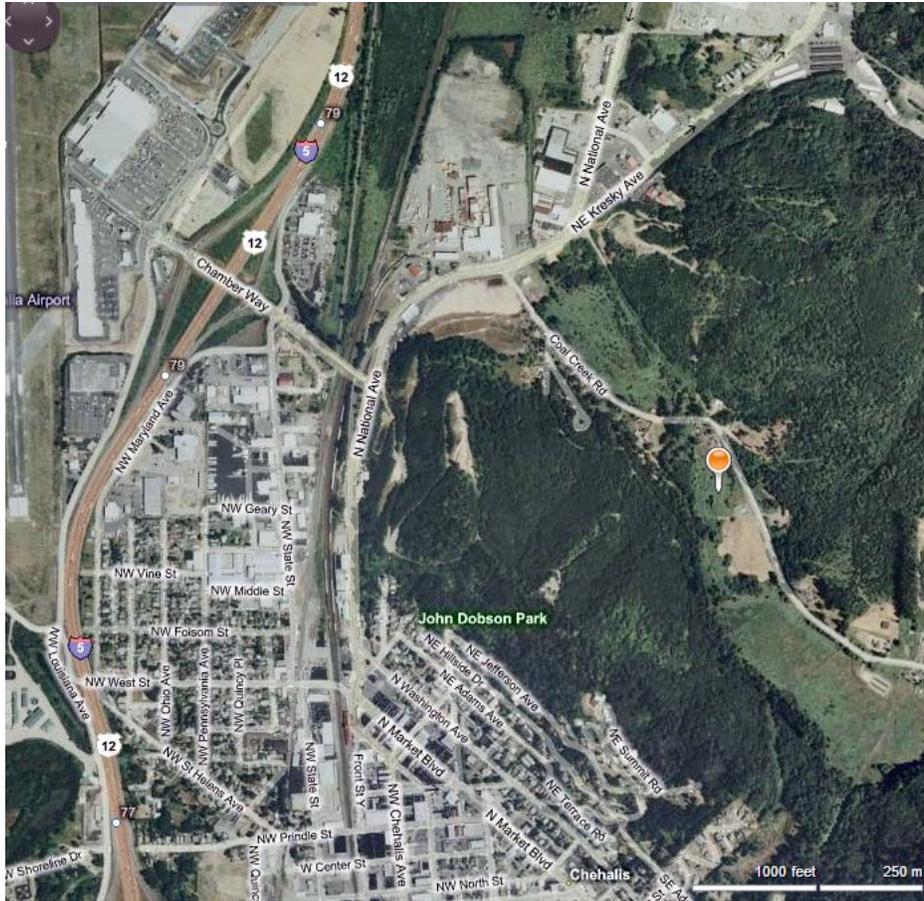


Coal Creek



Third Five Year Review

for

Coal Creek Site

Chehalis, Washington

Prepared by:

United States Environmental Protection Agency
Region 10

**Third Five-Year Review Report
For
Coal Creek Site
Chehalis, Washington**

United States Environmental Protection Agency (USEPA)
Region 10
Seattle, WA 98101

17 March 2010

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Five-Year Review Report

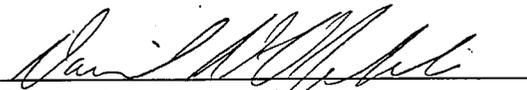
Third Five-Year Review Report
For
Coal Creek Site
City of Chehalis
Lewis County, Washington

17 March 2010

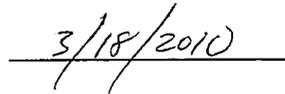
United States Environmental Protection Agency (USEPA)
Region 10
Seattle, Washington

Approved by:

Date:



Daniel D. Opalski, Director
Environmental Cleanup Office
U.S. Environmental Protection Agency, Region 10



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Table of Contents

Acronyms and Abbreviations	iv
Executive Summary	vi
I. Introduction	1
II. Site Chronology.....	2
III. Background	4
Physical Characteristics	4
Land and Resource Use	4
History of Contamination	5
Initial Response.....	5
Basis for Taking Action.....	6
IV. Remedial Actions.....	7
Remedy Selection	7
Remedy Implementation.....	9
System Operations and Maintenance.....	10
V. Progress since the Last Five-Year Review	12
Status of Recommendations.....	12
VI. Five-Year Review Process.....	14
Administrative Components	14
Components of Review.....	14
Community Notification and Involvement.....	14
Document Review.....	14
Data Review and Evaluation.....	14
Site Inspections	14
Interviews.....	16
VII. Technical Assessment	18
Question A: Is the remedy functioning as intended by the decision documents?	18
Question C: Has any other information come to light that could call into question the protectiveness of the remedy?.....	24
Technical Assessment Summary	24
VIII. Issues.....	26
IX. Recommendations and Follow-up Actions.....	27
X. Protectiveness Statement(s)	27
XI. Next Review	28

Table of Contents, Continued

Tables *(located within body of text)*

Table 1. Chronology of Site Events	2
Table 2. COCs Cleanup Levels for Soil, Sediments and Debris [1]	8
Table 3. COCs Action Levels for Groundwater [7]	8
Table 4. COCs Action Levels for Surface Water [7]	9
Table 5. MTCA Method Descriptions [12]	20
Table 6. Comparison between 1990 ROD cleanup levels, interim PRGs, and Standard Method B cleanup levels for COCs in soil	22
Table 7. Comparison between 1990 ROD, 2009 National Recommended Water Quality Criteria, and Standard Method B action levels for COCs in surface water	22
Table 8. Comparison between 1990 ROD, 2009 NPDW, and Standard Method B action levels for COCs in groundwater	23
Table 9. Issues of the 2009 Five-Year Review	26
Table 10. Recommended Follow-Up Actions	27

Figures *(located after end of text)*

Figure 1. Main gate to landfill from Coal Creek Road – View Northwest.....	9
Figure 2. Drainage Ditch along Coal Creek Road at Northeast side of Site – View North.....	9
Figure 3. Drainage Ditch along Coal Creek Road at Southeast side of Site – View North.....	10
Figure 4. Fence on eastern side of landfill - View East.....	10
Figure 5. Top of landfill looking toward substation – View North.....	11
Figure 6. West side of landfill and Site property– View Southwest.....	11
Figure 7. Berm and vegetation west of landfill – View West.....	12
Figure 8. West side of landfill – View East.....	12
Figure 10. Trees and vegetation on southwest edge of landfill – View Northwest.....	13
Figure 11. Southeast side of landfill and Coal Creek Road – View Southeast.....	14
Figure 12. Tree and vegetation in southeast corner of landfill – View South.....	14
Figure 13. Trees and vegetation on southern side of property – View East (September Site Visit).....	15
Figure 14. Trees and vegetation on southern side of property – View East (December Site Visit).....	15
Figure 15. Trees and vegetation on northwestern side of landfill – View Northeast (September Site Visit).....	16
Figure 16. Trees and vegetation on the northwestern side of the landfill – View Northeast (December Site Visit).....	16
Figure 17. Northwest Interceptor Trench Outlet on northwest side of landfill.....	17
Figure 18. Diversion drain on northern edge of landfill.....	17
Figure 19. Diversion drain on the west side of landfill.....	18
Figure 20. Diversion drain on west side of landfill.....	18
Figure 21. Pile of rocks on west side of landfill (unknown if this is a diversion drain).....	19
Figure 22. Hole on south side of landfill (unknown if this is a diversion drain).....	19

Figure 23. Small depression on northeast edge of landfill – View South.....	20
Figure 24. Mole hills on the landfill – View Northeast	20
Figure 25. Coal Creek Site Map	23

Attachments (*located after end of text*)

- Attachment 1 – Documents Reviewed
- Attachment 2 – ARARs Review Summary
- Attachment 3 – Site Visit Photos
- Attachment 4 – Site Figure
- Attachment 5 – Interview Reports
- Attachment 6 – Public Notice of Five-Year Review
- Attachment 7 – Deed and Bill of Sale
- Attachment 8 – Title Insurance & Summary of Terms and Conditions of Consent Decree
- Attachment 9 – Property Restrictions and Conveyance of Interest
- Attachment 10 – Summary of Results for MTCA Standard Method B Cleanup Level Calculations
- Attachment 11 - Summary Tables for Coal Creek Site Groundwater and Surface Water Analytical Data (1994-1998) (Excerpts from [11])
- Attachment 12 – Excavation Plan for Coal Creek Superfund Site (Excerpts from [15])
- Attachment 13 – Simplified Terrestrial Ecological Evaluation

Acronyms and Abbreviations

ARARs	Applicable or Relevant and Appropriate Requirements
ATSDR	Agency of Toxic Substances and Disease Registry
CAA	Clean Air Act
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COCs	Contaminants of Concern
CWA	Clear Water Act
EO	Executive Order
EPA	Environmental Protection Agency
FYR	Five-Year Review
I-5	Interstate 5
LCPUD	Lewis County Public Utility District Number 1
LTM	Long-Term Monitoring
MFS	Minimum Functional Standards
MTCA	Model Toxics Control Act
NA	Non-applicable
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPDES	National Pollutant Discharge Elimination System
NPDW	National Primary Drinking Water
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
OSWER	Office of Solid Waste and Emergency Response
PCBs	Polychlorinated Biphenyls
PP	Proposed Plan
ppb	Parts per billion
ppm	Parts per million
ppt	Parts per trillion
PQL	practical quantification limit
PRGs	preliminary remediation goals
PRP	Potentially Responsible Party
RA	Remedial Action
RA/RD	Remedial Action/Remedial Design
RAOs	Remedial Action Objectives
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
SARA	Superfund Amendments and Reauthorization Act
Site	Coal Creek Superfund Site
TBC	To-Be-Considered
2,3,7,8-TCDD	2,3,7,8-Tetrachlorodibenzo-p-dioxin

TCLP	Toxic Characteristic Leaching Procedure
TEE	Terrestrial Ecological Evaluation
TSCA	Toxic Substances Control Act
UNK	Unknown
USC	United States Code
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation
WA ECY	Washington State Department of Ecology

Executive Summary

The remedy for the Coal Creek Site in Chehalis, Washington included stabilization and capping of contaminated soils on site, institutional controls, and an operations and maintenance plan to evaluate the integrity of the landfill and the potential for contaminant migration. The first five year review (FYR) noted that the groundwater and surface water samples had consistently met cleanup levels over the previous five years, and recommended that such sampling was no longer necessary. The monitoring wells were abandoned in July 2001, in accordance with the Washington State Well Construction Act and implementing regulations.

According to the data reviewed, the site inspection and the interviews, the remedy is functioning as intended in the Record of Decision (ROD), and there have been no changes in the physical condition of the site that would affect the protectiveness of the remedy. All ARARs were reviewed for this site. Model Toxics Control Act (MTCA) is a To-Be-Considered Applicable or Relevant and Appropriate Requirement (ARAR) for this site; however, the 1990 ROD did not specify which method of MTCA was used for this site. In order to compare the cleanup levels that were in place at the time of the ROD, applicable MTCA cleanup levels were determined during this FYR. Standard Method B was selected to determine the MTCA cleanup levels for this site because it contains several hazardous substances of concern, residential land use applies, and the site-specific information was not determined for the modified Method B cleanup level determination. In January 2010, the Office of Solid Waste and Emergency Response (OSWER) proposed interim preliminary remediation goals (PRGs) for 2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD or TCDD) in soils for residential and industrial use, so the residential PRG was compared to the 1990 ROD and MTCA B cleanup levels to verify the protectiveness of the remedy.

The MTCA cleanup levels for PCBs and 2,3,7,8-TCDD in soil were less than the 1990 ROD cleanup levels. Although the MTCA cleanup levels are more stringent than the 1990 ROD cleanup levels and some OSWER standards, there is no human exposure because contaminated soils are contained in the landfill at the site and there is no human exposure beyond the excavation limits at the drainage ditch or under the current landfill. There is also minimal ecological risk based on the MTCA Simplified Terrestrial Ecological Evaluation.

The MTCA action level for PCBs in the surface water was less than the 1990 ROD action level and the 2009 EPA Water Quality Criteria; however, the final surface water concentrations recorded in 1998 (last sampling event) were non-detect for PCBs, so the remedy remains protective of the surface water.

The MTCA action level for total arsenic in groundwater was less than the 1990 ROD action level and final groundwater concentrations measured at the site in 1998. Although the MTCA cleanup level is more stringent than the 1990 ROD action level and less than the 1998 groundwater

concentrations, the remedy remains protective of the human health and the environment because the site has institutional controls that prohibit the construction, installation, maintenance or use of any wells on the property for human drinking water purposes or for irrigation of feed or food crops.

SITE IDENTIFICATION

Site name (from WasteLAN): Coal Creek Superfund Site

EPA ID (from WasteLAN): WAD 980726061

Region: 10

State: WA

City/County: Chehalis/ Lewis County

SITE STATUS

NPL status: Final Deleted Other (specify) Non-NPL

Remediation status (choose all that apply): Under Construction Operating Complete

Multiple OUs?* YES NO Construction completion date: Non applicable

Has site been put into reuse? YES NO

REVIEW STATUS

Lead agency: EPA State Tribe Other Federal Agency _____

Author name: Kendra Colyar

Author title: Remedial Project Manager

Author affiliation: EPA Region 10

Review period: 9/9/2009 to 3/17/2010_____

Date(s) of site inspection: 9/21/2009 and 12/3/2009

Type of review:

- Post-SARA Pre-SARA NPL-Removal only
 Non-NPL Remedial Action Site NPL State/Tribe-lead
 Regional Discretion

Review number: 1 (first) 2 (second) 3 (third) Other (specify) _____

Triggering action:

- Actual RA Onsite Construction at OU #____ Actual RA Start at OU#____
 Construction Completion Previous Five-Year Review Report
 Other (specify)

Triggering action date (from WasteLAN): 3/23/2005

Due date (five years after triggering action date): 3/23/2010

* ["OU" refers to operable unit.]

** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, continued

Issues:

1. Burrow hills observed on the landfill cap. Blackberry bushes on the southeastern and southwestern sides of the landfill cap. Overgrown trees on the southern side of the property may pose a risk to the fence. Small depression on the northeastern side of the landfill cap near the fence.
2. The outlet of Southeast Interceptor Trench and southern diversion drain were not found due to overgrown vegetation.
3. While there is no pathway for exposure to the soils in the landfill, there is some possibility that some soil, outside the area that was remediated but within the fenced property, could contain residual dioxin-like compounds above levels that would allow for unlimited use and unrestricted exposure after the OSWER dioxin reassessment is complete.

Recommendations and Follow-up Actions:

1. In general, inspect cap and ensure that cap is maintained and protected from invasive vegetation. The landfill cap has a biotic barrier layer that prevents intrusion of burrowing animals into the low permeability layer, so the burrow hills are not a current threat to the contained waste. However, the EPA recommends the Lewis County Public Utility Department (LCPUD) monitor mole activity to ensure that cap is not threatened in the future.
2. Locate the outlet and drain by cutting back the vegetation in these areas.
3. After new PRGs are determined and the dioxin reassessment is done, this site should be among those evaluated for potential further assessment and action.

Protectiveness Statement(s):

The remedy at the Coal Creek Site is protective of human health and the environment. The landfill cap appears to be in good shape (i.e. no subsidence or erosion) and the fence and institutional controls are effective in limiting access to the site. Restrictive covenants, recorded in the Property Restrictions and Conveyance of Interest, as implemented will eliminate inappropriate land use and human exposure at this site.

Other Comments:

None

Coal Creek Site
Chehalis, Washington
Third Five-Year Review Report

I. Introduction

This is the third Five-Year Review (FYR) report of Remedial Actions for the Coal Creek Site in Chehalis, Washington. The second Five-Year Review report completed in 2005 was the triggering action for this review. The review period for this review started in November 2009 and was completed in March 2010. The purpose of a FYR is to determine whether the remedy at a Site continues to be protective of human health and the environment.

Region 10 of the Environmental Protection Agency (EPA) conducted a FYR of the Coal Creek Site and prepared this report consistent with the requirements of Section 121 (c) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended and Section 300.430(f)(4)(ii) of the National Oil and Hazardous Substances Contingency Plan (NCP). This site is not on the National Priorities List, but is subject to review as a matter of statute because the remedy was selected post-SARA and pursuant to Section 121 of CERCLA and hazardous substances remain on the site above levels that allow for unlimited use and unrestricted exposure.

The EPA is preparing this FYR pursuant to CERCLA §121 and the National Contingency Plan (NCP). CERCLA §121 states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

The agency interpreted this requirement further in the National Contingency Plan (NCP). 40 CFR §300.430(f)(4)(ii) states:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

The methods, findings, and conclusions of the review are documented in this FYR report. In addition, the FYR report identifies issues found during the review, if any, and recommendations to address these issues.

II. Site Chronology

The following table summarizes, in chronological order, the major milestones or notable events for the Coal Creek Site.

Table 1. Chronology of Site Events

Event	Date
Property owned by Twin City L & T Co.	Prior to May 1911
Property owned by Washington-Oregon Co.	May 1911 to 1915
Property owned by North Coast Power Co.	1915 to 1924
Property owned by Twin City Railroad	1924 to 1935
Property owned by Puget Sound Power and Light Co.	1935 to 1948
Site use associated with manufacturing, repairing and scrapping electrical equipment.	1949 to 1983
Property acquired by Lewis County Public Utility District (LCPUD)	1948
Property leased to Economy Transformer Company	1960 to 1964
Property leased to Spokane Transformer Company	1964 to 1972
Property leased to Ross Electric of Washington, Inc.	1972 to 1983
Superfund Site Discovery	June 1, 1982
Transformer salvage activities ceased	1983
Ecology issued a compliance order under State Water Quality Regulations requiring Ross Electric and LCPUD to initiate certain site response/cleanup actions.	February 1983
Ross Electric terminated its lease for site and LCPUD assumed responsibility of site.	September 1983
EPA and LCPUD signed an agreement to initiate certain site response/cleanup actions and stabilize the site	April 1984
Potentially Responsible Parties (PRPs) took actions to stabilize the site	1983 to 1984
EPA issued information request letters to 86 PRPs	April 1984 to May 1986
Site Inspection	May 30, 1985
EPA notified LCPUD of the need to conduct a removal site assessment.	1985
Preliminary Assessment	September 30, 1985 to October 24, 1985
PRPs formed the Coal Creek Steering Committee	1986
Remedial Investigation/Feasibility Study (RI/FS) negotiations	July 11, 1987 to February 19, 1988
EPA Issued CERCLA Administrative Order on Consent for RI/FS with 66 PRPs	February 19, 1988
Community Relations Plan published and distributed to information repositories. The administrative record was placed in the Chehalis-Timberland Public Library.	March 3, 1988
RI/FS complete	August 15, 1989

EPA-generated Supplemental Risk Assessment complete	April 1990
EPA notified PRPs of the need to conduct additional investigations to assess impacts from a 100-year flood event and gather additional information on leaching characteristics of heavy metals found on Site	January 1990 and May 1990
EPA issued Proposed Plan (PP)	May 4, 1990
Public comment period on RI/FS and PP	May 7, 1990 to July 6, 1990
Public meeting held in Chehalis, WA	June 6, 1990
Record of Decision (ROD) complete	October 17, 1990
Special Notice Letters announcing the Remedial Design/Remedial Action (RD/RA) moratorium mailed to 85 PRPs	December 5, 1990
RD/RA Negotiations	October 30, 1990 to June 4, 1991
Consent decree with de minimis parties	November 13, 1991
Consent decree with major parties	November 13, 1991
Restrictive Covenant filed with County Auditor	March 10, 1992
Phase I Remedial Design I approved by EPA	December 15, 1992
Phase I Remedial Action	March 1993 to May 1993
Phase II Remedial Design approved by EPA	November 4, 1993
Phase II Remedial Action	September 1993 to October 1994
Final Site Inspection	November 4, 1994
Consent Decree with de minimis parties terminated	August 11, 1994
Remedial Action Report approved by EPA	February 2, 1995
O&M Plan approved by EPA	March 8, 1995
Final Close Out Report	June 5, 1995
Final Closure Report	July 15, 1999
First five-year review completed	February 4, 2000
Consent decree with major parties terminated	December 22, 2000
Monitoring wells abandoned in accordance with state regulations	July 9, 2001
Second FYR	March 23, 2005
Third FYR	March 23, 2010

III. Background

Physical Characteristics

The Coal Creek Site, consisting of approximately eight acres, is located at the head of an alluvial valley approximately one mile northeast of Chehalis, Washington. The site address is 346 Coal Creek Road, Chehalis, Washington 98532. The Site is currently owned by Lewis County Public Utility District No. 1 (LCPUD) and is bounded by Coal Creek to the southwest and by Coal Creek Road to the east (See Attachment 4). An eight foot high chain-link fence encloses the site [1].

The prominent site feature prior to cleanup was a fill mound located in the northeast corner of the site. This mound covered approximately one-fourth of the total site area and was composed of two to eight feet of fill material including native site and clay soils, ash, coal remains, and mixed debris from transformer scrapping operations. A one to two foot thick sand and gravel cover was placed over the fill as a working surface for vehicle access when the facility was operating [1].

