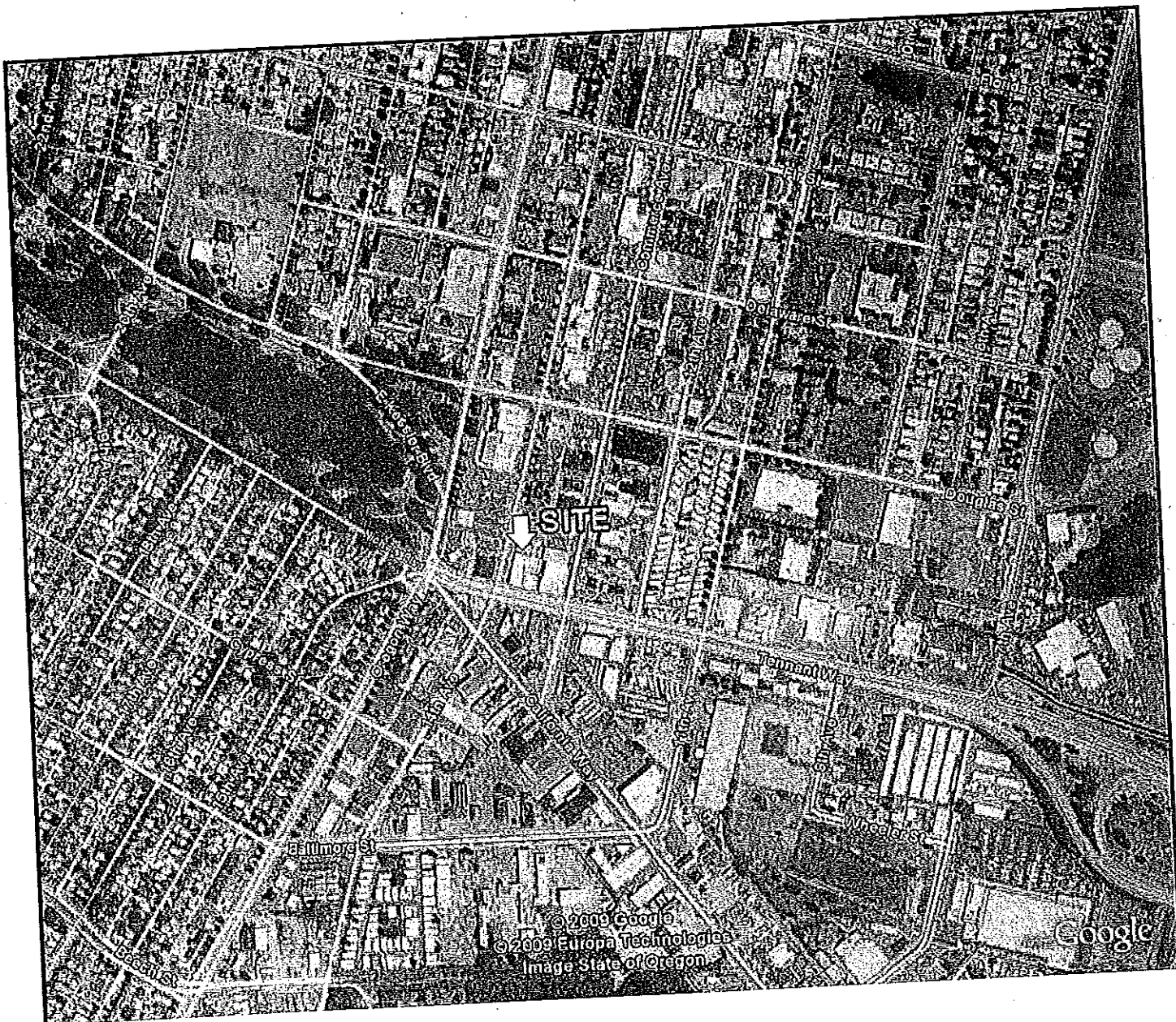
### Media of Concern: Confirmed Soil and Groundwater

The Longview Goodwill Industries facility (Site) is located at 1362 Tennant Way in Longview, Cowlitz County, Washington. The Site is currently owned by LCP Properties, LLC, currently operates as Lower Columbia Pathology, and is listed as a commercial property. The parcel on which the facility is located encompasses approximately 0.13 acres and most of the parcel is covered by a building. The Site is bordered by commercial properties on the north and east sides of the property, bordered on the south by Tennant Way, and bordered on the west by 14<sup>th</sup> Avenue (see Fig. 1). The Cowlitz County Assessor's office notes the Longview Goodwill Industries property has an assigned tax parcel number of 02188.

