1 2 COPY Original Filed 3 NOV 0.5 2013 4 Ecology Orasion Scott G. Weber, Clerk, Clark Co. 5 6 STATE OF WASHINGTON 7 CLARK COUNTY SUPERIOR COURT 8 STATE OF WASHINGTON, NO. 13-2-03830-1 9 DEPARTMENT OF ECOLOGY, CONSENT DECREE 10 Plaintiff. 11 ٧. PORT OF RIDGEFIELD, a Washington 12 municipal corporation, 13 and 14 CITY OF RIDGEFIELD, 15 Defendants. .16 17 TABLE OF CONTENTS 18 INTRODUCTION ..... I. JURISDICTION ......4 19 II. PARTIES BOUND ......5 III. DEFINITIONS......5 20 IV. FINDINGS OF FACT......6 V. 21 VI. WORK TO BE PERFORMED......12 DESIGNATED PROJECT COORDINATORS ......15 VII. 22 VIII. IX. 23 X. SAMPLING, DATA SUBMITTAL, AND AVAILABILITY ......17 PROGRESS REPORTS......18 XI. RETENTION OF RECORDS......19 24 XII. TRANSFER OF INTEREST IN PROPERTY ......19 XIII. 25 RESOLUTION OF DISPUTES.......20 XIV.

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## I. INTRODUCTION

- A. The mutual objective of the State of Washington, Department of Ecology (Ecology), and the Port of Ridgefield and City of Ridgefield (collectively the "Defendants") under this Decree is to provide for remedial action at a portion of the Site, Pacific Wood Treating Corporation (Ecology Facility Site Identification No. 1019) (the "Property" defined below), where there has been a release or threatened release of hazardous substances. As more fully described in the attached Cleanup Action Plan (Exhibit A), this Decree requires the Defendants to carry out specified remedial action measures at and near the former Pacific Wood Treating (PWT) facility located at 111 West Division Street in Ridgefield, Washington.
- B. Ecology has determined that these actions are necessary to protect human health and the environment.
- C. The Complaint in this action is being filed simultaneously with this Decree. An Answer has not been filed, and there has not been a trial on any issue of fact or law in this case. However, the Parties wish to resolve the issues raised by Ecology's Complaint. In addition, the Parties agree that settlement of these matters without litigation is reasonable and in the public interest, and that entry of this Decree is the most appropriate means of resolving these matters.
- D. By signing this Decree, the Parties agree to its entry and agree to be bound by its terms.
- E. By entering into this Decree, the Parties do not intend to discharge non-settling parties from any liability they may have with respect to matters alleged in the Complaint. The Parties retain the right to seek reimbursement, in whole or in part, from any liable persons for sums expended under this Decree.
- F. This Decree shall not be construed as proof of liability or responsibility for any releases of hazardous substances or cost for remedial action, or as an admission of any facts or agreement with any factual or other allegations herein or in Ecology's accompanying

1	Complaint	in this cause of action; provided, however, that the Defendants shall not challenge
2	the authorit	y of the Attorney General and Ecology to enforce this Decree.
3	G.	The Court is fully advised of the reasons for entry of this Decree, and good cause
4	having been	shown:
5	Nov	, therefore, it is HEREBY ORDERED, ADJUDGED, AND DECREED as follows:
6		II. JURISDICTION
7	A.	This Court has jurisdiction over the subject matter and over the Parties pursuant
8	to the Mode	l Toxics Control Act (MTCA), Chapter 70.105D RCW.
9	В.	Authority is conferred upon the Washington State Attorney General by
10	RCW 70.10	5D.040(4)(a) to agree to a settlement with any potentially liable person (PLP) if,
11	after public	notice and any required hearing, Ecology finds the proposed settlement would lead
12	to a more e	expeditious cleanup of hazardous substances. RCW 70.105D.040(4)(b) requires that
13	such a settle	ment be entered as a consent decree issued by a court of competent jurisdiction.
14	C.	Ecology has determined that a release or threatened release of hazardous
15	substances l	nas occurred at the Site, a portion of which is the subject of this Decree.
16	D.	Ecology has given notice to the Defendants of Ecology's determinations that
17	they are PL	Ps for the Site, as required by RCW 70.105D.020(21) and WAC 173-340-500.
18	Е.	The actions to be taken pursuant to this Decree are necessary to protect public
19	health and the	ne environment.
20	F.	This Decree has been subject to public notice and comment.
21	G.	Ecology finds that this Decree will lead to a more expeditious cleanup of
22	hazardous s	ubstances at the Site in compliance with the cleanup standards established under
23	RCW 70.10	5D.030(2)(e) and Chapter 173-340 WAC.
24	H.	The Defendants have agreed to undertake the actions specified in this Decree
25	and consent	to the entry of this Decree under MTCA.
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## III. PARTIES BOUND

This Decree shall apply to and be binding upon the Parties to this Decree, their successors and assigns. The undersigned representative of each party hereby certifies that he or she is fully authorized to enter into this Decree and to execute and legally bind such party to comply with this Decree. The Defendants agree to undertake all actions required by the terms and conditions of this Decree. No change in ownership or corporate status shall alter the Defendants' responsibility under this Decree. The Defendants shall provide a copy of this Decree to all agents, contractors, and subcontractors retained to perform work required by this Decree, and shall ensure that all work undertaken by such agents, contractors, and subcontractors complies with this Decree.

## IV. DEFINITIONS

Unless otherwise specified herein, all definitions in RCW 70.105D.020 and WAC 173-340-200 shall control the meanings of the terms in this Decree.

- A. <u>Site</u>: The Site is referred to as the former Pacific Wood Treating (PWT) Site and is generally located at and near 111 West Division Street in Ridgefield, Washington. The Site is more particularly described in the Site and Property Diagram (Exhibit B). The Site is defined by the extent of contamination caused by the release of hazardous substances at the Site. The Site constitutes a Facility under RCW 70.105D.020(4).
- B. <u>Parties</u>: Refers to the State of Washington, Department of Ecology, the Port of Ridgefield, and the City of Ridgefield.
- C. <u>Consent Decree or Decree</u>: Refers to this Consent Decree and each of the exhibits to this Decree. All exhibits are integral and enforceable parts of this Consent Decree. The terms "Consent Decree" or "Decree" shall include all exhibits to this Consent Decree.
- D. <u>Cleanup Action Plan</u>: Refers to the Cleanup Action Plan (CAP) (Exhibit A) issued by Ecology relating to the Property, which occupies a portion of the Site, and all

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1	attachments to the CAP. The CAP relating to the Property will in the future be followed by
2	further remedial actions relating to the remainder of the Site.
3	E. <u>Defendants</u> : Refers to the Port of Ridgefield (Port) and the City of Ridgefield
4	(City).
5	F. <u>Ecology</u> : Refers to the State of Washington, Department of Ecology, and the
6	Director, employees and designated agents, and representatives thereof.
7	G. Property: Refers to the Lake River Industrial Site (LRIS); portions of Lake
8	River, Carty Lake, and Railroad Avenue parcels; Railroad Overpass parcel; and the Port
9	Marina. The Property is more particularly described in the Site and Property Diagram
10	(Exhibit B).
11	V. FINDINGS OF FACT
12	Ecology makes the following findings of fact without any express or implied admissions
13	of such facts by the Defendants.
14	A. The Site is located in Ridgefield, Washington. The Site encompasses the LRIS,
15	Carty Lake to the north, the Port's Railroad Avenue properties, residential properties to the east,
16	the Port's Marina property and the Railroad Overpass property and a portion of McCuddy's
17	Marina to the south, and a portion of Lake River to the west. The Site and Property Diagram in
18	Exhibit B shows the Site and the ownership in the vicinity. The Site is defined by where a
19	hazardous substance has come to be located from a release. Ecology has determined that dioxin
20	contamination has come to be located in an area outside of the Property. Therefore this area
21	will be considered part of the Site.
22	B. The Property is located within the Site and is more particularly described in the
23	Site and Property Diagram (Exhibit B).
24	C. <u>Historical Operations and Ownership</u>
25	1. <u>PWT Operations</u> : From 1964 to 1993, PWT Corporation leased 24 acres
26	from the Port for the production of treated wood products. PWT used oil-based
'	CONSENT DECREE 6 ATTORNEY GENERAL OF WASHINGTON

treatment solutions containing various hazardous substances such as creosote, pentachlorophenol (PCP), and CCA (a copper, chromium, and arsenic mixture). PWT ceased wood treating operations in 1993, when the company declared bankruptcy.

- 2. <u>Port Ownership</u>: In addition to leasing 24 acres of the Site to PWT, the Port purchased an additional 11 acres of the LRIS following PWT's bankruptcy, and owns the Port Railroad Avenue properties (0.62 acre), Marina property (1 acre), and Railroad overpass property (1.35 acres).
- 3. <u>Union Pacific Railroad Ownership</u>: Union Pacific Railroad (UP) owned an approximately two-acre parcel within the Property along the eastern side of the former PWT facility (UP Property). The UP Property was purchased by the Port in May 2013. UP leased the UP Property to PWT beginning in the early to middle 1970s. A steel drip trough was located on this parcel to collect excess preservative dripping from freshly treated poles before placement in Cell 3. The treating solutions contained PCP, petroleum hydrocarbons, and CCA.
- 4. <u>City of Ridgefield Ownership</u>: The City of Ridgefield (City) owned an approximately 0.5 acre parcel in the former tank farm area of the Site. The City leased its property to PWT beginning in the 1960s. Wood treating chemicals containing PCP, petroleum hydrocarbons, and CCA were stored on the City property. The Port purchased the 0.5 acre parcel from the City in 2010. Currently, the City's wastewater treatment plant falls within the boundary of the Site.
- 5. <u>McCuddy's Marina</u>: McCuddy's Ridgefield Marina is the current operator of the approximately 6.5 acre, privately-owned marina located at 5 West Mill Street, a portion of which is within the Site. McCuddy's Ridgefield Marina also leases approximately 11 acres in Lake River from the Washington State Department of Natural Resources (DNR).

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- 6. <u>U.S. Fish and Wildlife Service</u>: Carty Lake is a 52 acre, ponded wetland located in the Ridgefield National Wildlife Refuge (RNWR) operated by the U.S. Fish and Wildlife Service.
- 7. <u>Department of Natural Resources</u>: Lake River is an 11-mile-long channel that is hydraulically connected through Vancouver Lake and at its mouth to the Columbia River. DNR manages the Washington State-owned Lake River.
- 8. <u>Residential Ownership</u>: The off-property area east of the LRIS within the Site is zoned low-density residential. The residential off-property area includes approximately six blocks spanning 10.6 acres. This off-property area is part of the Site, but for purposes of this Decree is not considered "Property" under Section IV.G (Definitions).
- 9. Releases from PWT Operations: PWT operations resulted in releases of hazardous substances to the environment through various means: drippage of treatment solutions onto the ground; spills of creosote or treatment solutions onto the ground; spills of granular PCP and stored wastewater onto the ground; and the discharge and/or leakage of wastewater, stormwater runoff, and spilled/leaked materials from the buried drain systems carrying them. Waste disposal methods used at the PWT facility also resulted in releases from an unlined surface impoundment (now covered over), a buried French drainage system routed toward Lake River and on-Site sludge incineration.

## D. <u>RCRA-Related Investigations</u>

1. <u>Investigations and Reports by PWT</u>: In November 1984, PWT submitted a Closure Plan to Ecology. A 1985 groundwater study identified two aquifers beneath the PWT Site: a shallow water table aquifer in the recent alluvium and a deeper alluvial aquifer in the Troutdale formation, which is semi-confined on the eastern portion of the Site. PCP and other hazardous substances were present in both aquifers at levels above U.S. Environmental Protection Agency (EPA) groundwater standards. A 1991 Phase II

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Site Investigation conducted by Hart Crowser investigated 10 EPA-identified waste management areas and identified PCP contamination on the LRIS in all 10 waste management areas. PWT hired Kleinfelder to complete a RCRA Facility Investigation required by a September 1991 administrative order issued by EPA.

- 2. Investigations and Reports by EPA and Ecology: A stormwater investigation conducted by Ecology in January 1989 showed high concentrations of PCP, polycyclic aromatic hydrocarbons (PAHs), and metals in PWT surface runoff, on-Site sediment catch basins, and some near-field sediments. A February 1991 EPA RCRA Preliminary Assessment report identified 10 waste management areas needing further characterization. EPA conducted a Site Assessment in June and July of 1995 that confirmed previous reports of contamination. A preliminary Human Health and Ecological Risk Assessment identified potential risks to human health and the environment through several exposure pathways.
- E. PWT Bankruptcy and Settlement. PWT and its parent company Niedermeyer-Martin declared bankruptcy in August 1993. The president of PWT, Edward Niedermeyer, also declared bankruptcy and is now deceased. A settlement between EPA, Ecology, and the PWT/Niedermeyer-Martin bankruptcy trustees resulted in the agencies obtaining \$1.8 million to be used for conducting cleanup activities and for natural resource damage assessment and restoration.
- F. Transfer to MTCA: The First Order. At the Port's request, and with concurrence from the EPA, oversight responsibility for the cleanup of the Site was transferred to Ecology.
- G. Based on credible evidence, Ecology issued a PLP status letter to the Port dated July 15, 1996, pursuant to RCW 70.105D.040, 70.105D.020(21), and WAC 173-340-500. By letter dated August 6, 1996, the Port voluntarily waived its rights to notice and comment and accepted Ecology's determination that the Port is a PLP under RCW 70.105D.040.

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- H. Based on credible evidence, Ecology issued a PLP status letter to the City dated April 3, 1997, pursuant to RCW 70.105D.040, 70.105D.020(21), and WAC 173-340-500. After providing for notice and opportunity to comment, reviewing any comments submitted, and concluding that credible evidence supported a finding of potential liability, Ecology issued a determination that the City is a PLP under RCW 70.105D.040 and notified the City of this determination by letter dated May 6, 1997.
- T. In September 1996, the Port entered into an Agreed Order with Ecology (the First Agreed Order, No. DE 96TC-S304) to conduct interim actions to address the Site's tank farm area. The First Agreed Order required the Port to: 1) address the stormwater system and contaminants leaving the Site via the outfalls; 2) remove/demolish tanks, retorts, ancillary equipment, chemicals and hazardous wastes, and the concrete containment wall in the former tank farm area; 3) characterize soil and groundwater in the former tank farm area and address free product if necessary; 4) clean up impacted soil from a historic granular PCP spill; and 5) assess recommendations from previous PWT Site studies. The Port carried out the work required by the First Agreed Order, including the removal of 100 tons of solid waste and 4,500 gallons of hazardous waste, and 158,000 gallons of wood treating chemicals left by PWT. Site characterization work completed by the Port under the First Agreed Order identified severe soil and groundwater contamination from historic spills and releases originating in the vicinity of the former PWT tank farm area. In the former tank farm area, impacts were found from the ground surface into groundwater and had migrated downward to a depth of greater than 60 feet. Mobile free product (non-aqueous phase liquid [NAPL]) had migrated on and in groundwater towards the RNWR.

Based on the magnitude of the contamination and the nature of the chemicals, Ecology proposed the use of steam enhanced remediation (SER) to remove mobile NAPL originating from the former tank farm area. Between late 1997 and 2000, the Port and Ecology worked toward the evaluation, design, and implementation of a steam-based remediation system. In the

interest of moving the steam enhanced remediation project forward, the Port: 1) characterized the extent of NAPL in the former tank farm area and between the former tank farm area and the RNWR; 2) selected a steam remediation service provider through a public bid process; 3) developed a steam remediation system conceptual design; and 4) prepared the *Final - Steam Enhanced Remediation of the Port of Ridgefield Lake River Industrial Site (Former Pacific Wood Treating Corporation Facility), Conceptual Design and Schedule*, dated July 2000 (Conceptual Design). Ecology reviewed and accepted the Conceptual Design in July 2000.

- J. Second Agreed Order. On September 24, 2001, the Port and Ecology signed a second Agreed Order (Agreed Order No. 01TCPSR-3119), which acknowledged completion of the First Agreed Order and required the Port to: 1) conduct Phase 1 of an interim/emergency action to remove NAPL from the axis of the NAPL plume and reduce the risk of further contaminant migration to the RNWR and groundwater beneath the Site; 2) remove free product, soil and groundwater contamination from the most highly contaminated portions of Cells 1 and 2 (the LRIS was divided into Cells 1 through 4 for prioritization of development activities); 3) continue work to improve stormwater quality; 4) demolish structures/buildings as needed to make the Site more accessible for characterization and remediation work in support of the interim/emergency action; and 5) conduct and prepare a Remedial Investigation/Risk Assessment/Feasibility Study of the Site.
  - 1. <u>SER Implementation</u>: Phase 1: On May 24, 2004, the Port began injecting steam into one steam injection well as part of the Phase 1 SER system. A total of six steam injection wells were online the week of January 24, 2005. Phase 1 operated for one year, from May 2004 to May 2005. Phase 2: On October 7, 2005, the Port completed the *Interim/Emergency Action Phase 2 Design Report* for the Phase 2 SER system. Phase 2 expanded the size of Phase 1 by five times. The goal of Phase 2 was to remove mobile NAPL the source of ongoing groundwater contamination, and to remove mobile contaminants from soil and groundwater leaving only immobile and/or

non-leachable contaminants that would remain bound in soil. The Phase 2 well field was divided into four areas and treatment occurred sequentially in Areas 1 through 4. Phase 2 operations occurred from March 2006 through June 2011, which included a polish stage to treat previously steamed areas to remove any remaining NAPL. Concentrations of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) had been reduced in groundwater on average by approximately 99 percent and 98 percent within the SER area. Based on performance of the system in Phases 1 and 2 and the absence of NAPL in the polishing phase, it was determined that the SER system had reached a point of diminishing returns, and with Ecology approval, the system operation was discontinued. The SER system removed approximately 24,800 gallons of NAPL, disposed of over 500 tons of contaminated sludge, and treated approximately over one million gallons of groundwater.

- 2. <u>Interim Actions</u>: Multiple interim actions were conducted throughout the LRIS, including: removal of free product; removal of highly contaminated soil and groundwater; replacement of the stormwater system; demolition of historical PWT structures and buildings; and soil cap installation. Description of interim actions is provided in the PWT Site RI/FS.
- 3. <u>PWT Site RI/FS</u>: An RI/FS for the PWT Site was submitted to Ecology on July 1, 2013, and approved for public comment on June 19, 2013. The report summarized the nature and extent of the Site, interim action work completed, evaluation of remedial alternatives, and the preferred remedial alternatives for the LRIS and sediments in Lake River and Carty Lake.

## VI. WORK TO BE PERFORMED

This Decree contains a program designed to protect human health and the environment from the known release, or threatened release, of hazardous substances or contaminants at, on, or from the Property. To effectuate the work to be performed under this Decree in the most

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efficient manner, the Parties agree that the Port will take the lead in performing various aspects of the work required under this Decree. Language in this Decree, and the exhibits attached hereto, may reflect this agreement. However, the PLPs remain strictly, jointly, and severally liable for the performance of any and all obligations under this Decree.

- A. The Port shall implement the Cleanup Action Plan (CAP) for the Property, which is attached hereto as Exhibit A, and is an integral and enforceable part of the Consent Decree. The Port shall implement the CAP in accordance with the Project Schedule, Exhibit C.
- B. The CAP describes interim actions completed at the Property which are considered part of the final remedial action for the Property. The CAP also requires the Port to complete remedial actions at the Property. The remedial actions required to be completed generally include:
  - Groundwater monitoring will continue at existing monitoring wells to assess natural contaminant attenuation rates and verify that contaminants are not migrating. Starting in August 2013, groundwater samples will be collected from 18 monitoring wells, on a semiannual basis for a minimum of two years, and then every 18 months thereafter. After year six, the monitoring program may be modified to collect samples from fewer wells or at lesser frequency upon Ecology approval.
  - An environmental covenant will be recorded after completing soil capping measures that will: prohibit groundwater use; require measures to protect future buildings at the Property from vapor migration, and, require adherence to a soil management and cap maintenance plan for the protection and maintenance of surface capping and management of residual contaminated soils during redevelopment or subsurface work. A comprehensive operations and maintenance plan will be submitted to Ecology (see Exhibit C) no later than the effective date of the environmental covenant.

- The Port Railroad Avenue and the Railroad Overpass properties will be capped in accordance with CAP requirements. Compliance and protection monitoring will take place as part of construction oversight during cap implementation.
- In Lake River, sediments above remediation levels will be removed via mechanical dredging; dredged areas will be covered with clean sand to manage residuals. In addition, remaining sediments above cleanup levels will be covered with clean sand to enhance natural recovery processes. Long-term monitoring of dioxins in the remedial action area will verify natural attenuation. Armor will be applied to the lower bank portions (adjacent to dredged areas).
- In Carty Lake, sediments above remediation levels will be removed via mechanical dredging; dredged areas will be covered with clean sand to manage residuals. Long-term monitoring of dioxins will verify natural attenuation. An institutional control will be implemented as described in the CAP (Exhibit A).
- C. The Defendants agree not to perform any remedial actions outside the scope of this Decree unless the Parties agree to modify the CAP and Project Schedule (Exhibit C) to cover these actions. All work conducted by the Defendants under this Decree shall be done in accordance with Chapters 173-340 and 173-204 WAC unless otherwise provided herein.
- D. If, at any time after the first exchange of comments on drafts, Ecology determines that insufficient progress is being made in the preparation of any of the deliverables required by the CAP, Ecology may complete and issue the final deliverable as follows: Ecology will provide written notice to the Parties that they have thirty (30) days to demonstrate sufficient progress in preparation of the required deliverable(s) and will include a description of the alleged deficiency. If, in Ecology's estimation, the Parties fail to demonstrate sufficient

1	progress within thirty (50) days, Ecology may then complete and issue the iniai deriverable.
2	Ecology need only provide an opportunity to cure once per deliverable.
3	E. The Defendants have agreed, for the purposes of the work to be performed on
4	the Property under this Consent Decree, to accept the cleanup standards and points of
5	compliance selected by Ecology in the CAP (Exhibit A). The Defendants reserve all of their
6	rights to assert in the future that different cleanup standards or points of compliance are
7	appropriate for portions of the Site that are not part of the Property. Ecology agrees that the
8	Defendants' acceptance of the cleanup standards and points of compliance for the Remedial
9	Action required by this Consent Decree are not binding on the Defendants or otherwise
10	precedential at any other site, other work at this Site beyond the Work to be Performed on the
11	Property under this Consent Decree, or in any other circumstances except the implementation of
12	the Work to be Performed under this Consent Decree.
13	VII. DESIGNATED PROJECT COORDINATORS
14	The project coordinator for Ecology is:
15	Craig Rankine
16	Cleanup Project Manager Department of Ecology, Toxics Cleanup Program
17	Vancouver Field Office 2108 Grand Blvd.
18	Vancouver, WA 98661 (360) 690-4795
19	The project coordinator for the Defendants is:
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21	Brent Grening Chief Executive Officer
22	Port of Ridgefield P.O. Box 297
23	Ridgefield, WA 98642 (360) 887-3873
24	Each project coordinator shall be responsible for overseeing the implementation of this
25	Decree. Ecology's project coordinator will be Ecology's designated representative for the Site.
26	To the maximum extent possible, communications between Ecology and the Defendants and all

documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Decree shall be directed through the project coordinators. The project coordinators may designate, in writing, working level staff contacts for all or portions of the implementation of the work to be performed required by this Decree.

Any party may change its respective project coordinator. Written notification shall be given to the other party at least ten (10) calendar days prior to the change.

## VIII. PERFORMANCE

All geologic and hydrogeologic work performed pursuant to this Decree shall be under the supervision and direction of a geologist or hydrogeologist licensed in the State of Washington or under the direct supervision of an engineer registered by the State of Washington, except as otherwise provided for by Chapters 18.220 and 18.43 RCW.

All engineering work performed pursuant to this Decree shall be under the direct supervision of a professional engineer registered by the State of Washington, except as otherwise provided for by RCW 18.43.130.

All construction work performed pursuant to this Decree shall be under the direct supervision of a professional engineer or a qualified technician under the direct supervision of a professional engineer. The professional engineer must be registered by the State of Washington, except as otherwise provided for by RCW 18.43.130.

Any documents submitted containing geologic, hydrologic, or engineering work shall be under the seal of an appropriately licensed professional as required by Chapters 18.220 and 18.43 RCW.

The Defendants shall notify Ecology in writing of the identity of any engineer(s) and geologist(s), hydrogeologist(s), contractor(s) and subcontractor(s), and others to be used in carrying out the terms of this Decree, in advance of their involvement at the Site.

## IX. ACCESS

Ecology or any Ecology authorized representative shall have access to enter and freely move about the Property that the Defendants either own, control, or have access rights to at all reasonable times for the purposes of, inter alia: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Decree; reviewing the Defendants' progress in carrying out the terms of this Decree; conducting such tests or collecting such samples as Ecology may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Decree; and verifying the data submitted to Ecology by the Defendants. The Defendants shall make all reasonable efforts to secure access rights for those properties within the Property not owned or controlled by the Defendants where remedial activities or investigations will be performed pursuant to this Decree. Ecology or any Ecology authorized representative shall give reasonable notice before entering any property within the Property owned or controlled by the Defendants unless an emergency prevents such notice. All Parties who access the Property pursuant to this section shall comply with any applicable health and safety plan(s). Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Property access.

## X. SAMPLING, DATA SUBMITTAL, AND AVAILABILITY

With respect to the implementation of this Decree, the Defendants shall make the results of all sampling, laboratory reports, and/or test results generated by it or on its behalf concerning this Decree available to Ecology. Pursuant to WAC 173-340-840(5), all such sampling data shall be submitted to Ecology in both printed and electronic formats in accordance with Section XI (Progress Reports), Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

If requested by Ecology, the Defendants shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by the Defendants

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pursuant to the implementation of this Decree. The Defendants shall notify Ecology seven (7) days in advance of any sample collection or work activity at the Property. Ecology shall, upon request, allow the Defendants and/or their authorized representative to take split or duplicate samples of any samples collected by Ecology pursuant to the implementation of this Decree, provided that doing so does not interfere with Ecology's sampling. Without limitation on Ecology's rights under Section IX (Access), Ecology shall notify the Defendants prior to any sample collection activity unless an emergency prevents such notice.

In accordance with WAC 173-340-830(2)(a), all hazardous substance analyses shall be conducted by a laboratory accredited under Chapter 173-50 WAC for the specific analyses to be conducted, unless otherwise approved by Ecology.

## XI. PROGRESS REPORTS

The Defendants shall submit to Ecology written monthly Progress Reports that describe the actions taken during the previous month to implement the requirements of this Decree. The Progress Reports shall include the following:

- A. A list of on-site activities that have taken place during the month;
- B. Detailed description of any deviations from required tasks not otherwise documented in project plans or amendment requests;
- C. Description of all deviations from the Scope of Work (Work to be Performed, Section VI) and Project Schedule (Exhibit C) during the current month and any planned deviations in the upcoming month;
- D. For any deviations in schedule, a plan for recovering lost time and maintaining compliance with the schedule;
- E. All raw data (including laboratory analyses) received by the Defendants during the past month and an identification of the source of the sample; and
  - F. A list of deliverables for the upcoming month if different from the schedule.

All Progress Reports shall be submitted by the seventeenth (17th) day of the month in which they are due after the effective date of this Decree. Unless otherwise specified, Progress Reports and any other documents submitted pursuant to this Decree shall be sent by certified mail, return receipt requested, to Ecology's project coordinator.

## XII. RETENTION OF RECORDS

During the pendency of this Decree, and for ten (10) years from the date this Decree is no longer in effect as provided in Section XXIX (Duration of Decree), the Defendants shall preserve all records, reports, documents, and underlying data in its possession relevant to the implementation of this Decree and shall insert a similar record retention requirement into all contracts with project contractors and subcontractors. Upon request of Ecology, the Defendants shall make all records available to Ecology and allow access for review within a reasonable time.

Nothing in this Decree is intended by the Defendants to waive any right they may have under applicable law to limit disclosure of documents protected by applicable privilege including but not limited to the attorney work-product privilege and/or the attorney-client privilege. If the Defendants withhold any requested records based on an assertion of privilege, the Defendants shall provide Ecology with a privilege log specifying the records withheld and the applicable privilege. No Site-related data collected pursuant to this Decree shall be considered privileged.

## XIII. TRANSFER OF INTEREST IN PROPERTY

No voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Property shall be consummated by the Defendants without provision for continued operation and maintenance of any soil/sediment cover, containment system, treatment system, and/or monitoring system installed or implemented pursuant to this Decree.

Prior to the Defendants' transfer of any interest in all or any portion of the Property, and during the effective period of this Decree, the Defendants shall provide a copy of this Decree to any prospective purchaser, lessee, transferee, assignee, or other successor in said interest; and, at least thirty (30) days prior to any transfer, the Defendants shall notify Ecology of said transfer. Upon transfer of any interest, the Defendants shall notify all transferees of the restrictions on the activities and uses of the property under this Decree and incorporate by reference any such use restrictions into the transfer documents.

#### XIV. RESOLUTION OF DISPUTES

- A. In the event a dispute arises as to an approval, disapproval, proposed change, or other decision or action by Ecology's project coordinator, or an itemized billing statement under Section XXIV (Remedial Action Costs), the Parties shall utilize the dispute resolution procedure set forth below.
  - 1. Upon receipt of Ecology's project coordinator's written decision, or the itemized billing statement, the Defendants have fourteen (14) days within which to notify Ecology's project coordinator in writing of their objection to the decision or itemized statement.
  - 2. The Parties' project coordinators shall then confer in an effort to resolve the dispute. If the project coordinators cannot resolve the dispute within fourteen (14) days, Ecology's project coordinator shall issue a written decision.
  - 3. The Defendants may then request regional management review of the decision. This request shall be submitted in writing to the Southwest Region, Toxics Cleanup Program Section Manager within seven (7) days of receipt of Ecology's project coordinator's written decision.
  - 4. Ecology's Regional Section Manager shall conduct a review of the dispute and shall endeavor to issue a written decision regarding the dispute within thirty (30) days of the Defendants' request for review.

- 5. If the Defendants find Ecology's Regional Section Manager's decision unacceptable, the Defendants may then request final management review of the decision. This request shall be submitted in writing to the Toxics Cleanup Program Manager within seven (7) days of receipt of the Regional Section Manager's decision.
- 6. Ecology's Toxics Cleanup Program Manager shall conduct a review of the dispute and shall endeavor to issue a written decision regarding the dispute within thirty (30) days of the Defendants' request for review of the Regional Section Manager's decision. The Toxics Cleanup Program Manager's decision shall be Ecology's final decision on the disputed matter.
- В. If Ecology's final written decision is unacceptable to the Defendants, the Defendants have the right to submit the dispute to the Court for resolution. The Parties agree that one judge should retain jurisdiction over this case and shall, as necessary, resolve any dispute arising under this Decree. In the event the Defendants present an issue to the Court for review, the Court shall review the action or decision of Ecology on the basis of whether such action or decision was arbitrary and capricious and render a decision based on such standard of review.
- C. The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used. Where either party utilizes the dispute resolution process in bad faith or for purposes of delay, the other party may seek sanctions.
- D. Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Decree, unless Ecology agrees in writing to a schedule extension or the Court so orders.

#### XV. AMENDMENT OF DECREE

The project coordinators may agree to minor changes to the work to be performed without formally amending this Decree. Minor changes will be documented in writing by Ecology.

Substantial changes to the work to be performed shall require formal amendment of this Decree. This Decree may only be formally amended by a written stipulation among the Parties that is entered by the Court, or by order of the Court. Such amendment shall become effective upon entry by the Court. Agreement to amend the Decree shall not be unreasonably withheld by any party.

The Defendants shall submit a written request for amendment to Ecology for approval. Ecology shall indicate its approval or disapproval in writing and in a timely manner after the written request for amendment is received. If the amendment to the Decree is a substantial change, Ecology will provide public notice and opportunity for comment. Reasons for the disapproval of a proposed amendment to the Decree shall be stated in writing. If Ecology does not agree to a proposed amendment, the disagreement may be addressed through the dispute resolution procedures described in Section XIV (Resolution of Disputes).

## XVI. EXTENSION OF SCHEDULE

A. An extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion, generally at least thirty (30) days prior to expiration of the deadline for which the extension is requested, and good cause exists for granting the extension. All extensions shall be requested in writing. The request shall specify:

- 1. The deadline that is sought to be extended;
- 2. The length of the extension sought;
- 3. The reason(s) for the extension; and
- 4. Any related deadline or schedule that would be affected if the extension were granted.

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- B. The burden shall be on the Defendants to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. Good cause may include, but may not be limited to:
  - 1. Circumstances beyond the reasonable control and despite the due diligence of the Defendants including delays caused by unrelated third parties or Ecology, such as (but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by the Defendants.
  - 2. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other unavoidable casualty; or
    - 3. Endangerment as described in Section XVII (Endangerment).

However, neither increased costs of performance of the terms of this Decree nor changed economic circumstances shall be considered circumstances beyond the reasonable control of the Defendants.

- C. Ecology shall act upon any written request for extension in a timely fashion. Ecology shall give the Defendants written notification of any extensions granted pursuant to this Decree. A requested extension shall not be effective until approved by Ecology or, if required, by the Court. Unless the extension is a substantial change, it shall not be necessary to amend this Decree pursuant to Section XV (Amendment of Decree) when a schedule extension is granted.
- D. An extension shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. Ecology may grant schedule extensions exceeding ninety (90) days only as a result of:
  - 1. Delays in the issuance of a necessary permit which was applied for in a timely manner;
    - 2. Other circumstances deemed exceptional or extraordinary by Ecology; or

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## 3.

## . Endangerment as described in Section XVII (Endangerment).

#### XVII. ENDANGERMENT

In the event Ecology determines that any activity being performed at the Property under this Decree is creating or has the potential to create a danger to human health or the environment, Ecology may direct the Defendants to cease such activities for such period of time as it deems necessary to abate the danger. The Defendants shall immediately comply with such direction.

In the event the Defendants determine that any activity being performed at the Property under this Decree is creating or has the potential to create a danger to human health or the environment, the Defendants may cease such activities. The Defendants shall notify Ecology's project coordinator as soon as possible, but no later than twenty-four (24) hours after making such determination or ceasing such activities. Upon Ecology's direction, the Defendants shall provide Ecology with documentation of the basis for the determination or cessation of such activities. If Ecology disagrees with the Defendants cessation of activities, it may direct the Defendants to resume such activities.

If Ecology concurs with or orders a work stoppage pursuant to this section, the Defendants' obligations with respect to the ceased activities shall be suspended until Ecology determines the danger is abated, and the time for performance of such activities, as well as the time for any other work dependent upon such activities, shall be extended, in accordance with Section XVI (Extension of Schedule), for such period of time as Ecology determines is reasonable under the circumstances.

Nothing in this Decree shall limit the authority of Ecology, its employees, agents, or contractors to take or require appropriate action in the event of an emergency.

## XVIII. COVENANT NOT TO SUE

A. As of the date of entry of this Decree, remedial action for different portions of the Site has been proceeding on different schedules. A Final RI/FS Report has been completed

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and approved by Ecology with respect to the Property, which is a source area of contamination. Similar documents have not yet been completed with respect to the rest of the Site. Given this, Ecology has determined that cleanup of the Site will occur in the most expeditious manner if remedy selection for, and cleanup of, the Property moves forward now, rather than waiting until documentation is completed and further characterization can be conducted for the rest of the Site. So that the Defendants may proceed with remedial action on the Property as soon as possible, this Decree provides the following Covenant Not to Sue to the Defendants only for the Property portion of the Site. Ecology and the Defendants anticipate amending this Covenant Not to Sue to add the rest of the Site to this Covenant Not to Sue when Ecology has made cleanup action decision(s) for the remainder of the Site.

B. In consideration of the Defendants' compliance with the terms and conditions of this Decree, Ecology covenants not to institute legal or administrative actions against the Defendants regarding the release or threatened release of hazardous substances covered by this Decree.

This Covenant Not to Sue covers only the Property specifically identified in the Site Diagram (Exhibit B) and those hazardous substances that Ecology knows are located at the Property as of the date of entry of this Decree. This Covenant Not to Sue does not cover any other hazardous substance or area beyond the Property, with the exception of any remedial actions beyond the Property that are provided for in the CAP (Exhibit A). Ecology retains all of its authority relative to any substance or area not covered by this Covenant Not to Sue.

This Covenant Not to Sue shall have no applicability whatsoever to:

- 1. Criminal liability;
- 2. Liability for damages to natural resources; and
- 3. Any Ecology action, including cost recovery, against PLPs not a party to this Decree.

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If factors not known at the time of entry of the settlement agreement are discovered and present a previously unknown threat to human health or the environment, either Party may petition the Court to amend this Covenant Not to Sue, pursuant to RCW 70.105D.040(4)(c).