The site is situated within a floodplain bounded by bedrock hills to the northeast and southwest. Coal Creek is the receptor for all local surface water drainage including that from the site, and periodically overflows its banks. A surface water drainage ditch extends from the southwest corner of the former fill mound and meanders through the wetlands to the west where it discharges to the Coal Creek [1]. In the last twenty years, four 100-year floods have occurred in the Chehalis River Basin: January and November 1990, February 1996, and December 2007. In January 1990 (prior to the site cleanup), a 100-year flood submerged much of the wetlands surrounding the former fill mound at the Site. Flood waters also inundated the drainage ditch and reached portions of the southwest corner of the former fill mound. In February 1996 and December 2007 (following site cleanup), Interstate 5 (I-5) was closed for four days [2]. No flooding was observed on the Coal Creek Site during the storm events in February 1996 and December 2007.

Land and Resource Use

The site is located in a rural, residential area and has been owned primarily by electric utilities since the early 1900s. The Coal Creek valley is largely undeveloped with few people living in the immediate vicinity of the site [1]. During the site inspection on September 21, 2009, four homes were identified within 0.25 mile of the Coal Creek Site along Coal Creek Road.

Surface water resources in the vicinity of the site are not utilized for drinking water. Small quantities of surface water may be used for watering livestock or crop irrigation. Coal Creek has been extensively altered by development and now provides relatively poor fishery habitat. Stream water quality is characterized by high turbidity, temperatures and nitrate levels, and low flows [1].

The Coal Creek Site is located within a regional groundwater discharge zone, where hydraulic gradients direct groundwater flow towards the surface. Regional topography suggests that groundwater flows from the highlands northeast of the site toward the center of the valley where

it discharges to Coal Creek or flows down the axis of the Coal Creek Valley. The city water service extends from the base of Coal Creek Valley to a point 0.5 miles upstream from the site. All homes without city water are located upgradient from the site. In homes without city water, water quality and/or quantity have been reported by users as moderate to poor. Only two homes, sharing a single well, have both adequate water quality and quantity [1].

The 2000 FYR noted that the groundwater and surface water had consistently met cleanup levels over the previous five years, and recommended that sampling was no longer necessary [3]. The existing monitoring wells were abandoned in July 2001, in accordance with the Washington State Well Construction Act and implementing regulations [4].

Wildlife is expected to be typical of wet lowland conditions in the region [1]. Currently, there is evidence that burrowing animals, deer and birds occupy the site at least part of the year.

History of Contamination

Past operations at this site included a coal fired steam generation plant in the 1930s and 1940s and a succession of transformer scrapping/repair businesses from 1948 to 1983. In the conduct of their operations at the site, these owners and operators engaged in activities involving hazardous substances including, but not limited to polychlorinated biphenyls (PCBs) and heavy metals [4]. During this time, transformer fluid containing PCBs and chlorobenzenes was dumped or spilled on the ground. Metals such as arsenic, barium, copper, lead, mercury, and zinc have also been introduced as a result of the disposal of scrap electrical equipment. The presence of a coal-burning steam generating plant on the site prior to 1949 also was a source of many trace metals [1].

Elevated concentrations of these contaminants were detected in soils, sediments, ground water and surface water. Pathways of contamination included surface water runoff, groundwater discharging from the former fill mound, sediment migration down a former drainage ditch which connected the fill mound with Coal Creek, and emissions in the form of volatile gases and fugitive dusts [1]. The drainage ditch served as a mechanism for the transport of site contaminants to the surrounding wetlands. This pathway was especially significant in light of flood events and their ability to scour ditch sediments. Due to the relative immobility of site contaminants (especially PCBs) and to environmental factors such as absorbent clay soils and upward component of the groundwater flow, contamination on-site did not migrate far beyond the edge of the former fill mound except for the drainage channel and subsurface conduits. In addition to contaminated fill mound soils, other potential sources of contamination included subsurface pipes and flumes and underground storage tanks [1].

Initial Response

In 1983 and 1984, the Potentially Responsible Parties (PRPs) took actions to stabilize the site. These response actions included covering portions of the former fill mound with plastic to control air emissions and prevent rainfall from percolating through contaminated soils, installation of plywood dams in the drainage ditch to retard migration of contaminated sediments, installation of monitoring wells to assess the extent of contamination in the groundwater, and erection of a perimeter fence to secure the site [1].

Basis for Taking Action

The Remedial Investigation identified soils and air as the exposure media of greatest concern at the Coal Creek Site. Human exposures via other media such as surface water and groundwater are considered less significant by comparison. The principal contaminants of concern (COCs) include PCBs, copper, lead, zinc, 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD), and chlorobenzenes. PCBs account for the overwhelming majority of carcinogenic risk effects from organic COCs, and lead accounts for greatest carcinogenic and non-carcinogenic risk effects from metal COCs. Data on contaminant distribution at the site indicate a strong correlation among site contaminants including PCBs and lead. Remediation of PCBs contaminated soils was expected to effectively address the areas of lead contamination [1].

On February 19, 1988, a Consent Order on the Coal Creek Site was issued by the EPA pursuant to Sections 104 and 122 of CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA). The Consent Order required the Coal Creek Steering Committee representatives to conduct a Remedial Investigation/Feasibility Study (RI/FS) consistent with CERCLA and the NCP. The Coal Creek Steering Committee was composed of approximately 86 PRPs, most of which were electric utilities that shipped used electrical equipment to the site for disposal [3,4]. The work plan, dated October 20, 1987, and incorporated into the order by reference, described the field activities and analyses deemed necessary to fill the remaining data gaps and complete the RI/FS. The RI/FS was completed by the PRPs on August 15, 1989 and supplemented by EPA-generated risk assessment documents in April 1990 [1,4]. The EPA issued the Proposed Plan (PP) for remediating the site contamination on May 4, 1990. The public comment period on the RI/FS and PP was from May 7, 1990 to July 6, 1990. The EPA issued the Record of Decision (ROD) for this site October 17, 1990 [1].

IV. Remedial Actions

Remedy Selection

On October 17, 1990 EPA issued a CERCLA ROD. The Washington State Department of Ecology (DOE) concurred with the selected remedy. Two Consent Decrees requiring implementation of the ROD were filed in federal district court in November 1991 pursuant to Sections 106 and 107 of CERCLA. One Consent Decree was signed by the major PRPs and the other was signed by the de minimis PRPs [5,6].

The remedial action objectives developed from the RI/FS were to provide a “cost-effective remedial alternative that effectively mitigates and minimizes threats and provides adequate protection of public health and welfare and the environment.” The specific remedial action objectives (RAOs) for the affected media are the following [3,4]:

- Prevent human exposure to PCBs and other carcinogenic indicator chemicals that could result in exceeding a cumulative lifetime cancer risk of 10^{-7} to 10^{-4} .
- Prevent human exposure to non-carcinogenic indicator chemicals that could cause the Hazard Index to exceed 1.0.
- Prevent soil with concentrations exceeding the PCBs action level from migrating off the former fill mound, from being directly contacted or ingested by humans, from exposure to volatilization or dust generation, or from serving as a medium for vegetable gardening (residential only).
- Prevent groundwater in contact with soil exceeding the PCBs action level from migrating out of the fill mound to either surface water or to a deeper aquifer.
- Prevent surface water from contacting soil exceeding the PCBs action level.
- Prevent human contact with all identified special features above or below ground surface, and prevent any special features or their contents containing PCBs in excess of the PCBs action level from migrating off the mound.

The selected remedy for the Coal Creek Site includes the following [1,3,4]:

- Removal of asbestos from the on-site building.
- Demolition of on-site structures, including underground storage tank (UST) removal.
- Excavation, testing and segregation of contaminated soils, sediments and mixed debris into batches containing 1) greater than 50 ppm PCBs and 2) 1 to 50 ppm PCBs.
- On-site incineration of soils, sediments and mixed debris containing greater than 50 ppm PCBs.
- On-site incineration or off-site treatment of contaminated fluids (perched groundwater, containerized liquids and sludge).
- Containment of incinerator ash, soils containing from 1 to 50 ppm PCBs and soils containing greater than 500 ppm lead in a location above the maximum seasonal groundwater table and outside the 100 year flood plain. These materials will be contained under an engineered cap.
- Perimeter drainage systems to control surface water runoff/runoff on the final site cover. These drainage systems require routine inspection and maintenance.

- Institutional controls to protect the integrity of the cleanup remedy. Deed restrictions and/or restrictive covenants to protect the cap and limit land and groundwater use.
- A ground water monitoring plan for long-term surveillance of the surficial aquifer and evaluation of the performance of the containment system. The monitoring program was conducted for a minimum of five years to assess the potential for contaminant migration.

The COCs and the corresponding cleanup levels for the Coal Creek Site presented in the ROD are shown in Tables 2, 3 and 4.

Table 2. COCs Cleanup Levels for Soil, Sediments and Debris [1]

Contaminant of concern	Cleanup Level (ppm)	Basis for Cleanup Level
PCBs	1.0 1 to 50	Carcinogenic risk level of 1×10^{-5} for residential scenario Capped Soils – Toxic Substances Control Act (TSCA)
Lead	500	Capped Soils – Toxic Characteristic Leaching Procedure (TCLP) standards; Agency of Toxic Substances and Disease Registry (ATSDR)
Copper	NA	Capped Soils – TCLP standards
Zinc	NA	Capped Soils – TCLP standards
2,3,7,8-TCDD	0.001	Carcinogenic risk level of 1×10^{-5} for residential scenario

Notes:

Soils containing 1 to 50 ppm PCBs and greater than 500 ppm lead are contained in a landfill on the site.

NA = Not applicable

Following site cleanup, the EPA required the PRPs to sample and analyze up gradient and down gradient ground and surface waters at the site to determine any impact that the completed remedy may have had on down gradient waters. The Operation and Maintenance (O&M) Plan required that the following chemicals be analyzed and established the following action levels for groundwater and surface water [1,7]:

Table 3. COCs Action Levels for Groundwater [7]

Contaminant of concern	Action Level (ppb)	Basis for Cleanup Level
PCBs	0.5	EPA Maximum Cleanup Level
Total Lead	5	EPA Maximum Cleanup Level
Total Arsenic	50	EPA Maximum Cleanup Level
Total Barium	1000	EPA Maximum Cleanup Level
Total Cadmium	10	EPA Maximum Cleanup Level
Total Chromium	50	EPA Maximum Cleanup Level
Total Silver	50	EPA Secondary Maximum Cleanup Level
Total Mercury	2	EPA Maximum Cleanup Level
Total Copper	1000	EPA Secondary Maximum Cleanup Level
Total Selenium	10	EPA Maximum Cleanup Level
Chlorobenzenes	5	EPA Maximum Cleanup Level

Table 4. COCs Action Levels for Surface Water [7]

Contaminant of concern	Action Level (ppb)	Basis for Cleanup Level
PCBs	0.014	EPA Freshwater National Recommended Water Quality Criterion; Aquatic Life Criterion
Total Lead	3.2	Freshwater National Recommended Water Quality Criterion; Aquatic Life Criterion
Total Copper	12	EPA Freshwater National Recommended Water Quality Criterion; Aquatic Life Criterion

Remedy Implementation

The Coal Creek Site Remedial Action took place in two phases.

Phase I (March 1993 to May 1993): Demolition of a two-story concrete building and foundation; asbestos abatement; demolition of the site drainage system; debris disposal; and UST removal and decontamination [8].

Phase II (September 1993 to August 1994): Excavation of contaminated soil; thermal treatment of contaminated soil; containment cell construction; debris disposal; and wetlands restoration. Containment cell cap seeding and wetlands seeding took place during October 1994 [8].

Excavation operations divided the contaminated soils into 15-foot by 15-foot grids. Soils containing greater than 1 ppm PCBs or 500 ppm lead were excavated and placed into two stockpiles. Excavation and stockpile determination was based on the following [8]:

- If less than 1 ppm PCBs and 500 ppm lead, then no further excavation.
- If 1 to 50 ppm PCBs and greater than 500 ppm lead, then excavate (1-3 feet) and place into stockpile #1.
- If greater than 50 ppm PCBs and 500 ppm lead, then excavate (1-3 feet) and stockpile for thermal treatment (stockpile #2).

Composite soil samples were collected from each grid and analyzed for PCBs and lead. Samples from each grid were analyzed and excavation was repeated until all grids were below 1 ppm PCBs and 500 ppm lead [8].

Soils containing 1 to 50 ppm PCBs and greater than 500 ppm lead (stockpile #1) were placed into a containment cell constructed on site. Soils containing greater than 50 ppm PCBs were thermally treated on site. Debris containing greater than 50 ppm PCBs was disposed at EnviroSAFE in Idaho. Larger pieces of debris containing less than 50 ppm PCBs that were unsuitable for placement in the cell were also disposed off-site [4,8].

The incinerator was mobilized to the site in the fall of 1993. Approximately 28,000 tons of fill were brought to the site to provide a working surface around the incinerator, and concrete pads with pile support were poured to support the incinerator. A total of 9,715 tons of material were

processed in the incinerator from January to May of 1994. During this period, several operational tests were performed, including two mini-burns and a performance burn. The incinerator was demobilized and removed from the site in May and June 1994. The fill material and concrete pads were also removed from the site and the wetland area restored back to its original condition [4].

A 22,000 cubic yard engineered containment cell was constructed during July and August 1994, to contain the thermally treated soils. Final disposal of ash was determined based on the analytical results. If the ash contained PCBs less than 1 ppm and TCLP metals below the required standards, then the ash was backfilled into the containment cell. If the ash failed the TCLP metals, the ash was stabilized by mixing with Portland cement prior to being backfilled in the waste cell. A 92,000 square foot synthetic cap was constructed over the cell, which was built with several different layers of materials. These layers included a geosynthetic clay liner, 30-mil PVC liner, geonet drainage layer, a 12 ounce geotextile fabric, a 12 inch biotic barrier, a second geotextile layer (16 ounce), and one foot of top soil with a covering of selected rye grasses [4,8].

In December 1994, CH2M Hill and Roy F. Weston, Inc. prepared a Remedial Action (RA) Report signifying successful completion of construction activities. The RA Report was approved by EPA in February 1995. The report documents and discusses the construction activities for the implementation of the RA. The total remediation cost for the site was approximately \$10,000,000 [4].

System Operations and Maintenance

The inspection, sampling and maintenance requirements for the site were established in the O&M Plan, which was approved by EPA March 8, 1995. The section of the plan that requires groundwater and surface water sampling is no longer in effect. The 2000 FYR noted that the groundwater and surface water samples had consistently met cleanup levels over the previous five years. The existing monitoring wells were abandoned in July 2001, in accordance with the Washington State Well Construction Act and implementing regulations [4].

Institutional Control Requirements

On March 10, 1992, in accordance with the requirements in the Coal Creek Consent Decree, the site owner, LCPUD, recorded the form of the Property Restrictions and Conveyance of Interest for the site with Lewis County Recorder's Office, which would bind any and all persons who acquire interest in the property in the future. The document places the following restrictive covenants on the future use of the property [4,5]:

- The property shall not be used for residential or agricultural purpose;
- Construction, installation, maintenance or use of any wells on the property for human drinking water purposes or for irrigation of feed or food crops is prohibited;
- Construction activities that would violate the integrity of the containment structure are prohibited; and
- Maintenance of diversion ditches, flood barriers, and other special features of the remedy shall be maintained.

The institutional controls will help assure that the integrity of the remedial structure will not be violated and that the site will remain protective of human health and the environment in the

future. Maintenance of the land use restrictions through restrictive covenants imposed on LCPUD and future land owners upon property conveyance are included in the continuing obligations of the PRPs and are not affected by termination of the Consent Decree [9].

A copy of the recorded document, Property Restrictions and Conveyance of Interest, is attached to this FYR (see Attachment 9).

V. Progress since the Last Five-Year Review

The major activities that were conducted at the site since the last FYR are as follows:

- The continuing obligations established by the consent decree, including those relating to land use restrictions and periodic review, remain in place. LCPUD, the owner of the property, remains responsible for operation and maintenance of the cap and fence.
- Since the last FYR, the LCPUD annually submitted their site inspection sheets (four quarterly site inspections) in accordance with the approved O&M plan to the EPA. The site inspection sheets are kept in the EPA Region 10 site file.
- Per the request of EPA Region 10, LCPUD conducted a comprehensive title search of the Coal Creek site (see Attachment 8).
- Per the request of EPA Region 10, LCPUD removed trees near the Northwest Interceptor Trench Outlet and Southern edge of the landfill.

Previous Protectiveness Statement

The protectiveness statement in the last FYR (2005) stated [4]:

“The remedy at the Coal Creek Site is protective of human health and the environment. The cap appears to be in good shape and the fence and institutional controls are effective in limiting access to the site.”

Status of Recommendations

A summary of the recommendations made in the previous Five-Year Review (2005) and an evaluation of their progress are presented below [4]:

- **The LCPUD’s periodic site inspections in accordance with the approved O&M plan should be documented, with copies submitted to EPA annually:**
Since the last FYR, the LCPUD annually submitted their site inspection sheets (four quarterly site inspections) in accordance with the approved O&M plan to the EPA. The site inspection sheets are kept in the EPA Region 10 site file.
- **Prior to the next five year review, a title search should be performed to ensure that the proprietary institutional controls are in place and can be found in the public record. At that time, EPA should also review the proprietary control to see if it was properly implemented to ensure long-term protectiveness of the remedy, considering EPA’s guidelines and state law:**
Per the request of EPA Region 10, LCPUD conducted a comprehensive title search of the Coal Creek site (see Attachment 8). The EPA also reviewed the propriety control in the Property Restrictions and Conveyance of Interest, which are recorded in the LCPUD Recorder’s Office.

Two recommendations made in the summary of the previous Five-Year Review (2005) and evaluation of their progress are presented below [4]:

- **Trees are growing near the riprap below the outlet of the northwest interceptor trench and may need to be monitored to ensure that the outlet is not blocked.**
Per the request of EPA Region 10, LCPUD removed trees near the Northwest Interceptor Trench Outlet.
- **The LCPUD manager who had worked on the cleanup of the site for many years no longer works for the LCPUD and some information regarding O&M requirements may not have been passed along to the new manager. As a result, there was some discussion about mowing the cap while protecting the wetlands, site use restrictions, and other O&M issues.**

Mowing the cap was not a requirement in the O&M Plan. The O&M Plan states that vegetation maintenance such as mowing the grass is not anticipated unless the site inspections reveal problems to the cap resulting from the vegetation growth [7]. The O&M Plan also states that if the site inspections reveal a large population of rodents residing on the cap, the vegetation maintenance will be modified to include grass mowing. During this FYR inspection, burrow hills were observed on the landfill cap, so mowing shall continue as needed.

VI. Five-Year Review Process

This FYR includes a review of site records, two site visits, and several interviews to support the conclusions this FYR.

Administrative Components

The Coal Creek Site FYR team included Kendra Colyar (EPA Region 10), Claire Hong (EPA Region 10), and Rudy Mondaca (EPA Region 10).

Components of Review

The major components of the FYR included the following:

- Document Collection and Review;
- Data Assessment/Analysis;
- Site Inspection;
- Interviews and Community Notification and Involvement
- Five-Year Review Report Development and Review.

The FYR has a statutory completion date of March 23, 2010.

Community Notification and Involvement

An advertisement was posted in the Centralia Chronicle to notify the public that the EPA was conducting their third FYR of the Coal Creek Site (see Attachment 6). No public input from the community was received.

Document Review

The types of documents reviewed for this FYR include the consent decrees, ROD, O&M Plan, removal action report, site closure report, annual data reports, and other supporting materials. See Attachment 1 for a complete list of documents reviewed during this FYR.

Data Review and Evaluation

The Final Closure Report and associated data [10,11] was reviewed for this FYR to verify that the COCs in groundwater and surface water were below action levels for the Site. The groundwater and surface water concentrations are below the 1990 ROD action levels; however, there have been several changes in protective contaminant levels for soil, groundwater and surface water since 1990. This topic is addressed in the Technical Assessment.

Site Inspections

On September 21, 2009, Rudy Mondaca and Claire Hong conducted a site visit at the Coal Creek Site. Photos taken during the site inspection are included in Attachment 3. During this inspection the following observations were noted:

- *Access Control:* The chain link fence surrounding the site appears to be in good condition. Both gates were locked and there were no signs of human intrusion.
- *Housekeeping:* No garbage was observed on site.

- *Cap vegetation:* The cap and surrounding fields had been recently mowed (see Figures 5, 6 and 8). The landfill appears to be in good condition and covered with grasses. Trees and blackberries exist within the fenced area, but with two exceptions, these trees seem to be distant from the edge of the cap. The trees that may pose a problem are near the outlet of the Northwest Interceptor Trench (Figure 15) and near the diversion drain on the southern edge of the cap (Figure 13).
- *Erosion, sloughing, subsidence:* There was no erosion or apparent differential settling observed on the cap. There was no sloughing of the cap material even in areas of with the sharpest grade changes, such as on the northern end of the cap near the substation.
- *Drainage system:* Sizeable trees are growing near the drainage stones below the outlet of the Northwest Interceptor Trench and near the southern diversion drain (Figure 15).
- *Other:* Burrow hills were observed all over the landfill cap (Figure 24).