Past uses at the Site were not discussed; however, two underground storage tanks (USTs) were found on the property. One UST containing gasoline range total petroleum hydrocarbons (TPHs) was removed; the other, a leaking gallon heating oil UST, was decommissioned in place. Contaminated soil above the MTCA Method A Cleanup Level for diesel and oil range TPHs was left in the Site soil around the heating oil UST due to the close proximity of 14<sup>th</sup> Avenue.

The Site is situated at an elevation of approximately 10 feet above sea level and is approximately 3,500 feet to the west of the Cowlitz River in downtown Longview, Washington. The Site lithology is reported to consist of a shallow surface covering of gravel fill material. Underlying the fill is a layer of clay and silt with sand underlying the clay and silt. The maximum depth for the Site investigation activities was 7 feet bgs. The main aquifer in the area is reported to be approximately 100 feet bgs. Groundwater was encountered at approximately 10 feet below the ground surface and is presumed to flow to the southwest based on information from surrounding sites.





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**GEOCON**  
NORTHWEST, INC.



GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS  
8283 SW CIRRUS DRIVE - BEAVERTON, OREGON 97008-5997  
PHONE 503 626-9889 - FAX 503 626-8611

DSK / D000D

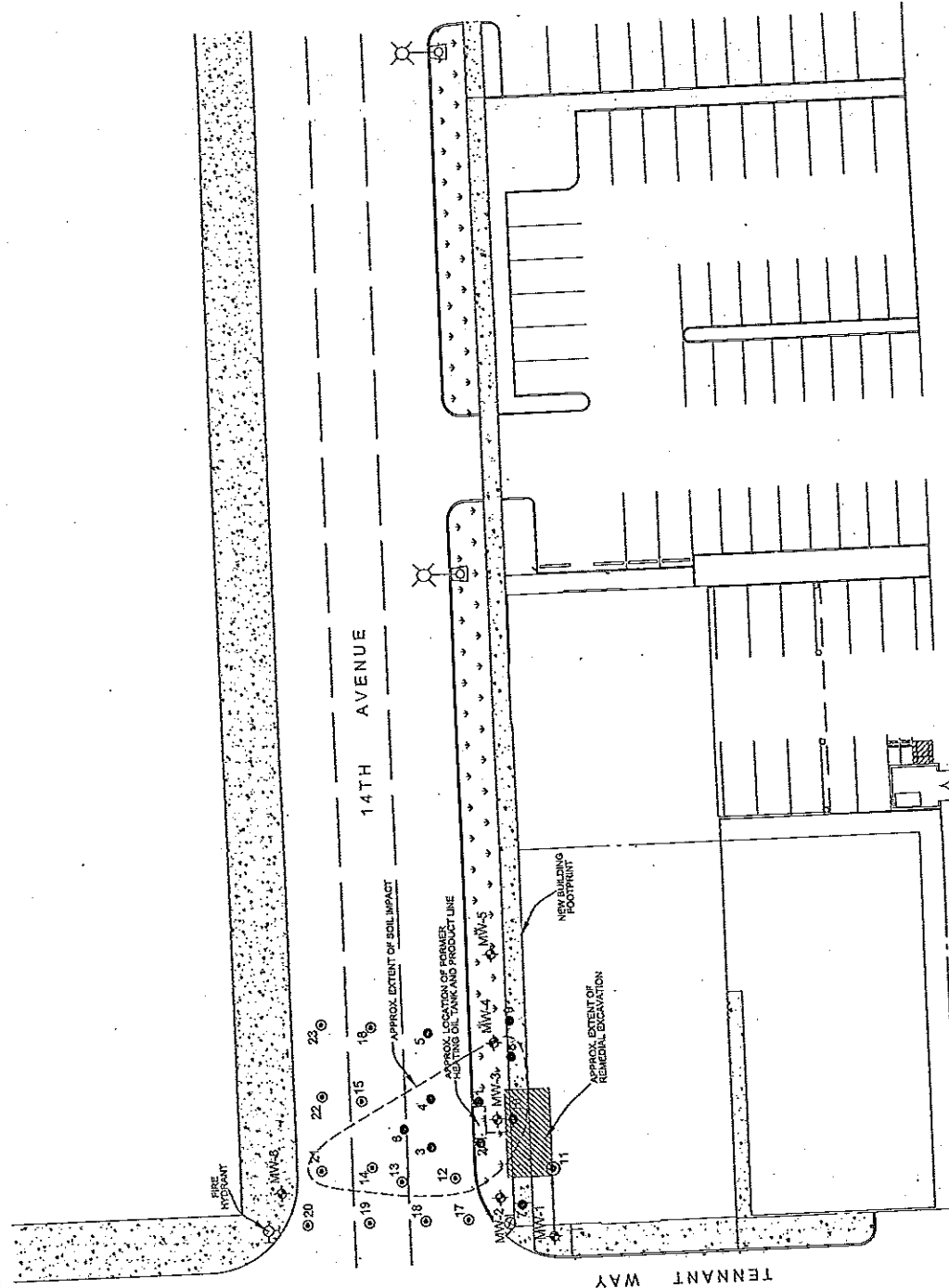
VICINITY MAP  
LOWER COLUMBIA PATHOLOGY  
LONGVIEW, WASHINGTON  
UNDERGROUND STORAGE TANK ASSESSMENT