- C. <u>Reopeners</u>: Ecology specifically reserves the right to institute legal or administrative action against the Defendants to require them to perform additional remedial actions at the Property and to pursue appropriate cost recovery, pursuant to RCW 70.105D.050, under the following circumstances:
  - 1. Upon the Defendants failure to meet the requirements of this Decree, including, but not limited to, failure of the remedial action to meet the cleanup standards identified in the CAP (Exhibit A);
  - 2. Upon Ecology's determination that remedial action beyond the terms of this Decree is necessary to abate an imminent and substantial endangerment to human health or the environment;
  - 3. Upon the availability of new information regarding factors previously unknown to Ecology, including the nature or quantity of hazardous substances at the Property, and Ecology's determination, in light of this information, that further remedial action is necessary at the Property to protect human health or the environment; or
  - 4. Upon Ecology's determination that additional remedial actions are necessary to achieve cleanup standards within the reasonable restoration time frame set forth in the CAP.
- D. Except in the case of an emergency, prior to instituting legal or administrative action against the Defendants pursuant to this section, Ecology shall provide the Defendants with fifteen (15) calendar days notice of such action.

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## XIX. CONTRIBUTION PROTECTION

With regard to claims for contribution against the Defendants, the Parties agree that the Defendants are entitled to protection against claims for contribution for matters addressed in this Decree within the Property as provided by RCW 70.105D.040(4)(d).

## XX. LAND USE RESTRICTIONS

Ecology will prepare the Environmental (Restrictive) Covenant in consultation with Defendants, in form and substance agreed to by the Parties, consistent with WAC 173-340-440 and Chapter 64.70 RCW. Once signed by all appropriate parties, the Defendants shall record the Environmental (Restrictive) Covenant with the office of the Clark County Auditor within ten (10) days of completing soil capping measures outlined in the CAP. The Environmental (Restrictive) Covenant shall restrict future activities and uses of the Property as agreed to by Ecology and the Defendants. The Defendants shall provide Ecology with the original recorded Environmental (Restrictive) Covenant within thirty (30) days of the recording date.

## XXI. FINANCIAL ASSURANCES

Pursuant to WAC 173-340-440(11), the Defendants shall maintain sufficient and adequate financial assurance mechanisms to cover all costs associated with the operation and maintenance of the remedial action at the Property, including institutional controls, compliance monitoring, and corrective measures.

Within sixty (60) days of the effective date of this Decree, the Defendants shall submit to Ecology for review and approval an estimate of the costs that it will incur in carrying out the terms of this Decree, including operation and maintenance, and compliance monitoring. Within sixty (60) days after Ecology approves the aforementioned cost estimate, the Defendants shall provide proof of financial assurances sufficient to cover all such costs in a form acceptable to Ecology.

The Defendants shall adjust the financial assurance coverage and provide Ecology's project coordinator with documentation of the updated financial assurance for:

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A. Inflation, annually, within thirty (30) days of the anniversary date of the entry of this Decree; or if applicable, the modified anniversary date established in accordance with this section, or if applicable, ninety (90) days after the close of the Defendants' fiscal year if the financial test or corporate guarantee is used; and

B. Changes in cost estimates, within thirty (30) days of issuance of Ecology's approval of a modification or revision to the CAP that result in increases to the cost or expected duration of remedial actions. Any adjustments for inflation since the most recent preceding anniversary date shall be made concurrent with adjustments for changes in cost estimates. The issuance of Ecology's approval of a revised or modified CAP will revise the anniversary date established under this Section to become the date of issuance of such revised or modified CAP.

## XXII. INDEMNIFICATION

The Parties agree, to the extent permitted by law, to indemnify and save and hold each other, their employees, and agents harmless from any and all claims or causes of action (1) for death or injuries to persons, or (2) for loss or damage to property to the extent arising from or on account of acts or omissions of any individual party, its officers, employees, agents, or contractors in entering into and implementing this Decree. However, the Defendants shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action to the extent arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, in entering into or implementing this Decree.

## XXIII. COMPLIANCE WITH APPLICABLE LAWS

A. All actions carried out by the Defendants pursuant to this Decree shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits, except as provided in RCW 70.105D.090. The permits or other federal, state, or local requirements that the agency has determined are applicable and that are known at the time of entry of this Decree have been identified in the CAP (Exhibit A).

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B. Pursuant to RCW 70.105D.090(1), the Defendants are exempt from the procedural requirements of Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 RCW and of any laws requiring or authorizing local government permits or approvals. However, the Defendants shall comply with the substantive requirements of such permits or approvals. The exempt permits or approvals and the applicable substantive requirements of those permits or approvals, as they are known at the time of entry of this Decree, have been identified in the CAP (Exhibit A).

The Defendants have a continuing obligation to determine whether additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Decree. In the event either Ecology or the Defendants determine that additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Decree, it shall promptly notify the other party of this determination. Ecology shall determine whether Ecology or the Defendants shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, the Defendants shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation from those agencies of the substantive requirements those agencies believe are applicable to the remedial action. Ecology shall make the final determination on the additional substantive requirements that must be met by the Defendants and on how the Defendants must meet those requirements. Ecology shall inform the Defendants in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Decree. The Defendants shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

C. Pursuant to RCW 70.105D.090(2), in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70.105D.090(1) would result in the loss of approval from a federal agency that is

necessary for the State to administer any federal law, the exemption shall not apply and the Defendants shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70.105D.090(1), including any requirements to obtain permits.

#### XXIV. REMEDIAL ACTION COSTS

The Defendants shall pay to Ecology costs incurred by Ecology pursuant to this Decree and consistent with WAC 173-340-550(2). These costs shall include work performed by Ecology or its contractors for, or on, the Property under Chapter 70.105D RCW, including remedial actions and Decree preparation, negotiation, oversight, and administration. These costs shall include work performed both prior to and subsequent to the entry of this Decree. Ecology's costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2).

For all costs incurred, the Defendants shall pay the required amount within thirty (30) days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general statement of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Pursuant to WAC 173-340-550(4), failure to pay Ecology's costs, other than disputed costs, within ninety (90) days of receipt of the itemized statement of costs will result in interest charges at the rate of twelve percent (12%) per annum, compounded monthly.

In addition to other available relief, pursuant to RCW 70.105D.055, Ecology has authority to recover unreimbursed remedial action costs by filing a lien against real property subject to the remedial actions. The Defendants shall pay any disputed costs that remain after completion of the dispute resolution process set forth above within ninety (90) days of final decision by Ecology.

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(360) 586-6770

## XXV. IMPLEMENTATION OF REMEDIAL ACTION

If Ecology determines that the Defendants have failed without good cause to implement the remedial action, in whole or in part, Ecology may, after notice to the Defendants, perform any or all portions of the remedial action that remain incomplete. If Ecology performs all or portions of the remedial action because of the Defendants' failure to comply with their obligations under this Decree, the Defendants shall reimburse Ecology for the costs of doing such work in accordance with Section XXIV (Remedial Action Costs), provided that the Defendants are not obligated under this section to reimburse Ecology for costs incurred for work inconsistent with or beyond the scope of this Decree.

Except where necessary to abate an emergency situation, the Defendants shall not perform any remedial actions at the Property outside those remedial actions required by this Decree, unless Ecology concurs, in writing, with such additional remedial actions pursuant to Section XV (Amendment of Decree).

## XXVI. PERIODIC REVIEW

As remedial action, including but not limited to groundwater monitoring, continues at the Property, the Parties agree to review the progress of remedial action at the Property, and to review the data accumulated as a result of monitoring the Property as often as is necessary and appropriate under the circumstances. At least every five (5) years after the initiation of cleanup action at the Property the Parties shall meet to discuss the status of the Property and the need, if any, for further remedial action at the Property. At least ninety (90) days prior to each periodic review, the Defendants shall submit a report to Ecology that documents whether human health and the environment are being protected based on the factors set forth in WAC 173-340-420(4). Ecology reserves the right to require further remedial action at the Property under appropriate circumstances. This provision shall remain in effect for the duration of this Decree.

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(360) 586-6770

## XXVII. PUBLIC PARTICIPATION

A Public Participation Plan is required for this Property. Ecology shall review any existing Public Participation Plan to determine its continued appropriateness and whether it requires amendment, or if no plan exists, Ecology shall develop a Public Participation Plan alone or in conjunction with the Defendants. Ecology shall maintain the responsibility for public participation at the Property. However, the Defendants shall cooperate with Ecology, and shall:

- A. If agreed to by Ecology, develop an appropriate mailing list and prepare drafts of public notices and fact sheets at important stages of the remedial action, such as the submission of work plans, remedial investigation/feasibility study reports, cleanup action plans, and engineering design reports. As appropriate, Ecology will edit, finalize, and distribute such fact sheets and prepare and distribute public notices of Ecology's presentations and meetings.
- B. Notify Ecology's project coordinator prior to the preparation of all press releases and fact sheets, and before major meetings with the interested public and local governments concerning this Decree. Likewise, Ecology shall notify the Defendants prior to the issuance of all press releases and fact sheets, and before major meetings with the interested public and local governments concerning this Decree. For all press releases, fact sheets, meetings, and other outreach efforts by the Defendants concerning this Decree that do not receive prior Ecology approval, the Defendants shall clearly indicate to its audience that the press release, fact sheet, meeting, or other outreach effort was not sponsored or endorsed by Ecology.
- C. When requested by Ecology, participate in public presentations on the progress of the remedial action at the Property. Participation may be through attendance at public meetings to assist in answering questions, or as a presenter.
- D. When requested by Ecology, arrange and/or continue information repositories at the following locations:

1 2	1. Ridgefield Public Library 210 N. Main Avenue Ridgefield, WA 98642
3	2. Washington State Department of Ecology
4	Southwest Regional Office 300 Desmond Drive
5	Lacey, WA 98503
6	At a minimum, copies of all public notices, fact sheets, and documents relating to public
7	comment periods shall be promptly placed in these repositories. A copy of all documents
8	related to this Property shall be maintained in the repository at Ecology's Southwest Regional
9	Office in Lacey, Washington.
10	XXVIII. DURATION OF DECREE
11	The remedial program required pursuant to this Decree shall be maintained and
12	continued until the Defendants have received written notification from Ecology that the
13	requirements of this Decree have been satisfactorily completed. This Decree shall remain in
14	effect until dismissed by the Court. When dismissed, Section XIX (Covenant Not to Sue) and
15	Section XX (Contribution Protection) shall survive.
16	XXIX. CLAIMS AGAINST THE STATE
17	The Defendants hereby agree that they will not seek to recover any costs accrued in
18	implementing the remedial action required by this Decree from the State of Washington or any
19	of its agencies; and further, that the Defendants will make no claim against the State Toxics
20	Control Account or any local Toxics Control Account for any costs incurred in implementing
21	this Decree. Except as provided above, however, the Defendants expressly reserve their right to
22	seek to recover any costs incurred in implementing this Decree from any other PLP. This
23	section does not limit or address funding that may be provided under Chapter 173-322 WAC.
24	XXX. EFFECTIVE DATE
25	This Decree is effective upon the date it is entered by the Court.
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## If the Court withholds or withdraws its consent to this Decree, it shall be null and void 2 at the option of any party and the accompanying Complaint shall be dismissed without costs 3 and without prejudice. In such an event, no party shall be bound by the requirements of this 4 Decree. 5 6 STATE OF WASHINGTON, ROBERT W. FERGUSON DEPARMENT OF ECOLOGY Attorney General 7 8 IVÝ ANDERSON, WSBA #30652 9 JAMES J. PENDOWSKI Assistant Attorney General Program Manager Toxics Cleanup Program (360) 586-4619 10 (360) 407-717711 Date: 10/31/13 12 13 PORT OF RIDGEFIELD CITY OF RIDGEFIELD 14 15 PHILLIP M. MESSINA 16 Commissioner City Manager (360) 887-3873 (360) 887-3557 17 Date: 10.23.13 18 19 ENTERED this 5 day of November 20 /s/ ROBERT A. LEWIS 21 22 **JUDGE** Clark County Superior Court 23 24 25

XXXI. WITHDRAWAL OF CONSENT

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(360) 586-6770

## **EXHIBIT A**

**Cleanup Action Plan** 

## CLEANUP ACTION PLAN

## FORMER PACIFIC WOOD TREATING CO. SITE

111 WEST DIVISION STREET, RIDGEFIELD, WASHINGTON

FACILITY/SITE ID: 1019 CLEANUP SITE ID: 3020

OCTOBER 2013

Issued by: Washington State Department of Ecology Toxics Cleanup Program Southwest Regional Office Olympia, Washington

Exhibit A to Consent Decree between Washington State Department of Ecology, Port of Ridgefield, and City of Ridgefield

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# **ACRONYMS AND ABBREVIATIONS**

bgs below ground surface

bml below mudline CAP cleanup action plan

CFR Code of Federal Regulations

City of Ridgefield

COE U.S. Army Corps of Engineers

COMP Comprehensive Operations Maintenance Plan

CSM conceptual site model

CUL cleanup level CWA Clean Water Act

DAHP Washington State Department of Archeological and

Historic Preservation

DCA disproportionate cost analysis

dioxins

DNR Washington State Department of Natural Resources

DOT U.S. Department of Transportation Ecology Washington State Department of Ecology

EIC ecological indicator concentration
EMNR enhanced monitored natural recovery

ENR enhanced natural recovery
ESA Endangered Species Act

FRTR Federal Remediation Technologies Roundtable

FS feasibility study

FWPCA Federal Water Pollution Control Act

IHS indicator hazardous substance
LRIS Lake River Industrial Site
LWBZ lower water-bearing zone
MFA Maul Foster & Alongi, Inc.
MNR monitored natural recovery
MTCA Model Toxics Control Act
NAPL nonaqueous-phase liquid

NGVD National Geodetic Vertical Datum of 1929

ng/kg nanograms per kilogram

NMFS National Marine Fisheries Service

NOAA National Oceanic and Atmospheric Administration NPDES National Pollutant Discharge Elimination System

OHW ordinary high water

OSHA Occupational Safety and Health Administration

PAH polycyclic aromatic hydrocarbon

PCE tetrachloroethene
PCP pentachlorophenol
POC point of compliance

Port Port of Ridgefield

PQL practical quantitation limit

Property a portion of the former PWT site; the Property includes

the LRIS, Port-owned properties and nearby surface

water bodies Lake River and Carty Lake

PWT Pacific Wood Treating Co.

RCRA Resource Conservation and Recovery Act

RCW Revised Code of Washington

REL remediation level
RI remedial investigation
RMC Ridgefield Municipal Code

RNWR Ridgefield National Wildlife Refuge SEPA State Environmental Policy Act SER steam-enhanced remediation

SER area the portion of the LRIS where NAPL was present

Site former PWT site; the Site includes the LRIS, Port-owned

properties, upland off-property areas, and nearby surface

water bodies Lake River and Carty Lake

SMA Shoreline Management Act

SMCMP Soil Management and Cap Monitoring Plan

SMS sediment management standards SVOC semivolatile organic compound

TEQ toxicity equivalent

TPAH total PAHs

TSD treatment, storage, and disposal

UPRR Union Pacific Railroad

USC U.S. Code

USEPA U.S. Environmental Protection Agency

USFWS U.S. Fish and Wildlife Service UWBZ upper water-bearing zone VOC volatile organic compound

WAC Washington Administrative Code

WISHA Washington Industrial Safety and Health Administration

WWTP wastewater treatment plant

# 1 INTRODUCTION

This report presents the proposed cleanup action for a portion of the former Pacific Wood Treating Co. (PWT) site in Ridgefield, Washington (the Site) (see Figure 1-1). PWT operated a wood-treating facility from 1964 to 1993 at the Port of Ridgefield's (Port) Lake River Industrial Site (LRIS). This cleanup action plan (CAP) was prepared pursuant to the authority of Chapter 70.105D.050(1) of the Revised Code of Washington (RCW) and the requirements of the Washington State Model Toxics Control Act (MTCA) cleanup regulation, as established in Chapter 173-340-380 of the Washington Administrative Code (WAC 173-340). The CAP provides an overview of the PWT site history and environmental conditions, summarizes the cleanup action alternatives considered, and presents the proposed cleanup action for media containing concentrations of indicator hazardous substances (IHSs) that exceed relevant cleanup levels (CULs). The cleanup action decision is based on the former PWT site remedial investigation and feasibility study (RI/FS) report (Maul Foster & Alongi, Inc. [MFA], 2013a) and other relevant documents in the administrative record. The Pacific Wood Treating Site considered in this CAP includes the LRIS, the Port-owned properties, the adjacent upland off-property area, and sediment in nearby surface water bodies Lake River and Carty Lake (see Figure 1-2). This CAP describes the selected remedial actions for four of these five areas (the LRIS, the Port-owned properties, and sediment in nearby surface water bodies Lake River and Carty Lake). For purposes of the CAP these areas are defined as the "Property" (see Figure 1-2).

#### 1.1 Declaration

The remedies selected will be protective of both human health and the environment. The selected remedies are consistent with the State of Washington's preference for permanent solutions to the maximum extent practicable and provide for adequate action to ensure effectiveness of the remedial action.

# 1.2 Applicability

CULs specified in this CAP are applicable only to the Property. CULs were developed as part of an overall remediation process under Washington State Department of Ecology (Ecology) oversight and the authority of MTCA and sediment management standards (SMS), and should therefore not be considered as setting precedents for other sites.

#### 1.3 Administrative Record

The documents used to make the decisions discussed in this CAP are on file in the administrative record for the Site and are listed in the reference section. Multiple investigations have previously characterized the impacts associated with historical PWT operations. These investigations provide background information pertinent to the CAP. The former PWT site RI/FS (MFA, 2013a) captures the most recent understanding of the Site and summarizes the results of earlier environmental investigations conducted at the Site since 1985.

# 1.4 Cleanup Process

Cleanup conducted under the MTCA process requires the preparation of specific documents. Key documents and references to the applicable MTCA section requiring their completion are listed below, with descriptions of each task. Some project documents have been completed, and others will be developed as deliverables required under this CAP. All documents referenced here were, or will be, prepared by the Port. The schedule for submittal of the documents is provided in Section 9:

- The RI/FS report documents the investigations and evaluations conducted at the Site from the discovery phase to understanding the full extent of contamination and the issuance of the report. The RI collects and presents information on the nature and extent of contamination and the risks posed by the contamination. The FS subsequently presents and evaluates cleanup alternatives (WAC 173-340-350).
- The CAP sets CULs and standards for the Property and identifies the selected cleanup actions intended to achieve CULs (WAC 173-340-380). The CAP is issued by Ecology, and allows for public participation and opportunity for comment, as required by WAC 173-340-600.
- The Engineering Design Report outlines details of the selected cleanup action, including any engineered systems and design components from the CAP. Engineering Design Reports were completed for the LRIS under interim actions. Engineering Design Reports yet to be completed will be prepared by the Port and approved by Ecology. Public comment is optional (WAC 173-340-400).
- The Operation and Maintenance Plan(s) summarizes requirements for inspection and maintenance of cleanup actions. It includes actions required to operate and maintain equipment, structures, or other remedial systems (including management and maintenance of soil caps). In addition, compliance monitoring plans are an element of the Operation and Maintenance Plan and provide details on monitoring activities (if required) to ensure that cleanup actions are performing as intended. The operations, maintenance and monitoring documents will be included in the Comprehensive Operations Maintenance Plan (COMP) which is required under this CAP, and is to be prepared by the Port and approved by Ecology (WAC 173-340-400).
- The Cleanup Action Report is completed following implementation of the cleanup action(s) and provides details on the cleanup activities, along with documentation of adherence to or variance from goals set out in the CAP. The document is to be prepared by the Port and approved by Ecology (WAC 173-340-400).

# 2.1 Site Description and History

The former PWT site includes the LRIS, the Port-owned properties, the upland off-property area, and the nearby surface water bodies Lake River and Carty Lake (see Figure 1-2); note that boundaries shown in Figure 1-2 approximate the extent of soil and/or groundwater impacts related to historical PWT activities. These areas, for purposes of the RI/FS and the CAP, are defined as the "Site" and are briefly described below:

- LRIS—the LRIS consists of property formerly used by PWT, which operated a wood-treating facility, and includes four Port-owned areas designated as Cells 1, 2, 3, and 4 and the City of Ridgefield's (City) wastewater treatment plant (WWTP) within the Cell 2 boundary. Soil and groundwater on the LRIS were impacted by PWT's historical operations, and interim actions on the LRIS have been conducted.
- Port-owned properties—this area includes the Railroad Avenue properties, the marina property, and an area just south of the LRIS formerly part of McCuddy's marina that is in a planned overpass footprint. Soil has been impacted on these properties.
- Upland off-property area—this consists of an upland area of investigation primarily east (residential areas) and south of the LRIS (McCuddy's marina). These properties are not owned by the Port. Sources of chemicals in surface soil in the off-property are not well established and further characterization of surface soil is needed.
- Lake River—a river on the western property boundary of the LRIS. Sediment offshore of the LRIS in Lake River has been impacted by wood-treating-related chemicals.
- Carty Lake—a lake in the Ridgefield National Wildlife Refuge (RNWR) north and west
  of the LRIS. Sediment in Carty Lake just north of the LRIS has been impacted by
  wood-treating-related chemicals.

Four of these areas, the LRIS, Port-owned properties, Lake River, and Carty Lake (identified as the "Property" in this CAP) will be remedied as described herein. The upland off-property must be further characterized before decisions regarding cleanup actions can be made.

#### 2.1.1 LRIS

The approximately 40-acre LRIS is located within the Ridgefield city limits at 111 West Division Street, Ridgefield, Washington (Figure 1-2). The LRIS is the former location of the PWT facility; former operations involved pressure-treating wood products with oil-based treatment solutions and water-based mixtures. Constituents included creosote, pentachlorophenol (PCP), and water-based mixtures of copper, chromium, arsenic, and/or zinc. Interim actions completed on the LRIS included removal of the historical stormwater system, installation of a new stormwater system, soil

removal, steam-enhanced remediation (SER) treatment, and installation of a clean cap. Former and current LRIS features are shown on Figure 2-1.

The Port owns the LRIS, with one exception: a portion of the City's WWTP historically was part of the LRIS and falls within the Cell 2 boundary. PWT leased the LRIS from approximately 1964 until 1993, when PWT filed for bankruptcy and abandoned the LRIS. Historical uses of the cells are briefly described below.

Cells 1 and 2 were vacant or used for farmland before industrial use by PWT. Cell 1 contained the PWT tank farm, the retort area, and a boiler room. PCP normally was stored in the tank farm in Cell 1 as a 40 percent concentrate in "P9 oil." The P9 oil consisted of diesel and about 10 percent long-chain alcohols and ketones. When used, the PCP concentrate was typically mixed with additional P9 oil, or occasionally with mineral spirits. PWT also used copper naphthenate as an alternative to PCP. Other wood-treating chemicals used include Woodgard<sup>TM</sup> and Fyrgard<sup>TM</sup>. Woodgard consists of boric acid and paraffin wax in hexylene glycol. Fyrgard consists of ammonium phosphate, ammonium sulfate, boric acid, and borax in a water-based carrier. Cell 2 formerly was used by PWT for wood-manufacturing operations, and also contained features such as PWT's WWTP and the concrete pond stormwater feature. Before the 1980s, the concrete pond was used to trap and collect spills that had entered the stormwater system. In the 1980s, the WWTP was constructed and used to treat wastewater generated by PWT. The WWTP was operated until 1993, when PWT abandoned its operations. The tank farm, boiler room, retorts, and PWT's WWTP were demolished by the Port, with Ecology's oversight.

Before PWT's operations, the area now designated as Cell 3 was used as part of general shingle and sawmill operations. PWT used Cell 3, which it also referred to as the south pole yard, to store treated poles and dimensional lumber. Until 1988, PWT allowed preservative to drip directly onto the ground. In 1988, PWT installed a drip trough (see Figure 2-1), as a step to capture excess preservative from poles before their placement in Cell 3.

Before PWT's operations, the area now designated as Cell 4 was used for farming. PWT used Cell 4 to store untreated wood and operated a peeler, to debark poles, from approximately 1966 to 1993. Impacts to surface soil in Cell 4 were likely the result of vehicles tracking chemicals from other parts of the LRIS.

# 2.1.2 Port-Owned Properties

Port-owned properties adjacent to the LRIS include the Railroad Avenue, the Port marina, and the proposed overpass properties. The Railroad Avenue properties consist of two parcels oriented north-south and located along Railroad Avenue just east of Cell 3. These properties are located uphill of the LRIS and are undeveloped at this time. The Port-owned marina property immediately south of the LRIS includes a boat launch, parking, and landscaped areas. The overpass area was formerly part of the McCuddy's marina and includes the footprint of a planned overpass development.

# 2.1.3 Upland Off-Property

The upland off-property area is adjacent to the LRIS and features substantial development and minimal viable ecological habitat (see Figure 1-2). These areas are not owned by the Port and investigations identified soil impacts in the following areas:

- McCuddy's marina (south of LRIS and Port marina property): The approximately 5.3acre, privately owned marina is located at 5 West Mill Street. McCuddy's Ridgefield
  Marina, the current operator, also leases approximately 11.04 acres in Lake River from
  the Washington State Department of Natural Resources (DNR).
- Residential off-property area (east of LRIS Cells 2 and 3 and Port-owned Railroad Avenue properties): The remaining off-property area east of the LRIS is zoned lowdensity residential and is located uphill of the LRIS and includes approximately six blocks.

The residential off-property area and McCuddy's marina are defined as areas in which concentrations exceed existing Method B soil CULs for dioxins (final CULs have not been established). As described in the RI/FS (MFA, 2013a), further characterization may be conducted under an agreed order between the Port and Ecology to evaluate risk to human health. Therefore, these areas are not further discussed here in this CAP.

#### 2.1.4 Lake River

The lower Columbia River extends 146 river miles from Bonneville Dam to the Pacific Ocean. Elongated islands frequently divide the Columbia River and form sloughs, side channels, and adjacent lakes. Lake River is a side channel of the Columbia River and lies within the lower Columbia River west of Ridgefield, Washington, near the confluence of the Columbia River and the Lewis River. The National Wetlands Inventory has classified Lake River as a riverine, tidal, unconsolidated bottom, permanent tidal habitat.

Lake River is a slow moving, tidally influenced, 11-mile-long channel and is hydraulically connected at its mouth to the Columbia River, as well as through Bachelor Island Slough approximately 1 mile upstream of the mouth and through a tide gate/flushing structure along the western shoreline of Vancouver Lake. Lake River originates at Vancouver Lake in Vancouver, Washington, to the south, runs parallel to the Columbia River, and merges with the Columbia at the northern tip of Bachelor Island (see Figure 1-2).

Lake River varies in width from approximately 100 feet to over 300 feet, and averages 10 feet deep or less. Where it is adjacent to the LRIS, Lake River is approximately 300 feet wide. Generally, steep banks occur on both sides and there is currently no emergent vegetation. Armoring and mature vegetation dominate the shoreline along the western side of the LRIS. In-water and overwater structures, including the Port's pump house, several piles, and a public access float dock, are located along the shoreline of the LRIS (MFA, 2013a). Sections of the RNWR River S and Carty Units border Lake River near the Site.

DNR owns the land beneath Lake River. The Port leases three areas in Lake River from the DNR: 0.17 acres at the Port's pump house (DNR lease 20-009196), 3.9 acres adjacent to Cell 3 (DNR lease 20-A09947), and 0.35 acres at the public access float dock adjacent to the Port marina property (DNR lease 20-012902). As described in Section 2.1.3, McCuddy's marina leases approximately 11.04 acres in Lake River; this area is south of the LRIS and the Port marina property.

Based on available information, maintenance dredging of Lake River by the U.S. Army Corps of Engineers (COE) was conducted in 1970. The COE is authorized to dredge a channel to a width of approximately 100 feet and a depth of 6 feet, and typically dredges 2 additional feet to account for refill. There are no current plans for COE dredge activities in Lake River in the near future; however, future dredging, if proposed by the COE, would necessarily require the standard permitting process including evaluation of dredge prims and the future leave surface.

# 2.1.5 Carty Lake

Carty Lake is a 52-acre, ponded wetland located in the RNWR Carty Unit (see Figure 1-2). The Carty Unit "lowlands" are immediately north of LRIS Cells 2 and west of Cell 4. The Carty Unit is also bordered by Lake River to the west, privately owned farmland and natural areas to the north, and Burlington Northern-Santa Fe railroad tracks to the east. During the rainy season, Gee Creek and Carty Lake can be hydraulically connected at the lake's northern end. During most of the year, Carty Lake has no outlet. Water levels in Carty Lake vary seasonally, and generally are higher during winter and spring and lower during summer and fall. The National Wetlands Inventory has classified Carty Lake as palustrine, unconsolidated bottom, permanent nontidal wetland, and Carty Lake contains Washington State-designated priority palustrine habitat.

#### 2.2 Environmental Conditions

The RI/FS (MFA, 2013a) provides a detailed summary of the RI and previous investigation results, and should be referenced for detailed information regarding the nature and extent of contaminants and risk associated with those contaminants.

#### 2.2.1 Soil

Soil characterization on the LRIS has been ongoing since 1991. Results are summarized in the RI/FS (MFA, 2013a). Metals, polycyclic aromatic hydrocarbons (PAHs), semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), PCP, petroleum hydrocarbons, and chlorinated dibenzo-p-dioxins and dibenzofurans (herein referred to as dioxins) were identified as IHSs. Interim actions have been conducted to address these impacts; these are considered the final cleanup actions. LRIS cleanup actions are discussed in Section 4.1

Investigations were conducted to characterize soil in Port-owned properties (i.e., Railroad Avenue, Port marina, and proposed overpass properties). Wood-treatment chemicals associated with historical PWT operations were largely undetected or occurred below levels expected to cause unacceptable human health or ecological risk. Dioxins were detected above levels protective of human health and ecological receptors and were thus selected as IHSs for the Port-owned properties.

#### 2.2.2 Groundwater

The following chemicals and metals were identified as IHSs in groundwater: chlorinated phenolics, PAHs, SVOCs, VOCs, dissolved arsenic, and petroleum hydrocarbons.

Concentrations of IHSs in groundwater beneath Cells 1, 2, and 3 and the RNWR (i.e., southern portion of Carty Lake) show stable or declining trends. Groundwater monitoring data indicate that interim action source control and reduction efforts in the former tank farm area were effective, and concentrations of IHSs in groundwater show stable or declining trends. Interim actions are described in Section 4.1 and current groundwater conditions are described in Section 4.1.1.

Investigations conducted in Cell 4 and the RNWR "S" Unit (across Lake River from the LRIS; see Figure 1-2) confirm that groundwater in these areas is not impacted (MFA, 2007, 2010, 2011a).

#### 2.2.3 Sediment

Surface and subsurface sediment testing was performed in Lake River and Carty Lake. Results are discussed in the RI/FS (MFA, 2013a) and the Lake River pre-design sampling results report (MFA, 2013b) and are briefly summarized below.

#### 2.2.3.1 Lake River

Dioxins exceeded screening criteria at multiple locations in sediment offshore of the LRIS. PCP, m&p-cresol, and total PAHs (TPAH) exceeded screening criteria in the subsurface at only two locations. Concentrations exceeding screening criteria are collocated with elevated dioxins, and the remedial action developed for dioxins is expected to address other elevated chemicals. Thus, only dioxins were selected as IHSs. Elevated concentrations of all constituents occur primarily in areas adjacent to LRIS outfalls, suggesting historical stormwater as the most significant transport pathway for site-related contaminants. Concentrations decrease substantially with distance from the outfalls and the shoreline, and the vertical extent of dioxin impacts is generally between one and 3 feet below mudline (bml).

## 2.2.3.2 Carty Lake

Metals (arsenic and chromium), PCP, and dioxins exceeded screening criteria in sediment; however, metals and PCP exceeded the criteria in only one location, where dioxins were also most elevated. The remedial action developed for dioxins is expected to address metals and PCP, and thus only dioxins were identified as IHSs.

Dioxins are most elevated in surface sediment in the southern portion of the lake and decrease substantially within approximately 100 feet. Dioxins in the surface sediment in the rest of the lake are generally somewhat elevated above screening criteria and are consistent in concentration. The vertical extent of dioxin impacts is limited, with the deepest impacted sample from 2 to 3 feet bml. The spatial distribution of impacts is consistent with the conceptual model that shows that the source of impacts is historical discharge and/or surface soil erosion from the upland LRIS.

# 2.3 Conceptual Site Model

The conceptual site model (CSM) describes the physical and chemical conditions on the Site (MFA, 2013a). The primary purpose of the CSM is to describe pathways by which human and ecological receptors may be exposed to site-related chemicals in the environment. According to the U.S. Environmental Protection Agency (USEPA) (1989), a complete exposure pathway consists of four necessary elements: (1) a source and mechanism of chemical release to the environment; (2) an environmental transport medium for a released chemical; (3) a point of potential contact with the impacted medium (referred to as the exposure point); and (4) an exposure route (e.g., incidental sediment ingestion) at the exposure point. A brief summary of the key elements of the CSM is provided below.

# 2.3.1 Sources and Transport

Suspected historical sources of soil and groundwater impacts at the LRIS include wood-treating chemicals and other substances that were used as part of wood-treating operations. Potential historical sources include: spills in the process areas in Cells 1 and 2 (i.e., tank farm, retorts, drip pad); incidental releases to surface soil in Cells 1, 2, and 3; releases to surface and subsurface soil during operation of the former drip trough in Cell 3; releases in Cell 3 (where treated wood was stored) to surface soil through drippage and washing by precipitation; and stormwater catchment discharge to soil and infiltration to groundwater.

Impacts observed on the Port-owned properties may be related to historical LRIS activities, but the proximate source(s) is not well established.

Sources to Lake River and/or Carty Lake include "washing" of treated wood via precipitation and subsequent stormwater discharge, operation of the drip trough in Cell 3, discharge of the concrete pond contents to stormwater outfall OF-3 on Lake River, and overwater activities, such as barge loading adjacent to Cell 3. In particular, historical stormwater inputs from LRIS outfalls and/or surface soil erosion from upland areas likely are contributing sources of contamination observed in nearshore Lake River sediment adjacent to the LRIS. In contrast, groundwater migration is not a significant process by which chemicals are transported to sediment or surface water; groundwater monitoring has indicated that IHSs are stable and/or decreasing and modeling has shown that contamination in groundwater does not discharge to surface water at levels above surface water quality criteria.

Anthropogenic sources (e.g., vehicle emissions, back-yard trash burning, structure fires, stormwater runoff, and other common events and activities that generate dioxins) may also impact the Property. Sources are further discussed in the RI/FS (MFA, 2013a).

The relative importance of transport mechanisms will vary, depending on the chemical and physical properties of a released contaminant. The properties of soil and sediment and the dynamics of groundwater flow also shape contaminant fate and transport. Potential contaminant transport mechanisms operating at the Property include direct discharge to soils, tracking of soil impacts by vehicles, leaching of chemicals in soil to groundwater, groundwater flow to surface water, outfall discharge to sediments, stormwater runoff to soils and/or sediments, soil erosion, atmospheric deposition to soils and/or sediments, chemicals in soil/groundwater volatilizing to air, wave

sediment erosion, propeller wash soils and/or sediment erosion, water current sediment erosion, groundwater infiltration, and food chain transfer originating from impacted media. Property-specific transport mechanisms are further discussed in the RI/FS (MFA, 2013a).

# 2.3.2 Exposure Scenarios—LRIS

The LRIS was first used for industrial purposes in the early 1900s. The LRIS is currently undeveloped except for one building that Port staff occupies. The LRIS is zoned by the City for waterfront mixed use and may be developed in the near future. Mixed use zoning provides for employment and light industrial uses; in-water uses and structures, upper-level residential; office and professional uses; retail and service uses; accompanied by open spaces and public waterfront access. Currently and in the future, the public may access a portion of the LRIS, and in the future, commercial operations, business workers, or residents may occupy the redeveloped property.

#### Soil

Scenarios by which human receptors may contact wood-treating chemicals in soil include onproperty commercial workers, construction workers, residents, and recreational users. There is also contact potential for terrestrial ecological receptors.

Commercial workers (i.e., Port staff) currently occupy the LRIS and are likely to occupy the LRIS in the future. There are currently no construction workers (e.g., excavation workers, trench workers) conducting activities on the LRIS. However, construction activities likely will be performed as part of property redevelopment. Residents may occupy the property in the future in upper level residences (i.e., there will be no single family dwellings with yards). Exposure to residents who live in upper level residences at this property is expected to be limited relative to default unrestricted land use assumptions. Recreational users may also access the property now and in the future. Potential exposure pathways for commercial or construction workers and recreational and residential users include direct skin contact with soil, incidental ingestion of soil, and inhalation of soil particulates.

Exposure to terrestrial ecological receptors is likely limited, given lack of quality habitat (e.g., minimal vegetation) (see Appendix B of the RI/FS (MFA, 2013a). Direct contact (soil ingestion/uptake, dermal contact, or inhalation) and secondary ingestion (consumption of prey by upper-trophic-level receptors) may occur.