On December 3, 2009, Kendra Colyar conducted a second site inspection to verify the LCPUD had cut down the trees that posed a risk to the landfill cap (per request of EPA Region 10) and to locate/inspect drain outlets not identified during the September 2009 site visit. Photos taken during the site inspection are included in Attachment 3. During this inspection the following observations were noted:

- *Access control:* The fence appeared in good condition, except the fence had a minor dent near the southern entrance (Figure 1), which is not new. No signs of human intrusion were observed.
- *Housekeeping:* A couple of glass bottles and aluminum cans were observed on the northeast side of the site
- *Cap vegetation:* The cap and surrounding fields (western side of site) had been cut recently. Blackberry bushes were growing on the all sides to the property along the fence line and were creeping up the southern corners of the landfill (Figures 10 and 14). Large cottonwoods were also growing near the outlet of the Southeast Interceptor Trench and the southern side of the site (Figures 11, 12 and 14). The two trees of concern noted during the September 2009 site visit had been cut down (Figures 14 and 16).
- *Erosion, sloughing, subsidence:* A small depression was observed on the northeast side of the cap near the fence (Figure 23). Otherwise, no erosion, sloughing or subsidence was observed.
- *Drainage system:* The outlet of the Northwest Interceptor Trench was free of debris (Figure 17). The outlet of the Southeast Interceptor Trench was not located because the area was overgrown with blackberries and a large cottonwood (Figure 12). Three diversion ditches were found in fine condition during this site visit (two on the western side and one on the northern side of the landfill cap) (Figures 18, 19 and 20). The southern diversion drain observed during the September site visit was not located during this site visit. There is some uncertainty whether the hole observed on the south side of the landfill was a diversion drain or a rodent hole (Figure 22). There was also a pile of rocks on the western side of the landfill, which may be a diversion drain (Figure 21). Confirmation of these diversion drains is needed.
- *Other:* Burrow hills were observed all over the landfill cap (Figure 24).

Interviews

Interviews were conducted with employees of the LCPUD and residents near the Coal Creek Site during this FYR. A summary of these interviews is given below and detailed interview information is in Attachment 5.

Interview 1: Jim Day, LCPUD Superintendent
Interviewer: Claire Hong, EPA RPM
Date: September 21, 2009 (site inspection)

Access controls: Mr. Day noted that in the past, there have been minor acts of vandalism, where a few locks on the gate were broken into. No long-term damage resulted, but it appeared the gated enclosure was breached to gain access to the fenced area and “joy ride” in the area.

Vegetation: Trees and blackberries were observed within the fenced area, and with two exceptions, these trees seem to be distant from the edge of the cap. The trees that may pose a problem at the edge of the cap are those near the outlet of the Northwest Interceptor Trench and a large tree near the diversion drain on the southern edge of the cap. Mr. Day said he would look into cutting down those trees.

Flooding: Mr. Day said that this region has experienced considerable rainfall in the last fifteen years, with notable flooding in the winters of 1996 and 2007. During those floods, I-5 was blocked. Mr. Day said that the water comes up to the fence line, but does not flood much in this area. According to Mr. Day, Coal Creek does not really flood until about a mile downstream.

Site Interest: Claire asked whether anyone in the area had any particular interest or asked questions about the site. Mr. Day said no one really asks about the site. Every once in a while someone asks if the property is for sale. Mr. Day asked how long the site would have restricted use. Claire replied future development could occur consistent with the cap and remedy. So any weight-bearing uses would have to be evaluated.

Title Search: Claire asked Mr. Day if LCPUD would be interested in conducting the title search rather than having the EPA pay a contractor. Mr. Day said that they would be interested in doing that.

Interview 2: Debbie Angwood, LCPUD Right-of-Way Agent
Interviewer: Claire Hong, EPA RPM
Date: November 19, 2009

Title Search: Ms. Angwood agreed to conduct a title search of the site. Ms. Angwood said she would contact the title company in Chehalis for a title abstract, and contact the City and/or County to identify local ordinance changes for land use plans and changes to specific zoning areas.

Flooding: Ms. Angwood also agreed to identify the approximate elevation of Coal Creek during the recent (1996, 2007) flood events in Chehalis by contacting the residents in the area. She also

said she would identify modifications to flood zones in the area and provide maps of the site if they are readily available.

Interview 3: Halie Brown, Resident of the Coal Creek Valley
Interviewer: Debbie Angwood, LCPUD Right-of-Way Agent
Date: December 2, 2009

Ms. Brown has lived at this address for three years and during this time has not seen Coal Creek flood on the LCPUD property (Coal Creek Site).

Interview 4: Roxie Stroup, Resident of the Coal Creek Valley
Interviewer: Debbie Angwood, LCPUD Right-of-Way Agent
Date: December 2, 2009

Ms. Stroup has lived at this address for 30 years and has not seen Coal Creek flood on the LCPUD property (Coal Creek Site). Coal Creek does flood in the field further east up the valley.

Interview 5: Jim Day and Debbie Angwood, LCPUD Staff
Interviewer: Kendra Colyar, EPA Staff
Date: December 3, 2009

Vegetation: Mr. Day commented that the LCPUD would likely remove the remaining cottonwoods near the southern edge of the landfill because he fears they may harm the fence. In order not to harm cap, this would be done during the dry summer months. Mr. Day also said he wants to cut back blackberries on the western and southern side of property that are growing on the fence.

Flooding: Mr. Day replied that he has never seen flooding on the landfill cap. He has seen ponding on the western side of the site (not on the cap). Ms. Angwood noted that the woman at the title company said no water has been observed on the site due to Coal Creek. Ms. Angwood gave Kendra Colyar the flood and property title information for the site.

Drainages: Mr. Day said the LCPUD would clear out the vegetation and find the outlet of the Southeast Interceptor Trench and southern diversion ditch during the dry summer months.

Vermin intrusion: Ms. Angwood said that it was against the law to capture and kill moles in Lewis County.

Interview 6: Mrs. Kostick, Resident near Coal Creek Site
Interviewer: Debbie Angwood, LCPUD Right-of-Way Agent
Date: December 3, 2009

Site Access: Mrs. Kostick said she had seen no one except authorized personnel at site and no vandalism.

Flooding: Mrs. Kostick said she has not noted any change in flooding levels. During the 1996 and 2007 floods, she observed flooding on the south side of her property, in a field between the sub-station and her home. The flood water then meanders to Coal Creek to the west of her property. No flooding reaches her home.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

Answer: Yes

In general, the review of documents and the results of the site inspections indicate that the remedy is functioning as intended by the ROD. The cap appears to have a healthy cover of suitable vegetation and the fence is in good shape. The monitoring wells have been properly abandoned. Access restrictions and land uses are consistent with the ROD.

Over the past five years, LCPUD has conducted quarterly inspections at the site as described in the O&M plan [7]. The quarterly inspection activities include evaluating general site conditions such as site security and inspecting the containment cell cap and side slopes, the drainage systems, and vegetation. LCPUD sends the quarterly inspection reports to the EPA annually.

During this FYR, a few issues were identified that need to be addressed in the recommendation section of this FYR:

1. Burrow hills observed on the landfill cap. Blackberry bushes on the southeastern and southwestern sides of the landfill cap. Overgrown trees on the southern side of the property may pose a risk to the fence. Small depression on the northeastern side of the landfill cap near the fence.
2. The outlet of Southeast Interceptor Trench and southern diversion drain were not found due to overgrown vegetation.
3. While there is no pathway for exposure to the soils in the landfill, there is some possibility that some soil, outside the area that was remediated but within the fenced property, could contain residual dioxin-like compounds above levels that would allow for unlimited use and unrestricted exposure after the OSWER dioxin reassessment is complete.

The long-term remedies for this site, containment of incinerator ash and contaminated soils under an engineered cap, perimeter drainage systems and institutional controls, are functioning as intended by the ROD. The current state of each ROD objective and any indicators of remedy problems are described below.

The ROD for Coal Creek Site, dated October 17, 1990, established the following remedial action objectives (RAOs) [1,3,4]:

- **Prevent human exposure to PCBs and other carcinogenic indicator chemicals that could result in exceeding a cumulative lifetime cancer risk of 10^{-7} to 10^{-4} .** There is no human exposure to PCBs and other carcinogenic chemicals that could result in exceeding a

cumulative lifetime cancer risk of 10^{-7} to 10^{-4} , because contaminated soils are contained in the landfill at the site and surface water and groundwater meet the appropriate ARARs. The institutional controls for this site continue to prevent exposure to contamination through restrictive covenants on the property. Restrictive covenants in the recorded Property Restrictions and Conveyance of Interest as implemented will continue to eliminate inappropriate land use and human exposure at this site.

- **Prevent human exposure to non-carcinogenic indicator chemicals that could cause the Hazard Index to exceed 1.0.** There is no human exposure to non-carcinogenic chemicals that could cause the Hazard Index to exceed 1.0, because contaminated soils are contained in the landfill at the site and surface water and groundwater meet the appropriate ARARs. The institutional controls for this site continue to prevent exposure to contamination through restrictive covenants on the property. Restrictive covenants in the recorded Property Restrictions and Conveyance of Interest as implemented will continue to eliminate inappropriate land use and human exposure at this site.
- **Prevent soil with concentrations exceeding the PCBs action level from migrating off the former fill mound, from being directly contacted or ingested by humans, from exposure to volatilization or dust generation, or from serving as a medium for vegetable gardening (residential only).** There is no exposure to soils exceeding the PCBs action level because these soils are contained in the landfill at the site. The institutional controls for this site continue to prevent exposure to contamination through restrictive covenants on the property. Restrictive covenants in the recorded Property Restrictions and Conveyance of Interest as implemented will continue to eliminate inappropriate land use and human exposure at this site.
- **Prevent groundwater contact with soil exceeding the PCBs action level from migrating out of the fill mound to either surface water or to a deeper aquifer.** The contaminated soils exceeding the PCBs action level are contained in the landfill at the site. The landfill was constructed such that the water table and the 100-year flood plain would not submerge the waste material within the landfill. An interceptor trench was installed to intercept and divert the groundwater around the waste such that the maximum seasonal groundwater table would be below the waste. Diversion drainage ditches also were installed to divert surface water around the containment cell. Four years of groundwater and surface water monitoring results for PCBs (post-construction) indicate that the landfill cap is functioning as designed.
- **Prevent surface water from contacting soil exceeding the PCBs action level.** The contaminated soils exceeding the PCBs action level are contained in the landfill at the Site. Diversion drainage ditches were installed in the landfill to divert surface water around the containment cell. There are four years of surface water monitoring results for PCBs (post-construction) that indicate that the landfill cap is functioning as designed.
- **Prevent human contact with all identified special features above or below ground surface, and prevent any special features or their contents containing PCBs in excess of the PCBs action level from migrating off the mound.** Contaminated soils and debris exceeding the PCBs action level are contained in the landfill at the site. The institutional

controls for this site continue to prevent exposure to contamination through restrictive covenants on the property. Restrictive covenants in the recorded Property Restrictions and Conveyance of Interest as implemented will continue to eliminate inappropriate land use and human exposure at this site.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy still valid?

Answer: Yes

Changes in Standards and To Be Considered. Applicable or relevant and appropriate requirements (ARARs) cited in the ROD were reviewed to evaluate changes in the ARARs since the last FYR. A summary table of this site’s ARARs is presented in Attachment 3. There have been several changes in regulatory standards (i.e. cleanup levels) for the COCs at the site that have been reviewed in this FYR. These changes are addressed below for soil, surface water and groundwater.

Model Toxics Control Act:

The Model Toxics Control Act (MTCA) is a To-Be-Considered ARAR for this site; however, the 1990 ROD did not specify which method of MTCA (i.e. Method A, Standard or Modified Method B or C) was used. In order to compare the cleanup levels that were in place at the time of the ROD, applicable MTCA cleanup levels were determined during this FYR. A brief description of each MTCA method is given below (see [12] for detailed descriptions on each method). Standard Method B was selected to determine the MTCA cleanup levels for this site because the site contains several hazardous substances of concern (i.e. not Method A), the cleanup levels must be based on residential cleanup levels (i.e. not Method C) and the site-specific information was not determined (i.e. Modified Method). The MTCA cleanup levels for soil and groundwater were calculated with Cleanup Levels and Risk Calculation (CLARC) Workbooks [13]. The MTCA cleanup levels for soil, surface water and groundwater are given in the following sections (see Attachment 10 for a summary table of input parameters and MTCA Standard Method B cleanup levels).

Table 5. MTCA Method Descriptions [12]

MTCA METHOD	BRIEF DESCRIPTION
A	Method A is designed for cleanups that are relatively straightforward or involve only a few hazardous substances. This method is typically used at smaller sites that do not warrant the costs of conducting detailed site studies and site-specific risk assessments.
B (Standard and Modified)	Method B may be used at any site and is the most common method when sites are contaminated with substances not listed under Method A. Cleanup levels are established using applicable state and federal laws and the risk assessment equations and other requirements specified for each medium.
Standard B only	This method uses generic default assumptions to calculate cleanup levels.
Modified B only	This method provides for the use of chemical-specific or site-

	specific information to change selected default assumptions to calculate cleanup levels.
C (Standard and Modified)	Method C cleanup levels may be used to set soil and air cleanup levels at industrial sites and to set air cleanup levels in manholes and utility vaults.
Standard C only	This method uses generic default assumptions to calculate cleanup levels.
Modified C only	This method provides for the use of chemical-specific or site-specific information to change selected default assumptions to calculate cleanup levels.

Soil standards:

In January 2010, the Office of Solid Waste and Emergency Response (OSWER) proposed interim preliminary remediation goals (PRGs) for 2,3,7,8-TCDD in soils [14]. The residential PRG for soil, 0.000072 ppm (72 ppt), was compared to the 1990 ROD and new MTCA B cleanup levels to verify the protectiveness of the remedy (see Table 6). The interim PRG for dioxin is more stringent than the 1990 ROD cleanup level. The current OSWER cleanup levels for lead is 400 ppm, which is more stringent than the 1990 ROD cleanup level.

The MTCA Standard Method B cleanup levels for COCs in the soil were compared to the 1990 ROD cleanup levels and OSWER standards to verify the protectiveness of the remedy (see Table 6). MTCA cleanup levels were only determined for lead, PCBs and 2,3,7,8-TCDD because the cleanup levels established for copper and zinc were based on the TCLP Standards for the landfill. The MTCA cleanup levels for PCBs and 2,3,7,8-TCDD, 0.35 ppm and 0.0000062 ppm (6.2 ppt), respectively, are more stringent than the 1990 ROD cleanup levels and 2010 interim OSWER standard (2,3,7,8-TCDD only). The MTCA cleanup level for lead is 1000 ppm, which is less stringent than the 1990 ROD cleanup level and less stringent than the 2009 OSWER standard.

The calculated MTCA levels do not apply to the contaminated soils contained in the onsite landfill; however, they do apply to soil outside the landfill within the Coal Creek Site. The protectiveness of the site remedy is justified based on the extent of excavation and land use restrictions. (Note: Protectiveness could not be based on confirmation samples because no analytical data for confirmation samples outside the excavated area could be found for this FYR.) The approximate extent of excavation for this site are shown in Attachment 12, which are excerpts from Coal Creek Site Phase II Remedial Action Thermal Treatment and Containment Cell Plan [15]. Although the MTCA cleanup levels are more stringent than the 1990 ROD cleanup levels and some OSWER standards, there is no human exposure because contaminated soils are contained in the landfill at the site and there is no human exposure beyond the excavation limits at the drainage ditch or under the current landfill. A simplified Terrestrial Ecological Evaluation (TEE) was conducted for the drainage ditch based on the exposure analysis procedure under WAC 173-340-7492(2)(a)(iii). Based on the TEE, there is no substantial potential for a threat of significant adverse effects to terrestrial ecological receptors, and thus may be removed from further ecological consideration. (See Attachment 13 for the TEE.)

Table 6. Comparison between 1990 ROD cleanup levels, interim PRGs, and Standard Method B cleanup levels for COCs in soil

Contaminant of concern	1990 Cleanup Level (ppm)	Current OSWER CULs (ppm)	Interim PRGs (ppm)	Standard Method B Cleanup Levels (ppm)
PCBs	1.0	1.0	--	<i>0.35</i>
Lead	500	<i>400</i>	--	1000
Copper	NA	NA	--	NA
Zinc	NA	NA	--	NA
2,3,7,8-TCDD	0.001	0.001	0.000072	<i>0.0000062</i>

Notes:

NA = Not applicable because 1990 cleanup levels were based on the TCLP standards

-- = No interim PRG proposed by OSWER

Italic = most stringent cleanup level for COC

Surface water standards:

The MTCA Standard Method B and 2009 National Recommended Water Quality Criteria [16] for COCs in surface water were compared to the 1990 cleanup levels to verify the protectiveness of the remedy (see Table 7). The 2009 Water Quality Criteria for total copper is more stringent than the 1990 action level, and the 2009 Water Quality Criteria for PCBs and total lead are the same as the 1990 action levels. In order to determine the protectiveness of the remedy, the final surface water results from the Final Closure Report [11] for Coal Creek Site were compared to the 2009 water quality criteria. The final surface water results for total copper were less than the 2009 total copper action level, so the remedy is protective for surface water. See attachment 11 for a summary of the analytical data for soil, surface water and groundwater at this site [11].

The MTCA Standard Method B action level for surface water was determined only for PCBs, because there is no cancer potency factor or reference dose for lead and copper. The MTCA action level for PCBs was conservatively based on adults eating contaminated fish from Coal Creek. The MTCA action level for PCBs was 9.0×10^{-6} ppb, which is 3-fold lower than the 1990 and 2009 action levels (see Table 7). See attachment 10 for development of this cleanup level. The Final Closure Report for this site reported non-detects in all samples from 1994 to 1998 for PCBs [11], so the remedy remains protective based on this new cleanup level.

Table 7. Comparison between 1990 ROD, 2009 National Recommended Water Quality Criteria, and Standard Method B action levels for COCs in surface water

Contaminant of concern	1990 Action Level (ppb)	2009 Action Level (ppb)	Standard Method B Action Level (ppb) ¹
PCBs	0.014	0.014	<i>9.0×10^{-6}</i>
Total Lead	3.2	3.2	ND
Total Copper	12	<i>9.4</i>	ND

Notes:

ND = Not determined because lead and copper do not have a reference dose or cancer factor.

¹ Bioconcentration Factor (BCF) of 3600 L/g (average BCF observed) [17]

Italic = most stringent cleanup level for COC

Groundwater standards:

The MTCA Standard Method B and 2009 National Primary Drinking Water (NPDW) action levels for groundwater [18] were compared to the 1990 ROD action levels to verify the protectiveness of the remedy (see Table 8). The MTCA and/or NPDW action levels for total arsenic, cadmium and copper are less than the 1990 ROD action levels (see attachment 10 for development of the MTCA cleanup levels). The lowest action levels for total arsenic, cadmium and copper were compared to the groundwater results in the Final Closure Report [11]. During the last year of groundwater monitoring, the groundwater concentrations for all monitoring wells were less than 5 ppb total cadmium and 10 ppb total copper, and greater than 0.63 ppb for total arsenic at four of five monitoring wells [11]. (Note: The MTCA action level for total arsenic was adjusted to the PQL based on WAC 173-340-720(7) [12].). Although the MTCA cleanup level for arsenic is below the 1990 ROD cleanup level, the remedy is still protective because institutional controls, as implemented, prohibit the construction, installation, maintenance or use of any wells on the property for human drinking water purposes or for irrigation of feed or food crops.

Table 8. Comparison between 1990 ROD, 2009 NPDW, and Standard Method B action levels for COCs in groundwater

Contaminant of concern	1990 Action Level (ppb)	2009 NPDW Action Level (ppb)	Standard Method B Action Level (ppb)
PCBs	<i>0.5</i>	0.5	0.65
Total Lead	5	15	10
Total Arsenic	50	10	<i>0.63</i>
Total Barium	<i>1000</i>	2000	2000
Total Cadmium	10	5	40
Total Chromium	<i>50</i>	100	UK
Total Silver	<i>50</i>	100	80
Total Mercury	2	2	2
Total Copper	1000	1000	<i>10</i>
Total Selenium	<i>10</i>	50	80
Chlorobenzenes	5	100	100

Notes:

UK = Unknown because Standard Method B cleanup levels could only be determined for Chromium III and VI.

Italic = most stringent cleanup level for COC

Changes in Exposure Pathways, Toxicity and Other Contaminant Characteristics.

In 1996, EPA reassessed the cancer potency of PCBs and adopted a new approach that distinguishes among PCB mixtures by using information on environmental mixtures and different exposure pathways. Based on the reassessment, EPA derived the new human health criteria for PCBs by using a cancer potency factor of 2 per mg/kg-day. This potency factor is considered protective of children and adults who drink surface water and eat fish from water contaminated with PCBs [20]. The new cancer potency factor for PCBs was used to calculate the MTCA Standard Method B cleanup level for PCBs in the soil, groundwater and surface water.

There were no changes in exposure pathways or contaminant characteristics.

Changes in Land Use. No change.

Remedial Action Objectives. The RAOs from the ROD are still valid for the site.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

Answer: No.

Technical Assessment Summary

According to the data reviewed, the site inspection, and the interviews, the remedy is functioning as intended in the ROD, and there have been no changes in the physical condition of the site that would affect the protectiveness of the remedy. All ARARs were reviewed for this site.

Model Toxics Control Act (MTCA) is a To-Be-Considered Applicable or Relevant and Appropriate Requirement (ARAR) for this site; however, the 1990 ROD did not specify which method of MTCA was used for this site. In order to compare the cleanup levels that were in place at the time of the ROD, applicable MTCA cleanup levels were determined during this FYR.