Date: October 2010 PROJECT NO. P1640-05-05 FIG. 1





# LOWER COLUMBIA PATHOLOGY LONGVIEW, WASHINGTON



## GEOCON LEGEND

- 11-23 ○ PROPOSED GEOPROBE BORING LOCATION
- 1-10 ● PREVIOUSLY COMPLETED GEOPROBE BORING LOCATION
- 1 APPROX. LOCATION OF ANGLED BORING
- 2 APPROX. LOCATION OF GROUNDWATER MONITORING WELL

## EXTENT OF SOIL IMPACTS

**GEOCON**  
NORTHWEST INC.  
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS  
8200 SW CIRILLUS DRIVE - BEAVERTON, OREGON 97008 - 8443  
PHONE 503 626-9889 - FAX 503 626-8611

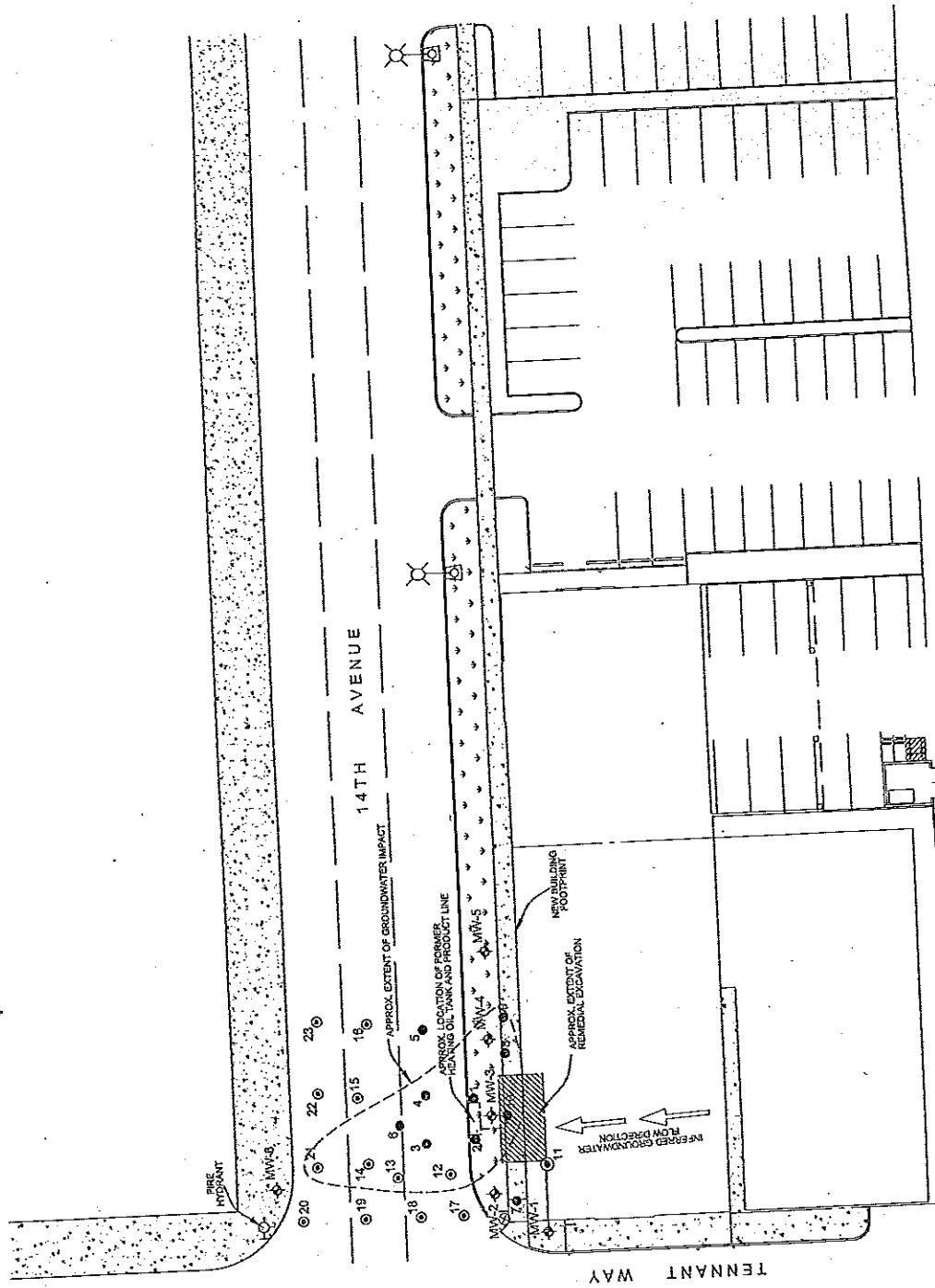
DATE: SEPT. 2010 PROJECT NO. P1640 - 05 - 05 FIG. 2

NOTE: BASE MAP PROVIDED BY OTHERS.  
SAMPLE LOCATIONS, LOCUS, ETC. WERE NOT LOCATED BY A  
PROFESSIONAL LAND SURVEYOR AND SHOULD BE CONSIDERED APPROXIMATE.

THIS DATE AND ANY FURTHER DATE IS NOT TO BE USED FOR ANY OTHER PURPOSE.







LOWER COLUMBIA PATHOLOGY  
LONGVIEW, WASHINGTON



NOTE: BASE MAP PROVIDED BY OTHERS.  
SAMPLE LOCATIONS, BORINGS, ETC. WERE NOT LOCATED BY A  
PROFESSIONAL LAND SURVEYOR AND SHOULD BE CONSIDERED APPROXIMATE

### GEOCON LEGEND

- 11-23  PROPOSED GEOPROBE BORING LOCATION  
1-10  PREVIOUSLY COMPLETED GEOPROBE BORING LOCATION  
 APPROX. LOCATION OF ANGLED BORING  
 APPROX. LOCATION OF GROUNDWATER MONITORING WELL