#### Groundwater

Groundwater impacts have been identified in Cells 1, 2, and 3. Human receptors are unlikely to have direct exposure to IHSs in groundwater at the LRIS. Groundwater is not used for drinking, and it is unlikely that IHSs in groundwater will be transported to an aquifer that could be used for drinking water. The Port is ensuring that groundwater will not be used in the future by placing a restrictive covenant on the property deed restricting groundwater extraction for any purpose at the LRIS or the other Port-owned properties addressed in this document.

#### Vapor Intrusion

Volatile compounds in subsurface soil or in groundwater at the water table in Cells 1 and 2 have the potential to migrate toward the surface and enter any indoor air of buildings. Commercial workers would then have the potential to inhale the compounds. Indirect exposure to VOCs in subsurface soil or groundwater via inhalation is not considered a significant exposure pathway in Cells 3 and 4.

#### Surface Water

Two surface water bodies are adjacent to the LRIS: Lake River and Carty Lake. Property stormwater historically drained to catch basins by overland flow and discharged directly into Lake River. Upland remedial actions (i.e., soil capping and stormwater conveyance system replacement) have been completed to eliminate the transport of impacted stormwater to Lake River (MFA, 2013a). There are no complete pathways, via groundwater or stormwater overland flow, for IHSs to reach Carty Lake or Lake River.

### 2.3.3 Exposure Scenarios—Port-Owned Properties

Port-owned properties consist of waterfront mixed-use undeveloped land on Railroad Avenue, the Port-owned parking and landscaped areas (Port marina property), and the proposed overpass footprint (see Figure 1-2). Incidental ingestion of IHSs in soil was identified as the most significant potential exposure pathway for humans. Exposure to ecological receptors is limited, given the small size and lack of quality habitat in this area; however, ecological receptor direct contact (soil ingestion/uptake, dermal contact, or inhalation) and secondary ingestion (consumption of chemicals in plant material or prey by upper-trophic-level receptors) are considered complete pathways.

# 2.3.4 Exposure Scenarios—Lake River

Lake River offshore of the LRIS is a relatively shallow, slow-velocity river that is frequented by recreationists, ecological receptors, and occasionally fishers. The following exposure pathways and receptors were identified as potentially significant:

- Human direct contact with sediment and incidental sediment ingestion
- Human secondary ingestion (consumption of chemicals in tissue of aquatic biota)
- Fish uptake of chemicals in sediment
- Secondary ingestion by ecological receptors (consumption of chemicals in aquatic prey)

# 2.3.5 Exposure Scenarios—Carty Lake

Carty Lake is located on the RNWR north of Cell 2 and west of Cell 4. Carty Lake has limited recreational uses and no formal access; however, the RNWR could work with the Port to develop a loop trail adjacent to Carty Lake for public access from the Port LRIS property. Fishing in Carty Lake is currently uncommon; a few individuals have been observed fishing on an irregular and seasonal basis, but it is not known if fish are caught for consumption. However, there is potential for future wildlife refuge workers to be exposed to IHSs in sediment. For example, sediment disturbance and contact may occur during operations to remove red canary grass. In addition, the Cowlitz Tribe may choose to harvest and consume wapato from Carty Lake in the future. Ingestion of wapato grown in impacted sediment is not expected to be a significant future exposure pathway.

As described in the RI/FS (MFA, 2013a), studies have shown that dioxins are not likely to be incorporated into any substantial fraction of the edible plant material (Paustenbach et al., 2006). Carty Lake provides habitat for a variety of ecological receptors, including fish, birds, and mammals. The following exposure pathways and receptors were identified as potentially significant:

- Worker direct contact with sediment and incidental ingestion of sediment
- Human secondary ingestion (consumption of chemicals in tissue of aquatic biota)
- Fish uptake of chemicals in sediment
- Secondary ingestion by ecological receptors (consumption of chemicals in aquatic prey)

# 3 CLEANUP REQUIREMENTS

MTCA cleanup requirements provide that cleanup actions must comply with the following minimum regulatory requirements (WAC 173-340-360):

**Protect human health and the environment**—Cleanup actions that achieve CULs at the applicable point of compliance (POC) and comply with applicable laws are presumed to be protective of human health and the environment.

Comply with cleanup standards and applicable state and federal laws—The primary components of cleanup standards are CULs, remediation levels (RELs), and POCs (see WAC 173-340-700 through 760). CULs determine the concentration at which a substance does not threaten human health or the environment. All material that exceeds a CUL is addressed through a remedy that prevents exposure to the material. A REL defines the concentration of a hazardous substance in a particular medium above or below which a particular cleanup action component will be used. RELs, by definition, exceed CULs. POCs represent the locations on the Property where CULs must be met. Applicable or relevant and appropriate requirements based on federal and state laws are provided in WAC 173-340-710.

**Provide for compliance monitoring**—Each cleanup action must include plans for compliance monitoring to ensure that human health and the environment are protected during construction, operation, and maintenance activities; to confirm that the actions have attained cleanup standards, RELs, and other performance standards; and to confirm the long-term effectiveness of the action once cleanup standards, RELs, and other performance standards have been attained (see WAC 173-340-410 and 173-340-720 through 760).

Cleanup actions to be conducted for sediment must also be consistent with the SMS requirements in WAC 173-204-580(2).

The final CULs and POCs are presented below by Property areas and their associated media. Applicable federal, state, and local laws are presented in Section 3.2.

# 3.1 Cleanup Levels, Remediation Levels, and Points of Compliance

CULs and, if applicable, RELs, were developed for four areas of the Property; detailed information regarding the derivation of CULs and RELs is provided in the RI/FS (MFA, 2013a). CULs were developed consistent with MTCA and the SMS to be protective of human health and ecological receptors. CULs, RELs, and their respective POCs are summarized below. A summary of Property concentrations for all media relative to selected CULs is provided in Appendix A.

#### 3.1.1 LRIS

CULs for IHSs on the LRIS in soil and groundwater are summarized in Table 3-1. Standard Method B direct-contact CULs were applied to soil, with a few exceptions:

- Generic MTCA Method B CULs are not available for petroleum mixtures. The only standard CULs for petroleum mixtures are MTCA Method A unrestricted use values. Therefore, Method A soil CULs are used for petroleum hydrocarbon mixtures.
- The MTCA Method B direct-contact CUL (0.67 milligram per kilogram) for arsenic is below natural background concentrations in soil. Therefore, the natural background concentration of arsenic in Clark County of 5.81 milligrams per kilogram (Ecology, 1994) is used as the CUL.
- It was assumed that a hypothetical terrestrial ecological receptor could contact soil at the LRIS at some point in the future (A TEE is provided in Appendix B of the RI/FS [MFA, 2013a]). If available and more protective than MTCA Method B CULs, MTCA ecological indicator concentrations (EICs) protective of wildlife (i.e., risk based ecological factors) were selected as CULs. See Table 3-1 for chemicals with CULs based on EICs.

RELs may be used at sites where a combination of cleanup action components is used to achieve CULs at the POC. According to WAC 173-340-355(4), RELs may be defined as either a concentration or another method of identification of a hazardous substance. RELs were based on the MTCA Method C Carcinogen Industrial Land Use Table Value (direct contact). In addition, the presence of nonaqueous-phase liquid (NAPL) was set as an REL. The POC for human exposure via direct contact is 0 to 15 feet below ground surface (bgs) for soil throughout the property (WAC 173-340-740 (6)(d)).

Standard Method B CULs were applied to groundwater (see Table 3-1), with a few exceptions:

 Generic MTCA Method B CULs are not available for petroleum mixtures. The only standard CULs for petroleum mixtures are MTCA Method A values. Therefore, Method A groundwater CULs are used for petroleum hydrocarbon mixtures.

<sup>&</sup>lt;sup>1</sup> In determining the CUL, the rule typically looks to the more conservative of the risk based human health or ecological numeric criteria such that the CUL is protective of both endpoints. For purposes of this CAP, these numeric criteria are referred to as risk based human health and ecological factors.

- The MTCA Method B groundwater CUL for arsenic is below natural background concentrations in groundwater. The MTCA Method A groundwater CUL is based on naturally occurring arsenic throughout Washington; therefore, the Method A CUL of 5 micrograms per liter is used as the CUL.
- MTCA Method B groundwater CULs for the vapor intrusion pathway were used if MTCA Method A or B groundwater CULs were unavailable.

The POC for groundwater is the entire water-bearing zone—upper and lower (UWBZ and LWBZ, respectively)—at the site (WAC 173-340-720(8)(b)). Note sources to groundwater have been removed and monitoring has indicated groundwater concentrations are stable and/or decreasing. A conditional POC may be established if it is not practicable to meet the CUL throughout the Site within a reasonable restoration time frame (WAC 173-340-720(8)(c)). The conditional POC for groundwater is located in the UWBZ and the LWBZ along the LRIS perimeter. Groundwater flow beneath the LRIS is consistently east to west in both aquifer units (from the residential area above the LRIS towards Lake River) with a west-northwesterly groundwater flow trend from the northern portion of Cell 2. Groundwater contamination from the LRIS extends beyond the LRIS northern boundary at Cell 2 so the POC correspondingly extends to the edge of contamination in the RNWR. In addition, five monitoring wells will be monitored north of Cell 2 in the RNWR and one well on the southern boundary of Cell 3. POC monitoring wells include the following:

- Cell 2: MW-55, MW-55D, MW-55D, MW-56, MW-57S, MW-57D, MW-58D, and MW-62
- Cell 3: MW-29D, MW-45D, MW-46S, MW-46D, and MW-47D
- RNWR: RMW-2S, RMW-2D, MW-61, MW-63, and USDFW-1

# 3.1.2 Port-Owned Properties

Dioxins were identified as an IHS for the Railroad Avenue, Port-owned marina, and proposed overpass properties. The selected CULs are risk based factors protective of ecological receptors and are presented as a dioxin TEQ of 9.8 ng/kg and a furan TEQ of 11.4 ng/kg (see Table 3-2). As indicated in the TEE provided in Appendix B of the RI/FS (MFA, 2013a), there may be unacceptable risk if ecological receptors are exposed to soil on the Railroad Avenue property.

The MTCA Method B CUL for dioxin is 11 nanograms per kilogram (ng/kg) (TEQ). The exceedances of the MTCA Method B CUL protective of human health are colocated with exceedances of the selected CULs; therefore, remedy directed at addressing soil exceeding CULs is also expected to mitigate any unacceptable risk to human health. The POC for human exposure via direct contact is 0 to 15 feet bgs for soil (WAC 173-340-740 (6)(d)). The POC for ecological exposure is the biologically active zone of 0 to 6 feet bgs for soil (WAC 173-340-7490).

#### 3.1.3 Lake River

Dioxins were identified as an IHS for Lake River sediment. Risk-based factors protective of human health were developed for Lake River (MFA, 2013a).<sup>2</sup> The risk-based factor protective of human fish consumption is lower than natural background (2 ng/kg dioxin TEQ) and the practical quantitation limit (PQL) of 5 ng/kg dioxin TEQ (RI/FS—MFA, 2013a). WAC 173-340-700(6)(d) states that when risk-based factors are less than natural background levels or levels that can be reliably measured, then the CUL shall be established at a concentration equal to the PQL or natural background concentration, whichever is higher. Therefore, the selected CUL is 5 ng/kg dioxin TEQ. Compliance with the dioxin CUL is measured based on the surface-weighted average dioxin TEQ concentration of Lake River sediments within the Site.

Cleanup scenarios, based on various potential RELs, were evaluated in the RI/FS. An REL of greater than 30 ng/kg dioxin TEQ is selected based on an evaluation of feasibility, cost, and ability to meet cleanup levels through enhanced natural recovery for potential dredge scenarios (MFA, 2013b).

According to SMS requirements, the POC is represented by the biologically active sediment zone within the uppermost 10 centimeters bml. This includes protection from potential exposure to deeper contaminants or to contaminant migration.

# 3.1.4 Carty Lake

Dioxins were identified as an IHS for Carty Lake sediment. Evaluations of human fish consumption scenarios at Carty Lake indicate that a human health risk-based number<sup>3</sup> may be below natural background and the PQL. The dioxin CUL is therefore based on the PQL of 5 ng/kg dioxin TEQ (WAC 173-340-700(6d)).

Human activity at Carty Lake is currently minimal. Carty Lake is part of a national wildlife refuge and, as such, is an important resource for ecological receptors. The REL is therefore set at a level protective of ecological receptors, i.e., at the risk-based ecological factor for dioxin congeners.

According to SMS requirements, the POC is represented by the biologically active sediment zone within the uppermost 10 centimeters bml. This includes protection from potential exposure to deeper contaminants or to contaminant migration.

<sup>&</sup>lt;sup>2</sup> In determining the risk based factor, the rule looks to the more conservative of a human health factor or ecological congener-specific, factor. Ecological congener-specific factors protective of fish, bird, and mammal populations were developed (MFA, 2013a). The value protective of the most sensitive population was selected as the factor for each congener and is presented in Table 3-3. Those factors were less conservative than the developed human health factors. Therefore the human health factors were used as the risk-based factor in setting the sediment cleanup level.

<sup>&</sup>lt;sup>3</sup> In determining the risk based factor, the rule looks to the more conservative of a human health factor or ecological congener-specific, factor. Ecological congener-specific factors protective of fish, bird, and mammal populations were developed (MFA, 2013a). The value protective of the most sensitive population was selected as the factor for each congener and is presented in Table 3-4. Those factors were less conservative than the developed human health factors. Therefore the human health factors were used as the risk-based factor in setting the sediment cleanup level.

# 3.2 Applicable Federal, State, and Local Laws

In addition to the cleanup standards developed through MTCA, applicable laws and regulations must be considered in the selection and implementation of the cleanup action. MTCA requires the cleanup standards to be "at least as stringent as all applicable state and federal laws" (WAC 173-340-700(6)(a)). Besides establishing requirements for cleanup standards, applicable state and federal laws may impose procedural (permitting) requirements for performing cleanup actions (WAC 173-340-710). In other cases, the cleanup actions must comply with the substantive requirements of the law but are exempt from the procedural requirements of the law (RCW 70.105D.090; WAC 173-340-710(9).

For remedial actions conducted under a consent decree, order, or agreed order, MTCA provides an exemption from the procedural requirements of RCW 70.94 (Air), 70.95 (Solid Waste), 70.105 (Hazardous Waste), 75.20 (Hydraulic Permit), 90.48 (Water Quality), and 90.58 (Shorelands), and the procedural requirements of any laws requiring or authorizing local government permits or approvals (RCW 70.105D.090). Given the Port's existing agreed order with Ecology (Agreed Order No. 01TCPSR-3119) and the Consent Decree (which will be the administrative mechanism for implementing actions in this CAP), the cleanup actions meet the permit exemption provisions of MTCA, obviating compliance with procedural requirements of the various local and state regulations that would otherwise apply. Ecology is required to ensure compliance with the substantive provisions of RCW 70.94, 70.95, 70.105, 75.20, 90.48, and 90.58, and the substantive provisions of laws requiring or authorizing local government permits or approvals. Ecology makes the final decision regarding which substantive provisions are applicable.

Persons conducting remedial actions have a continuing obligation to determine whether additional permits or approvals are required, or whether substantive requirements for permits or approvals must be met. In the event that either the Port or Ecology becomes aware of additional permits or approvals or substantive requirements that apply to the remedial action, they shall promptly notify the other party of this knowledge (WAC 173-340-710(9)(e)).

Interim actions were conducted on the LRIS in accordance with Agreed Order No. 01TCPSR-3119 between the Port and Ecology. Emergency and interim actions conducted between 1996 and 2002 were completed by the Port under Agreed Order No. DE96TC-S304. Applicable laws and associated procedural and substantive requirements were met (MFA, 2013a and references therein).

Applicable local, state, and federal laws are evaluated in the RI/FS; those relevant to remedial actions to be conducted on Port-owned properties, Lake River, and Carty Lake are summarized below, and are developed to ensure conformance with the substantive provisions of these laws, regulations, and rules.

# 3.2.1 Applicable Federal Laws

U.S. Army Corps of Engineers Permitting Requirements—The COE requires that a dredge/fill permit be obtained consistent with Section 404 of the Federal Water Pollution Control Act (FWPCA) Amendments of 1972, commonly referred to as the Clean Water Act (CWA). A Nationwide Permit #38 will apply to this project as it is conducted under a MTCA consent decree for cleanup of hazardous and toxic waste. Ecology will also ensure the substantive requirements of

project certification under CWA Section 401 are met, although individual 401 review is not required with the nationwide permit #38 when the cleanup is being conducted under a MTCA consent decree. Section 10 of the Rivers and Harbors Act of 1899 (33 U.S. Code [USC] 403) prohibits the unauthorized obstruction or alteration of any navigable water of the United States. This section states that any other work affecting the course, location, condition, or physical capacity of U.S. waterways is unlawful unless the work has been permitted by the COE. Finally, Section 106 review processes are set forth in 36 Code of Federal Regulations (CFR) 800; Section 106 compliance is required, as state funds are being used to facilitate a portion of the cleanup and activities requiring a permit from COE are being conducted.

COE permitting to fulfill the requirements of CWA Section 404, Section 10 of the Rivers and Harbors Act, and federal requirements under Section 106, through the preparation of a Joint Aquatic Resources Permit Application, will be included in the implementation of all alternatives in conjunction with design. Because the dredged sediment will not be discharged to waters of the U.S. and no adverse effect on the historical integrity of the remedial action area is expected, approval of the action is expected, provided that the Endangered Species Act (ESA) consultation and the Section 401 Water Quality Certification are successfully completed.

Endangered Species Act and Biological Opinion—The COE's permitting requirements will prompt an ESA consultation with the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS), as this is typically requested by the COE for projects of this magnitude. A biological evaluation or assessment will be conducted to evaluate whether adverse or negative impacts to endangered species and their critical habitats are anticipated during or as a result of remedy implementation.

Clean Water Act—The objective of the CWA (33 USC 1251-1376 and 40 CFR 129 and 131) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The State of Washington has been delegated the authority to implement the CWA and has rules and regulations corresponding to all of those stated in the CWA. Consequently, for the Port, any discharges to surface water will be managed under the state program. The CWA sets forth a number of provisions that require the development of regulations to protect the quality of the nation's waters. Section 401 requests every applicant for a federal permit for any activity that may result in a discharge to a water body to obtain a certification from the state that the proposed activity will comply with state water quality standards. Ecology will ensure the substantive requirements of certification under CWA Section 401 are met, although individual 401 review is not required when the project is permitted under Nationwide Permit #38 and is being conducted under a consent decree. Water quality impacts resulting from the remedy will be further evaluated in the design phase. Best management practices may be required, along with water quality monitoring (i.e., turbidity monitoring), during all in-water work activity.

**Migratory Bird Treaty Act**—The federal Migratory Bird Treaty Act of 1918 makes it unlawful to kill migratory birds by any means unless permitted by regulations. Implementing the remedial action in conformance with MTCA and SMS will protect wildlife, including migratory birds. Additional consultation with the USFWS is recommended during construction planning because of the close proximity of the RNWR.

**Solid Waste Disposal Act**—The Solid Waste Disposal Act (42 USC 6921 Subtitle C) incorporated under the federal Resource Conservation and Recovery Act (RCRA, 40 CFR § 260 through 266) contains requirements for "cradle to grave" management of materials that meet the RCRA definition of hazardous waste and provides design standards for treatment, storage, and disposal (TSD) facilities. The soil and sediment data have been reviewed for waste designation purposes; no materials would be designated as either RCRA listed hazardous wastes or RCRA characteristic wastes. No consolidation or off-Property treatment is associated with the remedial action. No excavation, stockpiling, or sorting of soil and debris on the Property is subject to the TSD facility requirements.

Land-Disposal Restrictions—Land-disposal restrictions for RCRA wastes characterized as toxic (40 CFR § 268) require that the waste be treated to specified concentrations before placement in a land-based unit. Land-disposal restrictions would not apply to wastes removed from the Property, as soil and sediment data will be designated and disposed of as a nonhazardous waste.

U.S. Department of Transportation Hazardous Materials Regulations—The U.S. Department of Transportation (DOT) has published regulations, including requirements regarding communications and emergency response, shipping, and packaging (40 CFR 171 through 180), that govern the transportation of hazardous materials to or from the Property. The provisions of 40 CFR § 263 establish minimum standards that apply to persons transporting hazardous waste by air or water. DOT regulations would not apply to the Property, as soil and sediment data will be designated and disposed of as a nonhazardous waste.

National Ambient Air Quality Standards—The USEPA has established national ambient air quality standards for a variety of potentially airborne substances known as criteria pollutants. Criteria pollutants include carbon monoxide, nitrogen dioxide, ozone, lead, particulates smaller than 10 micrometers, and sulfur dioxide. The air emissions generated by handling soil and sediment upland at the Property are subject to applicable air-quality standards to control or prevent the emission of air contaminants. Based on the contaminants present at the Property, the applicable criteria pollutant at the Property would be particulate matter (dust).

Occupational Safety and Health Administration—Occupational Safety and Health Administration (OSHA) regulations pertaining to hazardous waste sites are addressed under 29 CFR 1910.120, the Hazardous Waste Operations and Emergency Response Standard. Regulations pertaining to construction, cleanup, and corrective actions will apply, unless the employer can demonstrate that the operations do not involve employee exposure, or the reasonable possibility of employee exposure, to safety or health hazards. All work will be performed under a project-specific health and safety plan in conformance with the applicable federal and state OSHA regulations.

Cultural Resources—The following federal laws and acts pertain to the protection of cultural resources: the Antiquities Act (1906) laid out penalties for the unauthorized excavation of archaeological sites and requires permits for excavations on federal lands; the 1966 National Historic Preservation Act (NHPA) requires federal agencies to address effects of their actions on significant cultural resources; the 1978 American Indian Religious Freedom Act (AIRFA) requires federal agencies to consult with traditional religious leaders on potential impacts to rights and practices (42 U.S.C. 1996); the 1979 Archaeological Resources Protection Act (ARPA) establishes protections for archaeological resources on federal and Tribal lands; the 1990 Native American Graves Protection

and Repatriation Act (NAGPRA) deals with the disposition of indigenous Tribal cultural items recovered on Tribal or Federal lands; and 36 CFR 79 (Curation of Federally Owned and Administered Archeological Collections) was codified in 1990 to "...establish definitions, standards, procedures and guidelines to be followed by Federal agencies to preserve collections of prehistoric and historic material remains, and associated records..." as stipulated in the Antiquities Act, the Reservoir Salvage Act, NHPA, and ARPA (36 CFR 79.1). Applicable federal laws are further detailed in the RI/FS (MFA, 2013a).

Work will be conducted under a project-specific cultural resource protection plan developed in coordination with and reviewed by affected Tribes.

# 3.2.2 Applicable State Laws

Sediment Management Standards—In Washington State, the SMS governs the investigation and cleanup of contaminated-sediment sites (WAC 173-204). The SMS includes procedures for conducting hazard assessments to identify cleanup sites, determining the appropriate site cleanup authority, conducting a site cleanup study, determining the site-specific cleanup standard, and selecting a site cleanup action. All elements of the remedial design and remedial action will comply with the SMS.

Model Toxics Control Act—MTCA governs the investigation and cleanup of contaminated sites in Washington (Chapter 70.105D RCW). A contaminant is defined by MTCA 173-340-200 as any hazardous substance that does not occur naturally or that occurs at concentrations greater than natural levels. MTCA contains provisions controlling site cleanup activities, including site discovery, priority, listing, investigation, and cleanup; liability provisions; administrative options for remedial actions, payment of costs, and funding; public participation; cleanup standards; and other general provisions. The law regulates the cleanup of sites contaminated with CERCLA (Comprehensive Environmental Response, Compensation and Liability Act) hazardous substances, all state and federal RCRA hazardous and dangerous wastes, and petroleum products. All elements of the remedial design and remedial action will comply with MTCA.

Water Pollution Control Act—In Washington, water-quality standards for surface waters of the state are promulgated under Chapter 173-201A WAC. Water quality monitoring during all in-water work activity is anticipated and will be specifically addressed in the design phase of the project and through issuance of the Section 401 Water Quality Certification. No water will be generated or discharged to Lake River or Carty Lake during Port-owned property remedial action. The dredging cleanup action includes treatment of water following dewatering of sediment. If water from the dredged material is discharged to Carty Lake or Lake River, it will be required to meet the water quality standards. During construction, access improvements, and sediment-handling operations, water will be directed through erosion- and sediment-control features to meet any water quality standards.

**Washington Dangerous Waste Regulations**—Washington regulations identify RCRA F-listed and K-listed wastes as dangerous waste (WAC 173-303-9904). Designated dangerous wastes may be treated, stored, or disposed of at a permitted TSD facility. Property media will not be designated as either RCRA listed hazardous wastes or RCRA characteristic wastes; therefore, this requirement is not applicable.

National Pollutant Discharge Elimination System—Chapter 173-220 WAC establishes a state permit program, applicable to the discharge of pollutants and other wastes and materials to the surface waters of the state, operating under state law as a part of the National Pollutant Discharge Elimination System (NPDES) created by Section 402 of the FWPCA. Permits issued under this chapter are intended to satisfy the requirements for discharge permits under both Section 402(b) of the FWPCA and Section 90.48 RCW. NPDES construction stormwater permits are required for construction sites of 1 acre or larger or for discharging surface water from a site. A stormwater pollution prevention plan and best management practices will be prepared and implemented as part of the final design to meet substantive requirements of the NPDES stormwater permit for Portowned property cleanup and in-water cleanup. Interim action remedial activities for the LRIS properties were conducted under the Port's individual NPDES permit (which covered construction activities). As the Railroad Avenue properties are less than 1 acre, a construction stormwater permit will not be required. An NPDES construction permit may be required for discharge of water from sediment-handling operations.

Shoreline Management Act—The state Shoreline Management Act (SMA) (Chapter 173-22 WAC) regulates any action within 200 feet of the ordinary high water (OHW) mark of a shoreline. Shorelines in towns and cities are regulated by shoreline master programs (Chapter 173-26 WAC) adopted by local municipalities. The City has a shoreline master program, and substantive shoreline management requirements may be triggered by cleanup actions associated with dredging. However, cleanup actions are exempt from the procedural (permitting) requirements (Chapter 173-27 WAC). The SMA may also be applicable in association with the access improvements and construction of an upland sediment-handling site, and will be addressed during the design.

Washington Department of Natural Resources Authorization—The DNR requires that an authorization be obtained to perform any work over state-owned aquatic lands. A DNR authorization is different from other regulatory permits in that it is a legal contract in which the DNR outlines the terms and conditions of the use, as well as conveying property rights to the user in exchange for rent.

Washington Department of Fish and Wildlife—The Washington State Legislature developed the Hydraulic Project Approval process to provide requirements for the protection of fish and fish habitat from the impacts of hydraulic projects (Chapter 77.55 RCW). The Hydraulic Code requires any person or agency that desires to undertake a hydraulic project to obtain approval from the WDFW, in the form of a permit, before beginning work. While the project is exempted from obtaining the permit under MTCA, Ecology will coordinate with WDFW to ensure the project will meet the substantive requirements of the HPA process. All prescribed work windows will be observed.

Air Quality Standards—WAC 173-400, -460, and -470 establish provisions for general regulation of air pollution sources, ambient air quality standards, and acceptable levels for particulate matter, and stipulate requirements for new sources of toxic air pollutant emissions. During sediment- or soil-handling activities, it may be necessary to implement engineering controls to manage particulate emissions. Air testing may be required to show that emissions meet the substantive requirements of applicable air quality permits and rules. If results illustrate that substantive requirements have not been met, the design will require modification.

Noise Regulations—Maximum environmental noise levels have been determined and are contained in WAC 173-60. Approved procedures for measurement of environmental noise are contained in WAC 173-58. During design, expected noise levels will be estimated and compared to the limitations established in 173-60 WAC. The need to adjust the approach to meet these requirements will be determined.

State Environmental Policy Act—The State Environmental Policy Act (SEPA), contained in Chapter 43.21C RCW, provides the framework for state and local agencies to consider the environmental consequences of a proposal before taking action. The act is implemented through the SEPA Rules and Procedures, Chapters 197-11 and 173-802 WAC, respectively. The SEPA review process requires the preparation of an environmental checklist, which may be achieved by review of the environmental impacts and proposal of mitigation measures. The completed checklist helps to identify potential environmental impacts associated with the proposed action.

SEPA review will be conducted for the project design. The Port or Ecology can act as the lead agency for SEPA review. The Port will complete a SEPA checklist for Ecology's review.

Cultural Resources—Under the Washington State Governor's Executive Order 05-05, archeological and cultural resources must be evaluated to satisfy federal regulations 36 CFR 800. RCW 27.44 (Indian Graves and Records) addresses the need to protect graves, cairns, and glyptic marks, and associated penalties, civil actions, and procedures. RCW 27.5 (Archaeological Sites and Resources) lays out the State of Washington's interest in protecting archaeological resources and establishes and empowers the Washington State Department of Archeological and Historic Preservation DAHP to complete an inventory, study, make National Register of Historic Places nominations, and identify and excavate the "state's archeological resources" (RCW 27.53.020). WAC 25-48 establishes procedures for implementing the permit sections of RCW 27.53. WAC 25-46 establishes regulation procedures for historic archaeological resources on, in, or under aquatic lands owned by the state; RCW 79.105.600 deals with "archaeological activities" on state aquatic lands, and address shoreline management (via RCW 79.105). RCW 42.56.300 exempts disclosure of the location of archaeological sites.

The Washington State Department of Archeological and Historic Preservation (DAHP) and affected Tribes will review a project-specific cultural resource protection plan under which work will be conducted.

Washington Industrial Safety and Health Administration—Washington Industrial Safety and Health Administration (WISHA) regulations pertaining to hazardous waste sites are addressed under WAC 296-843, Hazardous Waste Operations. This standard applies to cleanup and corrective actions at MTCA-regulated sites. All work will be performed under a project-specific health and safety plan in conformance with the applicable WISHA regulations.

# 3.2.3 Applicable Local Laws

Shoreline Master Program—A cleanup action performed along any shoreline of statewide significance in the City is regulated under the Shoreline Master Program (Chapter 18.820 of the Ridgefield Municipal Code [RMC]). A Substantial Development Permit is required for such an action. Since the remedial action includes dredging activities and may include upland construction of

a sediment-handling facility, bank work, and access improvements completed within 200 feet of a shoreline, the substantive requirements of the Substantial Development Permit will be met as part of the remedial design.

City of Ridgefield Critical Areas Ordinance—The City of Ridgefield Critical Areas Ordinance designates and regulates projects that may impact ecologically sensitive areas, including wetlands and fish and wildlife habitat conservation areas, or geophysical hazards such as geologically hazardous areas and frequently flooded areas (RMC 18.280.120). The remedial action will be conducted in an area that includes designated fish and wildlife habitat conservation areas, critical aquifer recharge areas, and frequently flooded areas. The design will meet the substantive requirements designed to protect these resources.

City Flood Control Ordinance—The purpose of the Flood Control Ordinance is to promote public health, safety, and general welfare; reduce the cost of flood insurance; and minimize public and private losses due to flooding (RMC 18.750). The ordinance requires a demonstration that development, grading, and filling projects will not exacerbate flood conditions through hydrologic and hydraulic analyses showing that the proposed encroachment would not result in a net increase in base flood elevation or flood velocity. The remedial actions are designed to ensure that there is no net increase in fill in the floodway or that there is no net increase in base flood elevation or velocity due to fill in the floodway. Hydraulic analysis will be provided. Consultation with the City will confirm that the design meets the substantive requirements.

# 4 SELECTED CLEANUP ACTIONS

The cleanup action for the Property incorporates a variety of actions targeted to different areas of the Property. The cleanup actions were determined for four areas of the Property independently and are described separately in the following sections. The cleanup actions were selected based on findings of the RI/FS (MFA, 2013a).

# 4.1 LRIS Cleanup Action

Interim actions completed on the LRIS are consistent with the recommended alternative actions in the RI/FS and are considered the final cleanup actions for the LRIS. The cleanup action for the LRIS comprises source removals and hot spot excavations, the application of an emergency SER system, installation of a new stormwater system, groundwater monitoring, site capping, and institutional controls.

Source removals were conducted between 1996 and 2012. The goals of the source removals were to remove equipment, wood-treating products and waste stored on site and to remove site features that were heavily impacted by former PWT activities. The source removals also included the excavation of hot spot soil throughout the LRIS (i.e., soil exceeding RELs). Figure 4-1 shows the areas excavated.

Remediation of groundwater contamination has been completed via the SER system and through removal and treatment of groundwater encountered during excavation of the concrete pond. The SER system was implemented from 2004 through 2011 as an emergency action in order to remove mobile product primarily within a NAPL plume, originating from the former tank farm and retort area that extended from Cell 1 into a portion of Cell 2. Another goal of the SER system was to prevent migration of impacts to the RNWR. The SER process involved steam injected to the subsurface via injection wells and recover contamination by vapor extraction, groundwater pumping and slurping. The SER system removed approximately 24,800 gallons of NAPL, over 500 tons of contaminated sludge, and treated over one million gallons of groundwater. Throughout the duration of the SER application, groundwater samples were analyzed to evaluate the effectiveness of the treatment. The application was conducted in two phases followed by a polishing phase. The SER application reached a point of diminishing returns during the polishing phase, at which point approval was received from Ecology to terminate application. Figures showing the reduction in NAPL were provided in the final RI/FS (MFA, 2013a).

Additional active groundwater remediation during interim actions included groundwater removal around the former concrete pond. The soils around the former concrete pond contained NAPL and were removed as part of the interim action. The excavation extended below the water table to allow approximately 320,000 gallons of groundwater to be removed and treated.

Groundwater monitoring will be completed at existing monitoring wells to assess natural contaminant attenuation rates and verify that contaminants are not migrating. Groundwater samples will be collected from 18 monitoring wells (at existing monitoring wells defined as conditional POCs; see Section 3.1.1), on a semiannual basis for a minimum of two years, and then every 18 months thereafter upon Ecology approval. Compliance groundwater monitoring starts August 2013. After year six, the monitoring program may be modified as needed, to collect samples from fewer wells or at lesser frequency upon Ecology approval. The compliance monitoring program will be detailed in a Comprehensive Operation and Maintenance Plan (COMP) developed for the Property. No IHSs were identified in groundwater in Cell 4; therefore, no remedial actions were identified for Cell 4 groundwater.

The historical stormwater system was removed and a new stormwater system, incorporating engineering controls, was installed in 2012. The new system uses a series of catch basins to collect overland flow from the newly capped surface and discharges through three new outfalls.

The final phase of cleanup action for the LRIS was installation of a soil cap. Obstructions (e.g., buildings, surface completions, pilings) were removed before grading and placement of the soil cap. Capping materials that have been installed at the LRIS consist of gravel, soil, asphalt, or a combination of these materials and a polypropylene geotextile demarcation fabric. The final and current Ecology-approved capping conditions are shown on Figure 4-2. Cap monitoring will be conducted annually consistent with the Soil Management and Cap Monitoring Plan (SMCMP) to be included in the COMP developed for the Property.

Institutional controls include restrictive covenants for vapor migration, adherence to the SMCMP for protection and maintenance of surface capping and management of residual contamination, prohibiting installation of any water well or withdrawal with the potential to pull contamination

from Cell 2 toward Cell 4, and prohibiting use of groundwater for drinking. Historical municipal drinking water wells east of the LRIS have been abandoned by the City.

# 4.1.1 LRIS Types, Levels, and Amounts of Contamination Remaining

Impacts above CULs in soil and groundwater remain on the LRIS. A summary of soil analytical data and CUL and REL exceedances for samples remaining on the LRIS following completion of emergency and interim actions is provided in Appendix A, Tables A-1 through A-4 and Figures 4-3, 4-4, and 4-5 show locations where soil IHSs remain.

A summary of groundwater sample results from the four most recent sampling events is provided in Appendix A, Table A-5. The data are compared with groundwater CULs. The total boundary extents for groundwater exceeding the CULs are shown for both the UWBZ and the LWBZ in Figure 4-6.

Evaluations have also shown that there are two distinct plumes. One plume is beneath Cell 3 and is limited to the UWBZ, and the other is beneath Cells 1 and 2 and the southern portion of the RNWR Carty Unit in the UWBZ and LWBZ. Therefore, the descriptions below of the nature and extent of groundwater impacts are presented separately for each plume (i.e., "Cells 1 and 2" plume and "Cell 3" plume).