In January 2010, the Office of Solid Waste and Emergency Response (OSWER) proposed interim preliminary remediation goals (PRGs) for 2,3,7,8-TCDD in soils for residential and industrial use, so the residential PRG was compared to the 1990 ROD and MTCA B cleanup levels to verify the protectiveness of the remedy. Although these PRGs are proposed and not final, they were used as a conservative comparison, because they are lower than the existing dioxin cleanup level.

The MTCA cleanup levels for PCBs and 2,3,7,8-TCDD in soil were less than the 1990 ROD cleanup levels. Although the MTCA cleanup levels are more stringent than the 1990 ROD cleanup levels and some OSWER standards, there is no human exposure because contaminated soils are contained in the landfill at the site and there is no human exposure beyond the excavation limits at the drainage ditch or under the current landfill. There is also no ecological risk based on the MTCA Terrestrial Ecological Evaluation.

The MTCA action level for PCBs in the surface water was less than the 1990 ROD action level 2009 EPA Water Quality Criteria; however, the final surface water concentrations recorded in 1998 (last sampling event) were non-detect for PCBs, so the remedy remains protective of the surface water.

The MTCA action level for total arsenic in groundwater was less than the 1990 ROD action level and final groundwater concentrations measured at the site in 1998. Although the MTCA cleanup level is more stringent than the 1990 ROD action level and less than the 1998 groundwater concentrations, the remedy remains protective of the human health and the environment because

the institutional controls prohibit the construction, installation, maintenance or use of any wells on the property for human drinking water purposes or for irrigation of feed or food crops.

As part of the Technical Assessment, EPA evaluated the changes in standards since the ROD and determined that, given the engineering and institutional controls in place at this site, there is no pathway for human exposure to the materials remaining on site in the landfill and the changed standards do not call into question the protectiveness of the remedy. However, EPA HQ is conducting a reassessment of toxicity factors and exposure assumptions for dioxin and dioxin-like compounds associated with PCBs that is expected to be completed by 12/31/2010, and in the interim OSWER has proposed adopting revised PRGs which would be more stringent than the cleanup levels used in the ROD for this site. While there is no pathway for exposure to the soils in the landfill, there is some possibility that some soil, outside the area that was remediated but within the fenced property, could contain residual dioxin-like compounds above levels that would allow for unlimited use and unrestricted exposure after the reassessment is complete. After new PRGs are determined and the dioxin reassessment is done, this site should be among those evaluated for potential further assessment and action.

VIII. Issues

This section addresses issues that, either currently or in the future, prevent the onsite landfill from being protective.

Table 9. Issues of the 2009 Five-Year Review

Issue	Affects Protectiveness? (Y or N)	
	Current	Future
Burrow hills observed on the landfill cap. Blackberry bushes on the southeastern and southwestern sides of the landfill cap. Overgrown trees on the southern side of the property may pose a risk to the fence. Small depression on the northeastern side of the landfill cap near the fence.	N	Y
The outlet of Southeast Interceptor Trench and southern diversion drain were not found due to overgrown vegetation.	N	N
While there is no pathway for exposure to the soils in the landfill, there is some possibility that some soil, outside the area that was remediated but within the fenced property, could contain residual dioxin-like compounds above levels that would allow for unlimited use and unrestricted exposure after the OSWER dioxin reassessment is complete.	N	Y

IX. Recommendations and Follow-up Actions

Table 9 lists recommendations and follow-up actions for each issue identified in Table 8.

Table 10. Recommended Follow-Up Actions

Issue	Recommendations/ Follow-Up Actions	Party Responsible	Oversight Agency	Planned Completion Date
<p>Burrow hills observed on the landfill cap. Blackberry bushes on the southeastern and southwestern sides of the landfill cap. Overgrown trees on the southern side of the property may pose a risk to the fence. Small depression on the northeastern side of the landfill cap near the fence.</p>	<p>In general, inspect cap and ensure that cap is maintained and protected from invasive vegetation.</p> <p>The landfill cap has a biotic barrier layer that prevents intrusion of burrowing animals into the low permeability layer, so the burrow hills are not a current threat to the contained waste. However, the EPA recommends the Lewis County Public Utility Department (LCPUD) monitor mole activity to ensure that cap is not threatened in the future.</p>	LCPUD	EPA Region 10	<p>Annually submitted on August 1st. Inspections will be conducted quarterly, and submitted to EPA annually. LCPUD will decide with each inspection whether additional work to protect the cap needs to be done.</p>
<p>The outlet of Southeast Interceptor Trench and southern diversion drain were not found due to overgrown vegetation.</p>	<p>Locate the outlet and drain by cutting back the vegetation in these areas.</p>	LCPUD	EPA Region 10	October 31, 2010
<p>While there is no pathway for exposure to the soils in the landfill, there is some possibility that some soil, outside the area that was remediated but within the fenced property, could contain residual dioxin-like compounds above levels that would allow for unlimited use and unrestricted exposure after the OSWER dioxin reassessment is complete.</p>	<p>After new PRGs are determined and the dioxin reassessment is done, this site should be among those evaluated for potential further assessment and action.</p>	EPA Region 10	EPA Head Quarters	March 31, 2011

X. Protectiveness Statement(s)

The remedy at the Coal Creek Site is protective of human health and the environment. The landfill cap appears to be in good shape (i.e. no visible subsidence or erosion) and the fence and institutional controls are effective in limiting access to the site. Restrictive covenants, recorded in

the Property Restrictions and Conveyance of Interest, as implemented will eliminate inappropriate land use and human exposure at this site.

XI. Next Review

This site is not on the National Priorities List, but is subject to review as a matter of statute because the remedy was selected post-SARA and hazardous substances remain on the site above levels that allow for unlimited use and unrestricted exposure. Coal Creek has been reviewed every five years by EPA to ensure that the remedy continues to be effective and protective to human health and the environment. The O&M manual established groundwater and surface water monitoring for the first five years. The monitoring was discontinued in 1998 because COC levels were below action levels for the last three years of monitoring. Based on this assessment, no additional monitoring was needed.

EPA will continue to oversee the maintenance of the cap, continue to work with LCPUD to prevent any breaches or sloughing of the cap, and ensure institutional controls are followed and Property Restrictions are transferred with the property. EPA will continue to require LCPUD to maintain the cap (i.e. mowing and clear vegetation), and to conduct site visits and assessments on a quarterly basis, with reports submitted to EPA annually. Based on the findings in this FYR, the current exposure pathway with the highest risk to humans and the environment is groundwater to surface water pathway. However, since no additional groundwater or surface water monitoring data are being collected, it is recommended that an abbreviated review of the site be conducted in 2015. Unless there are significant changes to the drinking water standards, it is recommended that subsequent reviews only include a site inspection, interviews, community notification, and review of LCPUD quarterly inspection reports. The next five year review should be conducted prior to March 23, 2015.

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Attachment 1

Documents Reviewed

LIST OF DOCUMENTS REVIEWED (listed in order of appearance)

- [1] United States Environmental Protection Agency (USEPA), Region 10. Record of Decision, Declaration, Decision Summary, and Responsiveness Summary for Final Remedial Action Coal Creek Superfund Site. Chehalis, Washington. October 17, 1990.
- [2] Poor, Aaron, Lindquist, Kathy, and Wendt, Michel. Flooding in Chehalis River Basin: Synthesis. Washington State Department of Transportation (WS DOT). February 29, 2008.
- [3] USEPA, Region 10. Coal Creek Superfund Site Five Year Review Report. Chehalis, Washington. January 2000.
- [4] USEPA Region 10. Coal Creek Superfund Site Five Year Review Report. Chehalis, Washington. March 2005.
- [5] Major Consent Degree. Civil Action No. C91-5470B. United States of America vs. Ross Electric of Washington, Inc., et al. November 13, 1991.
- [6] De Minimus Consent Degree. Civil Action No. C91-5470B. United States of America vs. Ross Electric of Washington, Inc., et al. November 13, 1991.
- [7] Roy F. Weston, Inc. Operation and Maintenance Plan Coal Creek Remedial Action. Prepared for Coal Creek Remedial Action Steering Committee. November 1994.
- [8] CH2M Hill and Roy F. Weston, Inc. Coal Creek Remedial Action Report. Prepared for Coal Creek Remedial Action Steering Committee. December 6, 1994.
- [9] Order to Terminate Major Consent Degree. Civil Action No. C91-5470B. United States of America vs. Ross Electric of Washington, Inc., et al. December 22, 2000.
- [10] PacifiCorp Environmental Remediation Company. Final Closure Report. Prepared for Coal Creek Remedial Action Steering Committee. July 15, 1999.
- [11] USEPA. Corrected Tables for Coal Creek Site Remediation Final Closure Report. Prepared by PacificCorp Environmental Remediation Company. November 5, 1999.
- [12] Washington State Department of Ecology (WA ECY). Model Toxics Control Act Statute and Regulation. Publication No. 94-06. Revised November 2007.
- [13] WA ECY. Workbook Tools for Calculating Soil and Groundwater Cleanup Levels under the Model Toxics Control Act Cleanup Regulation. User's Guide for MTCATPH 11.1 & MTCASGL 11.0. Publication No. 01-09-073. Revised December 2007.
- [14] USEPA. Questions and Answer: Recommended Interim Preliminary Remediation Goals for Dioxin in Soil at CERCLA and RCRA Sites. Internal Document. January 2010.

- [15] Roy F. Weston, Inc. Coal Creek Site Phase II Remedial Action Thermal Treatment and Containment Cell (95% Submittal). Chehalis, WA. March 1993.
- [16] USEPA. National Recommended Water Quality Criteria. 2009.
- [17] Bremle, G., Okla, L., and Larsson, P. "Uptake of PCBs in Fish in a Contaminated River System: Bioconcentration Factors Measured in the Field". *Environ. Sci. Technol.* 1995. Vol. 29. Pgs. 2010-2015.
- [18] USEPA. National Primary Drinking Water Regulations. EPA-816-F-09-004. May 2009.
- [19] USEPA, Region 10. Manchester Environmental Laboratory Inorganic Methods: Metals Minimum Reporting Limits for Water Samples.
- [20] USEPA. PCBs: Cancer Dose-Response Assessment and Application to Environmental Mixtures. EPA/600/P-96/001F. September 1996.
- [21] WA ECY. Default Hydrogeologic Parameter Data for Deriving Soil Concentrations for Groundwater Protection. WAC 173-340-747.
- [22] HartCrowser Earth and Environmental Technologies. Remedial Investigation/Feasibility Study, Coal Creek Site. Chehalis, Washington. Volume I. Prepared for Coal Creek Steering Committee. February 21, 1989.
- [23] USEPA. Comprehensive Five-Year Review Guidance. Office of Emergency and Remedial Response. OSWER No. 9355.7-03B-P. June 2001.

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Attachment 2

ARARs Review Summary

Medium/Authority	ARAR	Action to take to attain ARAR
Soil and debris/ TSCA	TSCA (15 U.S.C. 2605); TSCA Chemical Waste Landfill regulations (40 CFR 761.75), TSCA PCBs Disposal regulations (40 CFR 761.60); TSCA PCBs Incineration regulations (40 CFR 761.70)	PCBs contaminated soils will be treated and contained in a manner compliant with TSCA requirements.
Soil/ RCRA	RCRA (42 U.S.C. 6901); RCRA Landfill Closure and Post-Closure Care regulations (40 CFR 264.310); RCRA Incinerator regulations for hazardous waste (40 CFR Subpart O); RCRA Land Disposal Treatment Standards (40 CFR 268, Subpart D); Washington State Dangerous Waste regulations (RCW 70.105 and WAC 173-303)	Thermally treated soils will be analyzed to determine whether or not they exhibit the TCLP characteristic of a RCRA hazardous waste. If metals concentrations in leachate exceed values, then RCRA ARARs will be triggered and the treatment of residuals managed accordingly.
Air/CAA	CAA (42 USC 7409, 7601); National Ambient Air Quality Standards (40 CFR Subpart 50); Washington State Air Pollution Control regulations (WAC 173-400 thru 490)	Concentrations of contaminants in flue gases and stack emissions from the on-site incinerator, and fugitive dust emissions, will be required to meet the requirements of the CAA and applicable state requirements.
Solid Waste/Washington MFS	Washington State Minimum Functional Standards (MFS) for Solid Waste Handling (RCW 70.95 and WAC 173-304)	Capping, surface water controls, and groundwater monitoring actions will be evaluated to insure consistency with substantive MFS requirements where appropriate.
Wetlands/CWA	Flood Plain Assessment (40 CFR 264.18(b))(EO 11988); Wetlands Protection (40 CFR Part 6, Appendix A)(EO 11990); CWA (CWA 33 USC 1251; Section 404)	Should any part of the remedial actions involve disturbance of the wetlands environment, an endangerment assessment will be conducted and identified impacts will be mitigated. In no instance shall fill material be discharged to the site wetlands following completion of remedial actions.
Debris/TSCA	Asbestos Abatement (40 CFR, Part 763, Subpart G)	All asbestos removal activities shall comply with applicable federal and more stringent state requirements for emissions limits and occupational safety and health standards.

UST/CFR	UST regulations (40 CFR Part 280)	Remedial actions involving the removal of USTs shall comply with all applicable federal and more stringent state requirements including but not limited to waste characterization and disposal.
Surface Water/ NPDES	Off-Site Regulations	Any actions which may occur at site will comply with all applicable laws and regulations. Such actions may involve the off-site disposal of hazardous substances or hazardous waste and discharge of wastewaters (i.e. scrubber waters) to Coal Creek. In the latter case, these discharges will be subject to NPDES effluent limitations (40 CFR 122); NPDES Permit Program requirements (WAC 173-220); Washington State Water Pollutions Control Act requirements (RCW 90-48).
Soil, Surface Water and Groundwater/ TSCA and MTCA	To-Be-Considered Requirements	In implementing the selected remedy, EPA will be considering policy and procedures that are not legally binding. These include but are not limited to the TSCA PCBs Spill Cleanup Policy and the Draft Guidance on Selecting Remedies at Superfund Sites with PCBs Contamination, and proposed MTCA cleanup regulations.

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Attachment 3

Site Visit Photos
(September 21, 2009 and December 3, 2009)



Figure 1. Main gate to landfill from Coal Creek Road – View Northwest



Figure 2. Drainage Ditch along Coal Creek Road at Northeast side of Site – View North



Figure 3. Drainage Ditch along Coal Creek Road at Southeast side of Site – View North



Figure 4. Fence on eastern side of landfill - View East



Figure 5. Top of landfill looking toward substation – View North



Figure 6. West side of landfill and Site property– View Southwest



Figure 7. Berm and vegetation west of landfill – View West



Figure 8. West side of landfill – View East



Figure 9. Northern edge of landfill – View East



Figure 10. Trees and vegetation on southwest edge of landfill – View Northwest



Figure 11. Southeast side of landfill and Coal Creek Road – View Southeast



Figure 12. Tree and vegetation in southeast corner of landfill – View South



**Figure 13. Trees and vegetation on southern side of property – View East
(September Site Visit)**



**Figure 14. Trees and vegetation on southern side of property – View East
(December Site Visit)**



**Figure 15. Trees and vegetation on northwestern side of landfill – View Northeast
(September Site Visit)**



**Figure 16. Trees and vegetation on the northwestern side of the landfill – View Northeast
(December Site Visit)**



Figure 17. Northwest Interceptor Trench Outlet on northwest side of landfill



**Figure 18. Diversion drain on northern edge of landfill
(referred to as diversion drain 1)**



**Figure 19. Diversion drain on the west side of landfill
(referred to as diversion drain 2)**



**Figure 20. Diversion drain on west side of landfill
(referred to as diversion drain 3)**



Figure 21. Pile of rocks on west side of landfill (unknown if this is a diversion drain)



Figure 22. Hole on south side of landfill (unknown if this is a diversion drain)



Figure 23. Small depression on northeast edge of landfill – View South



Figure 24. Mole hills on the landfill – View Northeast

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Attachment 4

Coal Creek Site Map

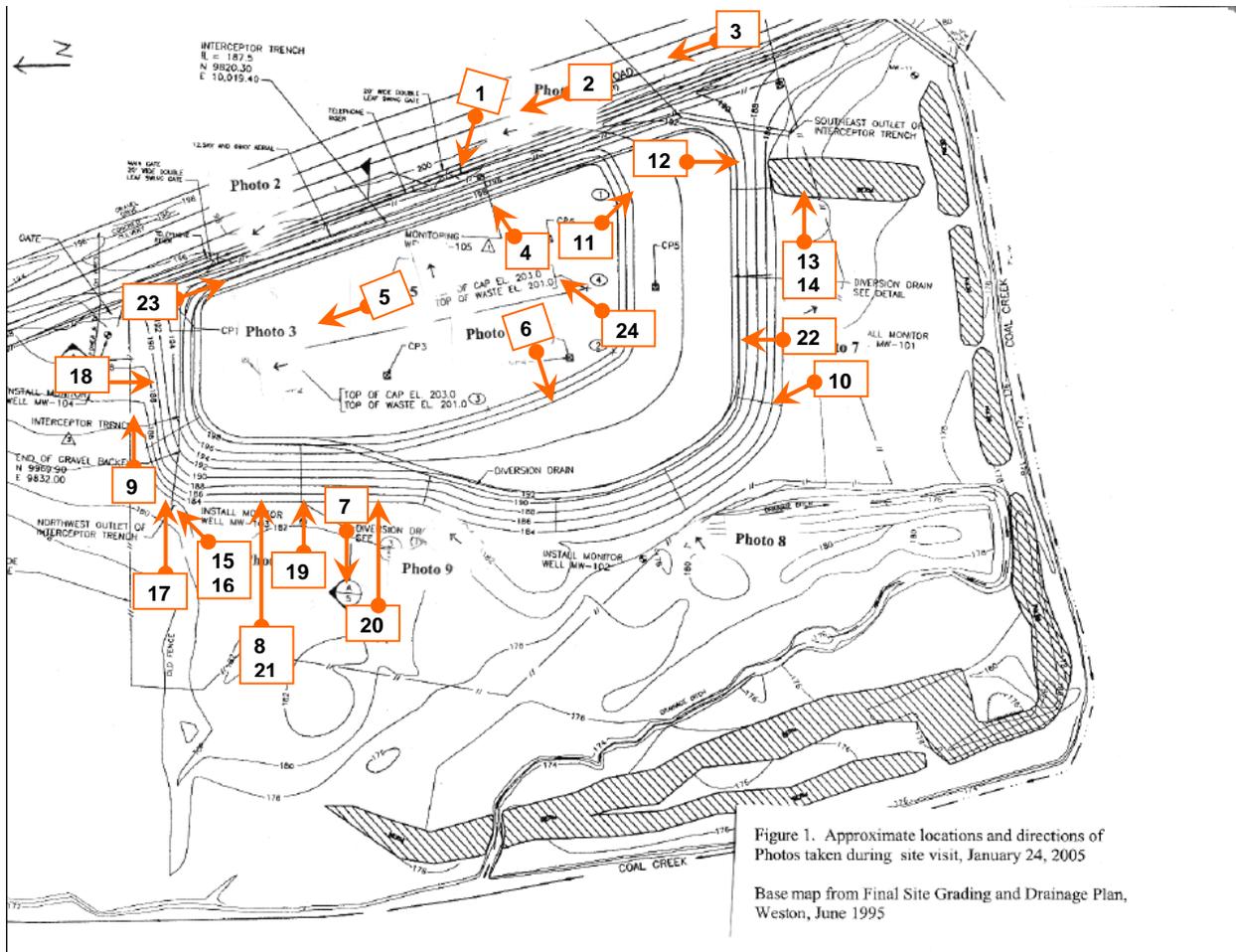


Figure 25. Coal Creek Superfund Site Map
 (The numbers above represent the photographs taken during the site visits in 2009 [see Attachment 4] and the arrows indicate the vantage point of the picture.)

Attachment 5

Interview Reports

INTERVIEW RECORD		
Site Name: Coal Creek Site		EPA ID No: WAD 980726061
Subject: Site Inspection Information		Time: _____ Date: 09/21/09
Type (telephone, visit, other): Visit		
Location of Visit: Coal Creek Site (Chehalis, WA)		
Contact Made By:		
Name: Claire Hong	Title: Remedial Project Manager	Organization: EPA - Region 10
Individual Contacted:		
Name: Jim Day	Title: Superintendant	Organization: LCPUD
Telephone No: 360-470-2417	Street Address: 321 NW Pacific Avenue	
Fax No: NA	City, State, Zip: Chehalis, WA, 98532	
E-Mail Address: JimD@lcpud.org		
Summary of Conversation		
<p>On September 21, 2009, Rudy Mondaca and I met with Mr. Jim Day, the Superintendent of the Public Utility District No. 1 of Lewis County to conduct the site visit supporting the Five-Year Review of the Coal Creek Ross Electric cleanup. The purpose of the site visit was to provide information about the site's status and to visually inspect and document the conditions of the remedy, the Site, and the surrounding area for inclusion into the upcoming Five-Year Review Report. During the inspection, we noted the condition of the protective fence around the Site, the condition of the cap as well as any vegetation or animal life that might affect the cap.</p> <p>The chain link fence surrounding the Site appears to be in good condition. Both gates were locked. No signs of human intrusion were observed. However, when interviewed, Mr. Day noted that in the past, there have been minor acts of vandalism, where a few locks on the gate were broken into. No long-term damage resulted, but it appeared the gated enclosure was breached to gain access to the fenced area and "joy ride" in the area. Additionally, Mr. Day noted that garbage has infrequently been thrown over the gate and onto the property. No garbage was observed during our visit.</p> <p>The cap and surrounding fields had been recently mowed. The landfill cell appeared to be in good condition and covered with grasses. Although there are invasive blackberry bushes in the area, the blackberries have been kept off of the cap. Trees and blackberries exist within the fenced area, but with two exceptions, these trees seem to be distant from the edge of the cap. The trees that may pose a problem at the edge of the cap are those near the outlet of the northwest interceptor trench and a large tree near the diversion drain on the southern edge of the cap. Claire I talked to Mr. Day about the potential need to down those trees before they affect the integrity of the cap. He said that he would look into it.</p> <p>No erosion was observed over the slope of the cap. There was no apparent differential settling observed on the cap. There was no sloughing of the cap material even in areas of with the sharpest grade changes, such as on the northern end of the cap near the substation.</p>		

There are two types of drains at the edge of the cell: surface water interceptor trench discharge drains and diversion drains. Two surface water interceptor trenches were constructed to collect surface and shallow ground water from the up-gradient side of the Site. Sizeable trees are growing near the drainage stones below the outlet of the northwest interceptor trench. This was one of the trees that I spoke to Mr. Day about, raising a concern that it might affect the cap.