## EXTENT OF GROUNDWATER IMPACTS



**GEOCON**  
NORTHWEST, INC.

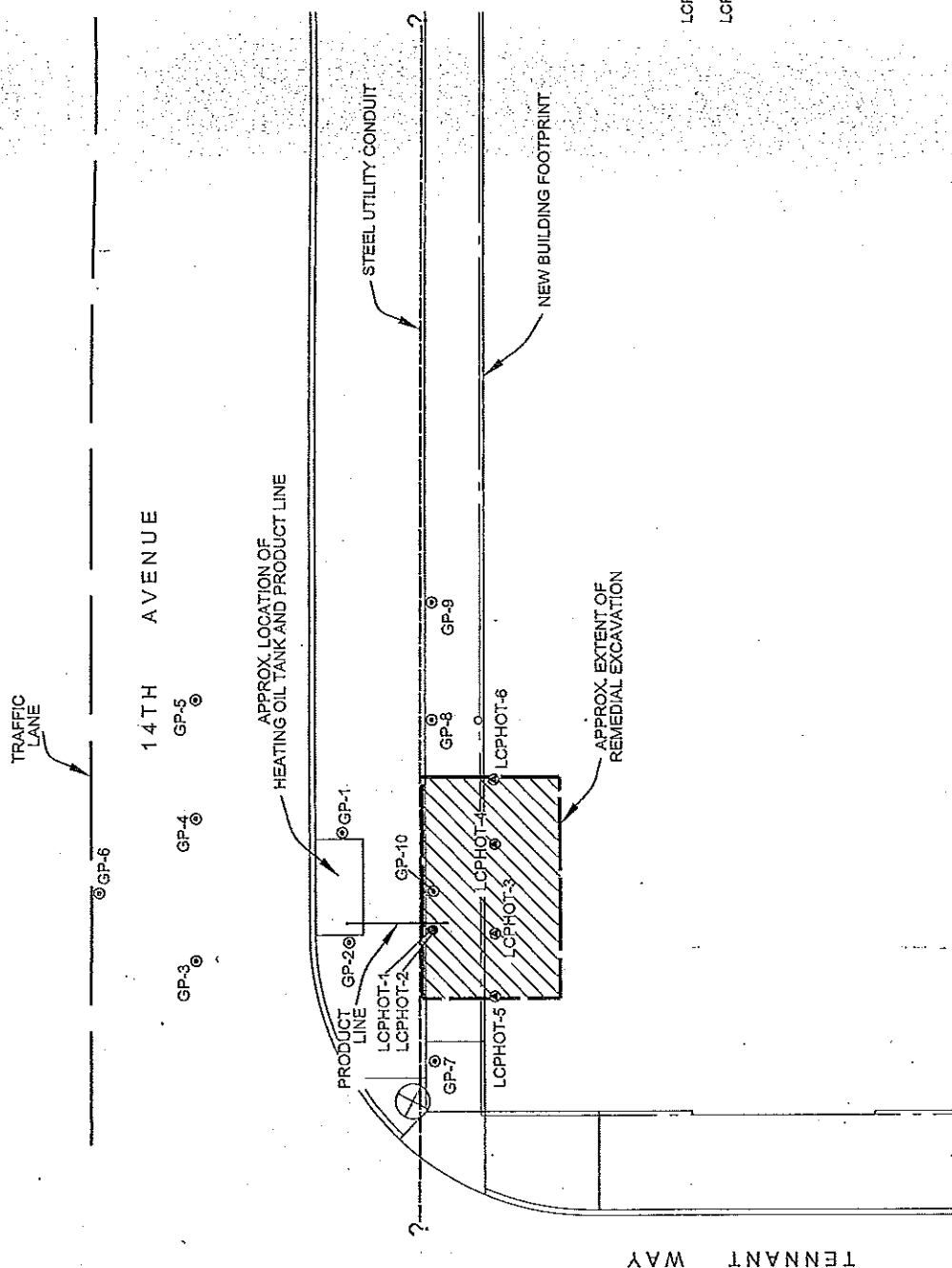
**NORTHWEST INC.**  
**GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS**  
8283 SW CIRRIUS DRIVE • BEAVERTON, OREGON 97008 • 6443  
PHONE 503 626-9889 • FAX 503 626-8611