The Cells 1 and 2 plume occurs below and downgradient of LRIS sources (e.g., former tank farm, retorts, and concrete pond). The plume contains arsenic, chlorinated phenolics (including PCP), SVOCs (including carcinogenic PAHs), VOCs, and petroleum hydrocarbons. The plume extends through Cells 1 and 2 and beneath the RNWR and Lake River. However, conservative modeling shows that groundwater will not discharge to surface water above analytical method reporting limits, surface water ambient water quality criteria, and/or natural background concentrations. The Cells 1 and 2 plume has been reduced significantly by the operation of the SER system. Groundwater monitoring has shown that the plume is stable or declining.

The Cell 3 plume occurs below and downgradient of LRIS sources (e.g., former drip trough) and has also been impacted by migration of tetrachloroethene (PCE) from an upgradient source (i.e., the Park Laundry site as determined from monitoring wells located between the LRIS and the former Park Laundry site). Park Laundry is currently being investigated by the property owner, with Ecology oversight. The Cell 3 plume contains arsenic, PCP, and PCE. The plume extends through Cell 3 and slightly beneath Lake River. However, conservative modeling shows that groundwater will not discharge to surface water above analytical method reporting limits, surface water ambient water quality criteria, and/or natural background concentrations. Groundwater monitoring has shown that the Cell 3 plume is stable or declining.

Depictions of the nature and extent of the groundwater plumes are provided in Section 3 of the RI/FS (MFA, 2013a). Figures associated with this Section show the plan view extents and cross section for the most extensive IHSs in groundwater as of 2011: benzene, PCE, naphthalene, PCP, and arsenic.

# 4.2 Port-Owned Properties Cleanup Action

The Port owns three properties that are included within the boundaries of the Property: (1) the Railroad Avenue properties, (2) the Port marina property, and (3) the proposed overpass property. Concentrations of dioxins in soil are above CULs at these properties.

**Railroad Avenue properties.** A 2-foot cap will be placed on the Port Railroad Avenue properties. The extent of the cap will include Port-owned property (i.e., including right-of-ways), approximately 0.94 acres. Cap monitoring will be conducted annually consistent with the SMCMP.

**Port marina property.** Most of the Port marina property has already been capped with asphalt. In addition, a narrow strip of soil between the asphalt on the Port marina property and Cell 3 has been capped with polypropylene geotextile fabric and clean soil. Cap monitoring will be consistent with the SMCMP.

**Proposed overpass property.** This area will be covered with a cap consistent with LRIS capping options. If soil is excavated during construction, a soil management plan will be required.

# 4.2.1 Types, Levels, and Amounts of Contamination Remaining

A summary of soil analytical results compared with CULs for the Port-owned properties is provided in Appendix A, Table A-6. Figure 4-7 shows the sample locations and remaining exceedances of CULs. Dioxins will be contained beneath the soil caps at concentrations above CULs.

# 4.3 Lake River Cleanup Action

The selected cleanup for Lake River is mechanical dredging and enhanced natural recovery (ENR) of sediment. Cleanup includes bank and in-water actions.

The bank will be covered with a geotextile filter fabric and rock armor stabilization. Bank and beach armor will extend from the dredged area in the river channel, over the existing shoreline and tie into the existing LRIS upland soil cover; armoring of the bank with rounded gravels and cobbles resistant to erosion ("fish mix") will reinforce the existing slopes and act as a physical barrier to the movement of underlying bank and shore soil and sediment.

The in-water remedy consists of removing approximately 14,000 cubic yards of sediment within the dredge prism above the selected REL of 30 ng/kg dioxin TEQ by mechanical dredging and placement of an approximately 1-foot thick clean sand layer to manage dredging residuals. In addition, an approximately 1-foot thick sand layer will be placed over all areas outside of the dredge prism that exceed the CUL of 5 ng/kg, to immediately reduce surface concentrations below the CUL and enhance natural recovery of sediment. The depositional nature of the Lake River environment will contribute to natural recovery as well. The dredge prism and enhanced natural recovery area outside of the dredge prism are shown in Figure 4-8.

Additional in-water cleanup components include the following:

• Preparation of upland staging and processing area.

- A bathymetric survey of the river confluence area will be conducted to assess barge accessibility and the need for access dredging.
- Existing in-water structures and debris will be removed prior to dredging; the existing kayak launch and pilings will be removed and replaced following dredging activities.
- Best management practices for water quality will be considered and implemented during work; these may include silt curtains for containment; dredge methods; and turbidity monitoring before, during, and after construction.
- Dredged material will be disposed of as nonhazardous material waste at a Subtitle D landfill facility.
- Natural recovery will be monitored; monitoring will quantify the reduction in concentrations relative to the CUL (5 ng/kg dioxin TEQ).
- Long-term institutional controls would not be required; however current sediment conditions would need to be characterized before any future activities resulting in significant sediment disturbance, such as in-water construction or dredging, are initiated.

# 4.3.1 Types, Levels, and Amounts of Contamination Remaining

Dioxins were identified as an IHS for sediment in Lake River. Other contaminants exceeding screening levels identified in the RI/FS (i.e., TPAH, PCP, and m&p-cresol) co-occur with elevated dioxins and will be completely removed as part of the cleanup action selected.

A summary of sediment analytical results compared with the CUL and RELs for Lake River is provided in Appendix A, Table A-7. Sediments between the CUL of 5 ng/kg dioxin TEQ and the REL of 30 ng/kg dioxin TEQ will remain after active cleanup for a period of time. The sand layer will immediately cover and sequester concentrations above the CUL, and will mix with the underlying sediments over time to reduce the concentration (laterally and vertically) to below approximately 4.4 ng/kg dioxin TEQ, determined on an area-weighted average basis for the active cleanup area. Sediment monitoring will confirm that natural recovery of sediment is occurring. Estimates of dioxin contamination for individual sampling stations predicted to remain upon completion of the remedial action are shown in Figure 4-9. Concentrations conservatively assume the sand layer becomes completely mixed with residual concentrations below. The area-weighted average for the entire river channel offshore of the LRIS upon completion of the remedial action is estimated to be approximately 2.5 ng/kg dioxin TEQ.

# 4.4 Carty Lake Cleanup Action

Carty Lake is a 52-acre, ponded wetland located in the RNWR Carty Unit. The selected cleanup action consists of mechanical dredging and a limited residuals cap in the southernmost portion of the lake. A maximum of approximately 6,000 cubic yards of sediment exceeding the RELs (i.e., CULs protective of ecological receptors; see Section 3.1.4) in the surface and subsurface will be removed. Note that significant refinement of the dredge area is expected as a result of predesign characterization. Approximately 1 foot of clean sand will be placed in dredged areas to manage residuals from the dredging activity. The thin layer sand cap for Carty Lake is not intended to provide for natural recovery of in-situ sediments since sediments will be removed to the RELs

within Carty Lake, but will be placed to cover and mix with residual sediments that may be generated resulting from the dredging activity. The sand layer for Carty Lake is unlikely to be disturbed because Carty Lake is a quiescent environment. In addition, motorboats are not allowed on the lake, so propeller-induced mixing of the sand cap layer will not occur. Other cleanup components include the following:

- Access improvements may be required and likely would include clearing and grubbing and construction of a temporary staging area.
- Dredged material will be disposed of as nonhazardous material waste at a Subtitle D landfill facility.
- Best management practices for water quality will be implemented, potentially in the form of containment, use of appropriate dredging practices, as well as turbidity monitoring before, during, and after construction, if appropriate.
- Post remedial monitoring will be conducted to assess the efficacy of the remedial action.
- Institutional controls to protect human receptors from potential effects from consuming fish from areas of the lake where concentrations will remain above the CUL will be put in place. To accomplish this, the USFWS will prohibit fishing from Carty Lake.
- Additional evaluations on the potential for impacts to human health from fish consumption may be necessary if Carty Lake is reconnected with the Columbia River in the future.
- Functionally replacing the bulkhead on the southern end of Carty Lake.
- Repair and rehabilitation of wetland areas to be impacted by access, staging, and/or dredging in consultation with USFWS.

The estimated extent of the dredge area is shown on Figure 4-10. The specific extent of the dredge area will be determined after considering additional data (including dioxin, arsenic, chromium, and PCP data) collected during predesign sampling activities, dredging logistics, feasibility, and lake bed characteristics and will be refined during design, in consultation with the USFWS.

# 4.4.1 Types, Levels, and Amounts of Contamination Remaining

Dioxins were identified as an IHS for sediment in Carty Lake. Other contaminants exceeding screening levels that were identified for the RI/FS (i.e., arsenic, chromium, and PCP) are exclusively co-located with the highest dioxin areas, occur only in sediment exceeding dioxin RELs, and will therefore be removed as part of the cleanup action selected. A summary of sediment analytical results compared with the CUL and RELs for Carty Lake is provided in Appendix A, Table A-8.

Estimates of dioxin (TEQ) contamination remaining upon remedy implementation, based on currently available data, are provided in Figure 4-10. These estimates will be refined as samples are collected for remedy design. Fishing prohibitions at Carty Lake will be implemented to prevent human exposure to remaining dioxin concentrations via fish consumption. After remedy

implementation, there will be no individual dioxin congeners present above RELs throughout the lake.

# 5 ALTERNATIVES CONSIDERED AND BASIS FOR REMEDY SELECTIONS—LRIS

# 5.1 Cleanup Technologies

Technology screenings were conducted separately for Cells 1 and 2, Cell 3, and Cell 4. All of the screenings were conducted consistent with WAC 173-340-350(8)(b). The technologies were initially generated based on the Federal Remediation Technologies Roundtable (FRTR) screening matrix (FRTR, 2008) and commonly used remediation methods. This comprehensive technologies list was screened against applicability, effectiveness, and implementability, with the remaining technologies to be evaluated further in the FS. A summary of the findings for screenings for Cells 1 and 2, Cell 3, and Cell 4 is provided below.

#### 5.1.1 Cells 1 and 2

Based on the results of the screening, the following technologies were retained in the FS for further evaluation: capping, natural attenuation, excavation and off-site disposal (with soil screening), in situ and ex situ thermal treatment, and institutional controls. Further details on the analysis of all screened technologies can be found in Appendix K of the Cells 1 and 2 RI/FS (MFA, 2011a).

#### 5.1.2 Cell 3

Based on the results of the screening, the following technologies were retained in the FS for further evaluation: capping, natural attenuation, separation, stabilization, excavation and off-site disposal, institutional controls, and groundwater pumping. Further details on the analysis of all screened technologies can be found in Appendix B of the Cell 3 FS (MFA, 2011b).

#### 5.1.3 Cell 4

Based on the results of the screening the following technologies were retained in the FS for further evaluation: capping, excavation, and institutional controls (MFA, 2010). Further details on the analysis of screened technologies can be found in Section 6.1 of the Cell 4 FS (MFA, 2010).

# 5.2 Feasibility Study Alternatives

Remedial alternatives were developed using the individual cleanup technologies retained from the technology screening process with consideration of applicable MTCA minimum requirements for cleanup actions (WAC 173-340-360(2)), which include: cleanup requirements (see Section 3), provision for a reasonable restoration time frame, and use of permanent solutions to the maximum extent possible. Ecology's expectations for the development of alternatives and the selection of

cleanup actions were also considered (WAC 173-340-370). The FS alternatives were conducted separately for Cells 1 and 2, Cell 3, and Cell 4 as discussed in the Cells 1 and 2 RI/FS (MFA, 2011a), Cell 3 FS (MFA, 2011b), and Cell 4 RI/FS (MFA, 2010). The following sections provide summaries for each of these areas of the LRIS.

#### 5.2.1 Cells 1 and 2

Four alternatives were developed as part of the FS for Cells 1 and 2 (MFA, 2011a), which included variations in combinations of excavations, capping, groundwater monitoring, and institutional controls. Subsequent comments from Ecology led to the formulation of Alternatives 2A (formerly 2) and 2B (new alternative). The five alternatives are listed below, with complete descriptions presented in Table 5-1.

**Alternative 1:** Minimum 2-foot-deep soil cap (or equivalent), SER operation and decommissioning, groundwater monitoring, and institutional controls

Alternative 2A: Targeted removal, capping, SER operation and decommissioning, groundwater monitoring, and institutional controls

Alternative 2B: Additional targeted removal, capping, SER operation and decommissioning, groundwater monitoring, and institutional controls

**Alternative 3:** Removal of soil exceeding RELs, capping, SER operation and decommissioning, groundwater monitoring, and institutional controls

**Alternative 4:** SER operation and decommissioning to achieve groundwater CULs, excavation of SER system and soil exceeding CULs, and groundwater monitoring

#### 5.2.2 Cell 3

Three alternatives were developed for the Cell 3 FS (MFA, 2011b), involving variations of capping, soil removal, institutional controls, and groundwater monitoring. Each alternative is listed below and a thorough description is provided in Table 5-2.

**Alternative 1:** Minimum 2-foot-deep soil cap (or equivalent), institutional controls, and groundwater monitoring

Alternative 2: Soil removal to RELs, capping, institutional controls, and groundwater monitoring

**Alternative 3:** Removal of soil and groundwater exceeding CULs, treat and discharge groundwater recovery, and treatment

#### 5.2.3 Cell 4

Three alternatives were developed for the Cell 4 cleanup action (MFA, 2010), involving variations of capping, soil removal and institutional controls. A detailed summary of components of each alternative is provided in Table 5-2. The three alternatives are listed below.

Alternative 1: Engineered cap and institutional controls

Alternative 2: Engineered cap, removal of soil above RELs, and institutional controls

**Alternative 3:** Removal of soil exceeding CULs

# 5.3 Rationale for Selecting Proposed Alternatives

This section describes the rationale by which the preferred cleanup action alternatives for the LRIS were selected. The selected cleanup actions meet the minimum threshold requirements pursuant to WAC 173-340-360, including protection of human health and the environment, compliance with cleanup standards and applicable state and federal laws, and providing for compliance monitoring. Compliance monitoring for all alternatives would include construction performance criteria, a cap maintenance program, and confirmation sampling during excavation, if warranted. For further details, see the Cells 1 and 2 RI/FS (MFA, 2011a), Cell 3 FS (MFA, 2011b), and Cell 4 RI/FS (MFA, 2010).

# 5.3.1 Disproportionate Cost Analysis

The alternatives were evaluated according to evaluation criteria outlined in WAC 173-340-360(3)(f), and according to disproportionate cost analysis (DCA) as outlined in WAC 173-340-360(3)(e). Costs are determined to be disproportionate to benefits if the incremental cost of a more expensive alternative over that of a lower-cost alternative exceeds the incremental degree of benefits achieved by the more expensive alternative. DCA includes evaluation criteria that are a mix of qualitative and quantitative factors, including:

- Protectiveness
- Permanence
- Long-term effectiveness
- Management of short-term risks
- Technical and administrative implementability
- Consideration of public concerns
- Cost

Summaries of the analyses, primary assumptions, unit costs, and number of units for all significant project elements are included in the FSs for Cells 1 and 2, Cell 3, and Cell 4. Net present value calculations are also included for operation, maintenance, and monitoring costs, if applicable.

#### 5.3.1.1 Cells 1 and 2

Alternatives 1, 2, 3, and 4 meet the threshold criteria and were included in the DCA (see Table 5-3). Alternative 4 ranked highest in categories of protectiveness, permanence, and long-term effectiveness, (followed by Alternative 3, Alternative 2, and then Alternative 1). Alternatives 1 and 2 ranked higher than Alternatives 3 and 4 regarding management of short-term risks; in terms of technical and administrative implementability Alternative 1 ranked highest, followed by Alternative 2, next by Alternative 3, and finally by Alternative 4.

The estimated net present value costs for implementation, operation and maintenance, and monitoring are as follows:

Alternative 1: \$7,030,000
Alternative 2A: \$10,301,000
Alternative 2B: \$10,320,000
Alternative 3: \$32,883,000
Alternative 4: \$367,531,000

Alternative 1 costs less than Alternatives 2A and 2B. Alternatives 2A and 2B are estimated to be one-third the cost of Alternative 3. Given the large cost discrepancy and the limited incremental benefit over the other alternatives, the baseline option, Alternative 4, is disproportionately costly and is rejected as an alternative. Based on this assessment, Alternatives 1, 2A, and 2B remain viable options in terms of cost effectiveness. Alternative 2B, for an incremental cost of approximately \$3.3 million over Alternative 1, provides a greater degree of protectiveness and long-term effectiveness. Additionally, given that material removed became Corrective Action Management Unit-eligible after the DCA was finalized, Alternatives 2A and 2B are actually estimated to cost approximately \$1.7 million less.

#### 5.3.1.2 Cell 3

Alternative 1 through 3 meet the threshold criteria and were included in the DCA (see Table 5-4). Alternative 3 performed better for categories of protectiveness, permanence, and long-term effectiveness, with the highest rating, while scoring the lowest rating for categories of management of short-term risks and technical and administrative implementability. Alternative 2 ranked consistent in all categories, while Alternative 1 ranked slightly lower and higher, averaging less than Alternative 2 by one point. The estimated net present value costs for implementation, operation and maintenance, and monitoring are as follows:

Alternative 1: \$1,263,000
Alternative 2: \$1,524,000
Alternative 3: \$22,880,000

The estimated cost for Alternative 3 is \$21,356,000 higher than Alternative 2. Given the large cost discrepancy and the limited incremental benefit over Alternative 2, Alternative 3 is disproportionately costly and is rejected as an alternative. Based on this assessment, Alternative 2 remains a viable option. The estimated cost for Alternative 2 is \$261,000 higher than Alternative 1, but for the incremental cost difference was determined to provide a greater degree of protectiveness and long-term effectiveness.

#### 5.3.1.3 Cell 4

Alternatives 1 through 3 meet the threshold criteria and were included in the DCA (see Table 5-5). Alternative 3 ranked highest in categories of protectiveness, permanence, and long-term effectiveness (followed by Alternative 2 and then Alternative 1). Alternatives 1 and 2 ranked higher than Alternative 3 regarding management of short-term risks; in terms of technical and

administrative implementability, Alternative 1 ranked highest, followed by Alternative 2, and last by Alternative 3. The estimated net present value costs for implementation, operation and maintenance, and monitoring are as follows:

Alternative 1: \$707,000
Alternative 2: \$720,000
Alternative 3: \$12,692,000

Given the large cost discrepancy and the limited incremental benefit over the other alternatives, the baseline option, Alternative 3, is disproportionately costly and is rejected as an alternative. Based on this assessment, Alternatives 1 and 2 remain viable options in terms of cost effectiveness. Alternative 1 costs slightly less than Alternative 2. Alternative 2, for an incremental cost of \$13,000 over Alternative 1, provides a greater degree of protectiveness and long-term effectiveness.

#### 5.3.2 Restoration Time Frame

WAC 173-340-360(4) contains guidance for determining reasonable restoration time frames. A preference is given for alternatives that can be implemented in less time if other factors such as permanence and costs are equal.

#### 5.3.2.1 Cells 1 and 2

Alternatives 1, 2, and 3 likely would have a longer restoration time frame than Alternative 4 because not all soil exceeding CULs would be removed. The practicability of achieving a shorter restoration time frame is limited; Alternative 4 requires the removal of more than 500,000 tons of soil, decreasing the practicability of such an option.

To achieve restoration, Alternatives 1, 2, and 3 include natural attenuation of IHSs. Alternatives 1, 2, and 3 do not rely on natural attenuation to protect receptors, but instead use engineering and institutional controls to address risks to human health and the environment and to restore the LRIS to potential future uses. The effectiveness and reliability of institutional controls at the LRIS are high because of the Port's continued ownership and management of the LRIS.

#### 5.3.2.2 Cell 3

Alternative 2 has a slightly greater degree of permanence than Alternative 1; however, Alternative 1 costs less than Alternative 2. Alternative 1 can be implemented within a shorter time frame than Alternative 2.

For Alternatives 1 and 2, protection of human health and the environment against risks associated with soil contaminants remaining after excavation would be achieved through institutional controls rather than through meeting cleanup standards. These protections can be established within a reasonably short time frame.

#### 5.3.2.3 Cell 4

Alternatives 1 and 2 likely would have a longer restoration time frame than Alternative 3 because soil exceeding CULs would not be removed. The practicability of achieving a shorter restoration time frame is limited; Alternative 3 requires the removal of more than 42,000 tons of soil, decreasing the practicability of such an option.

To achieve restoration Alternatives 1 and 2 include natural attenuation of IHSs. As described for Cells 1 and 2, effectiveness and reliability of institutional controls at the LRIS are high and are therefore appropriate for addressing risks to human health and the environment and for restoring potential future uses.

#### 5.3.3 Selected Alternatives Summary

#### 5.3.3.1 Cells 1 and 2

Alternative 4 was found disproportionately costly when compared to the incremental benefit relative to the other alternatives. Alternatives 1 and 2 were considered more viable options when considering cost effectiveness. Alternative 2 provides greater long-term effectiveness and level of protectiveness for a relatively minimal increase in cost. Based on this and other findings of the FS, Alternative 2 was the initial selected remedy.

Subsequent comments from Ecology regarding the chosen alternative (2) led to the formulation of Alternatives 2A (formerly 2) and 2B (new alternative). Alternative 2B is identical to 2A, with the exception of the additional excavations near sample locations exceeding dioxin and PCP RELs. With the modification, Alternative 2B is the final chosen alternative.

#### 5.3.3.2 Cell 3

When comparing total ranking sum and cost, Alternative 3 was disproportionately costly for benefits realized when compared to Alternatives 1 and 2, and therefore Alternative 3 was eliminated as a viable option.

The difference in cost between Alternatives 1 and 2 is small compared to Alternative 3, with Alternative 2 being 2 percent greater in cost than Alternative 1. The additional cost of Alternative 2 is associated with the removal of soil exceeding the RELs. This additional cost was found to be justified, based on the greater improvement of overall environmental quality and a greater degree of certainty in the overall effectiveness over the long term. Therefore, the difference in cost between Alternatives 2 and 1 was not considered disproportionate, given the benefits provided. Based on these conclusions, Alternative 2 is the recommended action for Cell 3.

#### 5.3.3.3 Cell 4

Based on the very large difference in cost and limited incremental benefit, Alternative 3 was found disproportionately costly and was eliminated as a viable alternative. Alternatives 1 and 2 were compared, and it was found that the incremental cost of \$13,000 of Alternative 2 over Alternative 1 provides a greater degree of protectiveness and long-term effectiveness. Therefore, the cost of

Alternative 2 compared to Alternative 1 was not considered disproportionate, and Alternative 2 is the recommended action for Cell 4.

# 6 ALTERNATIVES CONSIDERED AND BASIS FOR REMEDY SELECTION—PORT-OWNED PROPERTIES

Port-owned properties, beyond the portions of the LRIS that are owned by the Port, described in Section 5, include the Railroad Avenue, marina, and planned overpass properties (see Figure 1-2). The Railroad Avenue properties consist of two parcels oriented north-south and located along Railroad Avenue just east of Cell 3 of the LRIS. The marina property, immediately south of the LRIS, includes a boat launch, parking, and landscaped areas. The overpass area was formerly part of the McCuddy's marina and includes the footprint of a proposed overpass development.

#### 6.1 Cleanup Technologies

Consistent with WAC 173-340-350(8)(b), individual cleanup technologies identified in the FRTR screening matrix (2008), as well as other commonly used remediation methods, were reviewed and screened to identify applicable methods for remediating soil. Effectiveness and implementability of the technologies were assessed, resulting in a list of technologies that were retained for further consideration: no action, in situ containment via a cap, and ex situ treatment via excavation and off-site disposal. For further details, see MFA (2013a).

#### 6.2 Feasibility Study Alternatives

Remedial alternatives were generated using the individual cleanup technologies retained (see Section 6.1), with consideration of applicable MTCA minimum requirements for cleanup actions (WAC 173-340-360), which include: cleanup requirements (see Section 3), provision for a reasonable restoration time frame, and use of permanent solutions to the maximum extent possible. The MTCA DCA was used to determine which cleanup action is permanent to the maximum extent practicable.

Port-owned property soils exceeded the CULs based on ecological risk. Although concentrations are below a human health 1x10<sup>-5</sup> cumulative carcinogenic risk level, concentrations of dioxins and furans in the Railroad Avenue properties lead to unacceptable ecological risk. A No Action alternative was therefore dismissed as an option.

Exposed soil on the Port marina property (located between the LRIS property boundary and the paved area of the marina property) was capped with approximately 1 foot of clean soil during interim LRIS actions (see Figure 4-2), and a polypropylene geotextile fabric was placed above the native, impacted soil and below the clean layer. These actions and the presence of an asphalt cap on the rest of the Port marina property eliminate exposure to underlying soil, and alternative cleanup actions specific to this area were not further considered.

In the proposed overpass property (located south of the LRIS Cell 3 and east of McCuddy's marina) construction of an overpass will reduce potential for exposure to soil. Construction will include covering the area with a cap consistent with LRIS capping options. This construction will limit exposure to underlying soil, and alternative cleanup actions for this area were therefore not further considered.

The following alternatives were considered for Port-owned properties:

- Institutional controls
- Railroad Avenue properties engineered soil cap in locations exceeding CULs
- Removal of soils exceeding CULs in the Railroad Avenue properties

Under Alternative 1, institutional controls would be implemented at the Railroad Avenue properties. These controls could include deed restrictions, access restrictions such as installing a fence, and signage.

Alternative 2 (Engineered Cap) includes placement of a clean soil cap at the Port Railroad Avenue properties to mitigate potential exposure. The cap would consist of a minimum 2 foot of soil or gravel over a geotextile separation layer to demarcate the underlying soil. Compliance and protection monitoring would take place as part of construction oversight during the implementation of the cap; annual cap monitoring would be conducted under a SMCMP.

Under Alternative 3 (Sampling and Removal), it was assumed that removal of the top 1 foot of soil would meet CULs. Additional sampling would determine which areas within the property required soil removal and to verify the 1 foot depth assumption. The excavated soil would be transported by truck and disposed of as nonhazardous material at the Subtitle D landfill facility. The removed soil would be replaced with clean topsoil for an operational surface and to protect against erosional forces.

#### 6.3 Rationale for Selecting Proposed Alternative

MTCA requirements were used as the criteria for evaluating cleanup actions. The alternatives were evaluated according to evaluation criteria outlined in WAC 173-340-360(3)(f), and according to DCA as outlined in WAC 173-340-360(3)(e). Costs are determined to be disproportionate to benefits if the incremental cost of a more expensive alternative over that of a lower-cost alternative exceeds the incremental degree of benefits achieved by the more expensive alternative.

Alternatives 1 through 3 meet the threshold criteria and were included in the DCA (see Table 6-1). Alternative 1 (Institutional Controls) is protective of both human health and the environment; institutional controls would minimize exposure through access restrictions. Alternatives 2 (Engineered Cap) and 3 (Sampling and Removal) provide additional measures in comparison to Alternative 1 to enhance protectiveness for all areas exceeding the CULs. Alternative 3 is the most protective of the three remedies, as areas of soil would be removed for off-site disposal. Alternative 3 is more permanent than Alternatives 1 and 2 and has greater long-term effectiveness, as areas of accessible soil exceeding CULs would be replaced with clean topsoil. Alternative 1 (Institutional Controls) rates low for permanence and long-term effectiveness. Alternatives 1 and 2 rate high for management of short-term risks. These alternatives do not involve significant handling or

management of impacted soil. All remedies are technically and administratively implementable and community concerns have been addressed throughout the history of this project.

The estimated net present value costs for implementation, operation and maintenance, and sampling are as follows:

Alternative 1 (Institutional Controls): \$53,000
Alternative 2 (Engineered Cap): \$116,000
Alternative 3 (Sampling and Removal): \$273,000

Alternative 3 is the most costly of the alternatives. The alternative is more than twice as expensive as Alternative 2, while providing only modest improvements in protectiveness and permanence. Alternative 1 has the lowest cost, but the alternative does not provide the same degree of risk management and places constraints on a property that could otherwise be a useful asset to the community.

WAC 173-340-360(4) contains guidance for determining reasonable restoration time frames. All of the alternatives possess reasonable restoration time frames. Alternative 3 involves more extensive construction activities and will require greatest amount of time to complete. The engineered cap (associated with Alternative 2) and implementation of institutional controls (associated with Alternative 1) can be implemented readily.

In summary, the preferred remedy (Engineered Cap) is protective of both human health and the environment, and is permanent without being disproportionately costly. The remedy can be implemented within a reasonable timeframe and complies with MTCA requirements and Ecology expectations as described in WAC 173-340-370.

## 7 ALTERNATIVES CONSIDERED AND BASIS FOR REMEDY SELECTION—LAKE RIVER

Lake River is a side channel of the Columbia River and lies within the lower Columbia River west of Ridgefield, Washington, near the confluence of the Columbia and Willamette rivers. The Lake River remediation area described in this CAP consists of the shoreline and river bottom adjacent to the LRIS, approximately 2 miles upstream from where Lake River meets the Columbia River (see Figure 1-2).

#### 7.1 Cleanup Technologies

Consistent with the SMS requirements in WAC 173-204-560(4)(f)(iii) and using MTCA procedures as a guideline (WAC 173-340-350(8)(b)), individual cleanup action components were reviewed and screened to identify applicable methods for remediating the impacted sediment in Lake River. The preliminary screening of applicable technologies is based on technologies identified in the FRTR screening matrix (2008), as well as other commonly used remediation methods. Effectiveness and

implementability of each technology were assessed for specific contaminants in the sediment, resulting in a list of technologies that were retained for further consideration: institutional controls, natural attenuation, ENR (thin cap sand layer), in situ containment (capping), mechanical dredging, confinement in a commercial landfill, and ex situ treatment via physical methods. For further details, see MFA (RI/FS-2013a).

#### 7.2 Feasibility Study Alternatives

Remedial alternatives for Lake River were developed by using the individual cleanup technologies retained from the technology screening process and by considering the CULs. Each of the four alternatives assessed protection of human health and the environment through compliance with cleanup standards, removal and capping of impacted sediment, or institutional controls to manage the potential for exposure to impacted sediment (see Table 7-1). A No Action alternative was considered, but was dismissed from further evaluation, as it does not meet cleanup standards.

Interim actions for upland soil that is supported adjacent to the riverbank have been completed (Cell 3) or will be completed in 2013 (Cell 2). For all of the alternatives in this analysis, the area between the upland cap and the extent of the chosen in-water remedy (dredging and ENR) will be covered with a geotextile filter fabric and stabilized with rock armor. Armoring of the bank will reinforce the existing slopes and act as a physical barrier to the movement of underlying soil and sediment. No other remedial alternatives for the riverbank were retained from the technology screen because of the discovery of cultural artifacts in the bank and the requirement to preserve the artifacts in place.

#### 7.2.1 Alternative 1: Monitored Natural Recovery

Alternative 1 relies on stabilization of the riverbank, combined with the natural deposition of clean sediment over impacted sediment in Lake River. Natural attenuation occurs under favorable conditions over an indeterminate period of time and acts without human intervention.

A comprehensive work plan would be prepared outlining monitoring techniques to further characterize fluvial conditions and deposition rates that would affect natural attenuation. The plan would define sampling locations and methods to supplement existing sampling data from within the study area perimeter.

Following the in-depth characterization of the fluvial environment, institutional controls (e.g., noanchor zones) would be implemented and a monitoring program would be developed that would verify the ongoing effectiveness of recovery by natural processes.

#### 7.2.2 Alternative 2: Enhanced Monitored Natural Recovery

Alternative 2 relies on a combination of bank stabilization, ENR, and a long-term monitoring program to protect receptors and verify recovery, resulting in enhanced monitored natural recovery (EMNR). EMNR is accomplished by placing a layer (approximately 6 to 12 inches deep) of clean sand over the impacted sediment and then monitoring the additional natural recovery that occurs. The clean sand layer would provide a surface stratum of cleaner sediment, resulting in an immediate reduction in surface contaminant concentrations. Clean sand would be placed over all areas exceeding the CUL of 5 ng/kg dioxin TEQ.

As in Alternative 1, a comprehensive work plan would be prepared, outlining characterization of the fluvial conditions at Lake River, monitoring techniques, and sampling events. In addition, institutional controls (e.g., no-anchor zones) would be implemented and a monitoring program would be developed that would verify the ongoing effectiveness of recovery by natural processes.

#### 7.2.3 Alternative 3: Engineered Cap

Under Alternative 3, the bank would be stabilized and an engineered 2-foot-deep sediment cap would be placed by mechanical means over the designated remediation area (i.e., areas exceeding the CUL). Appropriate options for the capping material would be developed in detail during the remedial design.

Impacts to active federal navigation channels designated by the COE are subject to review by the COE and the U.S. Coast Guard. Typically, where capping is performed within the limits of an active federal navigation channel, the cap's top elevation is maintained below the project depth, with sufficient clearance to provide for channel maintenance dredging. Pending further review of channel dimensions and navigation requirements, the cost for removal of sediment from within the navigation channel project boundary has not been included in Alternative 3. Further, dredging required to maintain navigation depths would involve at least partially removing contaminated sediments, negating the need for a cap in some areas.

The cap material would be placed in a manner that minimizes mixing of impacted sediment and cap material, allows for proper settlement during and after construction, and minimizes the amount of turbidity generated in the water column. As part of the engineered cap, a protective layer of rock armor would be placed to protect against erosion of the underlying sand material of the sediment cap.

Ongoing cap integrity would be managed through implementation of a monitoring and maintenance program, which would include a plan outlining the requirements for routine cap performance monitoring, schedule, emergency response, and reporting. It would also include steps to be taken if the cap fails to meet the performance criteria.

Restrictions on future maintenance dredging would be required as an institutional control in order to prevent breaching of the engineered sediment cap without appropriate remedial measures. Additional restrictions on navigation, access to shore, and short-term future land use (e.g., in-water construction) would all be included as institutional controls.

Long-term cap maintenance and monitoring would be implemented to support and verify cap performance. Performance standards would be established and actions developed as a response should performance standards be exceeded.

#### 7.2.4 Alternative 4: Dredging and ENR

Alternative 4 consists of bank stabilization, removing the most impacted sediment in Lake River through the process of mechanical dredging and placement of approximately 1 foot of clean sand to initiate the natural recovery of residual sediment with dioxins above the CUL. The dredge volume (approximately 14,000 cy) associated with removing sediment above an REL of 30 ng/kg dioxin

TEQ was selected for purposes of the FS and has been refined with additional predesign data (MFA, 2013b). The REL was selected based on technical feasibility (i.e., evaluation of residuals generated during dredging), meeting the CUL, and cost/benefit associated with reduction of concentrations of dioxins. Monitoring of the clean sand layer would ensure achievement of the CUL and continued effectiveness.

Before dredge operations, existing in-water structures would be demolished. There are a few infrastructure remnants of historical LRIS river operations; some dolphins, pilings, a possible submerged bulkhead, and a dock (currently in operation) are located in the sediment remediation area.

Sediment containing dioxins above the REL would be removed from the river bottom and transferred, by material barge, to an upland offloading area in the LRIS adjacent to the in-water work. Alternatively, if possible, sediment may be transported by barge. Dredged sediment would be disposed of at a Subtitle D landfill facility. Best management practices for water quality would be implemented, including silt curtains for containment; dredge method; and turbidity monitoring before, during, and after construction.

Although this alternative likely would not prevent any future dredging activities for channel maintenance and other construction activities, evaluation of sediment conditions would be required before activities involving significant sediment disturbance were initiated.

#### 7.3 Rationale for Selecting Proposed Alternative

SMS requirements for cleanup actions include: overall protection of human health and the environment; attainment of the cleanup standard(s) and compliance with applicable federal, state, and local laws; short-term effectiveness; and long-term effectiveness (WAC 173-204-560(4)). WAC 173-204-580(3) contains guidance for determining reasonable time frames for completing cleanup actions. In WAC 173-204-580(4), the SMS further specifies that, in evaluating the alternatives, the net environmental effects, relative cost effectiveness, and relative technical effectiveness should be considered for the cleanup action alternatives. These factors were all included in the evaluation of alternatives. For further details, see MFA (2013a).

#### 7.3.1 Protection of Human Health and the Environment

According to the SMS, considerations for the protection of human health and the environment include overall protectiveness of the alternative, time required to attain the cleanup standard(s), and on-site and off-site environmental impacts and risks to human health resulting from implementing the cleanup alternatives. All four alternatives protect human health and the environment through compliance with cleanup standards, removal and capping of impacted sediment, and/or institutional controls to manage the potential for exposure to impacted sediment.

Alternative 1 is somewhat protective of human health and the environment. Alternative 1 relies on natural processes to attenuate impacts in the sediment, resulting in an extended time frame. Therefore, there is still potential for exposure to contaminants, as well as for institutional controls to go unheeded. Alternative 2 is protective, as it includes institutional controls plus the placement of a sand layer that would result in the immediate reduction in surface contaminant concentrations.