During the site visit, Claire asked Mr. Day about flooding from Coal Creek. The region has experienced considerable rainfall in the last fifteen years, with notable flooding in the winters of 1996 and 2007. During those flood events, I-5 was blocked. Claire asked if there had been flooding in this site. Mr. Day said that the water comes up to the fence line, but it does not flood much in this area. The flooding tends to occur in Chehalis. Mr. Day stated that the flood waters usually come from the Newaukum and Skookumchuck Rivers. According to Mr. Day, Coal Creek does not really flood out until about a mile further down river.

Claire asked whether anyone in the area had any particular interest, asked questions about the Site. He said that no one really asks about the Site. Every once in a while someone asks if the property is for sale. Mr. Day wanted to know how long this site would have restricted use. Claire replied future development could occur consistent with the cap and remedy. So any weight-bearing uses would have to be evaluated.

Claire asked Mr. Day if LCPUD would be interested in conducting the title search rather than EPA paying a contractor and passing the costs along. Mr. Day said that they would be interested in doing that.

Mr. Day has been submitting quarterly reports to EPA on status of the cap.

INTERVIEW RECORD		
Site Name: Coal Creek Site		EPA ID No: WAD 980726061
Subject: Title Search, Flood Zone		Time: 9:00AM Date: 11/19/09
Type (telephone, visit, other): Telephone Location of Visit: Seattle, WA		
Contact Made By:		
Name: Claire Hong	Title: Remedial Project Manager	Organization: EPA - Region 10
Individual Contacted:		
Name: Debbie Angwood	Title: Right-of-Way Agent	Organization: LCPUD
Telephone No: 360-740-2457 Fax No: NA E-Mail Address: Debbie@lcpud.org	Street Address: 321 NW Pacific Avenue City, State, Zip: Chehalis, WA, 98532	
Summary of Conversation		
<p>Other meeting attendees: Kendra Colyar</p> <p>Claire gave a brief overview of the past activities (pre and post remedial action) at Coal Creek Site and the requirements of an EPA Five Year Review (FYR).</p> <p>Claire described the items of the Third FYR for Coal Creek Site that the EPA would like the LCPUD to do as part of their responsibility as a PRP. These items include conducting a title search this site and identifying modifications to flood zones for this area.</p> <p>Debbie agreed to conduct the title search. Debbie said she would contact the title company in Chehalis for a title abstract. She would contact the City and/or County to identify local ordinance changes for land use plans and changes to specific zoning areas.</p> <p>Debbie also agreed to identify the approximate elevation of Coal Creek during the recent (1996, 2007) flood events in Chehalis by contacting the residents in the area. She also said she would identify modifications to flood zones in the area and provide maps of the Site if they are readily available.</p> <p>Kendra asked if Debbie had seen wildlife inside the landfill, such as eagles and hawks. Debbie replied that she did not see eagles and hawks, but observed other birds.</p> <p>Debbie said she will have the above information to the EPA by approximately December 18, 2009, but that would depend on getting the title abstract back from the title company. She would let the EPA know if she needs more time.</p>		

COMMISSIONERS
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JIM DAY, Superintendent

Lewis County
PUBLIC UTILITY DISTRICT

321 NW PACIFIC AVENUE • CHEHALIS, WASHINGTON
Mailing Address: P.O. Box 330, Chehalis, WA 98532-0030
1-800-562-5612 • (360) 748-9261 • FAX (360) 740-2455

December 2, 2009

Per request of EPA, two residents of the Coal Creek valley were interviewed regarding the location of Coal Creek during high flood water.

Halie Brown

107 Drews Hill Road (off 900 block of Coal Creek Road)

Wk phone (Title Guarantee) 748-0001

Halie has lived at this address for three years and during this time has not seen Coal Creek flood on PUD property.

Roxie Stroup

889 Coal Creek Road

Wk phone (Lewis County Title) 748-8641

Has lived at this address for 30 years and has not seen Coal Creek flood on PUD property. Coal Creek does flood in the field further east up the valley.

Interviewed by:



Debbie Angwood
LCPUD
Right-of-Way Agent
360-740-2457



INTERVIEW RECORD		
Site Name: Coal Creek Site		EPA ID No: WAD 980726061
Subject: Site Inspection Information		Time: 10:00AM Date: 12/3/09
Type (telephone, visit, other): Visit Location of Visit: Coal Creek Site, Chehalis, WA		
Contact Made By:		
Name: Kendra Colyar	Title: Staff	Organization: EPA - Region 10
Individual Contacted:		
Name: Jim Day Debbie Angwood	Title: Superintendant Right-of-Way Agent	Organization: LCPUD
Telephone No: 360-740-2417 (Jim) 360-740-2457 (Debbie) Fax No: NA E-Mail Address: JimD@lcpud.org Debbie@lcpud.org	Street Address: 321 NW Pacific Avenue City, State, Zip: Chehalis, WA, 98532	
Summary of Conversation		
<p>Mr. Day started working for the LCPUD five years ago and was present for the second Five Year Review in 2005.</p> <p>When asked about the purpose of the berm, Mr. Day replied that he was not sure.</p> <p>When asked about flooding on the Coal Creek Site (referred to as the Site), Mr. Day replied that he has never seen ponding on the landfill cap. He has seen ponding on the Western side of the Site (not on the cap).</p> <p>One of the purposes of the Site visit in December 2009 was to observe whether problem tree(s) observed during the September 2009 site visit had been removed. Mr. Day showed me the stumps of the trees near the NW Interceptor trench and Southern edge of the landfill. Mr. Day also commented that the LCPUD would likely remove the remaining cottonwoods near the Southern edge of the landfill because he fears they may harm the fence. In order not to harm cap, this would be done during the dry summer months. Mr. Day also said he wants to cut back blackberries on Western and Southern side of property that are growing on the fence. I noted that blackberries need to be cut back on the Southwestern side of the Site because they are creeping up the landfill.</p> <p>I couldn't find the South Drainage Outlet and the Southeast Interceptor Trench Outlet. I asked Mr. Day to show me the outlets and he didn't know they existed. Mr. Day said the LCPUD would clear out the vegetation and find the drainage outlets during the dry summer months.</p> <p>When asked what wildlife has been observed on the Site, Mr. Day replied that the LCPUD lawn mower has seen a few snakes and mice on landfill, but never seen the moles.</p>		

When asked when the next quarterly inspection would be, Mr. Day replied sometime in December 2009. Mr. Day said that when he does inspections he makes sure the fence is locked and not damaged, the drains are clear of large debris, and the cap vegetation is growing as it should.

When discussing methods to eliminate vermin intrusion in the landfill cap, Ms. Angwood said that it was against the law to capture and kill moles.

Ms. Angwood noted that the woman at the title company said no water has been observed on the Site due to Coal Creek.

Ms. Angwood gave me the flood and property title information for the Site.

INTERVIEW RECORD		
Site Name: Coal Creek Site		EPA ID No: WAD 980726061
Subject: Site Inspection Information		Time: 12:00 PM Date: 12/3/09
Type (telephone, visit, other): Visit		
Location of Visit: 301 Coal Creek Rd. (resident's home), Chehalis, WA		
Contact Made By:		
Name: Kendra Colyar	Title: Staff	Organization: EPA - Region 10
Individual Contacted:		
Name: Mrs. Kostick	Title: Chehalis resident	Organization: NA
Telephone No: 360-748-6421	Street Address: 301 Coal Creek Rd.	
Fax No: NA	City, State, Zip: Chehalis, WA, 98532	
E-Mail Address:		
Summary of Conversation		
<p>Mrs. Kostick and her family have lived near the Coal Creek Site since 1974. The Kosticks used to rent a house where the current sub-station is. Their home was torn and they built a new home about 300 feet north of the sub-station (current residence).</p> <p>Mrs. Kostick said she saw all of the site activities and was very happy with the contractor's work.</p> <p>Kendra asked if she had every seen the Site vandalized. Mrs. Kostick said she had seen no one except authorized personnel at Site (LCPUD and Electrical company) and no vandalism.</p> <p>Kendra asked if she had seen extreme changes in flood levels during flood events. Mrs. Kostick said she has not noted any change in flooding levels. During the 1996 and 2007 floods, she observed flooding on the South side of her property in a field between sub-station and her home. The flood water then meanders to Coal Creek to the West of her property. No flooding reaches her house.</p>		

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Attachment 6

Public Notice of FYR



EPA Reviewing Coal Creek Superfund Site Cleanup in Chehalis, WA

The U.S. Environmental Protection Agency (EPA) is doing the third Five-Year Review of the Coal Creek Superfund Site, located at 346 Coal Creek Road, Chehalis, Washington 98532. The site is located approximately one mile northeast of Chehalis, Washington and is bounded by Coal Creek to the southwest and by Coal Creek Road to the east. This review provides a routine assessment to ensure that the landfill at this site continues to be protective of human health and the environment according to the 1990 Record of Decision and 1995 Operations and Maintenance Manual.

The site cleanup included demolition of on-site structures, excavation and on-site incineration of contaminated soil and debris, on-site incineration of contaminated fluids, and containment of incinerator ash in an engineered landfill above the maximum seasonal groundwater table and beyond the 100 year flood plain. Contaminants at this site include polychlorinated biphenyls (PCBs), chlorobenzenes and heavy metals.

How You Can Get Involved:

EPA welcomes your participation during our review taking place through March 2010. If you have information that may be helpful to EPA, please contact Claire Hong, EPA Project Manager at 206-553-1813 or hong.claire@epa.gov

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Attachment 7

Deed and Bill of Sale

[placeholder for Deed and Bill of Sale]

Grant
 PUGET SOUND POWER & LIGHT CO. 448782
 PUBLIC UTILITY DIST. No. 1
 DEED & BILL OF SALE
 VOL. 333 PAGE 48
 Lewis County Property
 9-23-48

1. Chehalis Steam-Electric Generating Plant and Chehalis Substation

Lots 6 and 9 in Chehalis Land and Timber Company's Coal Creek subdivision to the City of Chehalis, Lewis County, Washington.

Subject, however, to the following:

- (a) Rights to a strip of land about 20 feet wide extending easterly and westerly along the southerly boundary of said Lot nine (9), arising out of lease to Coal Creek Lumber Company, recorded in Book 4 Leases, page 167.
- (b) The right created by a certain instrument executed by Washington-Oregon Corporation and George Snyder recorded in Volume 5 of Leases, page 94, records of Lewis County, Washington. *See AEW 70737 (enr)*
- (c) A right of way for a logging road conveyed by Ludwig Sturza and wife to Coal Creek Lumber Company by deed dated December 19, 1905, and recorded in Volume 89 of Deeds, page 76, records of Lewis County, Washington.
- (d) A right of way conveyed by Barnard Heinz and wife to Harn and Brown Lumber Company by deed dated July 23, 1910, and recorded in Volume 106 of Deeds, page 446, records of Lewis County, Washington.
- (e) A right of way conveyed by Barnard Heinz and wife to Harn and Brown Lumber Company by deed dated November 7, 1910, and recorded in Volume 110 of Deeds, page 249, records of Lewis County, Washington.
- (f) Easement for county road dated January 29, 1937.

7 released
 AEW
 61830

2. Napavine Substation

Lots 2, 3, 7 and 8 in Block 5 of the plat of the Town of Napavine, Lewis County, Washington.

3. Po Ell Substation

That part of Lot 19 of Dobson & Donahoe's Third Addition to Po Ell described as follows:

That certain tract of land bounded by a line commencing at a point 330 feet west of the northeast corner of Lot 19 of Dobson & Donahoe's Third Addition to the Town of Po Ell, Lewis County,

Washington, and running thence at right angles to 4th Avenue a distance of 125 feet; thence East at right angles a distance of 50 feet; thence South at right angles a distance of 455 feet; thence West to the Chehalis River; thence along the East bank of the Chehalis River to its intersection with the South line of said 4th Avenue; thence along said South line of said 4th Avenue East 110 feet, more or less, to the point of beginning, excepting therefrom State Highway No. 12, (Ocean Beach Highway).

4. William Avonue Substation (Chehalis)

Lots 12 and 13 in Block 30 of W. L. Urquhart Addition to the City of Chehalis, Lewis County, Washington.

5. How Winlock Substation

Lots 1 and 2 in Block 14 of Kerron's Addition to the Town of Winlock, Lewis County, Washington.

Also that part of Lots 7 and 8 in Block 14 of Kerron's Addition to the Town of Winlock lying east of the Clequa Creek.

6. Chehalis Warehouse on National Avenue:

A tract of land situated in the N 1/2 of the NW 1/4 of Section 29 and in the SE 1/4 of the SW 1/4 of Section 20 in Township 14 North, Range 2 West, W. M., described as follows:

Beginning at a point on the center line of the Old Cowlitz and Olympia road which bears north 64° east 3.3 chains (212') from the easterly line of the logging road operated by Harm and Brown Lumber Company, which last named point bears south 60° 54' east 19.23 chains (1265') from the northwest corner of Section 29, Township 14 North, Range 2 West, W.M.; running thence south 35° 42' east, 6.88 chains (454') to the southeast corner of the tract of land belonging to Harm and Brown Lumber Company; thence north 64° east to the right of way of the Coal Creek spur of the Washington-Oregon Corporation; thence northwesterly and northerly curving to the right along the southwestern boundary of said right of way of the Coal Creek spur of the Washington-Oregon Corporation, to a point of intersection with the northerly boundary, curving to the left, of the right of way of the former Chehalis-Contralia Railroad of the Puget Sound Power and Light Company as described in Exhibit "A" Item 8(b) of a certain deed to W. E. Brown recorded in Vol. 200 page 359, deed records, of Lewis County, which is the true point of beginning; thence continuing northerly along the southwesterly boundary of the said right of way of the Coal Creek Spur, to the land deeded by Margaret E. Somerville to Fred Emerson by deed dated March 6, 1906 and recorded in Book 81 at page 416 deed records of Lewis County; thence north 60° 36' west to the center

line of the Somerville Consent Road, same being the most traveled county road east of the main line of the Northern Pacific Railroad; thence south 15° 27' west to the center line of the Cowlitz and Olympia Road; thence south 61° west along the center line of said road to a point of intersection with the northerly boundary of the said right of way of the former Chehalis-Centralia Railroad; thence easterly along said boundary to the point of beginning, less State and County Roads containing 1 acre more or less.

7. Also all appurtenances to and all structures or other improvements located upon the real property above described and every part and parcel thereof, including all electrical equipment thereon.
8. Also all distribution lines, substations and electrical facilities of Puget Sound Power & Light Company located in Lewis County, Washington, and used for distribution of electricity to the public, except those distribution lines, substations and facilities hereinafter expressly excluded under the designation of "Exclusions."
9. Franchises and other rights

Also all franchises, easements, permits, licenses, contracts, water rights, flumes, canals and rights of every kind heretofore acquired or reserved and now held, owned and used by Puget Sound Power & Light Company in the operation of the above described electric generating plant, distribution lines, substations and facilities, but only to the extent that said franchises, easements, permits, licenses, contracts and rights are transferable and only insofar as they are applicable to the operation of said electric properties.

Without limiting the generality of the foregoing, the following is a detailed list of franchises included herein:

City Franchises

<u>Ordinance Number</u>	<u>City</u>	<u>Date Granted</u>
Ordinance #357	City of Chehalis	3-27-11
Ordinance #50	City of Vader (Little Falls)	5-7-12
Ordinance #125	City of Winlock	10-1-12
Ordinance #18	City of Napavine	7-5-13
Ordinance #112	City of Pe Ell	4-20-26
Ordinance #146	City of Toledo	11-4-40

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 Printed and bound for the Board of Health of the State of Oregon
 at the State Printing Office, Salem, Oregon, 1933

State Franchises

<u>Franchise Number</u>	<u>Date Granted</u>
State #32	7-11-22 (also in Thurston County)
State #15	2-28-22
State #53	10-3-22
State #102	9-11-23 Amended 4-4-48
State #224	2-16-26
State #271	9-14-26
State #274	11-4-26
State #311	4-17-28
State #357	5-22-28
State #476	10-22-29
State #566	1-20-31
State #672	5-10-32
State #1870	1-27-48
State #335	11-1-27 (also in Thurston County)
State #235	5-4-26 (also in Pacific County)

Lewis County Franchises

<u>Granted</u>	<u>Granted</u>	<u>Granted</u>
4-18-22	1-18-27	3-4-30
9-23-22	1-18-27	8-9-30
9-23-22	4-4-27	2-2-31
9-23-22	4-4-27	2-2-31
9-23-22	4-4-27	5-4-31
11-6-23	4-4-27	5-21-31
12-16-24	4-4-27	8-17-31
4-7-25	4-18-27	12-22-31
4-7-25	4-18-27	5-16-32
4-7-25	5-17-27	12-19-32
11-3-25	5-17-27	1-8-34
11-3-25	6-6-27	11-30-34
11-17-25	6-6-27	4-22-35
12-21-25	6-20-27	7-22-35
1-20-26	10-18-27	4-13-36
3-15-26	11-21-27	6-22-36
4-5-26	12-20-27	10-8-36
4-5-26	12-20-27	1-7-37
4-5-26	12-20-27	1-11-37
4-20-26	2-20-28	7-15-37
4-20-26	4-4-28	7-18-38
4-20-26	5-7-28	11-30-39
6-8-26	6-20-28	7-29-40
7-20-26	7-2-28	11-16-42
9-7-26	7-17-28	2-2-42

Lewis County Franchises (Contd.)

<u>Granted</u>	<u>Granted</u>	<u>Granted</u>
10-7-26	9-17-28	10-21-43
10-19-26	10-17-28	12-18-44
11-17-26	12-28-28	1-20-47
1-18-27	3-4-29	3-30-28
1-18-27	3-4-29	3-30-28
1-18-27	5-7-29	

10. Automotive Equipment

<u>Puget Car No.</u>	<u>Year-Make-Type</u>	<u>Title Number</u>	<u>Motor Number</u>	<u>Serial Number</u>
229	16 Ford 1/2 ton pickup	1100415	923119	--
435	38 Ford 1/2 ton pickup (60 hp)	760345	54-357698	--
579	42 Dodge 1/2 ton Std. Serv.	1100476	T112-55897	9215929
580	42 Ford 1/2 ton pickup	1100475	IGC-67775	--
584	42 Chev. 1/2 ton Std. Serv.	1100478	BBF-223856	6BE11-3932
699	39 Intern. 1-1/2 ton Line	871710	ED-23275800	D30-63845
725	38 Dodge 2 ton Line	761191	T12-6201	9274728
829	39 White 2 ton Line	638339	21A3208	213697
989	38 Standard 5 ton pole trlr.	799667	--	478
996	38 Standard 3 ton pole trlr.	805802	--	514
525	41 Chev. 3/4 ton Std. Serv.	1031334	AAF837375	6A05-10549

11. Merchandise, Materials and Supplies

Also all merchandise, materials and supplies of Puget Sound Power & Light Company now on hand in Lewis County, Washington, and held for use in the operation of the aforesaid electric properties.

EXCLUSIONS

Excepting and excluding from the foregoing the following:

- (a) All electric distribution lines, substations and facilities of Puget Sound Power & Light Company used for distribution of electricity to the public in the following portion of Lewis County, Washington, to-wit:

That portion of Township 15 North, Range 5 West W.M., included within Sections 15, 16, 21 and 22 in said township and range, presently served by means of a 7200 volt

line from a distribution line of Puget Sound Power & Light Company from the Oakville substation in Grays Harbor County, Washington.

- (b) Also all franchises, easements, permits, licenses, contracts and rights of every kind heretofore acquired or reserved and now held, owned and used by Puget Sound Power & Light Company in the operation of the excluded distribution lines, substations and facilities described in the foregoing paragraph (a).

VOL 333 117480

All of the real property described above is hereby conveyed subject to all exceptions, reservations and conditions of record and subject to the exceptions, reservations and conditions above set forth.

The Grantor covenants only that except as hereinbefore expressly stated said property is free and clear of all liens and encumbrances placed thereon by or arising by, through or under the Grantor.

It is further understood that all of the obligations imposed upon the Grantor under and by virtue of the franchises, easements, permits, licenses and contracts assigned and transferred pursuant to this conveyance are assumed by the Grantee, and by the acceptance hereof the Grantee does hereby assume and agree to perform the same and to indemnify and save harmless the Grantor from any loss on account thereof.