PHONE 303 628-7588 - FAX 303 628-7589	PROJECT NO. P1640-05-05	FIG. 3
SEP 2010		

WAT BOTTLE AND TEST LOG 16-05-05 UPDATED SEP-2020 DWS 31 AND GROUNDWATER IMPACT AND



LOWER COLUMBIA PATHOLOGY  
LONGVIEW, WASHINGTON



SCALE: 1" = 10'

**GEOCON LEGEND**

- LCPHOT-2 ● APPROX. LOCATION OF PRELIMINARY ASSESSMENT SAMPLE
- LCPHOT-6 ● APPROX. LOCATION OF REMEDIAL EXCAVATION SOIL SAMPLE
- GP-10 ● APPROX. LOCATION OF HEATING OIL TANK ASSESSMENT SOIL SAMPLE

**EXPLORATORY BORING LOCATION MAP**

**GEOCON**  
NORTHWEST INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS  
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DATE DEC. 2009 PROJECT NO. P1840 - 06 - 04 FIG. 3

FILE: PORTLAND/HEMP/HANDS-SAME\_P1840 BORING LOCATION MAP.AWG

NOTE: BASE MAP PROVIDED BY OTHERS.  
SAMPLE LOCATIONS SHOWN ON THIS MAP WERE NOT LOCATED BY A  
PROFESSIONAL LAND SURVEYOR AND SHOULD BE CONSIDERED APPROXIMATE.



**Table 2**  
**Lower Columbia Pathology**  
**Summary of Petroleum Hydrocarbon Analysis in Soil**

Sample Identification	Sample Date	DRO	ORO
GP-1@5'	11/13/2009	64	58.9U
GP-1@10'	11/13/2009	10,800	554U
GP-1@15'	11/13/2009	32.7U	65.4U
GP-2@5'	11/13/2009	6,920	622U
GP-2@10'	11/13/2009	5,170	572U
GP-3@10'	11/13/2009	372	61.4U
GP-4@10'	11/13/2009	5,030	582U
GP-5@10'	11/13/2009	28.8U	59.6U
GP-6@10'	11/13/2009	1,130	54.5U
GP-8@10'	11/13/2009	2,860	555U
GP-8@13'	11/13/2009	29.2U	58.4U
GP-9@10'	11/13/2009	23.1U	46.1U
GP-10@13'	11/13/2009	160	57.2U
GP11@7 (5' Deep)	8/3/2010	27.7U	55.4U
GP11@14 (10' Deep)	8/3/2010	27.2U	54.3U
GP11@18 (13' Deep)	8/3/2010	26.8U	53.6U
GP12@10	8/3/2010	12,500	1070U
GP13@10	8/3/2010	404	55.5U
GP14@10	8/2/2010	30.7U	61.4U
GP14@12	8/2/2010	6100	672U
GP14@15	8/2/2010	33.8U	67.6U
GP15@10	8/2/2010	34.9U	69.9U
GP16@10	8/2/2010	28.4U	56.8U
GP17@10	8/3/2010	25.8U	51.6U
GP18@10	8/2/2010	33.1U	66.2U
GP19@10	8/2/2010	30.7U	61.5U
GP20@10	8/2/2010	50.9	960
GP21@10	8/2/2010	256	57.5U
GP22@10	8/2/2010	31.9U	63.8U
GP23@10	8/2/2010	31.1U	62.1U
MW1@10	8/3/2010	25.9U	51.7U
MW2@5	8/4/2010	28.5U	57U
MW2@10	8/4/2010	27U	54.1U
MW2@13	8/4/2010	27.2U	54.4U
MW3@5	8/4/2010	27.1U	54.3U
MW3@10	8/4/2010	2670	282U
MW3@13	8/4/2010	27.1U	54.3U
MW4@5	8/4/2010	26.9U	53.8U
MW4@10	8/4/2010	28.3U	56.6U
MW4@13	8/4/2010	25.8U	51.6U
MW5@10	8/4/2010	29.2U	58.5U
MW6@10	8/4/2010	32.5U	65U
Washington DOE MTCA Cleanup Regulations			
Method A Soil Cleanup Levels for Unrestricted Land Uses			
		2000	2000

**Notes:**

- 1) Analytical results presented in milligrams per kilogram (mg/kg).
- 2) Hydrocarbon analyses by Northwest Methods.
- 3) DRO = Diesel Range Organics.
- 4) ORO = Oil Range Organics.
- 5) "U" - Indicates analyte not detected at detection limit shown.
- 6) BOLD - Indicates analyte was detected above the MRL.
- 7) Yellow fill indicates that the laboratory data is flagged with a data qualifier stating that DRO detection is due to overlap from heavy oil range product.