Contamination would initially be covered by clean sand, but, over the long term, it is likely to mix as a result of use or wave action, thereby exposing receptors to dioxins in the surface sediment. Alternative 3 is protective because it fully isolates contaminants in the sediment from the environment immediately after construction. However, loss of the sediment cap could result in reexposure of the environment to contaminants. Alternative 4 is most protective, as it uses dredging to remove contaminants, as well as ENR. The selected dredging and ENR scenario is estimated to result in a surface weighted average concentration of approximately 4.4 ng/kg dioxin TEQ (MFA, 2013b), below the CUL of 5 ng/kg. Because the highest levels of dioxin would be removed, significantly less time would be required to achieve the CUL than for Alternatives 1 and 2. Alternative 4 is also immediately protective of ecological receptors. Alternative 4 is more permanent than Alternative 3 in that a breach of the cap could result in transport and recontamination of dioxins. Alternative 4 has a higher potential for on- and off-site impacts due to handling, transport, and disposal of impacted sediments. Proper controls during dredging would limit this exposure potential.

## 7.3.2 Compliance with Cleanup Standards and Applicable Federal, State, and Local Laws

This cleanup action is being conducted under the SMS (WAC 173-204). The selected cleanup action would be conducted consistent with all applicable laws and applicable cleanup standards as defined in Section 3 of this CAP. All alternatives are anticipated to meet the CUL; however, the time required to attain these differs by alternative. Alternatives 1 and 2 are expected to achieve the CUL following natural recovery processes requiring an extended timeframe; Alternative 2 would take less time than Alternative 1. Alternatives 3 is expected to attain the CUL immediately upon completion of the remedial action. Alternative 4 is also expected to attain the CUL in the surface sediment immediately upon completion of the remedial action due to placement of 1 foot of clean sand over remaining low-level contamination; over time the sand is likely to mix with underling low-level contamination and equilibrate and is expected to continue to meet the CUL long term.

#### 7.3.3 Short-Term Effectiveness

According to the SMS, analysis of the short-term effectiveness includes consideration of the protection of human health and the environment during construction and implementation of the alternative.

Alternative 1 provides little effective protection in the short term; however, exposure potentials are also lowest, as limited bank stabilization construction activities would be conducted. Alternative 2 has much greater short-term effectiveness than Alternative 1 because of clean sand placement; construction-related exposure would be insignificant because the sand layer can be spread slowly to minimize disturbance of the existing sediment surface. Alternative 3 has the greatest short-term protectiveness because the sediment cap would be effective immediately after its construction; dredging in the navigation channel to accommodate the sediment cap would have the highest short-term construction risks. Alternative 4 produces the most short-term exposure because of dredging and handling of the sediments. Construction would be actively managed to limit the spread of disturbed, impacted sediment beyond the dredge footprint.

#### 7.3.4 Long-Term Effectiveness

Pursuant to the SMS, the following considerations were made in analyzing the alternatives for the evaluation requirements pertaining to long-term effectiveness: degree of certainty that the alternative will be successful; long-term reliability; magnitude of residual, biological, and human health risk; and effectiveness of controls for ongoing discharges and/or controls required to manage treatment residues, remaining wastes cleanup, and/or disposal site risks.

Alternative 1 can be effective in the long term, and additional information would be collected during the preparation of the monitoring program to confirm long-term effectiveness. Alternative 2 has similar long-term benefits, as mixing of the clean sand layer with higher concentrations below would occur. Alternative 3 provides a high level of long-term effectiveness, assuming that the cap is maintained and repaired as necessary; institutional controls would communicate the limits of the armored cap boundary as well as requirements for future development in capped areas, and long-term cap monitoring would confirm remedy effectiveness. Alternative 4 has the greatest long-term effectiveness, as sediments with the highest concentrations would be removed and placement of a clean sand layer would mitigate exposure to residuals. Alternative 4 does not require long-term institutional controls. Monitoring would be conducted to ensure effectiveness and evaluate the natural recovery processes.

#### 7.3.5 Cleanup Time Frame

WAC 173-204-580(3) contains guidance for determining reasonable time frames for completing the cleanup actions. Lake River poses potential risks to human health and the environment, requiring the shortest cleanup time frame practicable. Natural attenuation through sedimentation may occur within the ten-year time frame required by WAC 173-204-580(3)(a)(ii) in some areas of Lake River under Alternative 1. Alternatives 3 and 4 provide for a quick cleanup timeframe (following remedy implementation), followed by Alternative 2, ultimately achieving cleanup standards within the ten-year time frame.

The current use of Lake River and surrounding areas allows for implementation of all of the action alternatives. Institutional controls would be required under Alternatives 1, 2, and 3. These would not be required under Alternative 4 because the scenario does not require that sediments remain undisturbed.

#### 7.3.6 Net Environmental Effects

This requirement includes consideration of the net environmental effects of the alternatives, including residual effects, recovery rates, and any adverse effects of cleanup construction or disposal activities. Under Alternative 1, leaving contamination exposed over time to gradually recover naturally may result in a net environmental effect. Some construction impacts would be associated with Alternatives 2, 3, and 4, but these impacts can be minimized through appropriate project design and construction practices.

#### 7.3.7 Relative Cost and Technical Effectiveness

For the purposes of performing a comprehensive assessment, cost and technical effectiveness were evaluated together, using the MTCA DCA framework because it addresses SMS requirements in WAC 173-204-580(4) as well as additional requirements found in WAC 173-204-560(4)(g-k). The DCA includes evaluation criteria that are a mix of qualitative and quantitative factors, including protectiveness, permanence, long-term effectiveness, management of short-term risks, technical and administrative implementability, consideration of public concerns, and cost. The DCA analysis is summarized in Table 7-2.

#### 7.3.7.1 Protectiveness

Protectiveness of human health and the environment includes the degree to which existing risks are reduced; time required to reduce risk at the facility and attain cleanup standards; on-site and off-site risks resulting from implementation of the cleanup action alternative; and improvement of the overall environmental quality.

As discussed in Section 7.3.1, Alternatives 1 through 4 are, in varying degrees, protective of human health and the environment. Alternative 4 scores high for protectiveness because the remedy removes contaminants, enhances natural recovery, immediately achieves the CUL at the surface, and provides for monitoring to ensure compliance with the CUL following natural recovery. No institutional controls are required.

#### 7.3.7.2 Permanence

Permanence is a factor by which the cleanup action alternative permanently reduces the toxicity, mobility, or volume of hazardous substances. Under the MTCA DCA process, preference is given to permanent solutions, to the maximum extent practicable. A "permanent solution" is defined as a cleanup action in which the cleanup standards are met without further action being required at the site being cleaned up or at any other site involved with the cleanup action, other than the approved disposal of any residue from the treatment of hazardous substances.

Alternatives 1 through 4 vary in permanence, with Alternatives 1 and 2 scoring lowest. Alternatives 1 through 3 rely on institutional controls, potentially reducing permanence. Removal of sediment and no required institutional controls in Alternative 4 make it most permanent. The remedy provides compliance with the REL through dredging; while application of clean sand and monitoring will ensure compliance with the CUL long term.

#### 7.3.7.3 Management of Short-Term Risks

This factor addresses the risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that would be taken to manage such risks.

There are limited short-term risks associated with Alternatives 1 and 2 because of limited construction activities. Alternatives 3 and 4 score higher for short-term risk, as significantly more activities relating to sediment (e.g., cap construction, transport off-site for disposal, sediment

resuspension) would take place that potentially detrimentally affect human health or the environment if conducted improperly; however, construction controls known to be effective in managing these risks would mitigate the overall risk.

#### 7.3.7.4 Effectiveness over Long Term

As discussed in Section 7.3.4, long-term effectiveness includes the degree of certainty that the alternative will be successful; the reliability of the alternative for the period of time during which hazardous substances are expected to remain on-site at concentrations that exceed CULs; the magnitude of residual risk with the alternative in place; and the effectiveness of controls required to manage treatment residues or remaining wastes.

With proper implementation, all four alternatives can be effective over the long term under this criterion. Alternatives 1 and 2 score lowest because they rely on natural recovery processes. Alternative 3 is scored high, yet future damage to the cap could result in releases of contaminated sediment. Alternative 4 is the most effective over the long after sediment removal, monitoring will ensure continued compliance with the CUL, and no institutional controls are required.

#### 7.3.7.5 Technical and Administrative Implementability

This factor addresses whether the alternative can be implemented and is technically possible. The availability of necessary materials, regulatory requirements, scheduling, access for construction operations and monitoring, and integration with existing facility operations must be considered.

All the alternatives use proven sediment-remediation technologies that have been employed at many sites and that are implementable from a technical and administrative perspective. Alternative 4 will require multiple permits and approvals to complete but does not require institutional controls, and is therefore ranked highest under this criterion.

#### 7.3.7.6 Consideration of Public Concerns

This factor includes considering concerns from individuals, community groups, local governments, tribes, and federal and state agencies, including the COE, the DNR (i.e., the landowner, and therefore the owner, of the sediments), and any other organization that may have an interest in or knowledge of Lake River and that may have a preferred alternative.

Ecology has addressed community concerns throughout the history of the associated project work. During development of the RI/FS, Ecology began the process of addressing community concerns for the sediment remediation by communicating with local tribes, DNR, and USFWS, and hosting an open house for community members to inform them about the sediment contamination and potential cleanup opportunities. Interests and concerns of these entities were considered in selection of the preferred alternative. Additional issues or concerns of the DNR, other state and local agencies, tribes and the public will continue to be considered by Ecology as part of the public review process for this Cleanup Action Plan, and during permitting of the sediment cleanup. Alternative 4 scores highest for this criterion because it reflects community/agency preferences for removal of contaminated sediments and meets the CUL in a relatively short time frame. Common community concerns include noise and traffic, short- and long-term risks, and the time frame for any proposed

cleanup actions. Community concerns will also be factored into local permit processes, including responding to the City's shoreline ordinance and development permitting. All alternatives are scored high for this criterion because they have similar permitting and public comment processes.

#### 7.3.7.7 Cost

The estimated net present value costs for implementation, operation and maintenance, and monitoring are as follows:

•	Alternative 1 (Monitored Natural Recovery [MNR]):	\$679,000
•	Alternative 2 (EMNR):	\$2.8 million
•	Alternative 3 (Engineered Cap):	\$7.7 million
•	Alternative 4 (Dredge and ENR):	\$9.5 million

Alternative 4 is the most permanent of the alternatives. The associated costs are considered proportionate to the level of risk reduction achieved in comparison to other, lower-cost, alternatives. Alternative 3 scores lower than Alternative 4 and has a similar remedy cost (depending on the amount of dredging that is incorporated into the alternative to accommodate navigation considerations). Alternatives 1 and 2 have a relatively low cost compared to Alternative 4; however, Alternative 4 achieves a significant increase in protectiveness as well as a higher cumulative score. Based on the DCA findings (see Table 7-2), Alternative 4 is considered permanent to the maximum extent practicable.

#### 7.3.8 Selected Alternative Summary

Alternative 4 (Dredge and ENR) is selected as the in-water remediation alternative for the Lake River sediment. It is the most protective of human health and the environment for the following reasons:

- Dioxin TEQ surface weighted average concentration of the affected area will be reduced
  to the extent technically feasible and is expected to achieve the CUL of 5 ng/kg; dioxin
  congener area wide concentrations will be below concentrations protective of ecological
  receptors.
- Other contaminants exceeding screening levels (i.e., TPAH, PCP, and m&p-cresol) would be removed.
- Contaminated dredged sediment would be permanently removed and would not be available for potential future transport or exposure.
- Residuals within the dredge footprint and sediment with slightly elevated dioxin concentrations adjacent to the dredge footprint would be managed through the placement of a clean sand layer (ENR). The clean sand layer will immediately sequester and control residual concentrations.

Alternatives 1 and 2 provide marginal levels of protectiveness over the short and long terms because high concentrations would remain in place. Alternative 3 achieves a level of protectiveness similar to that of Alternative 4, with a similar level of disturbance to sediments and with a similar cost, while

leaving high contaminant concentrations in place. Alternative 4 provides the highest degree of certainty for long-term protectiveness, combined with immediate short-term reductions in surface concentrations, and is proportionately cost effective when the benefits are considered. Alternative 4 would not require long-term institutional controls and likely would not prevent any future dredging activities for channel maintenance and other construction activities; however, evaluation of sediment conditions would be required before activities involving significant sediment disturbance are initiated.

## 8 ALTERNATIVES CONSIDERED AND BASIS FOR REMEDY SELECTION—CARTY LAKE

Carty Lake is a 52-acre, ponded wetland located in the RNWR Carty Unit. The Carty Unit "lowlands" are immediately north of the LRIS Cell 2 (see Figure 1-2).

#### 8.1 Cleanup Technologies

Consistent with the SMS requirements found in WAC 173-204-560(4)(f)(iii) and using MTCA procedures as a guideline (WAC 173-340-350(8)(b)), individual cleanup action components (technologies) were reviewed to identify applicable methods for remediating the sediment in Carty Lake. The preliminary screening reviewed technologies that are identified in the FRTR screening matrix (2008), as well as other commonly used remediation methods. Effectiveness and implementability of the technologies were assessed, resulting in a list of technologies that were retained for further consideration: institutional controls, natural attenuation, residuals cap (thin cap sand layer), in situ containment (capping), mechanical dredging, and confinement in a commercial landfill. For further details, see MFA (2013a).

#### 8.2 Feasibility Study Alternatives

Remedial alternatives were developed using the individual cleanup technologies retained from the technology screening process with consideration of protection of human health and the environment and attainment of the cleanup standard(s) (see Table 8-1). Each of the assessed four alternatives protect human health and the environment through compliance with cleanup standards, removal and capping of impacted sediment, or institutional controls to manage the potential for exposure to impacted sediment. A No Action alternative was considered, but was dismissed from further evaluation as it does not address cleanup standards.

Carty Lake is part of a national wildlife refuge, and therefore it will be necessary to coordinate alternatives with USFWS and ensure that they are consistent with USFWS plans for Carty Lake.

#### 8.2.1 Alternative 1: Monitored Natural Recovery

Alternative 1 relies on MNR and institutional controls to achieve cleanup standards. Natural recovery occurs under favorable conditions over an indeterminate period of time and acts without

human intervention. Further analysis of the hydrodynamic processes occurring in Carty Lake would be required to quantify the expected time frame for sufficient sedimentation to occur.

A comprehensive work plan would be prepared outlining methods for monitoring techniques and sampling events. The monitoring program would be developed with the objective of verifying the ongoing effectiveness of recovery of contaminated sediment by natural processes.

Restrictions on access, future land use and fishing would all be included as institutional controls. Additional evaluations would be necessary if Carty Lake were to be reconnected with the Columbia River.

#### 8.2.2 Alternative 2: Focused Dredge and Limited Residuals Cap

Alternative 2 consists of removing sediment above RELs by means of dredging and disposal. The location of the impacted sediments would allow dredging from an upland position, with tracked equipment. Actual extents would be refined during design, in consultation with USFWS, but in general are limited to the extreme south part of Carty Lake. Dewatering and solidification of the dredged material in the upland area would be required before landfilling it as nonhazardous material at a local Subtitle D landfill. Access improvements may be required and likely would include clearing and grubbing and the construction of a staging area

Clean sand would be placed in an approximately 1-foot thick layer over dredged areas to manage the dredge-generated residuals that are assumed to be contained within the dredge footprint. The thin layer sand cap is not likely to be significantly disturbed because Carty Lake is a quiescent environment and motorboats are not allowed on the lake.

Access improvements may be required and likely would include clearing and grubbing and the construction of a staging area. Rehabilitation of the wetland in the access, staging, and dredging area will be completed in coordination with USFWS. In addition, the existing bulkhead at the southern portion of the Lake will be functionally replaced to stabilize the adjacent upland property.

The monitoring program would be developed with the objective of evaluating concentration trends in Carty Lake sediment. The monitoring would quantify the reduction in concentrations relative to the CUL (5 ng/kg dioxin TEQ) and would evaluate the ongoing need for institutional controls associated with fish consumption.

#### 8.2.3 Alternative 3: Focused Dredge and Expanded Residuals Cap

Alternative 3 consists of the same elements found in Alternative 2, but with additional clean sand placement in areas outside of the dredged area somewhat elevated dioxin concentrations (areas exceeding 30 ng/kg; see MFA, 2013a). Following sediment removal (using the same RELs as for Alternative 2), clean sand for a residual cap layer would be placed in an approximately 1-foot-thick layer over the selected portions of Carty Lake. Extents would be refined during design, in consultation with USFWS. Because the lake is a quiescent environment and there is little likelihood that the residual cap would be disturbed, the residuals layer would also provide an isolation layer over impacted bottom sediments.

#### 8.2.4 Alternative 4: Focused Dredge and Full Residuals Cap

Alternative 4 consists of the same elements found in Alternatives 2 and 3, but with additional clean sand placement. In addition to the dredging component identified in Alternative 2, clean sand for a residuals cap layer would be placed in an approximately 1 foot-thick layer over all areas of the Carty Lake bottom sediments that have concentrations above the CUL of 5 ng/kg dioxin TEQ. Actual extents would be refined during design, in consultation with USFWS. Access improvements most likely would include clearing and grubbing and the construction of a staging area to provide ingress to the entire lake for sand cap placement.

#### 8.3 Rationale for Selecting Proposed Alternative

SMS requirements for cleanup actions include: overall protection of human health and the environment; attainment of the cleanup standard(s) and compliance with applicable federal, state, and local laws; short-term effectiveness; and long-term effectiveness (WAC 173-204-560(4)). WAC 173-204-580(3) contains guidance for determining reasonable time frames for completing cleanup actions. In WAC 173-204-580(4), the SMS further specifies that, in evaluating the alternatives, the net environmental effects, relative cost effectiveness, and relative technical effectiveness should be considered for the cleanup action alternatives. These factors were all included in the evaluation of alternatives. For further details, see MFA (2013a).

#### 8.3.1 Protection of Human Health and the Environment

Considerations for the protection of human health and the environment include overall protectiveness of the alternative, time required to attain the cleanup standard(s), and on-site and off-site environmental impacts and risks to human health resulting from implementing the cleanup alternative.

Alternative 1 is somewhat protective of human health and the environment. Natural recovery of Carty Lake sediments would involve the slow deposition of clean sediment on top of existing impacted sediment, natural degradation of contaminants, and/or the natural dispersion of contaminated materials. Because there are few sediment inputs to Carty Lake, the time frame for attenuation could be extensive, increasing the possibility of exposure to contaminants and the likelihood that institutional controls will be ignored.

Alternatives 2 through 4 are protective of human health and the environment. Implementing the alternatives would, over the short and long terms, prevent exposure to contaminants in sediment exhibiting the highest concentrations and that contribute to unacceptable risk to ecological receptors. The residuals cap layer of clean sand placed directly over the dredged area would prevent contact with any dredge-generated residuals. Additional sand placement in Alternative 3 would result in area wide sediment concentrations that are only marginally less than those for Alternative 2, while all of the low-level impacts would be covered by the cap layer in Alternative 4.

### 8.3.2 Compliance with Cleanup Standards and Relevant Federal, State, and Local Laws

This cleanup action is being conducted under the SMS (WAC 173-204). All cleanup alternatives will be conducted consistent with cleanup standards and applicable laws as defined in Section 3 of this CAP. Compliance with the permit would be necessary to meet this requirement.

Alternatives 2, 3, and 4 are all anticipated to achieve RELs immediately upon completion of the active remedy. Alternative 1 would require the longest time frame to meet the CUL and RELs, and is likely to require more than ten years to meet these levels, given the low level of sediment input to the lake. Alternative 4 would require the shortest amount of time to reach the CUL because the initial placement of a clean layer of sand would cover all concentrations above the CUL. Alternatives 2 and 3 are likely to require similar time frames for achieving the CUL and would require less time than Alternative 1 and more time than Alternative 4.

#### 8.3.3 Short-Term Effectiveness

According to the SMS, analysis of the short-term effectiveness includes consideration of the protection of human health and the environment during construction and implementation of the alternative.

Alternative 1 provides little effective protection in the short term; however, exposure potentials are also lowest, as no construction activities would take place. Alternatives 2 through 4 provide short-term effectiveness because a residuals cap layer would be placed over dredged locations; some short-term exposure during dredging may occur. However, the more extensive cap placement in Alternative 4 leads to more short-term exposure to contaminants during construction and implementation because of dredging of the sediments and subsequent handling of the dredged material. Extensive sand placement in Alternative 4 may significantly disturb benthic biota and associated biota that rely on benthics throughout the lake.

#### 8.3.4 Long-Term Effectiveness

Pursuant to the SMS, the following considerations were made in analyzing the alternatives for the evaluation requirements pertaining to long-term effectiveness: degree of certainty that the alternative will be successful; long-term reliability; magnitude of residual, biological, and human health risk; and effectiveness of controls for ongoing discharges and/or controls required to manage treatment residues, remaining wastes cleanup, and/or disposal site risks.

Alternative 1 can be effective in the long term, provided that the natural attenuation mechanisms are operating and are understood to the extent that a completion time frame can be predicted. No disposal site risks are associated with this alternative. Restrictions would be placed on future uses in order to protect human health, increasing long-term effectiveness if the restrictions are followed.

Alternatives 2 through 4 provide a higher degree of long-term effectiveness due to removal of highly impacted sediment and placement of a physical barrier over a selected area of residual impacted sediment. Removing the higher concentrations of dioxins and other contaminants would eliminate

unacceptable risk to ecological receptors; protection of human health depends on effectiveness of institutional controls. Alternative 4 improves on the long-term effectiveness of Alternatives 2 and 3 through the addition of a more extensive sediment cap layer, which would isolate surface concentrations on a wider, more permanent scale than with Alternative 2. The disposal site would be an operating landfill with established controls in place to adequately contain impacts associated with these sediments.

#### 8.3.5 Cleanup Time Frame

WAC 173-204-580(3) contains guidance for determining reasonable time frames for completing cleanup actions. Alternative 1 relies on natural deposition to achieve cleanup standards and likely would have a significantly longer cleanup time frame than Alternatives 2, 3, and 4. Alternatives 2, 3, and 4 would achieve the RELs (ecological cleanup standards) well within the ten-year time frame (WAC 173-204-580(3)(a)(ii)), while institutional controls would immediately take effect to protect human health. Alternative 4 would achieve the shortest cleanup time frame because of the placement of the more extensive sediment cap. However, it may still take a considerable amount of time for natural recovery to achieve levels protective of human health.

#### 8.3.6 Net Environmental Effects

This requirement includes consideration of the net environmental effects of the alternatives, including residual effects, recovery rates, and any adverse effects of cleanup construction or disposal activities. The implementation of Alternative 1 results in no net change to the existing environmental system, on-site or off-site. Alternatives 2 through 4 have the potential for much greater environmental impacts than Alternative 1; however, if properly managed and designed, dredging and disposal of impacted sediment would not affect water quality. Alternatives 2 through 4 would result in greater benefits than Alternative 1 through the removal of a significant mass of contaminants and the immediate reduction of potential exposure to the highest levels of contamination. Alternative 4 would result in a marginal net environmental benefit over Alternatives 2 and 3, as it contains the same amount of risk associated with the removal of impacted sediments. More clean sand would be placed over the impacted sediments, resulting in lower concentrations; however, significantly greater disturbance of lake biota would occur.

#### 8.3.7 Relative Cost and Technical Effectiveness

For the purposes of performing a comprehensive assessment, cost and technical effectiveness were evaluated together, using the MTCA DCA framework because it addresses SMS requirements in WAC 173-204-580(4) as well as additional requirements found in WAC 173-204-560(4)(g-k). The DCA includes evaluation criteria that are a mix of qualitative and quantitative factors, including protectiveness, permanence, long-term effectiveness, management of short-term risks, technical and administrative implementability, consideration of public concerns, and cost. The DCA analysis is summarized in Table 8-2.

#### 8.3.7.1 Protectiveness

According to the SMS, considerations for the protection of human health and the environment include overall protectiveness of the alternative, time required to attain the cleanup standard(s), and on-site and off-site environmental impacts and risks to human health resulting from implementing the cleanup alternative.

Alternatives 1, 2, 3, and 4 are protective of human health and the environment. Alternative 1 rates lowest for protectiveness. Alternative 2 is rated in the middle for protectiveness, as contaminants would be removed to RELs and a residuals cap layer would limit exposure of residual impacts in the dredge area. Impacted sediments above the CUL would remain and institutional controls would be required to protect human health. Alternative 3 results in minimal reduction in post remedial dioxin concentrations relative to Alternative 2. Alternative 4 rates highest for protectiveness.

#### 8.3.7.2 Permanence

Permanence is a factor by which the cleanup action alternative permanently reduces the toxicity, mobility, or volume of hazardous substances. Under the MTCA DCA process, preference is given to permanent solutions, to the maximum extent practicable. A "permanent solution" is defined as a cleanup action in which the cleanup standards are met without further action being required at the site being cleaned up or at any other site involved with the cleanup action, other than the approved disposal of any residue from the treatment of hazardous substances.

Alternative 1 rates lowest for permanence. Alternative 2 is rated in the middle under this criterion, as contaminated sediment is removed and (assumed) residuals are covered by a residuals cap layer. The relative longevity and effectiveness of the residuals cap layer will be less quantifiable, as it is not an engineered cap and cannot be relied upon as such; however, the fluvial environment in Carty Lake is not highly dynamic and impairment to the residuals cap surface would not occur as a result of human activity (e.g., propeller wash). Alternative 3 is also a partial capping alternative, and is not fundamentally different enough from Alternative 2 to be considered more permanent. Alternative 4 rates highest for permanence.

#### 8.3.7.3 Management of Short-Term Risks

This factor addresses the short-term risk to human health and the environment associated with the alternative during construction and implementation, and the effectiveness of measures that will be taken to manage such risks.

There are no construction-related short-term risks associated with Alternative 1, and therefore Alternative 1 is rated the highest under this criterion. Alternatives 2 and 3 remove sediment, increasing the potential to detrimentally affect human health or the environment if the sediment is handled improperly, but are overall a much less intensive implementation process than Alternative 4, decreasing short-term risks associated with construction and resulting in a middle rating. Alternative 4 rates lowest for management of short-term risks.

#### 8.3.7.4 Effectiveness over Long Term

Long-term effectiveness includes a degree of certainty that the alternative will be successful; the reliability of the alternative for the period of time during which hazardous substances are expected to remain on site at concentrations that exceed CULs; the magnitude of residual risk with the alternative in place; and the effectiveness of controls required to manage treatment residues or remaining wastes.

Alternative 1 may be effective in the extreme long term, provided that the natural processes occur without incident and that the institutional controls placed on future uses in order to protect human receptors are effective. Alternatives 2 and 3 are rated in the middle under this criterion, as the alternatives remove contaminated sediment and add a residuals cap layer for the purposes of managing residuals in the dredged area only (Alternative 2) or the dredged area in addition to other areas of somewhat elevated contamination (Alternative 3), with the rest of the footprint of the lake relying on natural recovery over time and institutional controls to protect human receptors. The degree of certainty in long-term effectiveness is somewhat lower for Alternatives 2 and 3 than for Alternative 4 because of the potentially slow process of sedimentation at Carty Lake. The addition of a more extensive sediment cap layer would isolate surface concentrations on a wider, more permanent scale.

#### 8.3.7.5 Technical and Administrative Implementability

All alternatives use proven technologies for remediating sediment, have been employed at many sites, and are therefore implementable from a technical and administrative perspective. Alternative 2 is implementable, as mechanical dredging is straightforward. This alternative presents some difficulty in managing sediment for off-site disposal and in gaining access to Carty Lake, with limited impacts to the surrounding wetland area introducing some technical and logistical issues. Alternative 2 has administrative requirements, such as institutional controls and ongoing monitoring and maintenance of the residual cap, in addition to monitoring the natural recovery of the remaining sediments. Alternative 4 requires a great deal more access to the entirety of Carty Lake, causing increased logistical and physical constraints over Alternative 2. Alternatives 2, 3, and 4 require ongoing administrative action in a shorter time frame than for Alternative 1, resulting in a higher ranking for these alternatives, with Alternative 2 ranking highest because of fewer constraints during implementation.

#### 8.3.7.6 Consideration of Public Concerns

Ecology has addressed community concerns throughout the history of this project. During development of the RI/FS, Ecology began the process of addressing community concerns for the sediment remediation by communicating with local tribes, DNR, and USFWS, and hosting an open house for community members to inform them about the sediment contamination and potential cleanup opportunities. Interests and concerns of these entities were considered in selection of the preferred alternative. Additional issues or concerns of the DNR, other state and local agencies, tribes and the public will continue to be considered by Ecology as part of the public review process for this Cleanup Action Plan, and during permitting of the sediment cleanup. Alternative 4 scores highest for this criterion because it reflects community/agency preferences for removal of contaminated sediments and meets the CUL in a relatively short time frame. Additional issues or

concerns will be evaluated by Ecology as part of the cleanup action selection process. This includes consideration of public use of Carty Lake. Common community concerns include noise and traffic, short- and long-term risks, and the time frame of any proposed cleanup actions. Community concerns will also be factored into local permit processes, including responding to the City's shoreline ordinance and development permitting. Alternative 1 has the potential to be less open to the public because it is unlikely that there will be permitting requirements that provide opportunities for public comments.

#### 8.3.7.7 Cost

The estimated net present value costs for implementation, operation and maintenance, and monitoring are as follows:

•	Alternative 1 (MNR):	\$280,500
•	Alternative 2 (Focused Dredge and Limited Residuals Cap):	\$1.6 million
•	Alternative 3 (Focused Dredge and Expanded Residuals Cap):	\$2.3 million
•	Alternative 4 (Focused Dredge and Full Residuals Cap):	\$7.3 million

Alternative 2 provides a much greater degree of protectiveness and long-term effectiveness for an incremental cost of approximately \$1.6 million when compared to Alternative 1. Alternative 3 costs nearly half again as much as Alternative 2 and results in nearly the same estimated post remedial dioxin TEQ concentrations (see MFA, 2013a); therefore, Alternative 2, with less thin sand placement, is more cost effective, and Alternatives 3 and 4 are disproportionately costly.

#### 8.3.8 Selected Alternative Summary

Alternative 2 (Focused Dredge and Limited Residuals Cap), is the selected alternative and meets the cleanup action requirements specified in WAC 173-204-580(2). This alternative is found to be the most protective of human health and the environment relative to cost for the following reasons:

- Sediment with concentrations of dioxins above RELs (protective of ecological receptors) would be removed, sediment with the highest concentrations of dioxins would not be available for potential future exposure or transport, and area wide dioxin concentrations would be significantly reduced.
- Dredging of impacted dioxin areas would also remove other contaminants above screening criteria.
- Residuals within the dredge footprint would be managed through the placement of a thin sand cap layer.
- Alternative 2 would be implemented with appropriate institutional controls to continue
  to limit consumption of fish from Carty Lake, including monitoring of surface sediment
  quality to evaluate long-term remedy performance and continued recovery of lake
  sediment.
- Bulkhead stabilization.

• Rehabilitation of the wetland in the dredge, staging, or access areas.

### 9 IMPLEMENTATION OF CLEANUP ACTION

#### 9.1 LRIS

As summarized in Section 4.1, a number of interim actions that are also selected as final cleanup actions have been completed at the LRIS. These include:

- Initial source removals
- SER system
- Cells 3 and 4 interim action
- Cells 1 and 2 interim action

The implementation of these cleanup actions is described below.

#### 9.1.1 Initial Source Removals

Remedial actions were conducted from 1996 until 2002 as emergency and interim actions to meet requirements of Agreed Order No. 01TCPSR-3119. The actions were focused on removal of PWT equipment, tanks, and product; general site maintenance; and hot spot removal. The interim actions are detailed in the 2004 RI work plans (MFA, 2004, Vols. I, II, and III) and are summarized below for Cells 1, 2, 3, and 4.

#### CELLS 1 AND 2

- Replacement of the stormwater line and removal of drain tile and impacted soil west of the concrete pond to OF-3.
- Cleanout of the remaining stormwater system and installation and maintenance of catch basin and trench drain filters. The first cleanout was conducted in phases, starting in 1995 and ending in 1998. A second stormwater cleanout was conducted in 1999.
- Removal of the tank farm, retorts, PWT's WWTP, treated lumber, ancillary equipment, treating buildings, hazardous chemicals and sludge, the concrete pond, and the historical French drain system.
- Excavation of contaminated soil at the dry PCP spill area; soil where the City expanded their WWTP around sample locations T-4 and T-5; and soil near Building 6, around sample locations B-228, DS-N, and DS-S.

#### CELL 3

• Removal of treated wood left by PWT.

- Removal of an oil/water separator that historically discharged to OF-1.
- Removal of the drip trough and treatment of 300 cubic yards of impacted soils with peroxide. The soil was placed back in the excavation after treatment.
- Soil exceeding Method C CULs, surrounding B-208 and B-220 in the western portion of Cell 3, was removed and placed in Cell 1.

#### CELL 4

• A soil berm was constructed to direct surface water flow to Cell 2 and OF-3.

#### 9.1.2 SER System

The SER system began operations in 2004 as an interim/emergency action designed to remove NAPL from the subsurface and prevent the NAPL plume from migrating onto the RNWR. The system configuration, shown on Figure 9-1, was installed on the portion of the LRIS where NAPL was present (i.e., herein referred to as the SER area).

#### SER SYSTEM: PHASES 1 AND 2

The SER project was conducted in two phases. Section 4 of the draft Cells 1 and 2 RI/FS (MFA, 2011) discusses the 2004–2005 Phase 1 operations and the 2006–2010 Phase 2 operations in detail. In general, Phase 1 was a pilot study conducted through the center of the NAPL plume to evaluate the effectiveness of the system and obtain information to design the full-scale operation. Phase 2, the full-scale operation, was designed to thoroughly remediate the entire SER area.

Liquids (i.e., NAPL, groundwater, and condensate) were treated using heat exchangers, bulk oil/water separation, coagulation and flocculation, filtration, and, finally, granular activated carbon. Vapors were treated using heat exchangers, air/liquid separators, dryers, and, finally, granular activated carbon.

During Phase 1 and 2 operations, the SER system used an approximately 100-gallon-per-minute liquid treatment system and a 1,500-standard-cubic-feet-per-minute vapor extraction and treatment system. The Phase 1 system was installed as described in the interim/emergency action design report submitted to Ecology on February 19, 2002 (SteamTech, 2002).

In Phase 1, the liquid treatment plant treated approximately 60,000 gallons of contaminated liquids per day (i.e., at 42 gallons per minute). The average temperature of the extracted liquid was approximately 120 degrees Fahrenheit. Phase 1 operated from May 2004 to May 2005 and addressed portions of Areas 2 and 4 of the SER area (see Figure 9-1).

The Phase 2 wellfield was constructed as described in the Interim/Emergency Action Phase 2 Design Report (MFA, 2005). Phase 2 was operated in Areas 1 through 4, sequentially, as shown on Figure 9-1. Phase 2 operations took place from March 2006 through December 2010 as follows:

- Operations were conducted in Area 1 from March 7, 2006, to April 4, 2007. Area 1 is just south of the former tank farm and incorporates the area where the retort doors were opened.
- Operations were conducted in Area 2 from July 10, 2007, to February 1, 2008. Area 2 incorporates a portion of the former tank farm and retort area.
- Area 3 operated from April 1, 2008, to August 3, 2009, and is downgradient of Area 1.
- Area 4 operated from August 3, 2009, to December 15, 2010, and is the most downgradient area of the SER area.

In Phases 1 and 2, approximately 24,800 gallons of NAPL was removed and separated using the SER system. Based on data submitted in the Cells 1 and 2 RI/FS (MFA, 2011a), SER has removed mobile product and is approaching diminishing returns. To confirm diminishing returns and remove any remaining NAPL that can be addressed by SER, the Port proposed a polish phase.

#### **POLISHING STAGE**

In preparation for the polishing stage, a second boiler was procured to increase steam generation capacity. Piping was reconfigured to allow injection and extraction in all four areas.

On March 8, 2011, the Port began polishing operations to treat previously steamed areas to remove any remaining NAPL. During the polishing operations, the SER system injected steam into the subsurface at approximately 18,000 to 23,000 pounds per hour. The system extracted liquid at 105 to 120 gallons per minute (approximately double the previous rate) and soil vapor at approximately 50 percent more than the previous rate. Polishing operations ended on June 19, 2011. The SER system was then cleaned and dismantled.

#### 9.1.3 Cells 3 and 4 Interim Action

This work was completed during 2010 and 2011 and included the following:

- Removal of existing trees and vegetation
- Demolition of the existing building
- Removal of the existing bulkhead along Lake River
- Crushing of concrete slabs
- Excavation and off-site disposal of contaminated soil
- Excavation and regrading of the Lake River bank along Cell 3 above 11 National Geodetic Vertical Datum of 1929 (NGVD)
- Placement of excavated bank soils upland
- Replacement of the existing stormwater system
- Placement of a minimum 2-foot-deep clean cap over each cell

All trees within the Cells 3 and 4 limits of work (on Port property and above 11 NGVD) were removed. Vegetated debris was ground to 0.5-inch-minus and washed with water for a minimum 15 minutes before off-site disposal in a nonhazardous-waste landfill.