Dated September 12, 1948.

FUGET SOUND POWER & LIGHT COMPANY

By James M. Laugel
President

Attest:
D. J. Lawrence
Assistant Secretary

BOUNDARY LINE ADJUSTMENT AGREEMENT

THIS AGREEMENT, made this 28th day of June, 1996 by and between, COAL CREEK PROPERTY ASSOCIATION, a Washington mutual corporation, ("Grantor") and PUBLIC UTILITY DISTRICT NO. 1 OF LEWIS COUNTY, a Washington municipal corporation, ("Grantee")

W I T N E S S E T H:

WHEREAS, the Grantor is the owner of real property in Lewis County, Washington, having as its description:

The South 400 feet of Lot 5, Chehalis Land and Timber Company's Coal Creek Subdivision, located in Section 29, Township 14 North, Range 2 West, W.M.;

and

WHEREAS, the Grantee is the owner of contiguous property described as:

Lot 6, Chehalis Land and Timber Company's Coal Creek Subdivision, located in Section 29, Township 14 North, Range 2 West, W.M.;

and

WHEREAS, the parties have reached agreement regarding a boundary adjustment between the parcels; now, therefore,

IT IS AGREED as follows:

Grantor grants to Grantee the following described real property located in Lewis County, Washington, to-wit:

The South 27.50 feet of Lot 5 in Chehalis Land and Timber Company's Coal Creek Subdivision and located in the Northeast quarter of Section 29, Township 14 North, Range 2 West, of the Willamette Meridian, Lewis County, Washington, being more particularly described as follows: Beginning at the Southwest corner of said Lot 5; thence North 02°07'32" West along the West line of said Lot 5 a distance of 27.50 feet; thence North 87°08'52" East

31059
Excise Tax Paid
Lewis County Treasurer
Date 7-3-96

parallel with the South line of said Lot 5 a distance 513.60 feet to a point on the Westerly right of way of Coal Creek Road; thence Southeasterly along said right of way 29.84 feet to the Southeast corner of said Lot 5; thence South 87°08'52" West, along the South line of said Lot 5 a distance of 525.54 feet to the Point of Beginning.

It is the agreement of the parties that henceforth the legal description of Lot 6 shall include the real property conveyed by Grantor to Grantee pursuant to this Agreement and shall be subject to the restrictions affecting Lot 6.

DATED this 26th day of JUNE, 1996.

COAL CREEK PROPERTY ASSOCIATION, A
Washington Mutual Corporation

By Al Pal
Its Secretary

ACCEPTED AND APPROVED:

PUBLIC UTILITY DISTRICT NO. 1 OF LEWIS
COUNTY, A Municipal Corporation

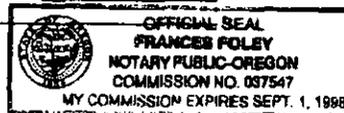
By Gary Kalych
GARY KALYCH, Its Manager

OREGON
STATE OF WASHINGTON)
:ss.
COUNTY OF MULTNOMAH)

This is to certify that on this 26 day of June, 1996, personally appeared before me CHARLES P. AULD, to me known to be the SECRETARY of COAL CREEK PROPERTY ASSOCIATION, the mutual 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 he was authorized to execute the said instrument.

GIVEN under my hand and official seal the day and year last above written.

Frances Foley
Notary Public in and for the State
OREGON of Washington, residing at
My commission expires: _____

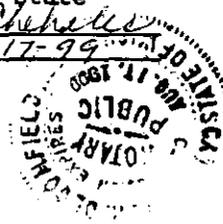


STATE OF WASHINGTON)
:ss.
COUNTY OF LEWIS)

This is to certify that on this 30 day of June, 1996, personally appeared before me GARY KALICH, to me known to be the Manager of PUBLIC UTILITY DISTRICT NO. 1 OF LEWIS COUNTY, the municipal 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 he was authorized to execute the said instrument.

GIVEN under my hand and official seal the day and year last above written.

Catherine R. Bloomfield
Notary Public in and for the State
of Washington, residing at Chelley
My commission expires: 8-17-99



DEED RECORD NO. 151

LEWIS COUNTY, WASHINGTON

FRICK & MURRAY, SEATTLE, PRINTERS, BUSINESS, 1921

In case the vendee should become seriously sick and unable to meet any of the payments hereunder the first party will grant a reasonable extension upon application in writing therefor.

This contract is not assignable without the written consent of the first party.

The last \$1800 or as much as is needed thereof shall be used to pay any unpaid portion of an existing \$1500.00 mortgage, privilege reserved to pay additional principal, amounts on interest paying dates. Purchaser shall carry \$400.00 fire insurance on house.

Executed in duplicate, this 17th day of February, A.D. 1920

Mrs. Kate Wesley (Seal)

Mrs. Emma Dreier (Seal)

State of Washington ss
County of Lewis

This is to Certify that on this 17th day of February, A.D. 1920 before me, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally came Kate Wesley a widow and Emma Dreier, a widow to me known to be the individuals described in and who executed the foregoing instrument and acknowledged to me that they signed and sealed the same as their free and voluntary act and deed, for the uses and purposes therein mentioned.

Witness my hand and official seal the day and year in this certificate first above written.

D.W.NOBLE, NOTARY PUBLIC #
STATE OF WASHINGTON #
COMMISSION EXPIRES #
JAN 17, 1923 #
#####

D.W.Noble, Notary Public in and
for the State of Washington,
residing at Chehalis, Washington

C-S

Filed for record at request of A. Schooley, Feb. 17, 1920 at 2:40 P.M.

Eva Knight,
Auditor, Lewis County, Washington
By: Gertrude Hoard, Deputy

-117376-

C. L. Brown, et ux

to

John Kostluk

QUIT CLAIM DEED.

QUIT CLAIM DEED.
Statutory Form

THE GRANTOR C.L. Brown and Daisy Brown, husband and wife, of Chehalis in the County of Lewis, and State of Washington, for the consideration of One dollar and other considerations, in hand paid, convey and quit claim to John Kostluk, of the County of Lewis, in the State of Washington, all interest in the following described real estate, twenty foot right of way commencing at the south line of two acre tract, which tract is located on the east side of the

DEED RECORD NO. 151

LEWIS COUNTY, WASHINGTON

intersection of the Coal Creek County road with National Avenue in Chehalis, Washington, designated on the map of the City of Chehalis, as the Harm & Brown Lumber Company, tract and extending southeast along said Coal Creek County road on the northeast side of said road, to where said right of way intersects with the County Road, also the said twenty foot right of way over and across lots (5) five/(6) nine (9) ten (10) thirteen (13) and fourteen (14) of the Chehalis Land & Timber Company's Coal Creek subdivision in Section twenty nine (29) township fourteen (14) north of range two (2) west of W.M. Grantors to remove the steel rail as soon as new road is ready for operation the timbers piling and ties to remain on the land, situated in the County of Lewis, State of Washington

Dated this 20th day of October, 1916.

C.L.Brown (Seal)

Daisy E. Brown (Seal)

State of Washington ss
County of Lewis

THIS IS TO CERTIFY, that on this 12 day of February, A.D. 1920 before me the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn personally came Daisy_Brown, wife of C.L.Brown to me known to be the individual described in and who executed the within instrument, and acknowledged to me that she signed and sealed the same as her free and voluntary act and deed for the uses and purposes therein mentioned.

Witness my hand and official seal the day and year in this certificate

first above written.

O.J.ALBERS,NOTARY PUBLIC #
STATE OF WASHINGTON #
COMMISSION EXPIRES #
NOV 25, 1921 #
#####

O.J.Alberson, Notary Public in
and for the State of Washington,
residing at Chehalis.

State of Washington ss
County of Lewis

I, undersigned a Notary Public do hereby certify that on this _ day of October, 1916 personally appeared before me C. L.Brown and, husband and wife to me known to be the individuals described in and who executed the within instrument and acknowledged that they signed and sealed the same as their free and voluntary act and deed for the uses and purposes therein mentioned.

Given under my hand and official seal this 20th day of October, A.D. 1916.

O.J.ALBERS,NOTARY PUBLIC #
STATE OF WASHINGTON #
COMMISSION EXPIRES #
NOV 25, 1921 #
#####

O.J.Alberson, Notary Public in and
for the State of Washington,
residing at Chehalis.

Filed for record at request of John Kostluk, Feb. 17, 1920 at 3:00 P.M.
Eva Knight,

Auditor, Lewis County, Washington
By: Gertrude Hoard, Deputy

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Attachment 8

Title Insurance

&

Summary of Terms and Conditions of Consent Decree
[Referenced in Title Insurance]

*[placeholder for Title Insurance &
Summary of Terms and Conditions of Consent Decree]*

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COMMITMENT FOR TITLE INSURANCE

Issued By



Stewart Title Guaranty Company, a Texas Corporation ("Company"), for a valuable consideration, commits to issue its policy or policies of title insurance, as identified in Schedule A, in favor of the Proposed Insured named in Schedule A, as owner or mortgagee of the estate or interest in the land described or referred to in Schedule A, upon payment of the premiums and changes and compliance with the Requirements; all subject to the provisions of Schedules A and B and to the Conditions of this Commitment.

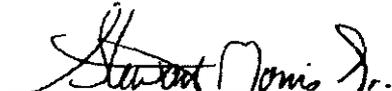
This Commitment shall be effective only when the identity of the Proposed Insured and the amount of the policy or policies committed for have been inserted in Schedule A by the Company.

All liability and obligation under this Commitment shall cease and terminate six months after the Effective Date or when the policy or policies committed for shall issue, whichever first occurs, provided that the failure to issue the policy or policies is not the fault of the Company.

The Company will provide a sample of the policy form upon request.

This Commitment shall not be valid or binding until countersigned by a validating officer or authorized signatory.

IN WITNESS WHEREOF, Stewart Title Guaranty Company has caused its corporate name and seal to be hereunto affixed by its duly authorized officers on the date shown in Schedule A.


Chairman of the Board




President



Title Guaranty Company of Lewis County
Company Name

Chehalis, WA 98532
City, State

CONDITIONS

1. The term mortgage, when used herein, shall include deed of trust, trust deed, or other security instrument.
2. If the Proposed Insured has or acquired actual knowledge of any defect, lien, encumbrance, adverse claim or other matter affecting the estate or interest or mortgage thereon covered by this Commitment other than those shown in Schedule B hereof, and shall fail to disclose such knowledge to the Company in writing, the Company shall be relieved from liability for any loss or damage resulting from any act of reliance hereon to the extent the Company is prejudiced by failure to so disclose such knowledge. If the Proposed Insured shall disclose such knowledge to the Company, or if the Company otherwise acquires actual knowledge of any such defect, lien, encumbrance, adverse claim or other matter, the Company at its option may amend Schedule B of this Commitment accordingly, but such amendment shall not relieve the Company from liability previously incurred pursuant to paragraph 3 of these Conditions and Stipulations.
3. Liability of the Company under this Commitment shall be only to the named Proposed Insured and such parties included under the definition of Insured in the form of policy or policies committed for and only for actual loss incurred in reliance hereon in undertaking in good faith (a) to comply with the requirements hereof, or (b) to eliminate exceptions shown in Schedule 8, or (c) to acquire or create the estate or interest or mortgage thereon covered by this Commitment. In no event shall such liability exceed the amount stated in Schedule A for the policy or policies committed for and such liability is subject to the insuring provisions and Conditions and Stipulations and the Exclusions from Coverage of the form of policy or policies committed for in favor of the Proposed Insured which are hereby incorporated by reference and are made a part of this Commitment except as expressly modified herein.
4. This Commitment is a contract to issue one or more title insurance policies and is not an abstract of title or a report of the condition of title. Any action or actions or rights of action that the Proposed Insured may have or may bring against the Company arising out of the status of the title to the estate or interest or the status of the mortgage thereon covered by this Commitment must be based on and are subject to the provisions of this Commitment.
5. *The policy to be issued contains an arbitration clause. All arbitrable matters when the Amount of Insurance is \$2,000,000 or less shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. You may review a copy of the arbitration rules at <http://www.alta.org/>.*



All notices required to be given the Company and any statement in writing required to be furnished the Company shall be addressed to it at P.O. Box 2029, Houston, Texas 77252.



TITLE GUARANTY COMPANY OF LEWIS COUNTY

200 N.W. PACIFIC AVENUE • P.O. BOX 1304 • CHEHALIS, WA 98532

Phone 1- (360) 748-0001 • Title Fax 1 -(360) 748-9867 • Escrow Fax 1- (360) 740-7892

**TO: LEWIS COUNTY PUD
PO BOX 330
CHEHALIS, WA 98532**

ORDER INFORMATION

ORDER NUMBER:

00136222

SELLER NAME(S):

LEWIS COUNTY PUD

BUYER/BORROWER NAMES(S):

TBD

YOUR REFERENCE NUMBER:

The Title Officer Name is:

**William Greear
william@titlegco.com**

The Escrow Officer Name is:

None

CC: 2XC: LEWIS COUNTY PUD/DEBBIE ANGWOOD

**A.L.T.A. COMMITMENT
SCHEDULE A**

Title Order No.: 00136222

Your No.:

1. Effective Date: **November 24, 2009 at 8:00 A.M.**

2. Policy or policies to be issued:

a. **Standard Coverage ALTA Owner's Policy (6/17/06)**

Amount \$	20,000.00
Premium \$	250.00
Tax \$	19.75
Total \$	269.75

Proposed Insured:
TO COME

b. **None**

Amount \$	
Premium \$	
Tax \$	
Total \$	0.00

Proposed Insured:

c. **None**

Amount \$	
Premium \$	
Tax \$	
Total \$	0.00

Proposed Insured:

3. The estate or interest in the land described herein and which is covered by this commitment is:

Fee Simple

4. The estate or interest referred to herein is at Date of Commitment vested in:

PUBLIC UTILITY DISTRICT NO. 1 OF LEWIS COUNTY, A WASHINGTON MUNICIPAL CORPORATION, BY DEED RECORDED SEPTEMBER 23, 1948, UNDER AUDITOR'S FILE NO. 448782, RECORDS OF LEWIS COUNTY, WASHINGTON

5. The land referred to in this Commitment is situated in the County of **Lewis**, State of Washington and is more fully described as follows:

See Exhibit A attached hereto and made a part hereof.

A.L.T.A. COMMITMENT

SCHEDULE B

Order No.: 00136222

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company.

GENERAL EXCEPTIONS:

- A. Rights or claims disclosed only by possession, or claimed possession, of the premises.
- B. Encroachments and questions of location, boundary and area disclosed only by inspection of the premises or by survey.
- C. Easements, prescriptive rights, rights-of-way, streets, roads, alleys or highways not disclosed by the public records.
- D. Any lien, or right to a lien, for contributions to employees benefit funds, or for state workers' compensation, or for services, labor or material heretofore or hereafter furnished, all as imposed by law and not shown by the public records.
- E. Taxes or special assessments which are not yet payable or which are not shown as existing liens by the public records.
- F. Any service, installation, connection, maintenance, or construction charges for sewer, water, electricity, natural gas or other utilities or garbage collection and disposal.
- G. Reservations or exceptions in United States Patents or in Acts authorizing the issuance thereof; Indian tribal codes or regulations, Indian treaty or aboriginal rights, including easements or equitable servitudes.
- H. Water rights, claims or title to water.
- I. Defects, liens encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

SPECIAL EXCEPTIONS FOLLOW:

1. Lien of real estate excise sales tax upon any sale of said premises, if unpaid 1.78%.
2. Terms and provisions of decree entered February 3, 1992, in U.S. District Court for the Western District of Washington as Civil Action No. C91-5470B titled U.S.A., plaintiff VS. Ross Electric of Washington, Inc., et al, defendants. A summary of said terms and conditions was recorded February 14, 1992, under Auditor's File No. 9201747.
AFFECTS PARTS OF LOTS 6 AND 9
3. A 20 foot railway over Lots 5 and 6 of Chehalis Land and Timber Company's Coal Creek Subdivision in favor of John Kostiuk recorded February 17, 1920, under Auditor's File No. 117376.

SCHEDULE B - continued

Order No.: 00136222

4. Terms and provisions of instrument entitled PROPERTY RESTRICTIONS AND CONVEYANCE OF INTEREST

Dated : MARCH 10, 1992
Recorded : MARCH 10, 1992
Auditor's No. : 9202697
Executed By : PUBLIC UTILITY DISTRICT NO. 1 OF LEWIS COUNTY
AFFECTS PORTIONS OF LOTS 6 AND 9

5. Terms and provisions of instrument entitled BOUNDARY LINE ADJUSTMENT AGREEMENT

Dated : JUNE 28, 1996
Recorded : JULY 3, 1996
Auditor's No. : 3003734
Executed By : COAL CREEK PROPERTY ASSOCIATION
AFFECTS PORTION IN LOT 5

-END OF SPECIAL EXCEPTIONS-

A.L.T.A. COMMITMENT

Schedule C

Commitment No. 00136222

REQUIREMENTS:

The following are requirements to be complied with in a manner satisfactory to the Company prior to issuance of the policy:

- A. Requirements: Instruments creating the estate or interest to be insured must be approved and filed of record.
- B. Requirements: Payment of cancellation fee in accordance with our filed rate Schedule, to be imposed if this transaction is canceled for any reason.

INFORMATION FOR THE CLOSER AND/OR INSURED:

The following matters will not be listed as Special Exceptions in Schedule "B" of the Policy to be issued pursuant to this Commitment. Notwithstanding the absence of a Special Exception in Schedule "B" of the Policy to be issued, there will be no coverage for loss arising by reason of the matters listed below because these matters are either excepted from coverage under the General Exceptions section of Schedule "B", excluded from coverage under the Exclusions from Coverage or are not matters for which coverage is afforded under the insuring clauses of the Policy.

This Commitment shall not obligate the Company to issue any Endorsement. All Endorsements to be issued must be agreed to by the Company and appropriate for the estate insured.

Any sketch or map enclosed as an attachment herewith is furnished for information purposes only to assist in property location with reference to streets and other parcels. No representation is made as to accuracy and the Company assumes no liability for any loss occurring by reason of reliance thereof.

NOTES:

1. The description can be abbreviated as suggested below to meet first page/cover page standardization requirements. The full text of the description (as in Schedule A of this commitment) must appear in the document(s) to be insured.

LOTS 6 AND 9 AND PART LOT 5 CHEHALIS LAND AND TIMBER COMPANY'S COAL CREEK SUBDIVISION

2. There are no recorded deeds affecting said premises within the last 24 months except as follows: None.
3. General taxes for 2009 are shown as EXEMPT on the general tax rolls.
010655-001-000
4. The minimum cancellation fee \$269.75.

WG/AB

Stewart Title Guaranty Company, Stewart Title Insurance Company, Stewart Title Insurance Company of Oregon, National Land Title Insurance Company, Arkansas Title Insurance Company, Charter Land Title Insurance Company

Privacy Policy Notice

PURPOSE OF THIS NOTICE

Title V of the Gramm-Leach-Bliley Act (GLBA) generally prohibits any financial institution, directly or through its affiliates, from sharing non-public personal information about you with a non-affiliated third party unless the institution provides you with a notice of its privacy policies and practices, such as the type of information that it collects about you and the categories of persons or entities to whom it may be disclosed. In compliance with the GLBA, we are providing you with this document, which notifies you of the privacy policies and practices of Stewart Title Guaranty Company, Stewart Title Insurance Company, Stewart Title Insurance Company of Oregon, National Land Title Insurance Company, Arkansas Title Insurance Company, Charter Land Title Insurance Company.

We may collect non-public personal information about you from the following sources:

- Information we receive from you, such as on applications or other forms.
- Information about your transactions we secure from our files, or from our affiliates or others.
- Information we receive from a consumer reporting agency.
- Information that we receive from others involved in your transaction, such as the real estate agent or lender.

Unless it is specifically stated otherwise in an amended Privacy Policy Notice, no additional non-public personal information will be collected about you.

We may disclose any of the above information that we collect about our customers or former customers to our affiliates or to non-affiliated third parties as permitted by law.

We also may disclose this information about our customers or former customers to the following types of non-affiliated companies that perform marketing services on our behalf or with whom we have joint marketing agreements:

- Financial service providers such as companies engaged in banking, consumer finance, securities and insurance.
- Non-financial companies such as envelope stuffers and other fulfillment service providers.

WE DO NOT DISCLOSE ANY NON-PUBLIC PERSONAL INFORMATION ABOUT YOU WITH ANYONE FOR ANY PURPOSE THAT IS NOT SPECIFICALLY PERMITTED BY LAW.

We restrict access to non-public personal information about you to those employees who need to know that information in order to provide products or services to you. We maintain physical, electronic, and procedural safeguards that comply with federal regulations to guard your non-public personal information.

Title Guaranty Company of Lewis County

Title Guaranty Company of Lewis County Privacy Statement

July 1, 2007

We recognize and respect the privacy expectations of today's consumers and the requirements of applicable federal and state privacy laws. We believe that making you aware of how we use your non-public personal information ("Personal Information"), and to whom it is disclosed, will form the basis for a relationship of trust between us and the public that we serve. This Privacy Statement provides that explanation. We reserve the right to change this Privacy Statement from time to time consistent with applicable privacy laws.