**Table 3**  
**Lower Columbia Pathology**  
**Summary of Petroleum Hydrocarbon Analysis in Water**

Sample Identification	Sample Date	DRO	ORO
GP-1 Water	11/13/2009	111	9.8U
GP-3 Water	11/13/2009	136	4.85U
GP-4 Water	11/13/2009	5.8	0.467U
GP-5 Water	11/13/2009	0.234U	0.467U
GP-6 Water	11/13/2009	11.7	0.541U
GP-7 Water	11/13/2009	0.234U	0.467U
GP-8 Water	11/13/2009	2.57	0.467U
GP-9 Water	11/13/2009	1.64	0.467U
GP-11 Water	8/3/2010	0.234U	0.467U
GP-12 Water	8/3/2010	0.649	0.467U
GP-13 Water	8/3/2010	1.39	0.467U
GP-14 Water	8/2/2010	76.4	4.67U
GP-15 Water	8/2/2010	0.236U	0.472U
GP-16 Water	8/2/2010	0.234U	0.467U
GP-17 Water	8/3/2010	0.234U	0.467U
GP-18 Water	8/2/2010	0.234U	0.467U
GP-19 Water	8/2/2010	0.234U	0.467U
GP-20 Water	8/2/2010	0.235U	0.469U
GP-21 Water	8/2/2010	3.16	0.469U
GP-22 Water	8/2/2010	0.234U	0.467U
GP-23 Water	8/2/2010	0.234U	0.467U
MW-1 Water	8/13/2010	0.235U	0.469U
MW-2 Water	8/13/2010	0.235U	0.469U
MW-3 Water	8/13/2010	4.98	0.472U
MW-4 Water	8/13/2010	0.472	0.939U
MW-5 Water	8/13/2010	0.235U	0.469U
MW-6 Water	8/13/2010	0.237U	0.474U
Washington DOE MTCA Cleanup Regulations Method A Soil Cleanup Levels for Groundwater			
		0.5	0.5

Notes:

- 1) Analytical results presented in milligrams per liter (mg/L).
- 2) Hydrocarbon analyses by Northwest Methods.
- 3) DRO = Diesel Range Organics.
- 4) ORO = Oil Range Organics.
- 5) "U"-Indicates analyte not detected at detection limit shown.
- 6) **BOLD** - Indicates analyte was detected above the Method Reporting Limit.



**Table 4**  
**Lower Columbia Pathology**  
**Summary of Volatile Organic Compound Analysis in Soil**

Sample Identification	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Napthalene
GP-11@14 (10' Deep)	8/3/2010	19.1U	76.4U	38.2U	115U	153U
MW2@10	8/4/2010	18.3U	73.1U	36.5U	110U	146U
MW3@5	8/4/2010	19.6U	78.5U	39.3U	118U	157U
MW3@10	8/4/2010	20.7U	82.9U	41.5U	124U	166U
MW4@10	8/4/2010	16U	63.9U	32U	95.9U	128U
Washington DOE MTCA Cleanup Regulations Method A Soil Cleanup Levels for Unrestricted Land Uses						
		30	7000	6000	9000	5000

**Notes:**

- 1) Analytical results presented in micrograms per kilogram ( $\mu\text{g/kg}$ ).
- 2) Selected Volatile Organic Compounds analyzed by USEPA Method 8260B.
- 3) "U" - Indicates analyte not detected at detection limit shown.