The existing building was demolished. Building debris was disposed of at a nonhazardous-waste landfill. Concrete and asphalt slabs encountered during the subgrade preparation were crushed and placed on the LRIS.

A treated wood bulkhead just south of the existing kayak launch was removed. The wooden piles were cut off flush with the mudline and disposed of with other treated wood debris from the LRIS.

Shallow soils were removed where concentrations of IHSs exceeded MTCA Method C CULs (382 tons). Confirmation samples were taken from the floor and sidewalls of each excavation; excavations were expanded until sample results demonstrated compliance with MTCA C CULs. This soil was disposed of at the Aragonite incineration facility in Aragonite, Utah.

Soil was excavated from the Lake River bank along Cell 3 above 11 NGVD and placed upland. The bank along Cell 3 was regraded at a 2:1 slope.

The existing stormwater system was removed and replaced with a new collection and conveyance system and two new outfalls. The new stormwater network consists of catch basins, manholes, and pipes (see Figure 9-2). Riprap splash pads were installed at the two new outfalls. The new Cell 4 drainage network was connected to the existing Cell 2 stormwater network.

Once excavated, bank soils were placed and compacted in the upland portion of the LRIS. The subgrade was covered by demarcation geotextile, and a minimum 2-foot-deep clean cap was placed over Cells 3 and 4. Along the bank on Cell 3, a minimum 3-foot-deep cap was placed (see Figure 4-2). A permanent erosion-control mat was placed on the 2:1 Cell 3 bank slope for stabilization. A seed mixture was applied to establish vegetation.

#### 9.1.4 Cells 1 and 2 Interim Action

The Cells 1 and 2 interim action was completed during 2012 and 2013. These are described in detail below:

#### 9.1.4.1 Cells 1 and 2 Soil Removal Project

This portion of the Cells 1 and 2 interim action was completed during early summer 2012. Shallow soils were removed where concentrations of IHSs exceeded MTCA Method C CULs. Confirmation samples were taken from the floor and sidewalls of each excavation; excavations were expanded until sample results demonstrated compliance with applicable MTCA C CULs. Two large areas of NAPL contamination were excavated and removed (i.e., from the area known as the concrete pond area). NAPL impacts were confirmed by visual and photoionization detector confirmation within the original excavation limits. Two buildings and associated concrete slabs were demolished to allow access to the NAPL contamination.

Excavation overburden, soils that did not exhibit NAPL impacts but were removed during the NAPL excavations, were temporarily stockpiled on an existing concrete slab lined with plastic sheeting. The shallow excavations were backfilled with clean cap soils. The NAPL excavations were first backfilled with clean rock imported from off-site (to provide a solid footing for compaction

above), then with excavation overburden, and finally with clean cap soils as required to meet existing grade. Backfill was completed in 1- to 2-foot layers.

This project removed 8,264 tons of soil from Cells 1 and 2, with disposal at the Chemical Waste Management of the Northwest landfill in Arlington, Oregon.

#### 9.1.4.2 Cells 1 and 2 Capping Project

This portion of the Cells 1 and 2 interim action was completed during 2012 and 2013. This work included the following:

- Removal of trees and vegetation
- Demolition of the remaining buildings except for the Port Administration Office
- Crushing of concrete and asphalt slabs
- Regrading the Lake River bank along Cell 2 above 11 NGVD at a 6:1 slope
- Placement of excavated bank soils upland
- Replacement of the existing stormwater system
- Installation of access roadways and trails (required by the City)
- Reconfiguration of Division Street
- Placement of a minimum 2-foot-deep clean cap soil over Cells 1 and 2

All trees within the Cells 1 and 2 limits of work (on Port property and above the OWH line) were removed. Vegetated debris was ground to 0.5-inch-minus and washed with water for a minimum 15 minutes before off-site disposal in a nonhazardous-waste landfill.

Building 6 was demolished. Building debris was partially salvaged by the contractor; remaining debris was disposed of at a nonhazardous-waste landfill.

Concrete and asphalt slabs encountered during the subgrade preparation were crushed and placed on-site. Crushed concrete was used for portions of the hard trail system and Division Street as roadway fill. These areas are capped with asphalt pavement.

The Lake River bank above 11 NGVD was regraded at a 6:1 horizontal to vertical slope. Excavated soil was placed and compacted as fill in the upland portion of the LRIS. Demarcation geotextile was placed on the slope and the area received a 3-foot-deep, clean soil cap.

A short section of the Lake River bank could not be regraded consistent with the plans because of the discovery of archaeological artifacts. As a result, the western edge of this area where it meets the bank did not receive the designed 3-foot-deep, clean cap. This area will be addressed during the Lake River sediment work to receive a minimum 2-foot-deep cap thickness. Once excavated, bank soils were placed and compacted in the upland portion of the Cell, and demarcation geotextile was placed, followed by clean cap soil. The area west of the hard trail received a minimum 3-foot-deep cap; the area east of the hard trail received a minimum 2-foot-deep cap (see Figure 4-2). Seed mixtures have been spread over the Cells, and vegetation is being established.

The existing stormwater system was replaced with a new collection and conveyance system. Most of the existing stormwater system was removed from the LRIS; other sections were plugged with concrete and abandoned in place. A network of new drainage ditches, catch basins, manholes, and pipes was installed (see Figure 9-2). Riprap splash pads were installed at each of the three new outfalls. The Cell 4 drainage network, installed during the Cells 3 and 4 interim action, was connected to the new Cell 2 stormwater network.

As required by the City shorelines permit, a network of hard and soft trails was installed. The hard trail system extends from the southwest corner of Cell 3 to the northwest corner of Cell 4 (see Figure 4-2). The soft trail roughly follows the top of the 6:1 bank slope along the Cell 2 river frontage. An unpaved access road to the City's WWTP was installed across Cell 2.

The elevation of Division Street was increased to approximately the level of the clean cap on either side. The roadway vertical geometry was also adjusted near the railroad tracks to improve access to the property. The existing roadway surface was scarified and crushed concrete was placed and compacted to form the roadway base. Additional graded crushed base rock was placed on the crushed concrete, followed by asphalt pavement.

#### 9.2 Port-Owned Properties

The Port-owned properties include the Railroad Avenue properties, the marina property, and the proposed overpass property. The Railroad Avenue properties will be regraded and demarcation geotextile will be placed. The property will receive a 2-foot-deep, clean cap to prevent public exposure to dioxins. A retaining wall may be necessary to facilitate cap placement on the western edge of the property. It is anticipated that this work will be conducted during summer 2014.

Much of the marina property has been capped with asphalt. As part of the Cells 3 and 4 interim action, a narrow strip of land north of the parking area was capped with clean soil. Construction in the proposed overpass property will include covering the overpass footprint with a cap consistent with LRIS capping options, and a soil management plan will be required if soil is to be excavated. No further remedies are planned for these properties.

#### 9.3 Lake River

Lake River sediment work is planned for the in-water work window of fall 2014 through winter 2015. Plantings will follow in spring and summer 2015.

The Lake River sediment work consists of four main project components:

- Construction of staging area
- Removal of existing debris and dock
- Dredging of contaminated sediment
- Placement of ENR and residuals cap
- Bank stabilization (placement of rock)

All debris will be removed before other in-water work. Where pilings and dolphins lie within the dredge prism, they will be pulled; where they occur within either the limits of bank protection or the ENR cap, they will be cut off flush with the mudline. The existing kayak launch will be removed and replaced upon completion of the remedial action. Debris will be disposed of according to the appropriate regulations.

Dredging will follow debris removal and will be conducted using "precision dredging" techniques. The engineer will provide the contractor with a digital terrain model of the required dredge prism. The specifications likely will require the use of specialized buckets attached to fixed-arm machinery to handle unanticipated debris as well as to limit contaminant resuspension and the generation of residuals. Bathymetric survey will be conducted to confirm required dredge elevations were achieved.

Dredged sediment will be disposed of at a Subtitle D landfill; two handling and transportation options are considered: (1) upland handling and truck transportation, and (2) barge transport. If dredged sediments are handled upland, the material will be temporarily placed into scows; the scows will not be allowed to overflow sediment laden water to limit impacts to water quality. A sediment handling and dewatering area will be constructed on an upland portion of the LRIS. The sediment-handling area will be lined to prevent contact between sediment and the recently placed clean cap soils. Sediment received from barges will be placed directly into the sediment-handling area. Sediment will be evaluated to determine whether additional dewatering is required. Depending on the selected disposal facility, sediment may be required to pass the Paint Filter Liquids Test before transport. In this case, the contractor may mix approved admixtures (such as Portland cement, quicklime, perlite, Zapzorb) into the sediment to reduce free liquid. Free liquid that drains off in the sediment-handling area will be collected and treated for turbidity before discharge back into Lake River.

If dredged sediment is transported by barge, the material will be placed into scows for over-water transport. Loaded scows will be transported by tug down Lake River to the Columbia River and, eventually, to a transload facility. Sediment may be conditioned along the route to the transload facility to further encourage dewatering. Upon arrival at the transload facility, sediment will be dewatered by perlite amendment if required for disposal. Sediment will be placed in a Subtitle D landfill. Dewatering and transport from the transload facility to the landfill will be provided by the selected contractor.

Dredged material will be disposed of as nonhazardous material waste at a Subtitle D landfill facility. The sediment data results have been reviewed and screened for waste designation purposes; the dredged material will not be designated as either a RCRA listed hazardous waste or a RCRA characteristic waste.

Placement of the ENR cap will follow dredging as quickly as is practicable. The ENR cap will be placed in accordance with the required depths shown on the plans. The ENR placement method will be designed to ensure adequate coverage, limit disturbance of dredge residuals, and prevent water quality impacts.

Bank stabilization work will follow dredging and ENR cap placement. Rock armor will be placed to tie in with the LRIS soil cap to protect the bank from erosion by waves, propeller wash, and river

velocities. Riparian vegetation will be established on the clean cap placed above 11 NGVD during the Cells 1 and 2 interim action to prevent erosion during high water events.

Project limits for turbidity at both near- and far-field compliance points will be established by the engineer before construction begins. Work will be conducted consistent with the substantive requirements of the 401 certification.

Following completion of remedial action, a new kayak dock will be installed. Any damage to Division Street or the trail system will be repaired. Any sediment dewatering areas will be dismantled and the area restored to preconstruction condition.

Protection monitoring for water quality will take place during project construction, according to substantive requirements of the Ecology 401 Water Quality Certification. Specific requirements for this monitoring will be worked out during project permitting, but at a minimum will include measuring turbidity in the water column surrounding the work area. Sediment monitoring of areas outside of the active remediation area may be required to ensure the work has not degraded surrounding sediments.

Long term monitoring will be conducted to understand the effectiveness of the remedy. A long term monitoring plan (as part of the COMP) will be developed by the Port as a required deliverable under this CAP. Confirmation sampling will not be conducted upon completion of dredging. The planned post-dredge surface was well-characterized prior to finalizing the project design and the dredge prism was conservatively designed to remove contaminants. A baseline assessment of dioxins in surface sediment in the remedial action area will be conducted shortly after completion of the remedy, i.e., dredging and ENR placement. Monitoring for dioxins in the remediation area will be conducted at the end of year two, year five, and year ten after baseline sampling. Specifics of the sampling and the monitoring will be developed as part of the monitoring plan. The need for subsequent sampling events will be determined by Ecology if after review of year ten sampling there are indications that concentrations could increase above expected levels. Post remedial monitoring sampling will be conducted in a way that ensures that results are reproducible, to the extent practicable, and that results and temporal trends can be established.

#### 9.4 Carty Lake

Carty Lake sediment work is planned for the summer of 2014. This work will consist of the following main project components:

- Construction of staging area.
- Dredging of sediment with concentrations of dioxins above RELs.
- Placement of residuals cap and plantings.
- Functionally replace the existing bulkhead to the south and east of Carty Lake between the RNWR and Port LRIS property.

All debris in the dredge/residuals cap area will be removed prior to other work. The dredge/residuals cap area will be isolated from the rest of Carty Lake to limit water quality impacts during construction.

Dredging will likely will be executed by track-mounted excavators. Dredged sediment will be loaded into trucks for landfill disposal. Additional dewatering prior to transport is not anticipated. Upon survey confirmation that the required dredge depth has been reached, the residuals cap will be placed. Dredged material will be disposed of as nonhazardous material waste at a Subtitle D landfill facility. The sediment data results have been reviewed and screened for waste designation purposes; the dredged material will not be designated as either a RCRA listed hazardous waste or a RCRA characteristic waste.

Confirmation sampling will not be conducted upon completion of dredging. The planned post-dredge surface will be well-characterized prior to finalizing the project design, and the dredge prism will be conservatively designed to remove contaminants.

Approximately 1-foot of clean sand will comprise the residuals cap. Consistent with a USFWS request, an attempt will be made to deepen the southern portion of Carty Lake by 6 inches (in comparison to preconstruction elevations) via the dredge depth and final ENR cap elevations. Further, the USFWS has expressed a desire for 3:1 slopes leaving the bottom of Carty Lake. Design will be further developed in coordination with USFWS.

Upon completion of dredging and clean sand placement the residuals cap area will be planted with native plants. Planting plans will be developed in consultation with USFWS. The work area will be hydraulically reconnected to the rest of Carty Lake. Any temporary access roads within the refuge will be removed, and temporary road areas will be restored to preconstruction condition.

Monitoring will be conducted to understand changes, if any, in dioxin concentrations in surface sediment over time. Monitoring will be conducted five years after completion of the remedy. Additional post remedial sampling could be conducted in consideration of eliminating intuitional controls on fishing in the lake, and to evaluate concentration trends. Sampling will be conducted in a way that ensures that results are reproducible, to the extent practicable, and that results are representative and temporal trends can be established.

#### 9.5 Integrating Community Concerns

Integrating community concerns addresses concerns from individuals, community groups, local governments, tribes, federal and state agencies, and any other organization that may have an interest in or knowledge of the Property.

Ecology and the Port have addressed community concerns throughout the history of this project, and will continue coordination to ensure that cleanup actions account for community input. Consistent with WAC 173-340-600, Ecology will provide public notice, and public comments on the project and on this document will be solicited from the community during the formal comment period. After review and consideration of the comments received during the public comment period, Ecology shall issue a final CAP and publish its availability in the Site Register and by other appropriate methods. Common community concerns may include noise and traffic, short- and long-

term risks, socioeconomic impacts, and the time frame of any proposed cleanup actions. Special concerns related to this project include potential impacts to cultural or archaeological resources and potential impacts to wetlands.

Permitting processes and coordination with stakeholders and interested parties also provide a mechanism for integrating community concerns during the design phase of the project. Agencies that will have input in the process are not limited to, but include:

- COE: the COE will review the design of the selected alternative for Lake River and
  permit the project upon input from natural resource trustees and tribes; this includes
  consideration of potential effects on biological and cultural resources, with input from
  agencies including NOAA/NMFS and DAHP.
- DNR: DNR is the landowner of Lake River sediments and had input regarding the remedy selection process during the development of the RI/FS and CAP. DNR will continue to have input through permitting of the selected alternative.
- USFWS: Remedy design for Carty Lake will be further coordinated with the USFWS, particularly because remedy design has the potential to impact wetlands in the south part of Carty Lake.
- DAHP and Tribes: A project-specific cultural resource protection plan under which work will be conducted will be developed in coordination with DAHP and affected Tribes.
- City of Ridgefield: Ecology will coordinate with City of Ridgefield to ensure that all aspects of the project comply with the substantive requirements of the local permit processes, including responding to the City's shoreline ordinance, critical areas ordinance and development permitting.

Additional permitting requirements that further address community concerns are detailed in Section 3.2.

#### 9.6 Comprehensive Operation and Maintenance Plan

A Comprehensive Operation and Maintenance Plan i.e., COMP, will be generated. The COMP will encompass operation and maintenance plans for areas of the Property, providing a reference document for all institutional controls and compliance monitoring requirements. Institutional controls are required by this document and enforced through a deed restriction that is registered with the county that stays with the property. Different institutional controls will be required for the various areas of the Property. Compliance monitoring plans are an element of operation and maintenance plans and will be included in the COMP developed for the Property. As work is completed for each location, each operation and maintenance plan can be prepared and approved by Ecology as standalone document and then attached to the COMP.

#### 9.7 Schedule for Implementation

Cleanup of the Property is currently underway. A number of components of the cleanup have been completed as interim actions; other components are anticipated to take place over a number of years

as cleanup actions. Exhibit C of the consent decree summarizes the project schedule for additional cleanup activities.

Ecology requires documentation for each phase of work. These include operation and maintenance plans (which include compliance monitoring programs and sampling and analysis plans), engineering design reports, construction plans and specifications, and construction completion (as-built) reports. Table 9-1 summarizes required deliverables and the schedule for submittal. Each document will be submitted to Ecology for review and approval. The Port will incorporate Ecology review comments before proceeding with the next phase of work. As appropriate, some documents may be combined to cover related work or work being conducted simultaneously.

It is anticipated that permitting agencies will require additional documentation, especially relating to in-water work. As appropriate, the Port will provide Ecology an opportunity to provide comment before major submittals.

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## **TABLES**



Table 3-1 LRIS Cleanup Levels Former PWT Site

Indicator Hazardous Substances	Soil Cleanup Level (mg/kg)	Basis	Soil Remediation Level (mg/kg)	Basis	Groundwater Cleanup Level (µg/L)	Basis	
Metals							
Arsenic	5.81	а	88	j	5	g	
Barium	102	b	NA	f	NA	d	
Chromium	67	b	NA	f	48	h	
Copper	217	b	NA	f	NA	d	
Zinc	360	b	NA	f	NA	d	
Chlorinated Phenolics							
Pentachlorophenol	4.5/8.3	c/b	1100	j	0.73	h	
2,3,4,6-Tetrachlorophenol	NA	d	NA	d	480	h	
2,4,5-Trichlorophenol	NA	d	NA	d	800	h	
2,4,6-Trichlorophenol	NA	d	NA	d	4	h	
Carcinogenic PAHs							
cPAH TEQ	0.14	С	18	j	0.012	h	
Noncarcinogenic PAHs							
Acenaphthene	4800	С	NA	f	960	h	
Anthracene	NA	d	NA	d	4800	h	
Fluoranthene	3200	С	NA	f	640	h	
Fluorene	3200	С	NA	f	640	h	
2-Methylnaphthalene	320	С	NA	f	32	h	
Naphthalene	1600	С	NA	f	160	h	
Pyrene	2400	С	NA	f	480	h	
SVOCs							
BEHP	NA	d	NA	d	6.3	h	
Carbazole	NA	d	NA	d	4.4	h	
Dibenzofuran	160	С	NA	f	32	h	
VOCs							
Acetone	NA	d	NA	d	800	h	
Benzene	NA	d	NA	d	0.8	h	
Chloromethane	NA	d	NA	d	5.2	i	
Dichlorodifluoromethane	NA	d	NA	d	9.9	İ	
cis-1,2-Dichloroethene	NA	d	NA	d	80	h	
Ethylbenzene	NA	d	NA	d	800	h	
Hexachlorobutadiene	NA	d	NA	d	0.56	h	
Naphthalene	1600	С	NA	f	160	h	
Styrene	33	С	NA	f	1.5	h	
1,1,2,2-Tetrachloroethane	5	С	NA	f	0.22	h	
1,1,2-Trichloroethane	NA	d	NA	d	0.77	h	
TCE	NA	d	NA	d	0.42	i	

## Table 3-1 LRIS Cleanup Levels Former PWT Site

Indicator Hazardous Substances	Soil Cleanup Level (mg/kg)	Basis	Soil Remediation Level (mg/kg)	Basis	Groundwater Cleanup Level (µg/L)	Basis	
1,2,3-Trichloropropane	NA	d	NA	d	0.0063	h	
1,2,4-Trimethylbenzene	4000	С	NA	f	24	i	
1,3,5-Trimethylbenzene	NA	d	NA	d	25	i	
Vinyl chloride	NA	d	NA	d	0.029	h	
m,p-Xylene	NA	d	NA	d	310	i	
o-Xylene	NA	d	NA	d	440	i	
Toluene	NA	d	NA	d	640	h	
Isopropylbenzene	NA	d	NA	d	NA	d	
Methylene chloride	NA	d	NA	d	NA	d	
Tetrachloroethene	NA	d	NA	d	0.081	h	
Petroleum Hydrocarbons							
GRO	30	е	NA	f	NA	d	
DRO/RRO	2000	е	NA	f	500	g	
Dioxin TEQ	0.000011	С	0.0015	j	NA	d	

#### NOTES:

a = Washington State Department of Ecology Publication No. 94-115, Natural Background Soil Metals Concentrations in Washington State, Clark County.

b = MTCA Ecological Indicator Concentration for protection of wildlife (Table 749-3).

BEHP = bis(2-ethylhexyl) phthalate.

c = MTCA Method B, direct contact (ingestion only), unrestricted land use.

cPAH TEQ = carcinogenic PAH toxicity equivalent.

d = not an indicator hazardous substance in specified media.

dioxin TEQ = chlorinated dibenzo-p-dioxins and dibenzofurans toxicity equivalent.

DRO = diesel-range organics.

e = MTCA Method A Industrial/Unrestricted Land Use Table Value.

f = remediation level not determined.

g = MTCA Method A groundwater cleanup level.

GRO = gasoline-range organics.

h = MTCA Method B groundwater cleanup level.

i = MTCA Method B groundwater screening level for vapor intrusion pathway; values used if MTCA Method A or B groundwater cleanup levels were unavailable during remedial investigation or interim action activities.

j = MTCA Method C Carcinogen Industrial Land Use Table Value (Direct Contact)

LRIS = Lake River Industrial Site.

mg/kg = milligrams per kilogram.

MTCA = Model Toxics Control Act.

 $\mu$ g/L = micrograms per liter.

NA = not applicable.

PAH = polycyclic aromatic hydrocarbon.

PWT = Pacific Wood Treating Co.

RRO = residual-range organics.

SVOC = semivolatile organic compound.

TCE = trichloroethene.

VOC = volatile organic compound.

# Table 3-2 Port-owned Properties Cleanup Levels Former PWT Site

CULs	Site-Specific Risk-Based Ecological Factor <sup>a</sup>	Soil Cleanup Level
Dioxins (ng/kg)		
Dioxin (p-dibenzo dioxin) TEQ	9.8E+00	9.8E+00
Furan TEQ	1.14E+01	1.14E+01

#### NOTES:

CUL = cleanup level.

ng/kg = nanograms per kilogram.

Port = Port of Ridgefield.

PWT = Pacific Wood Treating Co.

TEQ = toxicity equivalent.

<sup>a</sup>Ecological factors were derived separately for dioxin (p-dibenzo dioxin) congeners and for furan congeners, as determined in coordination with Washington State Department of Ecology (see MFA, 2013b).

#### Table 3-3 Lake River Cleanup Levels Former PWT Site

Analyte	Lower Columbia River Natural Background	Dioxin PQL	Risk-Based Ecological Factor	Sediment Cleanup Level	Sediment Remediation Level <sup>a</sup>
Dioxins (ng/kg)					
TEQ	2.0E+00	5.0E+00	NA	5.0E+00	3.0E+01
2,3,7,8-TCDD	NA	NA	1.4E+00	NA	NA
1,2,3,7,8-PeCDD	NA	NA	4.3E+01	NA	NA
1,2,3,4,7,8-HxCDD	NA	NA	8.6E+01	NA	NA
1,2,3,6,7,8-HxCDD	NA	NA	5.4E+02	NA	NA
1,2,3,7,8,9-HxCDD	NA	NA	5.4E+02	NA	NA
1,2,3,4,6,7,8-HpCDD	NA	NA	1.4E+05	NA	NA
OCDD	NA	NA	4.6E+06	NA	NA
2,3,7,8-TCDF	NA	NA	3.8E+01	NA	NA
1,2,3,7,8-PeCDF	NA	NA	2.4E+02	NA	NA
2,3,4,7,8-PeCDF	NA	NA	2.9E+00	NA	NA
1,2,3,4,7,8-HxCDF	NA	NA	4.3E+02	NA	NA
1,2,3,6,7,8-HxCDF	NA	NA	4.3E+02	NA	NA
1,2,3,7,8,9-HxCDF	NA	NA	4.3E+02	NA	NA
2,3,4,6,7,8-HxCDF	NA	NA	4.3E+02	NA	NA
1,2,3,4,6,7,8-HpCDF	NA	NA	1.1E+05	NA	NA
1,2,3,4,7,8,9-HpCDF	NA	NA	1.1E+05	NA	NA
OCDF	NA	NA	4.6E+06	NA	NA

#### NOTES:

Risk-based factors are values protective of fish, mammal, and birds and are based on standard, default assumptions commonly used and in rule, when available. Limited site-specific assumptions, where applicable, were integrated into models, although models developed do not represent refined site-specific risk analyses. See (MFA, 2013a) for details.

HpCDD = heptachloro dibenzo-p-dioxin.

HpCDF = heptachloro dibenzofuran.

HxCDD = hexachloro dibenzo-p-dioxin.

HxCDF = hexachloro dibenzofuran.

NA = not applicable.

#### Table 3-3 Lake River Cleanup Levels Former PWT Site

ng/kg = nanograms per kilogram.

OCDD = octachloro dibenzo-p-dioxin.

OCDF = octachloro dibenzofuran.

PeCDD = pentachloro dibenzo-p-dioxin.

PeCDF = pentachloro dibenzofuran.

PQL = practical quantitation limit.

PWT = Pacific Wood Treating Co.

TCDD = tetrachloro dibenzo-p-dioxin.

TCDF = tetrachloro dibenzofuran.

TEQ = toxicity equivalent.

<sup>a</sup>Remediation level selected based on various scenarios evaluated in the remedial investigation and feasibility study (MFA, 2013a).

# Table 3-4 Carty Lake Cleanup Levels Former PWT Site

Analyte	Lower Columbia River Natural Background	Dioxin PQL	Dioxin PQL Risk-Based Ecological Factor		Sediment Remediation Level
Dioxins (ng/kg)	•				
TEQ	2.0E+00	5.0E+00	NA	5.0E+00	NA
2,3,7,8-TCDD	NA	NA	3.3E+00	NA	3.3E+00
1,2,3,7,8-PeCDD	NA	NA	9.8E+01	NA	9.8E+01
1,2,3,4,7,8-HxCDD	NA	NA	2.0E+02	NA	2.0E+02
1,2,3,6,7,8-HxCDD	NA	NA	1.2E+03	NA	1.2E+03
1,2,3,7,8,9-HxCDD	NA	NA 1.2E+03		NA	1.2E+03
1,2,3,4,6,7,8-HpCDD	NA	NA	3.1E+05	NA	3.1E+05
OCDD	NA	NA	1.0E+07	NA	1.0E+07
2,3,7,8-TCDF	NA	NA	8.6E+01	NA	8.6E+01
1,2,3,7,8-PeCDF	NA	NA	5.5E+02	NA	5.5E+02
2,3,4,7,8-PeCDF	NA	NA	6.5E+00	NA	6.5E+00
1,2,3,4,7,8-HxCDF	NA	NA	9.8E+02	NA	9.8E+02
1,2,3,6,7,8-HxCDF	NA	NA	9.8E+02	NA	9.8E+02
1,2,3,7,8,9-HxCDF	NA	NA	9.8E+02	NA	9.8E+02
2,3,4,6,7,8-HxCDF	NA	NA	9.8E+02	NA	9.8E+02
1,2,3,4,6,7,8-HpCDF	NA	NA	2.5E+05	NA	2.5E+05
1,2,3,4,7,8,9-HpCDF	NA	NA	2.5E+05	NA	2.5E+05
OCDF	NA	NA	1.0E+07	NA	1.0E+07

#### NOTES:

Risk-based factors are values protective of fish, mammal, and birds and are based on standard, default assumptions commonly used and in rule, when available. Limited site-specific assumptions, where applicable, were integrated into models, although models developed do not represent refined site-specific risk analyses. See (MFA, 2013a) for details.

HpCDD = heptachloro dibenzo-p-dioxin.

HpCDF = heptachloro dibenzofuran.

HxCDD = hexachloro dibenzo-p-dioxin.

HxCDF = hexachloro dibenzofuran.

NA = not applicable.

ng/kg = nanograms per kilogram.

# Table 3-4 Carty Lake Cleanup Levels Former PWT Site

OCDD = octachloro dibenzo-p-dioxin.

OCDF = octachloro dibenzofuran.

PeCDD = pentachloro dibenzo-p-dioxin.

PeCDF = pentachloro dibenzofuran.

PQL = practical quantitation limit.

PWT = Pacific Wood Treating Co.

TCDD = tetrachloro dibenzo-p-dioxin.

TCDF = tetrachloro dibenzofuran.

TEQ = toxicity equivalent.

Alternatives	Alternative Descriptions
1: Capping, groundwater monitoring, and institutional controls	Capping: Cells 1 and 2 receive 2-foot minimum soil cap and demarcation fabric (or equivalent exposure barrier, i.e., liner, asphalt, concrete, building).  Stormwater: Remove existing stormwater system. Construct new stormwater system, with engineering controls.  SER: Operation of SER system until point of diminishing returns is reached (at which point SER is decommissioned).  Groundwater Monitoring: All non-POC monitoring wells to be decommissioned. Groundwater monitoring continues at POC wells, sampling conducted semiannually for two years and then every 18 months at observed high and low water events (i.e., January and August).  Institutional Controls: Restrictive covenants for vapor migration, adherence to SMCMP (MFA, 2013), use of groundwater for drinking prohibited.
2A: Targeted removal, capping, groundwater monitoring, and institutional controls	Targeted Removal: Soil at the concrete pond area to be excavated and disposed of. Excavation backfilled with clean soil or unimpacted overburden.  Capping: Cells 1 and 2 receive 2-foot minimum soil cap and demarcation fabric (or equivalent exposure barrier, i.e., liner, asphalt, concrete, building).  Stormwater: Remove existing stormwater system. Construct new stormwater system, with engineering controls.  SER: Operation of SER system until point of diminishing returns is reached (at which point SER is decommissioned).  Groundwater Monitoring: All non-POC monitoring wells to be decommissioned. Groundwater monitoring continues at POC wells, sampling conducted semiannually for two years and then every 18 months at observed high and low water events (i.e., January and August).  Institutional Controls: Restrictive covenants for vapor migration, adherence to SMCMP, use of groundwater for drinking prohibited. Institutional controls may vary by cell, based on sampling results, to ensure protectiveness of human health and environment.
2B: Targeted removal, capping, groundwater monitoring, and institutional controls	Targeted Removal: Removal as described in Alternative 2A. In addition, excavation of SS-14 and TP-03 and disposal at a licensed facility. Off-site treatment before disposal at a Subtitle C facility. Waste may be considered a CAMU-eligible waste.  Capping: Cells 1 and 2 receive 2-foot minimum soil cap and demarcation fabric (or equivalent exposure barrier, i.e., liner, asphalt, concrete, building).  Stormwater: Remove existing stormwater system. Construct new stormwater system, with engineering controls.  SER: Operation of SER system until point of diminishing returns is reached (at which point SER is decommissioned).  Groundwater Monitoring: All non-POC monitoring wells to be decommissioned. Groundwater monitoring continues at POC wells, sampling conducted semiannually for two years and then every 18 months at observed high and low water events (i.e., January and August).  Institutional Controls: Restrictive covenants for vapor migration, adherence to SMCMP, use of groundwater for drinking prohibited. Institutional controls may vary by cell, based on sampling results, to ensure protectiveness of human health and environment.
3: Removal of soil exceeding MTCA C CULs, capping, groundwater monitoring, and institutional controls	Removal: Soil exceeding RELs and soil in the concrete pond area with NAPL to be excavated and disposed of at a licensed facility. Maximum depth of excavation 15 feet bgs. Soil from the concrete pond area is assumed to require treatment before disposal, and soil from the MTCA C exceedance excavation may be considered a CAMU-eligible waste. Use clean soil to backfill.  Capping: Cells 1 and 2 receive 2-foot minimum soil cap and demarcation fabric (or equivalent exposure barrier, i.e., liner, asphalt, concrete, building).  Stormwater: Remove existing stormwater system. Construct new stormwater system, with engineering controls.  SER: Operation of SER system until point of diminishing returns is reached (at which point SER is decommissioned).  Groundwater Monitoring: All non-POC monitoring wells to be decommissioned. Groundwater monitoring continues at POC wells, sampling conducted semiannually for two years and then every 18 months at observed high and low water events (i.e., January and August).  Institutional Controls: Restrictive covenants for vapor migration, adherence to SMCMP, use of groundwater for drinking prohibited. Institutional controls may vary by cell, based on sampling results, to ensure protectiveness of human health and environment.

Alternatives	Alternative Descriptions
4: Excavation of SER	Removal: Soil 0 to 15 feet bgs above CULs to be removed and disposed of off site. Assumed one-third of excavated soil disposed of at the following: Subtitle C disposal facility, organic vapor recovery treatment prior to disposal at a
system and soil	Subtitle C disposal facility; waste may be considered a CAMU-eligible waste. Use clean soil to backfill.
exceeding CULs, and	
groundwater	Stormwater: Remove existing stormwater system. Construct new stormwater system, with engineering controls.
monitoring	Groundwater Monitoring: Completed at existing monitoring wells to assess effectiveness of the SER system.
NOTES:	

bgs = below ground surface.

CAMU = Corrective Action Management Unit.

CUL = cleanup level.

LRIS = Lake River Industrial Site.

MTCA = Model Toxics Control Act.

NAPL = nonaqueous-phase liquid.

POC = point of compliance.

PWT = Pacific Wood Treating Co.

REL = remediation level.

SER = steam-enhanced remediation.

SMCMP = soil management and cap maintenance plan.