In the course of our business, we may collect Personal Information about you from the following sources:

- From applications or other forms we receive from you or your authorized representative;
- From your transactions with, or from the services being performed by us, or affiliates, or others;
- From our internet websites;
- From the public records maintained by governmental entities that we either obtain directly from those entities, or from our affiliates or others; and
- From consumer or other reporting agencies.

Our Policies Regarding the Protection of the Confidentiality and Security of Your Personal Information

We maintain physical, electronic and procedural safeguards to protect your Personal Information from unauthorized access or intrusion. We limit access to the Personal Information only to those employees who need such access in connection with providing products or services to you or for other legitimate business purposes.

Our Policies and Practices Regarding the Sharing of Your Personal Information

We may share your Personal Information with our affiliates, such as insurance companies, agents, and other real estate settlement service providers. We also may disclose your Personal Information to agents, brokers or representatives to provide you with services you have requested.

In addition, we will disclose your Personal Information when you direct or give us permission, when we are required by law to do so, or when we suspect fraudulent or criminal activities. We also may disclose your Personal Information when otherwise permitted by applicable privacy laws such as, for example, when disclosure is needed to enforce our rights arising out of any agreement, transaction or relationship with you.

One of the important responsibilities of some of our affiliated companies is to record documents in the public domain. Such documents may contain your Personal Information.

Exhibit A

Lots 6 and 9, Chehalis Land and Timber Company's Coal Creek Subdivision, as recorded in volume 3 of plats, page 56, records of Lewis County, Washington.

ALSO, that portion of Lot 5, Chehalis Land and Timber Company's Coal Creek Subdivision, as recorded in volume 3 of plats, page 56, records of Lewis County, Washington, described as follows:

BEGINNING at the southwest corner of said Lot 5; thence north $02^{\circ}07'32''$ west along the west line of said Lot 5 a distance of 27.50 feet; thence north $87^{\circ}08'52''$ east parallel with the south line of said Lot 5 a distance of 513.60 feet to a point on the westerly right of way of Coal Creek Road; thence southeasterly along said right of way 29.84 feet to the southeast corner of said Lot 5; thence south $87^{\circ}08'52''$ west along the south line of said Lot 5 a distance of 525.54 feet to the point of beginning.

9201747

FILED VOL. PAGE
LEWIS CO. PUD
PO BOX 330
CHEHALIS WA 98522
92 FEB 14 PM 1 30

APPENDIX 5

SUMMARY OF TERMS OF CONSENT DECREE

I. INTRODUCTION

GARY E ZANDELL, AUDITOR

On February 3, 1992 a Consent Decree was entered in the United States District Court for the Western District of Washington, in the case titled United States of America, Plaintiff, vs. Ross Electric of Washington, Inc., et al., Defendants, Civil Action No. C91-5470B. The Consent Decree was entered as a settlement between the United States and the defendants, including the site owner Lewis County Public Utility District (Lewis County PUD), for claims brought by the United States under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), 42 USC 9606 and 9607.

Under the terms of the Consent Decree, certain defendants (the "Settling Defendants") agreed to perform necessary remedial actions on property located at and immediately adjacent to 346 Coal Creek Road, approximately one mile northeast of the town of Chehalis, Lewis County, Washington, (the "Site") to reduce to specified levels certain hazardous substances on the property including polychlorinated biphenyls (PCBs) and dioxins. The Consent Decree also places certain restrictions on future uses of the property. The purpose of this Summary is to provide notice to interested persons of the existence of the Consent Decree and a summary of its major terms. Interested persons who wish additional information should review the complete Consent Decree, which is available at the following locations:

Chehalis-Timberland Public Library
76 N.E. Park
Chehalis, Washington 98532

U. S. Environmental Protection Agency
Region 10
Park Place Building
1200 Sixth Avenue, 10th Floor Library
Seattle, Washington 98101

Clerk, United States District Court
Western District of Washington
308 U. S. Courthouse
1010 Fifth Avenue
Seattle, Washington 98104

*See Exhibit A for legal description.

APPENDIX 5 TO MAJOR CONSENT DECREE

Page 1 of 5

VOL. 496 PAGE 560

U.S. Department of Justice
Environmental Enforcement Section Document Center
601 Pennsylvania Avenue, N.W.
Box 1097
Washington, D.C. 20004

II. SUMMARY OF TERMS

A. Background of the Consent Decree

The Site has been owned by Lewis County PUD since 1949. Since that time the Site has been used by a succession of operators as a facility for the manufacturing, repairing, recycling and scrapping of transformers and other electrical equipment. Prior to 1949 the Site was owned by Puget Sound Power and Light and used as a coal fired steam generation plant. Investigations conducted by the Washington Department of Ecology (Ecology) and the United States Environmental Protection Agency (EPA) in the early 1980s revealed significant concentrations of PCBs and other hazardous substances in the soils on the Site. As part of the investigations, the agencies also identified parties who may be responsible for the contamination found on the Site. These parties, including the Site owner Lewis County PUD, were notified by EPA of their status as Potentially Responsible Parties (PRPs).

On February 19, 1988, a large majority of PRPs, including the Site owner Lewis County PUD, entered into a Consent Order with EPA to conduct a Remedial Investigation and Feasibility Study (RI/FS) (EPA Docket No. 1988-03-18-122/104). The RI/FS was completed on August 15, 1989.

EPA recommended a cleanup alternative in a Proposed Plan issued May 4, 1990. After a 60 day period for public comment, EPA selected a final remedy for cleaning up contamination at the Site. The final remedy and the selection process is detailed in a document called a Record of Decision (ROD) which was signed by EPA Region 10 Acting Regional Administrator on October 17, 1990.

Under the terms of the Consent Decree, a majority of PRPs including the Site owner Lewis County PUD, agreed to perform the necessary remedial actions selected in the ROD. The ROD is attached to and incorporated in the Consent Decree.

B. Hazardous Substances on the Site

The Remedial Investigation for the Site revealed the presence of PCBs, chlorobenzenes, lead and copper in significant

concentrations in soils on the Site. PCB concentrations in surface soils range from one part per million (ppm) to 1,000 ppm with concentrations as high as 21,000 ppm in subsurface soils. The highest concentrations of lead, copper, and chlorobenzenes were 3,800 ppm, 31,000 ppm, and 23 ppm, respectively.

PCBs, chlorobenzenes, lead and copper are hazardous substances. EPA's Regional Administrator found that the actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to human health or the environment.

C. The Remedial Action

The remedial action to be performed under the Consent Decree includes but is not limited to the following:

- (a) removing asbestos from the on-Site building and disposing of it in a permitted landfill;
- (b) demolition of Site structures and disposal of debris in an approved landfill or incinerate on-Site;
- (c) excavation and on-Site incineration of soils and sediments with PCB concentrations greater than 50 ppm;
- (d) on-Site containment of incinerator ash and remaining soil and debris containing from 1 to 50 ppm PCBs in an on-Site location that is above the highest seasonal groundwater table and beyond the 100-year flood plain. These materials will be contained under an engineered cap;
- (e) on-Site incineration or off-Site treatment and disposal of perched groundwater in the fill mound;
- (f) on-Site incineration or off-Site treatment and disposal of container liquids and sludges;
- (g) construction of diversion ditches to control runoff/runoff of surface waters onto the final Site cover;
- (h) deed restrictions and/or restrictive covenants on land and groundwater uses to protect the integrity of the cleanup remedy;
- (i) monitoring of ground and surface water for a minimum of five (5) years including annual sampling and analysis for Site contaminants and continuous monitoring of groundwater elevations; and
- (j) maintenance of the cap, trenches and perimeter fence.

D. Property Restrictions and Conveyance of Interest-

The following restrictive covenants have been duly recorded with the Recorder of Deeds, Lewis County, Washington, regarding the Site and run with the land:

- (a) The Site shall not be used for residential or agricultural purposes;
- (b) construction, installation, maintenance or use of any wells on the Site for human drinking purposes or for irrigation of feed or food crops is prohibited;
- (c) construction activities that would violate the integrity of the containment structure are prohibited;
- (d) requirements for maintenance of diversion ditches, flood barriers, and other special features of the remedy.

These restrictive covenants are binding on any and all persons who acquire any interest in the Site.

E. Access

Under the terms of the Consent Decree, Lewis County PUD, and any persons who may subsequently acquire an interest in the Site, have agreed that the United States, the State of Washington, and their authorized representatives, including EPA and its contractors, shall have access to the Site at all reasonable times with reasonable notice for implementation of the Consent Decree and for purposes of conducting any activity related to the Consent Decree including, but not limited to, monitoring the effectiveness of the remedial actions; verifying any data or information submitted to the United States; conducting any investigations relating to the Site; obtaining samples, assessing the need for, planning, or implementing additional response actions relating to the Site; and assessing the Settling Defendants compliance with the Consent Decree.

NOTICE: THIS DOCUMENT ONLY PROVIDES A SUMMARY OF INFORMATION CONTAINED IN THE CONSENT DECREE. FOR A COMPLETE DESCRIPTION OF THE SITE, THE CONDITION OF THE PROPERTY, AND THE IMPACT OF THE CONSENT DECREE ON THE PROPERTY, INTERESTED PARTIES SHOULD REVIEW THE CONSENT DECREE AND ATTACHMENTS AT ANY OF THE LOCATIONS LISTED ON THE FIRST AND SECOND PAGES OF THIS DOCUMENT.

DATED this 14th day of February, 1992.

Lewis County Public Utility District

By: Barry H. Kalich
Title: its Manager

STATE OF WASHINGTON)
County of Lewis) ss.

I certify that I know or have satisfactory evidence that Barry H. Kalich is the person who appeared before me, and said person acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to sign this instrument and acknowledged it as the manager of Lewis County Public Utility District, a(n) Washington corporation, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

DATED: 2/14/92



Pauline B. Fubing
Notary Public for Washington
My appointment expires: 3/3/93

EXHIBIT A

DESCRIPTION OF COAL CREEK PROPERTY

That part of Lots Six (6) and Nine (9), CHEHALIS LAND AND
TIMBER COMPANY'S COAL CREEK SUBDIVISION, lying North and
East of and including Coal Creek; EXCEPTING THEREFROM the
Coal Creek County Road.

VOL. 496 PAGE 565

Attachment 9

Property Restrictions and Conveyance of Interest

[placeholder Property Restrictions and Conveyance of Interest]

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9202697

PROPERTY RESTRICTIONS AND CONVEYANCE OF INTEREST

Public Utility District No. 1 of Lewis County (the "District"), as legal owner of property described in Exhibit "A", pursuant to a Consent Decree entered in the United States District Court for the Western District of Washington, in the case titled United States of America, Plaintiff, vs. Ross Electric of Washington, Inc., et al., Defendants, Civil Action No. C91-54708, places the following restrictive covenants on future uses of the property.

- a) The property shall not be used for residential or agricultural purposes.
- b) Construction, installation, maintenance or use of any wells on the property for human drinking purposes or for irrigation of feed or food crops is prohibited.
- c) Construction activities that would violate the integrity of the contaminated structure are prohibited.
- d) Maintenance of diversion ditches, flood barriers, and other special features of the remedy shall be maintained.

The District has granted the United States, the State, and their authorized representatives, including the EPA and its contractors, access at all times to the property to which access is required for implementation of the Consent Decree, to the extent access to the property is controlled by the District, for the purposes of conducting any activity to the Consent Decree and as further set forth in the Consent Decree.

These restrictive covenants and access requirements are binding on any and all persons who acquire any interest in the property.

DATED this 10th day of March, 1992.

PLUD
PO Box 330
Chelonia, WA 98530
Public Utility District No. 1
of Lewis County

92 MAR 10 PM 2:52
GARY E. ZETTEL, AUDITOR
LEWIS COUNTY, WA
By: Gary H. Kahish
Title: its Manager

STATE OF WASHINGTON
County of Lewis

I certify that I know or have satisfactory evidence that Gary H. Kahish is the person who appeared before me, and said person acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to sign this instrument and acknowledged it as the Manager of Public Utility District No. 1 of Lewis County, a Washington corporation, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.



DATED: 3-10-92

Catherine R. Bloomfield
Notary Public for Washington
My appointment expires: 8-17-95

Attachment 10

Summary of Results for MTCA Standard Method B Cleanup Level Calculations

[placeholder for input parameter table]

INPUT PARAMETERS FOR SOIL AND WATER CLEANUP LEVEL CALCULATIONS

¹Soil ingestion only; ²Soil dermal contact; ³Soil to Ground Water; ⁴Ground Water ingestion

1. General information		symbol	units													
1.1 Name of Chemical:				arsenic	barium	cadmium	chlorobenzenes	Cr (III)	Cr (VI)	copper	lead	mercury	silver	seelenium	PCBs	2,3,7,8-TCDD
1.2 Measured Soil Concentration, if any:		C_s	mg/kg	UK	UK	UK	UK	UK	UK	UK	500	UK	UK	UK	1.00E+00	1.00E-03
1.3 Natural Background Concentration for Soil, if any:		NB_s	mg/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1.4 Practical Quantitation Limit for Soil, if any:		PQL_s	mg/kg	25	UK	2	0.002	0.5	UK	3	0.5	0.002	0.1	0.75	8.80E-02	3.00E-06
2. Toxicological Properties of the Chemical: Chemical-Specific																
2.1 Oral Reference Dose ^{1,3}		RfD_o	mg/kg-day	0.0003	0.2	0.0005	0.02	1.5	0.003	UK	UK	UK	0.005	0.005	2.00E-05	
2.2 Oral Carcinogenic Potency Factor ^{1,3}		CPF_o	kg-day/mg	1.5	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	2	150000
2.3 Inhalation Reference Dose ²		RfD_i	mg/kg-day	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK
2.4 Inhalation Carcinogenic Potency Factor ²		CPF_i	kg-day/mg	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	UK	150000
3. Exposure Parameters																
3.1 Inhalation Correction Factor (default = "2" for volatiles; "1" for all others) ⁴		INH	unitless	1	1	1	1	1	1	1	1	1	1	1	1	1
3.2 Inhalation Absorption Fraction (default = "1") ⁵		ABS_i	unitless	1	1	1	1	1	1	1	1	1	1	1	1	1
3.3 Gastrointestinal Absorption Fraction (default = "1") ^{1,2}		ABI	unitless	1	1	1	1	1	1	1	1	1	1	1	1	1
3.4 Adherence Factor (default = "0.2") ²		AF	mg/cm ² -day	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
3.5 Dermal Absorption Fraction (chemical-specific or defaults) ²		ABS_d	unitless	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN	NN
3.6 Gastrointestinal Absorption Conversion Factor (chemical-specific or defaults) ²		GI	unitless	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4. Physical and Chemical Properties of the Chemical: Chemical-Specific																
Soil Organic Carbon-Water Partitioning Coefficient		K_{oc}	l/kg	NN	NN	NN	NN	NN	NN	NN	10000	NN	NN	NN	8.22E+05	7.39E+00
Henry's Law Constant		H_{cc}	unitless	NN	NN	NN	NN	NN	NN	NN	UK	NN	NN	NN	3.68E-02	1.05E-03
		H	atm.m ³ /mol	NN	NN	NN	NN	NN	NN	NN	UK	NN	NN	NN	8.64E-04	2.47E-05
*Converted unitless form of H_{cc} , @13°C:		H_{cc}	unitless	NN	NN	NN	NN	NN	NN	NN	UK	NN	NN	NN	3.68E-02	1.05E-03
Solubility of the Chemical in Water: for the calculation of soil saturation limit		S	mg/l	NN	NN	NN	NN	NN	NN	NN	UK	NN	NN	NN	3.10E-02	1.93E-05
5. Target Ground Water Cleanup Level																
Target Ground Water Cleanup Level applicable for a soil cleanup level calculation		C_w	ug/l	10	2000	40	100	50	48	10	10	2	80	80	1	0.003
Acceptable Hazard Quotient for G/W: Default is "one"		HQ	unitless	1	1	1	1	1	1	1	1	1	1	1	1	1
Acceptable RISK for G/W: Default is "10 ⁻⁶ "		$RISK$	unitless	1.0E-06	1.0E-06	1.0E-06	1.0E-06	1.0E-06	1.0E-06	1.0E-06	1.0E-06	1.0E-06	1.0E-06	1.0E-06	1.0E-06	1.0E-06
6. Site-Specific Hydrogeological Characteristics																
Total Soil Porosity (default = "0.43"):		n	unitless	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Volumetric Water Content (default = "0.30"):		Q_w	unitless	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Volumetric Air Content (default = "0.13"):		Q_a	unitless	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Dry Soil Bulk Density (default = "1.50"):		ρ_b	kg/l	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Fraction Soil Organic Carbon (default = "0.001"; metals = "1")		f_{oc}	unitless	1	1	1	0.001	1	1	1	1	1	1	1	0.001	0.001
Dilution Factor		DF	unitless	10	10	10	10	10	10	10	10	10	10	10	10	10

NN = not needed for these calculations

UK = unknown

ND = not determined

MTCA Standard Method B Cleanup Levels for Potable Ground Water (ppb)							
#	arsenic	barium	cadmium	chlorobenzenes	chromium (III)	chromium (VI)	copper
1	4.8	3200	8	320	24000	48	N/A
2	0.058	N/A	N/A	N/A	N/A	N/A	N/A
3	0.583	N/A	N/A	N/A	N/A	N/A	N/A
4	0.63	2	40	0.04	10	10	10
5	UNK	UNK	UNK	UNK	UNK	UNK	UNK
6	5	2000	5	100	50	50	1000
7	0.63	2000	40	100	50	48	10

MTCA Standard Method B Cleanup Levels for Potable Ground Water (ppb)						
#	lead	mercury	silver	selenium	PCBs	2,3,7,8-TCDD
1	N/A	N/A	80	80	0.32	N/A
2	N/A	N/A	N/A	N/A	0.044	5.8E-07
3	N/A	N/A	N/A	N/A	0.438	5.8E-06
4	10	2	70	20	0.65	0.003
5	UNK	UNK	UNK	UNK	UNK	UNK
6	15	2	100	NA	0.5	0.00003
7	10	2	80	80	0.65	0.003

Notes:

N/A = Non-applicable because cancer potency factor and reference dose unknown.

UNK = Unknown

Shading = Method B Potable Ground Water Cleanup Level (Final MTCA Standard Method B cleanup level)

#	Definition of Concentrations
1	Concentration based on non-carcinogenic risk @ HQ=1.0
2	Concentration based on carcinogenic risk @ Risk = 1 in 1,000,000 (1.0E-6)
3	Concentration based on carcinogenic risk @ Risk = 1 in 100,000 (1.0E-5)
4	Practical Quantitation Limit of Ground Water
5	Natural Background Level of Ground Water
6	Most stringent concentration based on Applicable State or Federal Laws
7	Method B Potable Ground Water Cleanup Level (Final MTCA Standard Method B cleanup level)

MTCA Standard Method B Cleanup Levels for Soil (ppm)			
	Lead	PCBs	2,3,7,8-TCDD
Practical Quantitation Limit for Soil	5.0E-01	8.8E-02	3.0E-06
Soil Cleanup Level (not considering vapor pathway)	1.0E+03	3.5E-01	6.2E-06
Most stringent concentration based on Soil Direct Contact & Ground Water Protection	1.0E+03	3.5E-01	6.2E-06

INPUT PARAMETERS FOR SURFACE WATER CLEANUP LEVEL CALCULATIONS				
	symbol	units	carcinogenic	noncarcinogenic
Hazard Quotient	HQ	unitless		1
Acceptable Cancer Risk	RISK	unitless	0.00001	

Average body weight during exposure duration	ABW	kg	70	
Averaging time	AT	y	75	30
Unit conversion factor 1	UCF1	ppb	1000	
Unit conversion factor 2	UCF2	g/L	1000	
Fish consumption rate	FCR	g/d	54	
Fish diet fraction	FDF	unitless	0.5	
Exposure duration	ED	y	30	30

MTCA Standard Method B Cleanup Levels for Surface Water (ppb)					
	<i>Reference Dose mg/(kg*d)</i>	<i>Cancer Potency Factor (kg*d)/mg</i>	<i>Bioconcentration Factor (L/g)</i>	<i>Carcinogenic Surface Water Cleanup Level (ppb)</i>	<i>Noncarcinogenic Surface Water Cleanup Level (ppb)</i>
PCBs	2.00E-05	2	3600	9.0E-06	1.4E-05
Copper	none	none	290	none	none
Lead	none	none	49	none	none

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Attachment 11

*Summary Tables for Coal Creek Site
Groundwater and Surface Water Analytical Data (1994-1998)
(Excerpts from [11])*

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TABLE 1
Coal Creek
346 Coal Creek Road
Chehalis, Washington
Groundwater Summary

Monitoring Well	Year	PCB	Chlorobenzenes	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver
Action Levels		0.5	0.5	50	1000	10	50	1000	5	2	10	50
MW-101	1994	ND	ND	4	160	ND	ND	ND	3	ND	ND	ND
MW-102	1994	0.061	ND	1.1	405	ND	ND	2	6	ND	ND	ND
MW-103	1994	ND	ND	3	322	ND	20	17	15	ND	1	ND
MW-104	1994	ND	ND	2	313	ND	36	15	13	ND	1	ND
MW-105	1994	0.099	ND	9.8	2170	103	250	109	107	ND	97	249
MW-101	5/1995	ND	ND	3	140	ND	ND	ND	ND	ND	1	ND
MW-102	5/1995	ND	ND	7	338	ND	ND	2	ND	ND	2	ND
MW-103	5/1995	ND	ND	ND	111	ND	ND	ND	ND	ND	1	ND
MW-104	5/1995	ND	ND	2	88	ND	ND	ND	ND	ND	ND	ND
MW-105	5/1995	ND	ND	ND	167	ND	ND	ND	ND	ND	ND	ND
MW-101	12/1995	ND	ND	7	148	ND	ND	ND	ND	ND	ND	ND
MW-102	12/1995	ND	ND	4	103	ND	ND	ND	ND	ND	ND	ND
MW-103	12/1995	ND	ND	ND	117	ND	ND	ND	ND	ND	ND	ND
MW-104	12/1995	ND	ND	2	123	ND	ND	ND	ND	ND	ND	ND
MW-105	12/1995	ND	ND	ND	192	ND	ND	ND	ND	ND	ND	ND