**Table 5**  
**Lower Columbia Pathology**  
**Summary of Volatile Organic Compound Analysis in Water**

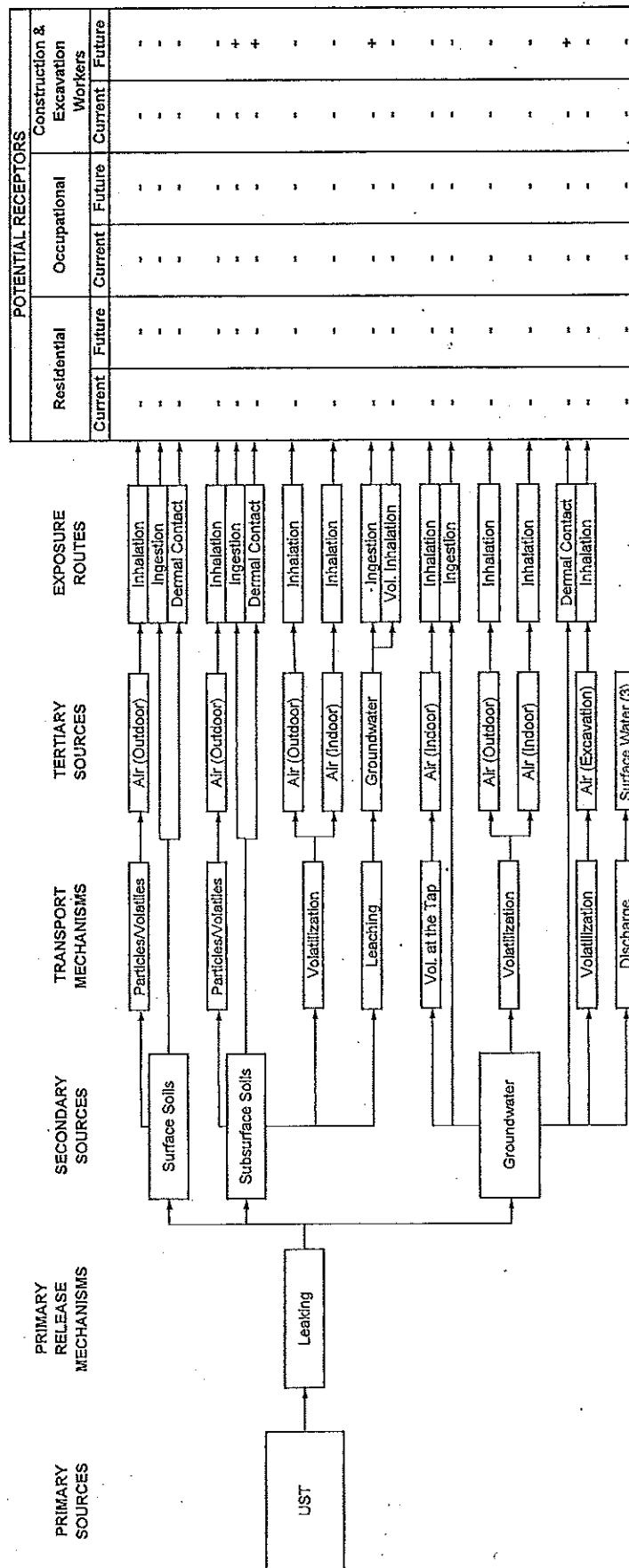
Sample Identification	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Napthalene
GP-11 Water	8/3/2010	0.250U	1U	0.5U	1.5U	2U
MW-2 Water	8/13/2010	0.250U	1U	0.5U	1.5U	2U
MW-3 Water	8/13/2010	0.250U	1U	0.5U	1.5U	2U
MW-4 Water	8/13/2010	0.250U	1U	0.5U	1.5U	2U
Washington DOE MTCA Cleanup Regulations Method A Soil Cleanup Levels for Groundwater						
		5	1000	7000	1000	160

Notes:

- 1) Analytical results presented in micrograms per liter (µg/l).
- 2) Selected Volatile Organic Compounds analyzed by USEPA Method 8260B.
- 3) "U" - Indicates analyte not detected at detection limit shown.



**TABLE 6**  
**Lower Columbia Pathology**  
**Summary of Conceptual Site Model**



**Notes:**

- + This route is a primary source of exposure
- There is no exposure by this route.