Cell 3 Alternatives	Alternative Descriptions
1: Capping, institutional controls, and groundwater monitoring	Capping: Cell 3 to receive 2-foot minimum soil cap and demarcation fabric (or equivalent exposure barrier, i.e., liner, asphalt, concrete, building) Institutional Controls: Restrictive environmental covenants to prohibit groundwater use, and adherence to SMCMP for protection and maintenance of surface capping and management of residual site contamination.  Groundwater Monitoring: Groundwater monitoring conducted at POC wells. Monitoring to be conducted as follows: MW-46S for arsenic; MW-45D for PCP; and MW-29D, MW-45D, MW-46D, and MW-47D for PCE. Sampling conducted semiannually for two years and then every 18 months at observed high and low water events (i.e., January and August).
2: Soil removal to RELs, capping, institutional controls, and groundwater monitoring	Removal: Soil exceeding REL excavated and disposed of off site.  Capping: Cell 3 to receive 2-foot minimum soil cap and demarcation fabric (or equivalent exposure barrier, i.e., liner, asphalt, concrete, building)  Institutional Controls: Implemented as described in Alternative 1.  Groundwater Monitoring: Groundwater monitoring conducted at POC wells. Monitoring to be conducted as follows: MW-46S for arsenic; MW-45D for PCP; and MW-29D, MW-45D, MW-46D, and MW-47D for PCE. Sampling conducted semiannually for two years and then every 18 months at observed high and low water events (i.e., January and August).
3: Removal of soil exceeding CULs, groundwater recovery and treatment	Removal: Soil exceeding CULs to be excavated and disposed of off site at a licensed disposal facility. Excavated soil with concentrations below CULs would be temporarily stockpiled on site and used as excavation backfill.  Groundwater Monitoring: Groundwater containing concentrations above groundwater CULs would be extracted, treated, and discharged at an existing stormwater outfall. Groundwater monitoring would be conducted to assess extraction performance.  Institutional Controls: None.
Cell 4 Alternatives	Alternative Descriptions
1: Engineered cap and institutional controls	Capping: Cell 4 to be capped with an exposure barrier (e.g., soil, liner, asphalt, concrete, building), concurrent with the cap profiles outlined in the TEE.  Institutional Controls: Restrictive environmental covenants to prohibit groundwater use, and adherence to SMCMP for protection and maintenance of surface capping and management of residual site contamination. Also prohibit the installation of any water well that may influence groundwater flow with the potential to pull contamination from Cell 2 toward Cell 4.
1	
2: Engineered cap, removal of soil above RELs, and institutional controls	Capping: As described in Alternative 1.  Removal: Soil exceeding RELs to be excavated and managed according to a soil management plan. Soil is assumed to be removed for off-site disposal at a Subtitle C facility.  Institutional Controls: Restrictive environmental covenants to prohibit groundwater use, and adherence to SMCMP for protection and maintenance of surface capping and management of residual site contamination. Also prohibit the installation of any water well that may influence groundwater flow with the potential to pull contamination from Cell 2 toward Cell 4.
2: Engineered cap, removal of soil above RELs, and institutional	Removal: Soil exceeding RELs to be excavated and managed according to a soil management plan. Soil is assumed to be removed for off-site disposal at a Subtitle C facility.  Institutional Controls: Restrictive environmental covenants to prohibit groundwater use, and adherence to SMCMP for protection and maintenance of surface capping and management of residual site contamination. Also prohibit the
2: Engineered cap, removal of soil above RELs, and institutional controls  3: Removal of soil to	Removal: Soil exceeding RELs to be excavated and managed according to a soil management plan. Soil is assumed to be removed for off-site disposal at a Subtitle C facility.  Institutional Controls: Restrictive environmental covenants to prohibit groundwater use, and adherence to SMCMP for protection and maintenance of surface capping and management of residual site contamination. Also prohibit the installation of any water well that may influence groundwater flow with the potential to pull contamination from Cell 2 toward Cell 4.  Removal: Soil exceeding the soil CULs would be excavated for off-site disposal at a licensed facility.  Institutional Controls: Implemented to limit the use of groundwater. No residual contamination in soil is expected in Cell 4 following excavation of hot spots, and therefore there would be no requirement for a restrictive covenant
2: Engineered cap, removal of soil above RELs, and institutional controls  3: Removal of soil to CULs	Removal: Soil exceeding RELs to be excavated and managed according to a soil management plan. Soil is assumed to be removed for off-site disposal at a Subtitle C facility.  Institutional Controls: Restrictive environmental covenants to prohibit groundwater use, and adherence to SMCMP for protection and maintenance of surface capping and management of residual site contamination. Also prohibit the installation of any water well that may influence groundwater flow with the potential to pull contamination from Cell 2 toward Cell 4.  Removal: Soil exceeding the soil CULs would be excavated for off-site disposal at a licensed facility.  Institutional Controls: Implemented to limit the use of groundwater. No residual contamination in soil is expected in Cell 4 following excavation of hot spots, and therefore there would be no requirement for a restrictive covenant
2: Engineered cap, removal of soil above RELs, and institutional controls  3: Removal of soil to CULs  NOTES: CUL = cleanup level. LRIS = Lake River Industrial	Removal: Soil exceeding RELs to be excavated and managed according to a soil management plan. Soil is assumed to be removed for off-site disposal at a Subtitle C facility.  Institutional Controls: Restrictive environmental covenants to prohibit groundwater use, and adherence to SMCMP for protection and maintenance of surface capping and management of residual site contamination. Also prohibit the installation of any water well that may influence groundwater flow with the potential to pull contamination from Cell 2 toward Cell 4.  Removal: Soil exceeding the soil CULs would be excavated for off-site disposal at a licensed facility.  Institutional Controls: Implemented to limit the use of groundwater. No residual contamination in soil is expected in Cell 4 following excavation of hot spots, and therefore there would be no requirement for a restrictive covenant regarding soils.  I Site.
2: Engineered cap, removal of soil above RELs, and institutional controls  3: Removal of soil to CULs  NOTES: CUL = cleanup level. LRIS = Lake River Industrial MTCA = Model Toxics Cor	Removal: Soil exceeding RELs to be excavated and managed according to a soil management plan. Soil is assumed to be removed for off-site disposal at a Subtitle C facility.  Institutional Controls: Restrictive environmental covenants to prohibit groundwater use, and adherence to SMCMP for protection and maintenance of surface capping and management of residual site contamination. Also prohibit the installation of any water well that may influence groundwater flow with the potential to pull contamination from Cell 2 toward Cell 4.  Removal: Soil exceeding the soil CULs would be excavated for off-site disposal at a licensed facility.  Institutional Controls: Implemented to limit the use of groundwater. No residual contamination in soil is expected in Cell 4 following excavation of hot spots, and therefore there would be no requirement for a restrictive covenant regarding soils.  I Site.  Introl Act.
2: Engineered cap, removal of soil above RELs, and institutional controls  3: Removal of soil to CULs  NOTES:  CUL = cleanup level.  LRIS = Lake River Industrial MTCA = Model Toxics Cor PCE = tetrachloroethene.	Removal: Soil exceeding RELs to be excavated and managed according to a soil management plan. Soil is assumed to be removed for off-site disposal at a Subtitle C facility.  Institutional Controls: Restrictive environmental covenants to prohibit groundwater use, and adherence to SMCMP for protection and maintenance of surface capping and management of residual site contamination. Also prohibit the installation of any water well that may influence groundwater flow with the potential to pull contamination from Cell 2 toward Cell 4.  Removal: Soil exceeding the soil CULs would be excavated for off-site disposal at a licensed facility.  Institutional Controls: Implemented to limit the use of groundwater. No residual contamination in soil is expected in Cell 4 following excavation of hot spots, and therefore there would be no requirement for a restrictive covenant regarding soils.  I Site.  Introl Act.
2: Engineered cap, removal of soil above RELs, and institutional controls  3: Removal of soil to CULs  NOTES: CUL = cleanup level. LRIS = Lake River Industrial MTCA = Model Toxics Cor PCE = tetrachloroethene. PCP = pentachloropheno	Removal: Soil exceeding RELs to be excavated and managed according to a soil management plan. Soil is assumed to be removed for off-site disposal at a Subtitle C facility.  Institutional Controls: Restrictive environmental covenants to prohibit groundwater use, and adherence to SMCMP for protection and maintenance of surface capping and management of residual site contamination. Also prohibit the installation of any water well that may influence groundwater flow with the potential to pull contamination from Cell 2 toward Cell 4.  Removal: Soil exceeding the soil CULs would be excavated for off-site disposal at a licensed facility.  Institutional Controls: Implemented to limit the use of groundwater. No residual contamination in soil is expected in Cell 4 following excavation of hot spots, and therefore there would be no requirement for a restrictive covenant regarding soils.  I Site.  Introl Act.
2: Engineered cap, removal of soil above RELs, and institutional controls  3: Removal of soil to CULs  NOTES: CUL = cleanup level. LRIS = Lake River Industrial MTCA = Model Toxics Cor PCE = tetrachloroethene.	Removal: Soll exceeding RELs to be excavated and managed according to a soil management plan. Soil is assumed to be removed for off-site disposal at a Subtitle C facility.  Institutional Controls: Restrictive environmental covenants to prohibit groundwater use, and adherence to SMCMP for protection and maintenance of surface capping and management of residual site contamination. Also prohibit the installation of any water well that may influence groundwater flow with the potential to pull contamination from Cell 2 toward Cell 4.  Removal: Soil exceeding the soil CULs would be excavated for off-site disposal at a licensed facility.  Institutional Controls: Implemented to limit the use of groundwater. No residual contamination in soil is expected in Cell 4 following excavation of hot spots, and therefore there would be no requirement for a restrictive covenant regarding soils.  I Site.  Introl Act:

REL = remediation level.

TEE = terrestrial ecological evaluation.

SMCMP = soil management and cap maintenance plan.

Table 5-3
Disproportionate Cost Analysis—Cells 1 and 2
Former PWT Site

P. L. C.	grative Remedial Action	, Rote <sup>6</sup>	Inotes 20th	de de la	Noting Maria	SS Letting	Jord Retribit	* Otal Cost
1	Cap Cells 1 and 2 Stormwater system upgrade SER polishing and demobilization Institutional controls Groundwater monitoring	3.5	3	2	5	5	18.5	\$7,030,000
2	Excavation of concrete pond area Cap Cells 1 and 2 Stormwater system upgrade SER polishing and demobilization Institutional controls Groundwater monitoring	4	3	3	3.5	3.5	17	\$10,301,000
3	MTCA C CUL and concrete pond excavation Cap Cells 1 and 2 Stormwater system upgrade SER polishing and demobilization Institutional controls Groundwater monitoring	4.5	3	3.5	2	3	16	\$32,883,000
4	Excavation to CULs SER system continued operation	5	5	4	1	1	16	\$367,531,000

# Table 5-3 Disproportionate Cost Analysis—Cells 1 and 2 Former PWT Site

#### NOTES:

1 = worst, 5 = best.

CUL = cleanup level.

MTCA = Model Toxics Control Act.

PWT = Pacific Wood Treating Co.

SER = steam-enhanced remediation.

Table 5-4
Disproportionate Cost Analysis—Cell 3
Former PWT Site

Alle	Return Schot Report Schot	Remedial Action Loss	Dundmated Profe		Total Control Control	Note The Sine	Jedrid Jedrid	A STEP STEP	Total Cost	. /
1	Cap Cell 3 Institutional controls	Institutional Controls Compliance monitoring	3	3	3	5	5	19	\$1,263,000	
2	Soil excavation above RELs Cap Cell 3 Institutional controls	Institutional Controls Compliance monitoring	4	4	4	4	4	20	\$1,524,000	
3	Soil excavation above CULs	Pump and treat to CULs Compliance monitoring	5	5	5	1	1	17	\$22,880,000	

1 = worst, 5 = best.

CUL = cleanup level.

PWT = Pacific Wood Treating Co.

REL = remediation level.

Table 5-5
Disproportionate Cost Analysis—Cell 4
Former PWT Site

phi <sup>ei</sup>	native Remedial Action	, prode	Jille Res 2 Repriée	anerice lands	Serricities in the services in	Str. Str. Str. Str. Str. Str. Str. Str.	inde straight	Aging Aging Cos	/
1	Engineered cap Institutional controls	3	3	3	4	5	18	\$707,000	
2	Engineered cap Remove soil exceeding RELs Institutional controls	4	3	4	4	4	19	\$720,000	
3	Soil excavation above CULs (dispose of soil at licensed disposal facility) Institutional controls	5	5	5	2	2	19	\$12,692,000	

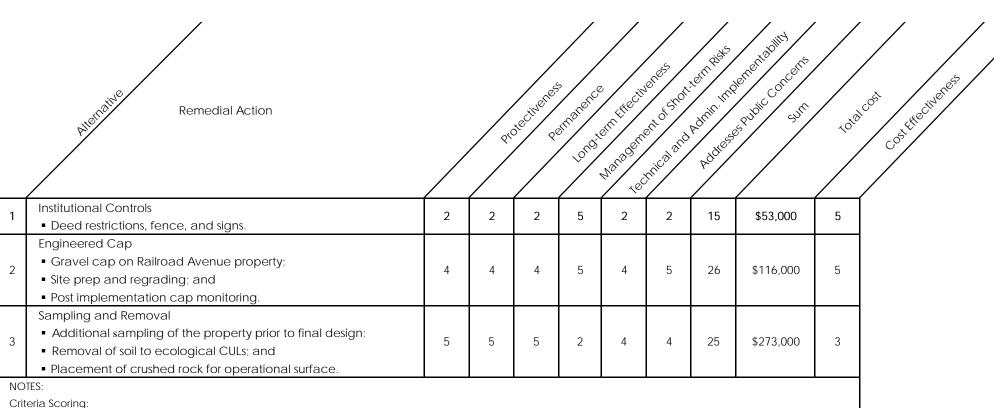
1 = worst, 5 = best.

CUL = cleanup level.

PWT = Pacific Wood Treating Co.

REL = remediation level.

Table 6-1 Disproportionate Cost Analysis—Port-Owned Properties Former PWT Site RI/FS



- 1—Does not satisfy the criterion
- 2—Marginally satisfies the criterion
- 3—Partially satisfies the criterion
- 4—Mostly satisfies the criterion
- 5—Completely satisfies the criterion

CUL = cleanup level.

Ecology = Washington State Department of Ecology.

Alternative	Alternative Descriptions
1: Monitored Natural Recovery	Natural Recovery: Natural deposition of clean sediment over impacted sediment to engender natural attenuation in the form of dilution of contaminant concentration through mixing and/or a physical barrier. Bank: Bank stabilization; the area between the upland cap and in-water remedy (approximately elevation 11 down to the slope break to the beach) will be covered with a geotextile filter fabric and stabilized with rock armor. Armoring of the bank will reinforce the existing slopes and act as a physical barrier to the movement of underlying soil and sediment.  Pre-Monitoring: Further characterization of the Lake River fluvial conditions to better understand the deposition rates of fluvial processes that would affect natural attenuation.  Institutional Controls: No-anchor zones.
	Long-Term Monitoring: Program would be developed that would be capable of verifying the ongoing effectiveness of recovery by natural processes.
2: Enhanced Monitored Natural Recovery	ENR: ENR by placing an approximately 1-foot layer of clean sand over impacted sediment.  Bank: As described in Alternative 1.  Long-Term Monitoring: Monitoring additional natural recovery that occurs after sand layer has been placed.  Institutional Controls: No-anchor zones.  Long-Term Monitoring: As described in Alternative 1.
3: Engineered Cap	Capping: Engineered 2-foot sediment cap would be placed by mechanical means over the designated remediation area (i.e., areas exceeding the dioxin CUL). Following placement of the engineered cap, a protective layer of rock armor would be placed to protect against erosion of the underlying sediment cap.  Bank: As described in Alternative 1.  Long-Term Monitoring: Implementation of a monitoring and maintenance program, which would include a plan outlining the requirements for routine cap performance and monitoring, schedule, emergency response, and reporting. Also includes steps to be taken if the cap fails to meet the performance criteria.  Institutional Controls: Restrictions on future maintenance dredging would be required in order to prevent breaching of the engineered sediment cap. Restrictions on navigations, access to shore, and short-term future land use would also be included.
4: Dredging and ENR	Removal: Using mechanical dredging to remove sediment above the REL. Existing in-water structure removal before dredging. Dredged material would be disposed of as nonhazardous material waste at a Subtitle D landfill facility.  ENR: Placement of an approximately 1-foot sand layer over all dredged areas to manage residuals and over areas with sediment concentrations between the CUL and the REL to enhance the natural recovery of sediment after construction. Armor would be applied to the lower portions of the bank. The armor would be tied in to the bank layback and extend down to overlap the dredged areas and the ENR layer. The armor would also function as a cap in the transition area.  Bank: As described in Alternative 1.  Long-Term Monitoring: Implementation of a monitoring program to verify effectiveness of natural recovery processes.  Institutional Controls: Characterization of current sediment conditions and leave surface (if applicable) would be required before activities involving significant sediment disturbance are initiated.

CUL = cleanup level.

ENR = enhanced natural recovery.

PWT = Pacific Wood Treating Co.

REL = remediation level.

Table 7-2
Disproportionate Cost Analysis—Lake River
Former PWT Site

V.	Remedial Action	Project.	Zellule Est	orence Jord	Stell Life Line	Store Technic	Page Page 1	Sur Sur	Total C	SS <sup>3</sup> Co <sup>3</sup> Line Re <sup>5</sup>
1	<ul> <li>Monitored Natural Recovery:</li> <li>Bank stabilization;</li> <li>Natural attenuation in the form of sedimentation;</li> <li>Multiple sampling events;</li> <li>Long-term monitoring plan; and</li> <li>Institutional controls.</li> </ul>	2	2	2	5	2	5	18	\$679,000	5
2	<ul> <li>Enhanced Monitored Natural Recovery:</li> <li>Bank stabilization;</li> <li>Placement of a sand layer to enhance natural attenuation;</li> <li>Long-term monitoring plan; and</li> <li>Institutional controls.</li> </ul>	3	3	3	4	2	5	20	\$2,815,000	3
3	<ul> <li>Engineered Cap:</li> <li>Bank stabilization;</li> <li>Placement of an engineered sand cap;</li> <li>Placement of a protective armor layer;</li> <li>Implementation of long-term monitoring and maintenance; and</li> <li>Institutional controls.</li> </ul>	4	4	4	3	3	5	23	\$7,718,000	2

Table 7-2
Disproportionate Cost Analysis—Lake River
Former PWT Site

Z.	Remaine Remedial Action	Ardice.	EINERES 2016	onence Land	John Hacking	A Sud-Learning To Sud-Learning		ESE PUBLIC CO	Restrict Total Co	S <sup>Š</sup> Co <sup>Š</sup> Livere <sup>SS</sup>
4	Dredging and ENR:  Removal of impacted sediment through mechanical dredging;  Existing in-water structure removal;  Bank stabilization; and  Placement of an ENR layer.	4	5	5	3	4	5	26	\$9,492,000	2

#### Criteria Scoring:

- 1—Does not satisfy the criterion
- 2—Marginally satisfies the criterion
- 3—Partially satisfies the criterion
- 4—Mostly satisfies the criterion
- 5—Completely satisfies the criterion
- ENR = enhanced natural recovery.
- PWT = Pacific Wood Treating Co.

Alternative	Alternative Descriptions
	Natural Recovery: Natural recovery occurs under favorable conditions over an indeterminate period of time and without human intervention. Deposition rate for sediment in Carty Lake depends on many variables, so
1: Monitored Natural Recovery	further analysis of the processes that are occurring would be required to quantify the expected time frame for sufficient sedimentation to occur.
	Monitoring: A comprehensive work plan would be developed to define sampling locations and methods within the study area perimeter to better understand processes that would affect natural attenuation. Long-term
	monitoring would verify the ongoing effectiveness of recovery in contaminated sediment.
	Institutional Controls: Restrictions on access and future land use, and advisories on fish consumption.
2: Focused Dredge and Limited Residuals Cap	Removal: Removal of sediment above RELs in the southeast corner of Carty Lake by means of dredging and disposal. Dredged material would be disposed of as nonhazardous material at a Subtitle D landfill. Dewatering
	and solidification of the dredge material would be required before landfilling.
	Residuals Cap: Clean sand would be placed in an approximately 1-foot layer over dredged areas and the dredged-generated residuals.
	Long-Term Monitoring: A monitoring program would be developed to verify ongoing effectiveness of recovery of contaminated sediment by natural attenuation. The monitoring would quantify the reduction in
	concentrations relative to the human health CUL (5 ng/kg dioxin TEQ).
	Institutional Controls: Advisories on fish consumption.
	Removal: As described in Alternative 2.
3: Focused Dredge	Residuals Cap: Clean sand for a residuals cap layer would be placed in an approximately 1-foot layer over the dredge footprint. In addition, sand would be placed in areas exceeding 30 ng/kg dioxin TEQ to reduce
and Expanded	surface concentrations and stimulate natural recovery. Sand would be placed using a combination of shore-based equipment and floating equipment. Material would be placed either from shore or from segmented
Residuals Cap	floating barges.
Residuais Cap	Long-Term Monitoring: As described in Alternative 2.
	Institutional Controls: As described in Alternative 2.
	Removal: As described in Alternative 2.
	Residuals Cap: Clean sand for a residuals cap layer would be placed in an approximately 1-foot layer over the dredge footprint. In addition, sand would be placed in areas exceeding the CUL of 5 ng/kg dioxin TEQ to
4: Focused Dredge	reduce surface concentrations and stimulate natural recovery. Floating equipment for spreading sand hydraulically would be required. Access improvements likely would include clearing and grubbing and construction of
and Full Residuals Cap	a staging area to provide ingress to the entire lake for sand cap placement.
	Long-Term Monitoring: As described in Alternative 2.
	Institutional Controls: As described in Alternative 2.

CUL = cleanup level.

ng/kg = nanograms per kilogram. PWT = Pacific Wood Treating Co.

REL = remediation level.

TEQ = toxicity equivalent.

Table 8-2
Disproportionate Cost Analysis—Carty Lake
Former PWT Site

Atternative Remedial Action		And rective ress for the city of the city								
1	Monitored Natural Recovery:  Natural attenuation;  Multiple sampling events;  Long-term monitoring plan; and Institutional controls to protect receptors.	2	1	2	5	2	3	15	\$280,500	5
2	<ul> <li>Focused Dredge and Limited Residuals Cap:</li> <li>Dredging the highly impacted southern area of Carty Lake;</li> <li>Placement of residuals cap layer over the dredged area;</li> <li>Post-remedy monitoring; and</li> <li>Institutional controls to protect receptors.</li> </ul>	3	3	3	4	5	5	23	\$1,633,000	4
3	<ul> <li>Focused Dredge and Expanded Residuals Cap:</li> <li>Dredging the highly impacted southern area of Carty Lake and marginally impacted sediment;</li> <li>Placement of residuals cap layer over the dredged area;</li> <li>Post-remedy monitoring; and</li> <li>Institutional controls to protect receptors.</li> </ul>	3	3	3	3	4	5	21	\$2,308,000	3

Table 8-2
Disproportionate Cost Analysis—Carty Lake
Former PWT Site

A <sup>II</sup>	endine Rendine	\$1ch	Zejtre Zejtr	drence Jorg	John Marine	, Jeding	A ROBERTALINE	College Style	, Idial C	st Cost the chueres's
4	<ul> <li>Focused Dredge and Full Residuals Cap:</li> <li>Dredging the highly impacted southern area;</li> <li>Placement of a sediment cap layer over the entire lake;</li> <li>Implementation of long-term monitoring and maintenance; and</li> <li>Institutional controls to protect receptors.</li> </ul>	4	4	4	2	3	5	22	\$7,340,000	1

#### Criteria Scoring:

- 1—Does not satisfy the criterion
- 2—Marginally satisfies the criterion
- 3—Partially satisfies the criterion
- 4—Mostly satisfies the criterion
- 5—Completely satisfies the criterion
- PWT = Pacific Wood Treating Co.

## **FIGURES**



Source: Topographic Quadrangle obtained from ArcGIS Online Services/NGS-USGS TOPO/US Geological Survey (1999) 7.5-minute topographic quadrangle: Ridgefield Address: Lake River Industrial Site 111 W. Division Street, Ridgefield, WA 98642 Section: 24 Township: 4N Range: 1W Of Willamette Meridian

#### Legend

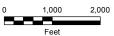


## Site Location

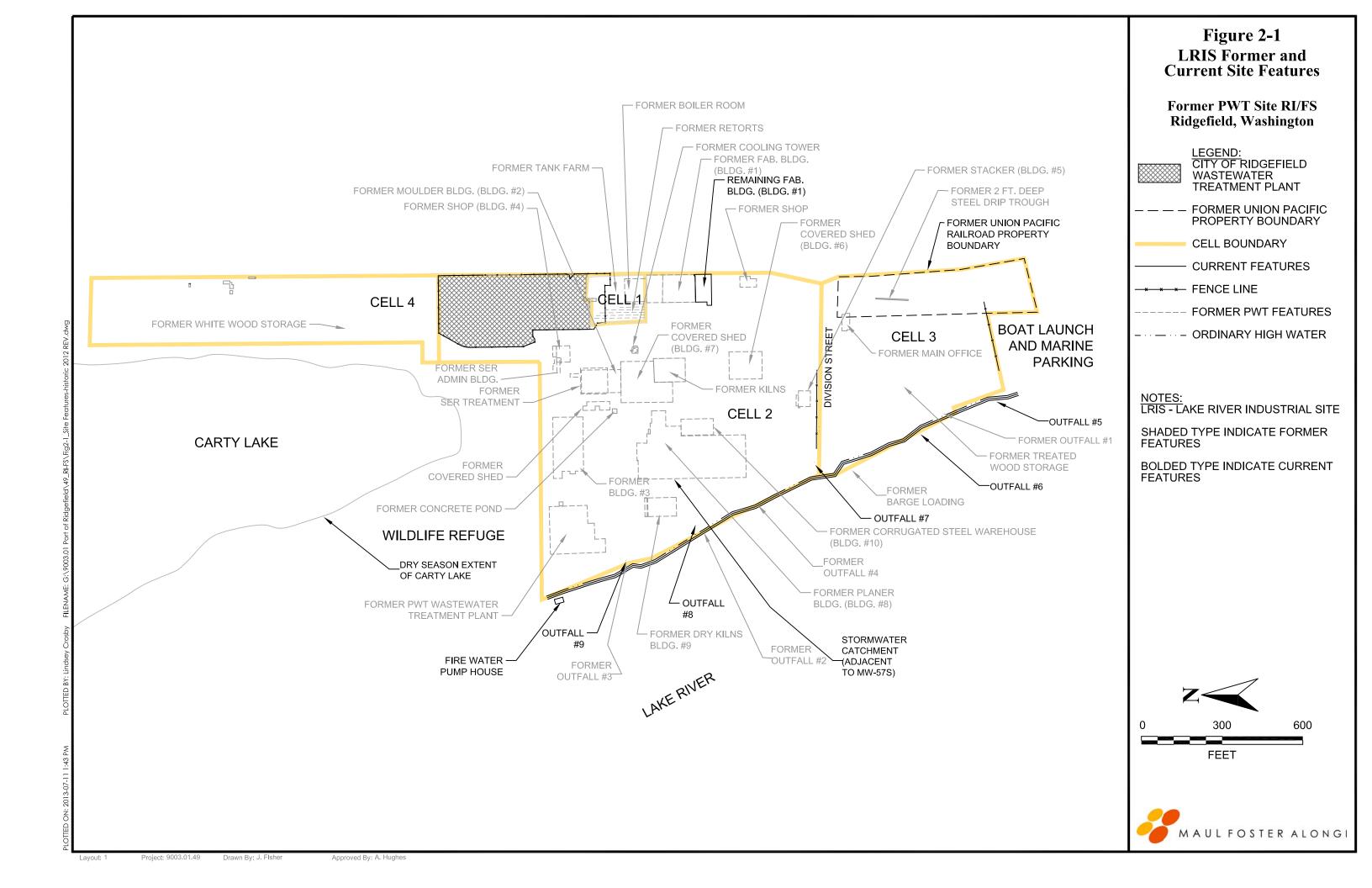
Former PWT Site Ridgefield, Washington

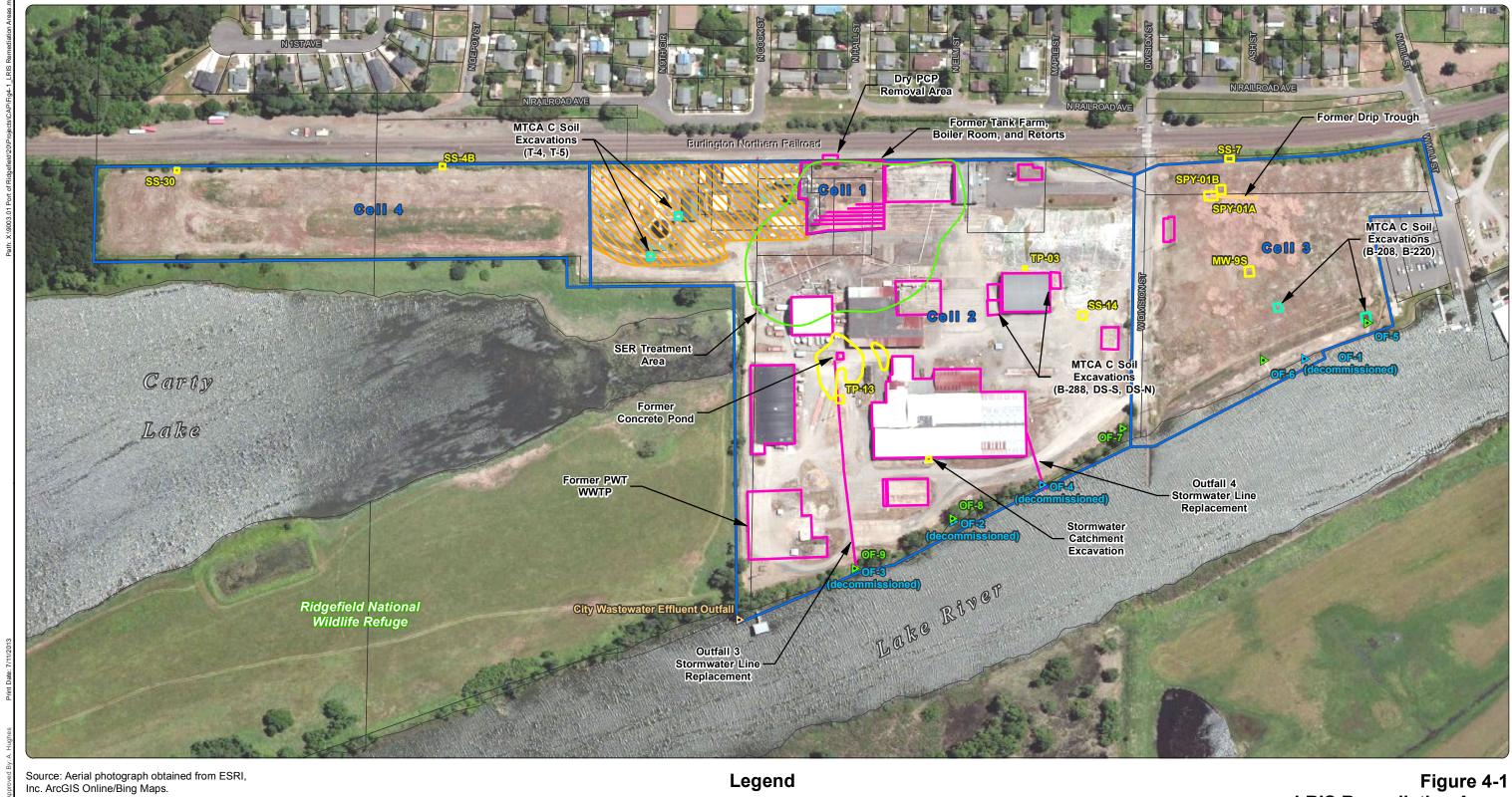


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- Notes:

  1. MTCA = Model Toxics Control Act
  2. WWTP = Wastewater Treatment Plant
- 3. LRIS = Lake River Industrial Site



This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or

Structures Removed

MTCA C Soil CUL exceedances excavated and moved to Cell 1

MTCA C Soil CUL exceedances excavated and disposed of off-site City of Ridgefield WWTP

Steam-Enhanced Remediation (SER) Area

- ▼ New Outfalls (2012)
- Former PTW Outfalls
- City of Ridgefield Outfalls

- Cell Boundaries Tax Lots

**LRIS Remediation Areas** 



Former PWT Site

Ridgefield, Washington



Note: WWTP = wastewater treatment plant



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Railroad Avenue Property 2' Soil Cap Port Marina Property

WWTP

Port of Ridgefield
Cell Boundaries

Outer LRIS Boundary

3' Soil Cap

1' Cap Along Boundary

Division Street (14" Crushed Base Rock, 5" Asphalt)

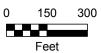
Hard Trail (6" Crushed Base Rock, 2.5" Asphalt over 24" Soil Cap (min))

Soft Trail (3" Crushed Base Rock over 36" Soil Cap (min))

Cell 2 Gravel Access Road (2' Crushed Base Rock)

Cell 3 Gravel Access Road (8" Crushed Base Rock over 14" of Soil)

Former PWT Site Ridgefield, Washington







1. CUL = Cleanup Level 2. REL = Remediation Level

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## Legend

### **Sample Locations**

Soil Boring

Test Pit

 $\triangle$ 

Soil Sample lacktriangleMonitoring Well

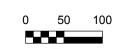
Abandoned Monitoring Well

#### **Exceedances**

**CUL Exceedance** 

**REL Exceedance** 

**Cell Boundary** 



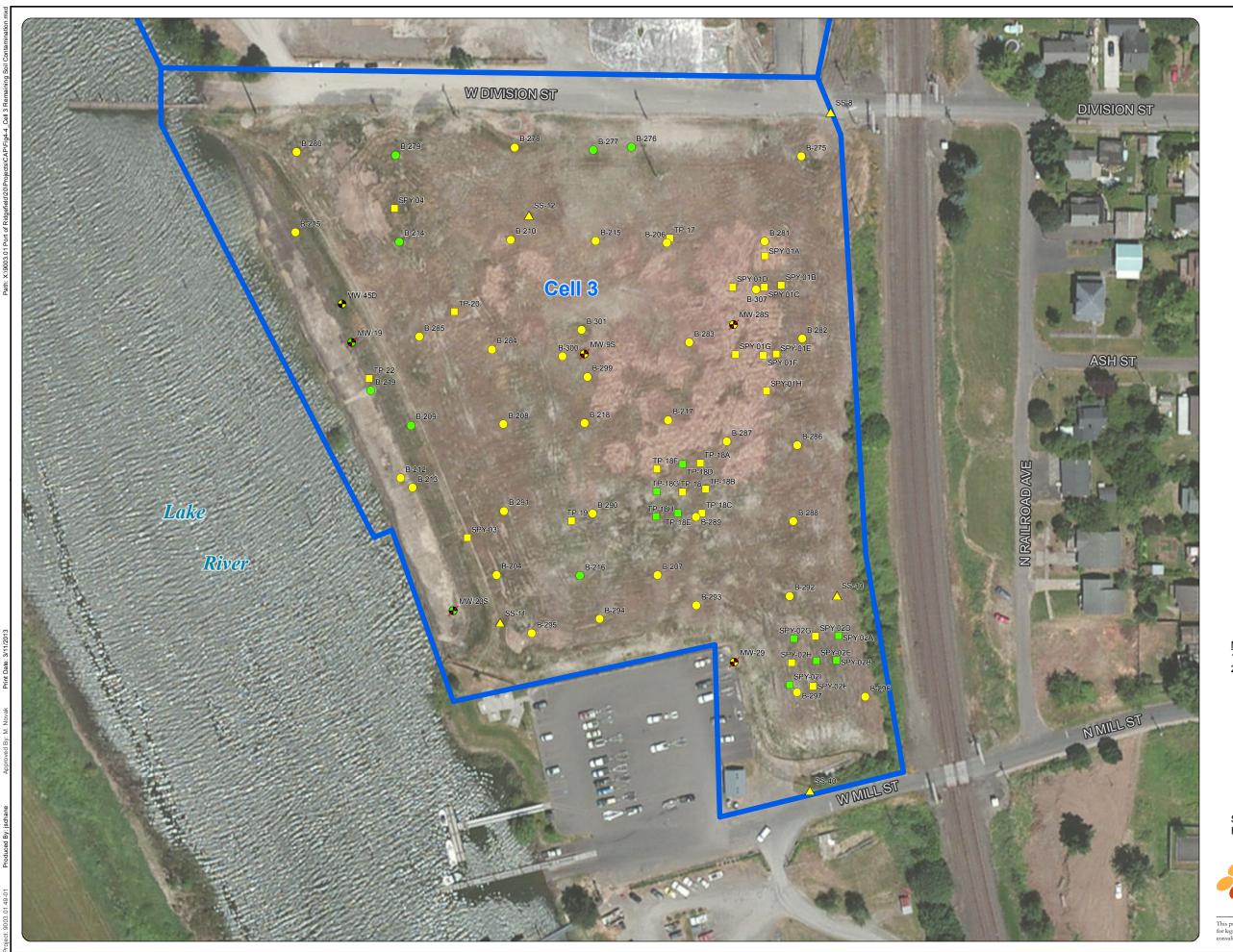
**Soil Contamination** 

Ridgefield, Washington

Former PWT Site



No Exceedance



### Figure 4-4 Cell 3 Remaining **Soil Contamination**

Former PWT Site Ridgefield, Washington

#### Legend

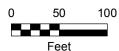
#### Sample Locations

- Soil Boring
- ☐ Test Pit
- Soil Sample
- Monitoring Well
- Abandoned Monitoring Well

#### Exceedances

- No Exceedance
- **CUL Exceedance**
- Cell Boundary

- Notes:
  1. CUL = Cleanup Level
  2. Port Marina sample locations were obtained from a historical report (MFA, 2000) and are approximate.





Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online



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Note: CUL = Cleanup Level

#### Legend

## **Sample Locations**

- Soil Boring
- Test Pit

#### **Exceedances**

No Exceedance



Soil Sample  $\triangle$ 

CUL Exceedance

100

**Soil Contamination** 

Ridgefield, Washington

Former PWT Site





This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.



Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps.

- Notes:

  1. MTCA = Model Toxics Control Act
  2. WWTP = Wastewater Treatment Plant
- Cell 3 plume may extend to south or east beyond boundary shown due to potential upgradient impacts.



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## Legend



Extent of Groundwater Contamination (Dashed Where Approximate)



Steam-Enhanced Remediation (SER) Area



Concrete Pond Excavation



City of Ridgefield WWTP

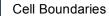
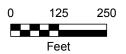




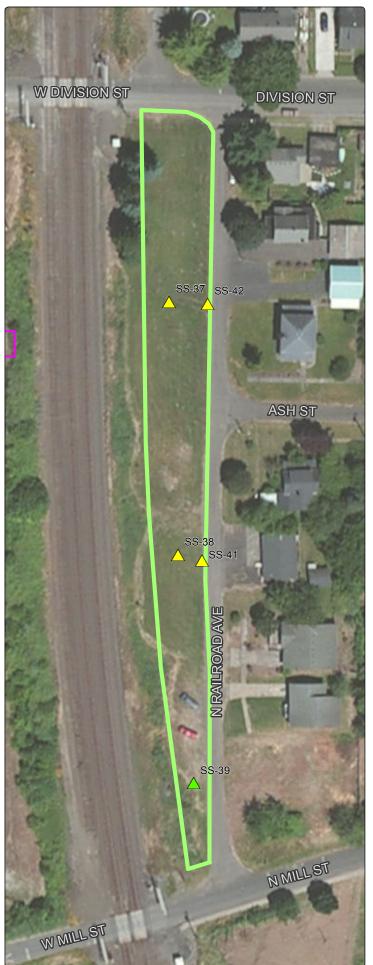
Figure 4-6 Remaining Groundwater Contamination

Former PWT Site Ridgefield, Washington









# Figure 4-7 Port-Owned Properties Remaining Soil Contamination

Former PWT Site Ridgefield, Washington

#### Legend

#### **Sample Locations**

 $\triangle$  Soil Sample

#### Exceedances

No Exceedance

CUL Exceedance

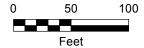
#### Boundary

Railroad Avenue Property

Port Marina Property

Proposed Overpass Property

Note: CUL = Cleanup Level





Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online



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Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online/Bing Maps

- Notes:
  1. ENR = Enhanced Natural Recovery.
- 2. IDW = Inverse Distance Weighted. 3. Dredge depths denote neatline.
- Dredged areas will also receive 1 foot of ENR treatment.
   Analysis extent has been clipped to the bank-sediment interface. Dredge boundaries
- near the shore were generally determined by projection of a 3:1 horizontal to vertical slope down from the shoreline inflection point to the required dredge depth. ENR boundaries near the shore were determined by the point where the shore slope transitions to less than a 5:1 horizontal to vertical slope.