TABLE 1 (cont'd)

**Coal Creek
346 Coal Creek Road
Chehalis, Washington**

Groundwater Summary

Monitoring Well	Year	PCB	Chlorobenzenes	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver
Action Levels		0.5	0.5	50	1000	10	50	1000	5	2	10	50
MW-101	1996	ND	ND	ND	0.098	ND	ND	ND	ND	ND	ND	ND
MW-102	1996	ND	ND	0.002	0.046	ND	ND	ND	ND	ND	ND	ND
MW-103	1996	ND	ND	ND	0.118	ND	ND	ND	ND	ND	ND	ND
MW-104	1996	ND	ND	0.002	0.132	ND	ND	ND	ND	ND	ND	ND
MW-105	1996	ND	ND	ND	0.2	ND	ND	ND	ND	ND	ND	ND
MW-101	1998	ND	ND	12	112	1.02	9.8	4.4	0.16	ND	ND	ND
MW-102	1998	ND	ND	0.9	46.6	0.96	6	6.8	0.34	ND	ND	ND
MW-103	1998	ND	ND	ND	115	1.46	11.6	2.3	0.26	ND	3	ND
MW-104	1998	ND	ND	1.6	95.1	0.86	8.0	3.5	0.52	ND	3	ND
MW-105	1998	ND	ND	2.2	205	2.21	11	3.3	0.26	ND	<2	0.02

- Notes: 1) PCB = Polychlorinated Biphenyls
 2) ND = Not detected above the analytical detection limit
 3) Reported results in ug/L

TABLE 2

**PacifiCorp Environmental Remediation Company
Coal Creek
346 Coal Creek Road
Chehalis, Washington**

Surface Water Summary

Monitoring Well	Year	PCB (ug/L)	Copper (ug/L)	Lead (ug/L)
Action Levels		0.014	12.0	3.2
SW-1	1994	ND	4	3
SW-2	1994	ND	ND	2
SW-3	1994	ND	ND	2
SW-1	5/1995	ND	ND	ND
SW-2	5/1995	ND	ND	ND
SW-3	5/1995	ND	ND	ND
SW-1	12/1995	ND	2	2
SW-2	12/1995	ND	2	2
SW-3	12/1995	ND	ND	ND
SW-1	1996	ND	0.006	0.001
SW-2	1996	ND	0.003	0.001
SW-3	1996	ND	0.003	ND
SW-1	1998	ND	5.3	0.36
SW-2	1998	ND	3.8	0.25
SW-3	1998	ND	3.8	0.26

- Notes: 1) PCB = Polychlorinated Biphenyls
 2) ug/L = micrograms per liter
 3) ND = Not detected above the analytical detection limit

*[Placeholder for Summary Tables for Coal Creek Site
Groundwater and Surface Water Analytical Data (1994-1998)
(Excerpts from [11])]*

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Attachment 12

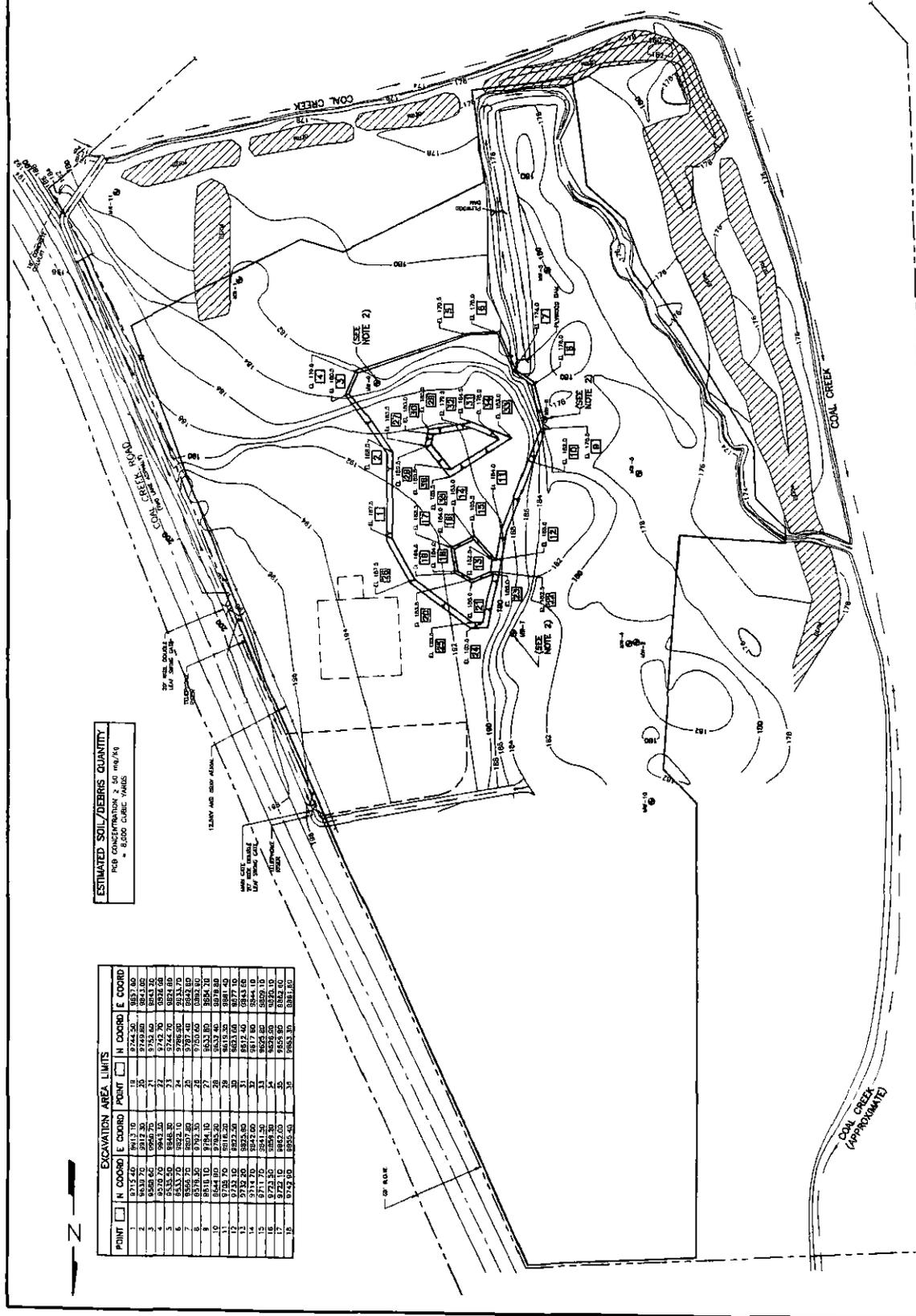
*Excavation Plan for Coal Creek Site
(Excerpts from [15])*

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- NOTES:**
- COORDINATE DIMENSIONS, SPACING, IDENTIFY INITIAL DURING CONSTRUCTION TO MAINTAIN THE FLOW OF THE UPHILL SIDE OF OPEN EXCAVATIONS. STORAGE OR COLLAPSE WITHIN AN OPEN MATERIAL HANDLING AREA SHALL BE COLLECTED, STORED, AND TESTED. IF TEST RESULTS INDICATE THE WATER IS CONTAMINATED, TREAT AND DISPOSE OF PROPERLY.
 - DECONTAMINATION MONITORING WELLS MW-7, MW-8 AND MW-9 PER SPECIFICATIONS SECTION 0222.
 - SURFACE WATER CONTROL MUST BE MAINTAINED DURING CONSTRUCTION TO MAINTAIN THE FLOW OF THE UPHILL SIDE OF OPEN EXCAVATIONS. STORAGE OR COLLAPSE WITHIN AN OPEN MATERIAL HANDLING AREA SHALL BE COLLECTED, STORED, AND TESTED. IF TEST RESULTS INDICATE THE WATER IS CONTAMINATED, TREAT AND DISPOSE OF PROPERLY.
 - MISCELLANEOUS DEBRIS WILL BE DECONTAMINATED AND STORED, OR RECYCLED, OR RECYCLED, OR RECYCLED.
 - TEMPORARY DECONTAMINATION FACILITIES WILL BE PROVIDED FOR ALL EXCAVATION AREAS. THE LOCATION AND SPECIFIC DESIGN OF THESE FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL CONTAMINATED WATER RESULTING FROM EXCAVATION PROCEDURES MUST BE COLLECTED AND STORED, AND TREATED.
 - ALL EQUIPMENT AND PERSONNEL WHICH COME IN CONTACT WITH CONTAMINATED MATERIALS MUST LEAVE THE CONSTRUCTION AREA IMMEDIATELY UPON BEING ADVISED BY THE CONTRACTOR. ALL CONTAMINATED MATERIALS MUST BE HANDLED AS SPECIFIED IN SECTION 0222.

MONITORING POINT	DEPTH	DIMENSIONS	MATERIAL
MW-7	20'	20' x 20'	PCB
MW-8	20'	20' x 20'	PCB
MW-9	20'	20' x 20'	PCB

- LEGEND:**
- CONTOUR LINE
 - MONITORING WELL
 - POWER POLE & OVERHEAD LINE
 - CENTERLINE OF DRAINAGE DITCH
 - PROPERTY LINE
 - CUT LINE
 - LIMITS OF WORK SPACE



ESTIMATED SOIL/DEBRIS QUANTITY

PCB CONCENTRATION 2.50 mg/kg
 4' DEEP EXCAVATION

POINT	EXCAVATION AREA LIMITS		N COORD	E COORD	I COORD
	N COORD	E COORD			
1	9115.40	9113.70	9242.50	9857.00	0
2	9135.70	9112.30	9242.50	9843.00	0
3	9135.70	9112.30	9242.50	9853.00	0
4	9135.70	9112.30	9242.50	9863.00	0
5	9135.70	9112.30	9242.50	9873.00	0
6	9135.70	9112.30	9242.50	9883.00	0
7	9135.70	9112.30	9242.50	9893.00	0
8	9135.70	9112.30	9242.50	9903.00	0
9	9135.70	9112.30	9242.50	9913.00	0
10	9135.70	9112.30	9242.50	9923.00	0
11	9135.70	9112.30	9242.50	9933.00	0
12	9135.70	9112.30	9242.50	9943.00	0
13	9135.70	9112.30	9242.50	9953.00	0
14	9135.70	9112.30	9242.50	9963.00	0
15	9135.70	9112.30	9242.50	9973.00	0
16	9135.70	9112.30	9242.50	9983.00	0
17	9135.70	9112.30	9242.50	9993.00	0
18	9135.70	9112.30	9242.50	10003.00	0
19	9135.70	9112.30	9242.50	10013.00	0
20	9135.70	9112.30	9242.50	10023.00	0

CONTAMINATED MATERIAL EXCAVATION PLAN
 PCB ≥ 50 mg/kg

SCALE IN FEET
 0 40 80

COAL CREEK SITE
 CHEHALIS, WASHINGTON

WESTON
 CONSULTANTS

DATE: 10/15/02
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 PROJECT NO: [Number]
 SHEET NO: [Number]

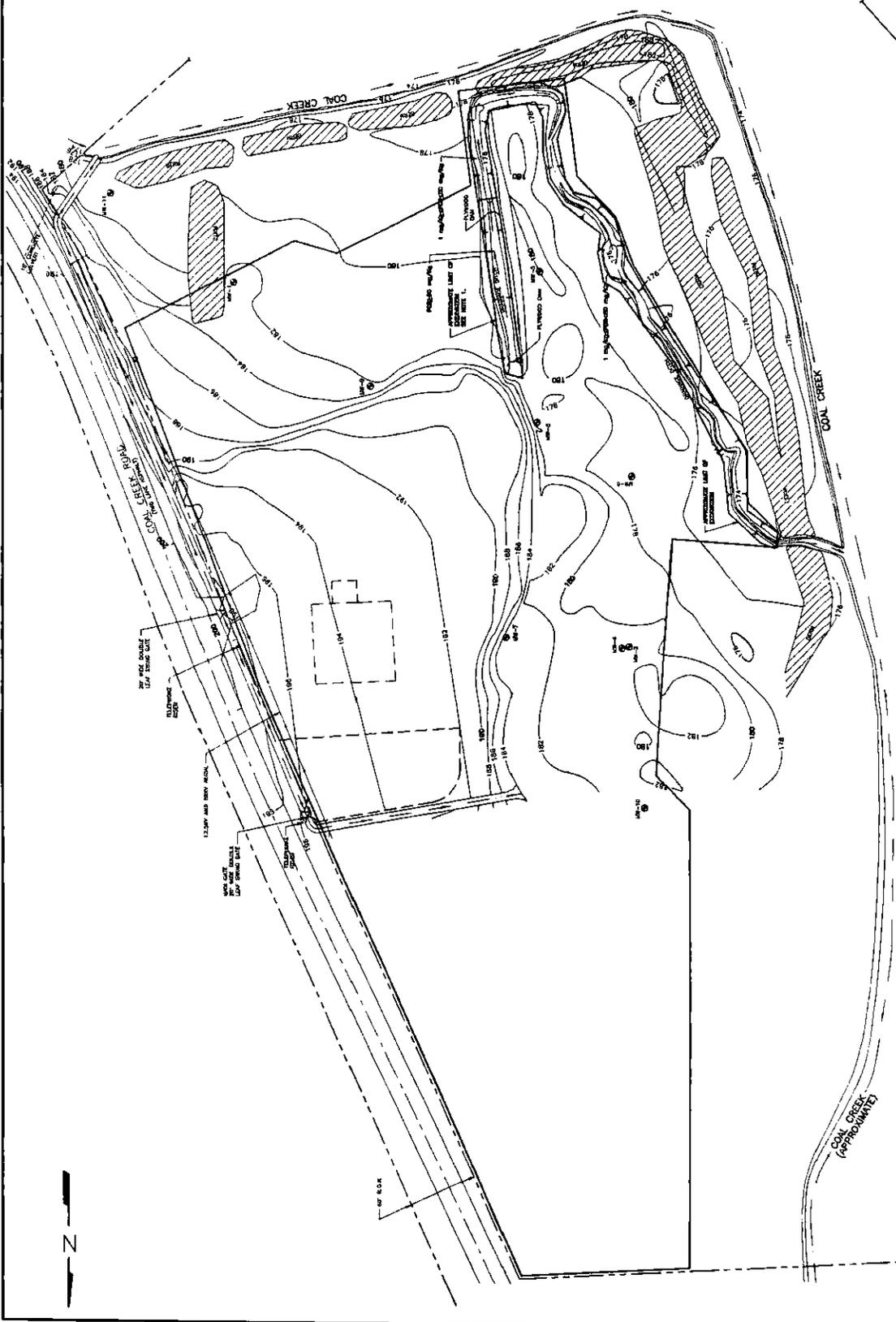
AS NOTED
 3/16/02-43
 CCL-02-008
 1"

NOTES

1. EXCAVATE SEDIMENT WITHIN DEPICTED AREA TO A DEPTH OF 6 INCHES AND REMOVE THROUGH DRAINAGE DITCH.
2. SEDIMENT EXCAVATED FROM THE DRAINAGE DITCH WILL BE TRANSPORTED TO THE STORAGE FACILITIES AND WILL FOLLOW SPECIFIED PROCEDURES FOR TREATMENT.

LEGEND

- 100 --- CONTOUR LINE
- MONITORING WELL
- POWER POLE & OVERHEAD LINE
- CENTERLINE OF DRAINAGE DITCH
- PROPERTY LINE
- LIMITS OF WORK SPACE



SEDIMENT MATERIAL EXCAVATION PLAN	
DATE	
DRAWN BY	
CHECKED BY	
SCALE	
DATE	
PROJECT NO.	04-02-008
SHEET NO.	11
TOTAL SHEETS	11
AS NOTED	2004-02-03
	04-02-008
	11
	1:1
	UNIVERSITY MICROFILMS INTL. SER. 95-104

*[Placeholder for Excavation Plan for Coal Creek Site
(Excerpts from [15])]*

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Attachment 13

Simplified Terrestrial Ecological Evaluation

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A simplified Terrestrial Ecological Evaluation (TEE) process is intended to identify those sites which do not have a substantial potential for posing a threat of significant adverse effects to terrestrial ecological receptors. A simplified TEE was conducted because none of the criteria under WAC 173-340-7491 (2)(iii)(b) applied to the site [12], which would require a site-specific TEE.

A simplified TEE was conducted for the drainage ditch on the site based on the exposure analysis procedure under WAC 173-340-7492(2)(a)(iii) [12]. The analysis procedure is shown on the following page. Based on the TEE, there is no substantial potential for a threat of significant adverse effects to terrestrial ecological receptors, and thus was removed from further ecological consideration.

Assumptions for simplified terrestrial ecological evaluation:

- 1) Drainage ditch on the site = 0.5 acres
- 2) This property is not an industrial or commercial property.
- 3) This site has intermediate habitat quality. There are no known or suspected endangered or threatened species or other sensitive ecological populations which habitat in the vicinity of the site [1].
- 4) This site is not likely to attract wildlife.
- 5) There are chlorinated dioxins and PCBs in the soil at the site.

Table 749-1
Simplified Terrestrial Ecological Evaluation – Exposure
Analysis Procedure under WAC 173-340-7492(2)(a)(ii).^a

Estimate the area of contiguous (connected) undeveloped land on the site or within 500 feet of any area of the site to the nearest 1/2 acre (1/4 acre if the area is less than 0.5 acre). "Undeveloped land" means land that is not covered by existing buildings, roads, paved areas or other barriers that will prevent wildlife from feeding on plants, earth-worms, insects or other food in or on the soil.																					
1) From the table below, find the number of points corresponding to the area and enter this number in the box to the right.	5																				
<table border="1"> <thead> <tr> <th>Area (acres)</th> <th>Points</th> </tr> </thead> <tbody> <tr><td>0.25 or less</td><td>4</td></tr> <tr><td>0.5</td><td>5</td></tr> <tr><td>1.0</td><td>6</td></tr> <tr><td>1.5</td><td>7</td></tr> <tr><td>2.0</td><td>8</td></tr> <tr><td>2.5</td><td>9</td></tr> <tr><td>3.0</td><td>10</td></tr> <tr><td>3.5</td><td>11</td></tr> <tr><td>4.0 or more</td><td>12</td></tr> </tbody> </table>	Area (acres)	Points	0.25 or less	4	0.5	5	1.0	6	1.5	7	2.0	8	2.5	9	3.0	10	3.5	11	4.0 or more	12	
Area (acres)	Points																				
0.25 or less	4																				
0.5	5																				
1.0	6																				
1.5	7																				
2.0	8																				
2.5	9																				
3.0	10																				
3.5	11																				
4.0 or more	12																				
2) Is this an industrial or commercial property? See WAC 173-340-7490(3)(c). If yes, enter a score of 3 in the box to the right. If no, enter a score of 1.	1																				
3) Enter a score in the box to the right for the habitat quality of the site, using the rating system shown below ^b . (High = 1, Intermediate = 2, Low = 3)	2																				
4) Is the undeveloped land likely to attract wildlife? If yes, enter a score of 1 in the box to the right. If no, enter a score of 2. See footnote c.	2																				
5) Are there any of the following soil contaminants present: Chlorinated dioxins/furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, pentachlorobenzene? If yes, enter a score of 1 in the box to the right. If no, enter a score of 4.	1																				
6) Add the numbers in the boxes on lines 2 through 5 and enter this number in the box to the right. If this number is larger than the number in the box on line 1, the simplified terrestrial ecological evaluation may be ended under WAC 173-340-7492 (2)(a)(ii).	6																				

Footnotes:

- a It is expected that this habitat evaluation will be undertaken by an experienced field biologist. If this is not the case, enter a conservative score (1) for questions 3 and 4.
- b **Habitat rating system.** Rate the quality of the habitat as high, intermediate or low based on your professional judgment as a field biologist. The following are suggested factors to consider in making this evaluation:
Low: Early successional vegetative stands; vegetation predominantly noxious, nonnative, exotic plant species or weeds. Areas severely disturbed by human activity, including intensively cultivated croplands. Areas isolated from other habitat used by wildlife.
High: Area is ecologically significant for one or more of the following reasons: Late-successional native plant communities present; relatively high species diversity; used by an uncommon or rare species; priority habitat (as defined by the Washington Department of Fish and Wildlife); part of a larger area of habitat where size or fragmentation may be important for the retention of some species.
Intermediate: Area does not rate as either high or low.
- c Indicate "yes" if the area attracts wildlife or is likely to do so. Examples: Birds frequently visit the area to feed; evidence of high use by mammals (tracks, scat, etc.); habitat "island" in an industrial area; unusual features of an area that make it important for feeding animals; heavy use during seasonal migrations.