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#### Legend

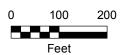


Surface Sediment Sample Remedial Action Areas



## Figure 4-8 Lake River Remedy **Projected Extent**

Former PWT Site Ridgefield, Washington







- Notes:
  1. ENR = Enhanced Natural Recovery.
- 2. IDW = Inverse Distance Weighted.
- TEQ = Toxicity Equivalent.
   ng/kg = nanograms per kilogram.
   Post-remedy concentrations represent the concentration attained post-dredging and post-mixing with the ENR layer.
- 6. Post-remedy concentrations were log-normalized prior to conducting interpolation to maintain consistent methodology with the interpolation
- of the pre-remedy surface which presented a positively skewed histogram.

  7. Analysis extent has been clipped to the bank-sediment interface. Dredge boundaries near the shore were generally determined by projection of a 3:1 horizontal to vertical slope down from the shoreline inflection point to the required dredge depth. ENR boundaries near the shore were determined by the point where the shore slope transitions to less than a 5:1 horizontal
- to vertical slope.

  8. IDW parameters: Power=1, 200-ft x 100-ft elliptical search neighborhood at 155°, minimum samples=1, smoothing factor=0.5.

#### Legend

#### Surface Sediment Sample Historical Outfall

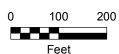




## Figure 4-9 Lake River Projected **Remaining Contamination**

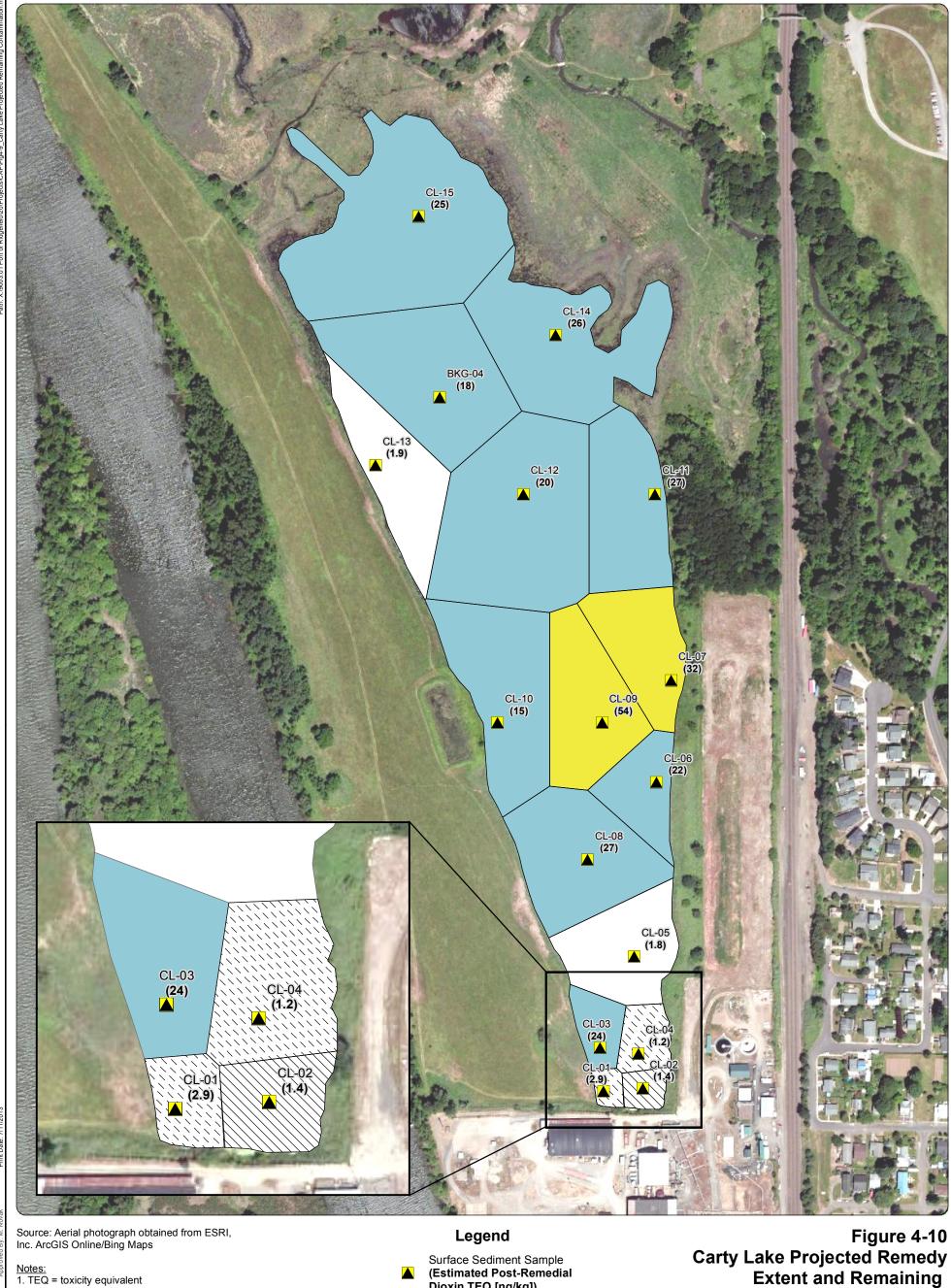
Former PWT Site Ridgefield, Washington







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- ng/kg = nanograms per kilogram
   Dredge depth includes one foot of overdredge.

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Dioxin TEQ [ng/kg])

#### **Dredge Depth**

2 feet

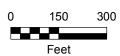
3 feet

**Post Remedy** 

0.3 - 5

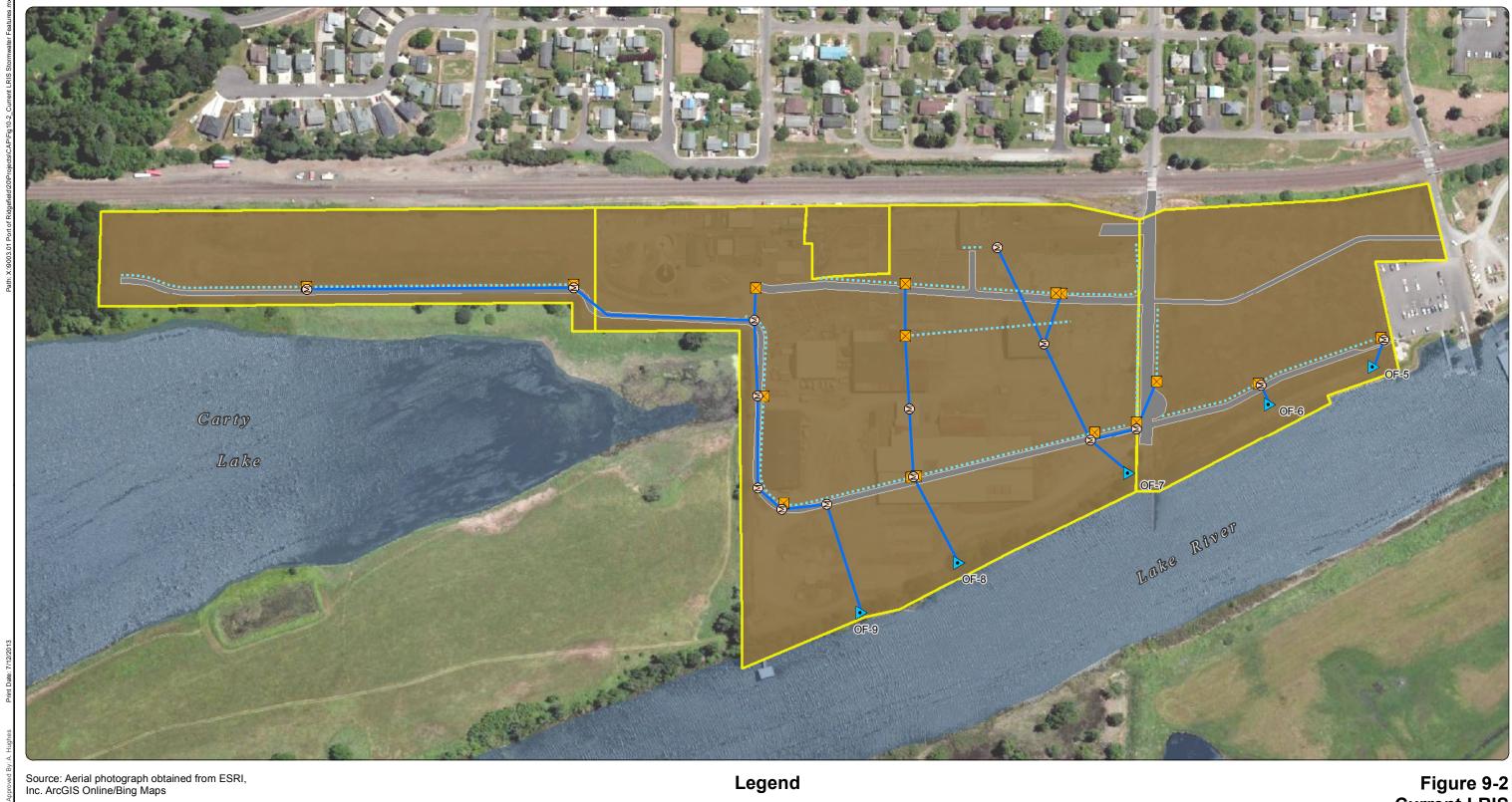
5 - 30 40 - 60 **Extent and Remaining** Contamination

> Former PWT Site Ridgefield, Washington









Manhole

Roads

Catch Basin

Lake & River

Outfall

Cell Boundaries

Ditch

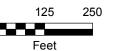
Stormline



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## Figure 9-2 Current LRIS **Stormwater Features**

Former PWT Site Ridgefield, Washington





# APPENDIX A ANALYTICAL SUMMARY



## Appendix A Notes Cleanup Level Screening Former PWT Site

Bold indicates values that exceed CULs (for dioxins, if values were non-detects ["U" or "UJ"], half the reported concentration was compared with CULs).

## Shading indicates values that exceed RELs.

-- = not analyzed.

bgs = below ground surface.

cm = centimeter(s).

cPAH = carcinogenic polycyclic aromatic hydrocarbons.

CUL = cleanup level.

dup = duplicate sample.

ft = feet.

ft bgs = feet below ground surface.

HpCDD = heptachlorodibenzo-p-dioxin.

HpCDF = heptachlorodibenzofuran.

HxCDF = hexachlorodibenzofuran.

J = estimated value.

LRIS = Lake River Industrial Site.

LWBZ = lower water-bearing zone.

mg/L = milligrams per liter (parts per million).

NC = not calculated.

ND = not detected.

ng/kg = nanograms per kilogram (parts per trillion).

NS = not sampled.

NV = no value.

OCDD = octachlorodibenzo-p-dioxin.

OCDF = octachlorodibenzofuran.

PeCDD = pentachlorodibenzo-p-dioxin.

PeCDF = pentachlorodibenzofuran.

PWT = Pacific Wood Treating Co.

Q = qualifier.

REL = remediation level.

TCDD = tetrachlorodibenzo-p-dioxin.

TCDF = tetrachlorodibenzofuran.

TEQ = toxicity equivalent.

U = Compound analyzed, but not detected above detection limit.

μg/kg = micrograms per kilogram (parts per billion).

 $\mu$ g/L = micrograms per liter (parts per billion).

## Appendix A Notes Cleanup Level Screening Former PWT Site

UJ = Compound analyzed, but not detected above estimated detection limit.

UWBZ = upper water-bearing zone.

<sup>a</sup>Ecological CULs derived separately for dioxin congeners and for furan congeners, as determined in coordination with Ecology; composite ("-Comp") results were used to screen soil for ecological risk, where available (see MFA, 2013b).

<sup>b</sup>Location will be removed via dredging.

		Analyte	сРАН ТЕО	2-Methyl- naphthalene	Acenaphthene	Arsenic	Chromium	Copper	Diesel-Range Organics	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline-Range Organics	Residual-Range Organics	Naphthalene
		Unit	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	ng/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	140	320000	4800000	5810	67000	217000	2000000	11	3200000	3200000	30000	2000000	1600000
	Soil	Remediation Level	18000	NV	NV	88000	NV	NV	NV	1500	NV	NV	NV	NV	NV
Sample Location	Sample Date	Depth (feet bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result	Result Q	Result Q	Result Q	Result Q	Result Q
B-30	12/01/1997	3.5	4.3	5 U	5 U	3000	13000	19000	10000 U		22	5 U	10000 U		5 U
B-30	12/01/1997	9.5	NC	16000	12000	1000	7000	23000	1110000		9000	7000	10000 U		42000
B-30	12/01/1997	17	NC	15000	15000	1000	5000	19000	619000		13000	9000	10000 U		52000
B-31	11/26/1997	3.5	4.2	5 U	5 U	1000 U	6000	15000	10000 U		34	5 U	10000 U		5 U
B-31	11/26/1997	8	4.9	5 U	5 U	1000	6000	17000	10000 U		44	5 U	10000 U		5 U
B-31	11/26/1997	15.5	2400.0	32000	39000	1000	10000	22000	1100000		31000	23000	10000 U		60000
B-316	11/17/2011	2	38.2	8.99	40.4	11500			17800		121	19.5		242000	8.99
B-317	11/17/2011	1.25	875	1440	1920	140000			412000		11100	1580		257000	1780
B-318	11/17/2011	1.75	110	24.1	78.1	10200			94200		672	112		125000	33.6
B-319	11/17/2011	2	81.9	7.5 U	7.5 U	7840			46400		127	7.5 U		246000	7.5 U
B-32	12/05/1997	6.5	220.0	5 U	5 U	12000	13000	23000			21	5 U			5 U
B-32	12/08/1997	14				1000	7000	20000	10000 U				10000 U		
B-320	11/17/2011	2.25	271	86.3	220	10200			268000		2140	204		698000	255
B-322	11/17/2011	2.5	15600	10300	73900	241000				8100	189000	35500			3780
B-323	11/17/2011	1													
B-324	11/17/2011	0.5	23.6	8.2 U	8.2 U						26.2	8.2 U			8.2 U
B-325	11/17/2011	8.5	NC			6790									
B-33	12/04/1997	3.5	1400	4100	5000	18000	24000	33000	1380000		19000	4300	10000 U		238
B-33	12/04/1997	9.5	263	53	537	6000	22000	28000	151000		3800	537	10000 U		14
B-33	12/04/1997	15.5	NC	4000	7000	1000	7000	17000	371000		8000	5000	10000 U		6000
B-34	11/26/1997	3.5	107	67	621	10000	14000	19000	38000		1070	489	10000 U		39
B-34	11/26/1997	8	NC	29000	38000	2000	12000	20000	734000		33000	24000	10000 U		56000
B-34	11/26/1997	17	NC	27000	29000	1000 U	6000	16000	284000		23000	18000	10000 U		51000
B-35	12/02/1997	3.5	NC	16000	23000	10000	37000	32000	4430000		13000	13000	10000 U		36000
B-35	12/02/1997	11	NC	66000	72000	2000	10000	25000	2180000		58000	47000	10000 U		226000
B-35	12/02/1997	14	NC	187000	120000	1000	8000	33000	4430000		88000	72000	10000 U		879000
B-36	12/03/1997	5	7240	111000	56000	2000	22000	16000	3710000		38000	32000	10000 U		736000
B-36	12/03/1997	9.5	3100	59000	46000	2000	9000	25000	2010000		44000	35000	10000 U		120000
B-36	12/03/1997	15.5	NC	5000	6000	1000	10000	19000	147000		6000	4000	10000 U		16000
B-37	12/02/1997	5	NC	64000	18000	25000	28000	22000	3630000		8000	19000	10000 U		13000
B-37	12/03/1997	15.5	4.1	5 U	5 U	1000	9000	18000	10000 U		24	5 U	10000 U		8
B-38	12/05/1997	3.5	631	677	3100	12000	27000	18000			8800	1900			705
B-38	12/05/1997	9.5	10000	69000	74000	2000	12000	28000			63000	45000			227000
B-38	12/05/1997	15.5	10400	101000	79000	2000	12000	22000			60000	45000			429000
B-39	01/19/1998	6.5	NC			3000	27000	22000							
B-39	01/19/1998	12.5	NC			2000	12000	23000							
B-40	12/11/1997	6.5	3400	9000	21000	8000	95000	22000			23000	10000			34000
B-40	12/11/1997	14	18600	188000	201000	3000	14000	17000			159000	112000			646000
B-41	12/10/1997	5	5190	64000	69000	11000	110000	21000			60000	43000			213000
B-41	12/10/1997	14	7500	95000	72000	1000	7000	17000			56000	42000			401000
B-43	11/20/1997	3.5	12.5	682	57	6000	13000	13000			23	11			9400
B-43	11/20/1997	9.5	NC	121000	61000	3000	11000	25000			36000	33000			649000
B-44	11/20/1997	6.5	161	1720	1470	6000	13000	16000			2050	1120			1060

Table A-1 LRIS Cell 1 Soil Cleanup Level Screening Former PWT Site

		Analyte	сРАН TEQ	2-Methyl- naphthalene	Acenaphthene	Arsenic	Chromium	Copper	Diesel-Range Organics	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline-Range Organics	Residual-Range Organics	Naphthalene
		Unit	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	ng/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	140	320000	4800000	5810	67000	217000	2000000	11	3200000	3200000	30000	2000000	1600000
	Soil	Remediation Level	18000	NV	NV	88000	NV	NV	NV	1500	NV	NV	NV	NV	NV
Sample Location	Sample Date	Depth (feet bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result	Result Q	Result Q	Result Q	Result Q	Result Q
B-44	11/20/1997	12.5	NC	40000	41000	17000	26000	20000			35000	25000			141000
B-45	11/19/1997	3.5	NC	1000 U	2000	8000	19000	14000	249000		2000	1000	415000		1000 U
B-45	11/19/1997	5	274	96	116	7000	18000	18000			327	168			53
B-45	11/19/1997	8	NC	8000	22000	9000	28000	17000			14000	16000			6000
B-46	11/19/1997	5	8.8	17	28	8000	18000	13000	10000 U		99	44	10000 U		27
B-46	11/19/1997	9.5	ND	5 U	5 U	2000	13000	22000	10000 U		17	5 U	10000 U		5
B-48	11/20/1997	3.5	24.5	1090	406	9000	17000	15000			266	444			8700
B-48	11/20/1997	12.5	NC	12000	7000	2000	6000	17000			5000	4000			53000
MW-40	07/18/2002	55	2300	15000	12000	900 U	19200				12000	8800			43000
MW-40	07/19/2002	61	45	5.6 U	66	900 U	6800				250	93			6.6
MW-40	07/19/2002	66	18	6.5 U	54	1100 U	8300				120	48			7.8
SS-9	07/17/2008	0.3	130	11.3	23.3	8250				1300	103	52.2			7.06 U

		Analyte	Pentachloro- phenol	Pyrene	Zinc
		Unit	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	8300	2400000	360000
	Soil	Remediation Level	1100000	NV	NV
1	3011	Remediation Level	1100000	144	14.0
Sample Location	Sample Date	Depth (feet bgs)	Result Q	Result Q	Result Q
B-30	12/01/1997	3.5	75	21	40000
B-30	12/01/1997	9.5	8000	7000	86000
B-30	12/01/1997	17	12000	13000	43000
B-31	11/26/1997	3.5	240	25	30000
B-31	11/26/1997	8	930	40	28000
B-31	11/26/1997	15.5	29000	24000	38000
B-316	11/17/2011	2	842	94.4	
B-317	11/17/2011	1.25	5890	6910	
B-318	11/17/2011	1.75	13700	483	
B-319	11/17/2011	2	3260	72.7	
B-32	12/05/1997	6.5	18	21	39000
B-32	12/08/1997	14	6		38000
B-320	11/17/2011	2.25	52300	1810	
B-322	11/17/2011	2.5		130000	
B-323	11/17/2011	1	8380		
B-324	11/17/2011	0.5	61.5 U	19.7	
B-325	11/17/2011	8.5			
B-33	12/04/1997	3.5	17000	20000	69000
B-33	12/04/1997	9.5	3200	1800	48000
B-33	12/04/1997	15.5	29000	7000	26000
B-34	11/26/1997	3.5	1400	765	43000
B-34	11/26/1997	8	29000	25000	40000
B-34	11/26/1997	17	20000	18000	25000
B-35	12/02/1997	3.5	23000	9000	107000
B-35			53000		1
B-35	12/02/1997	11	77000	51000	42000
	12/02/1997	14		76000	32000
B-36	12/03/1997	5	182000	33000	39000
B-36	12/03/1997	9.5	128000	49000	45000
B-36	12/03/1997	15.5	22000	5000	35000
B-37	12/02/1997	5	17000	5000	86000
B-37	12/03/1997	15.5	41	15	40000
B-38	12/05/1997	3.5	5000	8100	188000
B-38	12/05/1997	9.5	349000	63000	126000
B-38	12/05/1997	15.5	296000	57000	43000
B-39	01/19/1998	6.5	290000		48000
B-39	01/19/1998	12.5	190000		32000
B-40	12/11/1997	6.5	161000	24000	116000
B-40	12/11/1997	14	554000	156000	39000
B-41	12/10/1997	5	274000	59000	411000
B-41	12/10/1997	14	242000	54000	30000
B-43	11/20/1997	3.5	5 U	28	58000
B-43	11/20/1997	9.5	34000	37000	39000
B-44	11/20/1997	6.5	5800	1930	43000

		Analyte	Pentachloro- phenol	Pyrene	Zinc
		Unit	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	8300	2400000	360000
	Soil	Remediation Level	1100000	NV	NV
Sample Location	Sample Date	Depth (feet bgs)	Result Q	Result Q	Result Q
B-44	11/20/1997	12.5	41000	33000	138000
B-45	11/19/1997	3.5	4000	1000	56000
B-45	11/19/1997	5	40000	331	51000
B-45	11/19/1997	8	22000	11000	49000
B-46	11/19/1997	5	170	75	42000
B-46	11/19/1997	9.5	33	15	40000
B-48	11/20/1997	3.5	89	264	62000
B-48	11/20/1997	12.5	5000	5000	30000
MW-40	07/18/2002	55		10000	272000
MW-40	07/19/2002	61		210	24900
MW-40	07/19/2002	66		100	29900
SS-9	07/17/2008	0.3	596	69.8	

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	сРАН ТЕО	1,1,2,2-Tetra- chloroethane	1,2,4-Trimethyl- benzene	2-Methyl- naphthalene	Acenaphthene	Arsenic	Barium	Chromium	Copper	Dibenzofuran	Diesel-Range Organics
		Unit	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000	67000	217000	160000	2000000
	Soil	l Remediation Level	18000	NV	NV	NV	NV	88000	NV	NV	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-1	11/07/2000	0											240000
B-10	02/04/1991	0											
B-10	02/04/1991	10.5	ND			3 U	2.5 U					2.5 U	
B-10	02/04/1991	16											
B-100	07/08/1998	15											10000 U
B-100	07/08/1998	45	ND			5 U	10 U					5 U	
B-100	07/08/1998	65	ND			5 U	10 U					5 U	
B-101	07/08/1998	10	ND			5 U	10 U					5 U	
B-101	07/08/1998	33	ND			5 U	10 U					5 U	
B-103	07/08/1998	2.5	ND			5 U	10 U					5 U	
B-104	06/03/1999	5	ND										
B-104	06/03/1999	10	ND										
B-104	06/03/1999	25	ND										
B-105	06/03/1999	5											
B-105	06/03/1999	10											
B-105	06/03/1999	25											
B-106	06/04/1999	5											
B-106	06/04/1999	15											
B-107	06/04/1999	5											
B-107	06/04/1999	15											
B-107	06/07/1999	25											
B-107	06/07/1999	45											
B-108	06/07/1999	5											
B-108	06/07/1999	10											
B-109	06/08/1999	5											
B-109	06/08/1999	10											
B-109	06/08/1999	25											
B-109	06/08/1999	40											
B-11	02/04/1991	3											
B-11	02/04/1991	13.5											
B-110	06/08/1999	5											
B-110	06/08/1999	10											
B-110	06/08/1999	25											
B-110	06/08/1999	43											
B-111	06/10/1999	30											
B-112	06/10/1999	10											

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	сРАН ТЕО	1,1,2,2-Tetra- chloroethane	1,2,4-Trimethyl- benzene	2-Methyl- naphthalene	Acenaphthene	Arsenic	Barium	Chromium	Copper	Dibenzofuran	Diesel-Range Organics
		Unit	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000	67000	217000	160000	2000000
	Soi	Remediation Level	18000	NV	NV	NV	NV	88000	NV	NV	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-112	06/10/1999	30											
B-113	06/11/1999	25											
B-114	06/11/1999	10											
B-114	06/11/1999	15											
B-114	06/14/1999	30											
B-115	06/14/1999	10											
B-115	06/14/1999	15											
B-116	06/14/1999	10											
B-116	06/15/1999	40											
B-116	06/15/1999	95											
B-117	06/15/1999	5											
B-117	06/15/1999	15											
B-117	06/16/1999	65											
B-117	06/16/1999	90											
B-119	06/17/1999	2.5											10000 U
B-119	06/17/1999	5											10000 U
B-119	06/17/1999	15											10000 U
B-12	02/05/1991	3											
B-12	02/05/1991	13											
B-13	02/05/1991	15.5											
B-139	10/04/1999	2.5		5 U	20 U								
B-139	10/04/1999	5		5 U	20 U								
B-139	10/04/1999	20		5 U	20 U								
B-14	02/05/1991	8											
B-14	02/05/1991	13											
B-140	10/06/1999	10	ND			1300	410	14000		29000	27000	130	10000 U
B-147	10/08/1999	20											
B-149	10/08/1999	20											
B-15	02/05/1991	3											
B-15	02/05/1991	15.5											
B-153	10/11/1999	5											
B-153	10/11/1999	10	ND	100 U	400 U	12	76	8000		31000	20000	21	10000 U
B-155	10/12/1999	5	30	200 U	800 U	730	640	6000		22000	21000	10 U	10000 U
B-155	10/12/1999	9	ND	200 U	800 U	18	22	6000		43000	28000	10	10000 U
B-160	10/13/1999	10	ND	5 U	20 U	40	140					11	10000 U
B-161	10/13/1999	10											

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	сРАН ТЕО	1,1,2,2-Tetra- chloroethane	1,2,4-Trimethyl- benzene	2-Methyl- naphthalene	Acenaphthene	Arsenic	Barium	Chromium	Copper	Dibenzofuran	Diesel-Range Organics
		Unit	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000	67000	217000	160000	2000000
	Soi	l Remediation Level	18000	NV	NV	NV	NV	88000	NV	NV	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-162	10/13/1999	11.5											
B-165	10/13/1999	11.5											
B-167	10/14/1999	20											
B-170	10/15/1999	7.5											
B-18	05/03/1993	5						4600		16000	20100		
B-18	05/03/1993	15						3700		25100	16800		
B-18	05/03/1993	25						2700		16900	17400		
B-187	10/21/1999	11.5											
B-188	10/21/1999	5											
B-188	10/21/1999	11.5											
B-189	10/22/1999	2.5		100 U	400 U								
B-189	10/22/1999	12		2000 U	2000 U								
B-19	05/03/1993	5											
B-190	10/25/1999	2.5		50 U	200 U								
B-190	10/25/1999	5		50 U	200 U								
B-190	10/25/1999	10		50 U	200 U								
B-191	10/25/1999	2.5											
B-191	10/25/1999	5	ND			10 U	10 U	2000		9000	5000	10 U	10000 U
B-192	10/25/1999	2.5	ND			10 U	10 U	2000		13000	5000	10 U	
B-192	10/25/1999	5											
B-193	10/25/1999	2.5	23			79	180	2000		11000	17000	120	840000
B-193	10/25/1999	5	270			54	360	14000		31000	20000	160	920000
B-193	10/25/1999	10	ND			10 U	10 U	2000		22000	24000	10 U	10000 U
B-194	10/25/1999	2.5	120			2600	1900	7000		23000	16000	1000	10000 U
B-194	10/25/1999	5	19			42	11	3000		22000	24000	10 U	10000 U
B-194	10/25/1999	10	370			3600	3600	3000		31000	27000	2100	10000 U
B-195	10/26/1999	2.5	1300			130	370	33000		129000	53000	200	890000
B-195	10/26/1999	5	59			10 U	10 U	4000		25000	8000	10 U	230000
B-195	10/26/1999	10	7.6			10 U	45	4000		29000	34000	10 U	10000 U
B-196	10/26/1999	3	ND			10 U	10 U	1000 U		2000	11000	10 U	10000 U
B-196	10/26/1999	9	34			770	260	2000		19000	22000	120	460000
B-197	10/26/1999	2.5	43	5 U	20 U	10 U	15	13000		18000	31000	10 U	10000 U
B-197	10/26/1999	5	9.4			10 U	10 U	4000		18000	13000	10 U	32000
B-197	10/26/1999	10	ND	5 U	20 U	10 U	10 U	5000		29000	30000	10 U	10000 U
B-198	10/27/1999	2.5	ND	5 U	20 U	11	10 U	3000		9000	5000	10 U	160000
B-198	10/27/1999	5	ND	5 U	20 U	10 U	10 U	2000		9000	6000	10 U	10000 U

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	сРАН ТЕО	1,1,2,2-Tetra- chloroethane	1,2,4-Trimethyl- benzene	2-Methyl- naphthalene	Acenaphthene	Arsenic	Barium	Chromium	Copper	Dibenzofuran	Diesel-Range Organics
		Unit	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000	67000	217000	160000	2000000
	Soi	l Remediation Level	18000	NV	NV	NV	NV	88000	NV	NV	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-199	10/27/1999	2.5	ND			10 U	10 U	3000		10000	7000	10 U	10000 U
B-199	10/27/1999	5	ND			10 U	10 U	3000		8000	8000	10 U	10000 U
B-199	10/27/1999	10	ND	5 U	20 U	10 U	10 U	7000		17000	13000	10 U	10000 U
B-199	10/27/1999	15	ND	5 U	20 U	10 U	10 U	5000		15000	20000	10 U	10000 U
B-2	11/07/2000	0											150000
B-20	05/03/1993	5						7900		15700	30000		
B-20	05/03/1993	20	9200			130000	200000	3100		7400	16500	110000	
B-21	04/02/1996	26	630			1200	2900					1500	
B-21	04/02/1996	31	-					1600	76100		17000		
B-22	04/02/1996	21	140			140	800					340	
B-22	04/02/1996	49	NC			180 U	180 U					360 U	
B-23	04/02/1996	16	NC			220 U	220 U					440 U	
B-23	04/02/1996	21						2000	175000		23300		
B-24	04/02/1996	26	-					3500	178000		24500		
B-25	04/02/1996	11	-					24500	174000		24200		
B-26	04/02/1996	8.5						1800	64000		8700 U		
B-200	10/27/1999	2.5	ND			10 U	10 U	4000		12000	8000	10 U	10000 U
B-200	10/27/1999	5	ND	5 U	20 U	10 U	10 U	3000		10000	6000	10 U	10000 U
B-201	10/28/1999	2.5	ND			24	11	8000		12000	10000	10 U	10000 U
B-201	10/28/1999	5	ND			10 U	10 U	3000		10000	6000	10 U	10000 U
B-201	10/28/1999	10		5 U	20 U								
B-201	10/28/1999	15	270			25000	9400	7000		34000	30000	5000	10000 U
B-201	10/28/1999	20	ND			31	300	4000		17000	24000	290	10000 U
B-202	10/28/1999	2.5	ND			10 U	10 U	8000		18000	7000	10 U	10000 U
B-202	10/28/1999	5	ND	5 U	20 U	10 U	10 U	3000		12000	8000	10 U	10000 U
B-202	10/28/1999	15		5 U	20 U								10000 U
B-203	10/28/1999	2.5	ND			10 U	10 U	4000		12000	7000	10 U	10000 U
B-203	10/28/1999	5	ND			10 U	10 U	2000		9000	6000	10 U	10000 U
B-203	10/28/1999	10	800			940	1100	4000		23000	12000	450	560000
B-221	11/09/1999	2.5	9.7			10 U	10 U	5000		19000	24000	10 U	10000 U
B-221	11/09/1999	7.5	7.6			10 U	45	3000		15000	21000	19	10000 U
B-222	11/10/1999	2.5	1600			4300	19000					12000	10000 U
B-222	11/10/1999	5	160			510	1400	3000		15000	17000	860	10000 U
B-222	11/10/1999	10	ND			10 U	64	5000		25000	24000	10 U	10000 U
B-223	11/10/1999	2.5											
B-223	11/10/1999	5	ND			10 U	10 U	3000		17000	18000	10 U	29000

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	сРАН ТЕО	1,1,2,2-Tetra- chloroethane	1,2,4-Trimethyl- benzene	2-Methyl- naphthalene	Acenaphthene	Arsenic	Barium	Chromium	Copper	Dibenzofuran	Diesel-Range Organics
		Unit	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000	67000	217000	160000	2000000
	Soi	l Remediation Level	18000	NV	NV	NV	NV	88000	NV	NV	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-223	11/10/1999	10	ND			10 U	28	5000		22000	24000	10 U	10000 U
B-224	11/10/1999	2.5	8.6			10 U	10 U	11000		24000	27000	10 U	10000 U
B-224	11/10/1999	5	-										
B-224	11/10/1999	10	-										
B-225	11/10/1999	2.5											
B-225	11/10/1999	5											
B-226	11/11/1999	2.5											
B-226	11/11/1999	5						2000		11000	6000		10000 U
B-226	11/11/1999	10											
B-227	11/11/1999	2.5											
B-227	11/11/1999	5						3000		23000	21000		10000 U
B-228	11/11/1999	5						1000		8000	5000		10000 U
B-229	11/11/1999	2.5						4000		20000	20000		10000 U
B-229	11/11/1999	5											
B-229	11/11/1999	10											
B-230	11/12/1999	2.5	9.8			97	20	2000		10000	5000	31	60000
B-230	11/12/1999	5	ND			10 U	10 U					10 U	10000 U
B-231	11/12/1999	2.5	ND			10 U	10 U					10 U	10000 U
B-231	11/12/1999	5											
B-231	11/12/1999	7	33	5 U	20 U	180	65	2000 U		11000	7000	42	110000
B-232	12/07/1999	5		6.5 U	26 U								
B-232	12/07/1999	25		6.6 U	27 U								
B-233	12/07/1999	5											
B-233	12/07/1999	15	ND			150	1100	7000		29000	30000	930	10000 U
B-233	12/07/1999	25											
B-234	12/07/1999	25											
B-235	12/08/1999	25	ND			360	64	6000		23000	26000	40	10000 U
B-236	12/08/1999	10	8.9			400	340	35000		35000	27000	180	148000
B-236	12/08/1999	15	7.7			950	710	2000		28000	27000	500	10000 U
B-236	12/08/1999	25											
B-237	12/08/1999	5											
B-237	12/08/1999	15											
B-237	12/08/1999	25											
B-238	12/09/1999	25											
B-239	12/09/1999	25											
B-240	12/10/1999	5											

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	cPAH TEQ	1,1,2,2-Tetra- chloroethane	1,2,4-Trimethyl- benzene	2-Methyl- naphthalene	Acenaphthene	Arsenic	Barium	Chromium	Copper	Dibenzofuran	Diesel-Range Organics
		Unit	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000	67000	217000	160000	2000000
	Soi	l Remediation Level	18000	NV	NV	NV	NV	88000	NV	NV	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-240	12/10/1999	15	10.8			28	650	6000		25000	25000	560	10000 U
B-240	12/10/1999	25											
B-241	12/10/1999	5	68			1500	1000	9000		39000	22000	480	120000
B-241	12/10/1999	15	9.4			1800	940	5000		24000	25000	800	10000 U
B-241	12/10/1999	25											
B-242	12/13/1999	25											
B-243	12/14/1999	25											
B-244	12/15/1999	25		5.5 U	22 U								10000 U
B-244	12/15/1999	30											10000 U
B-244	12/15/1999	35	ND	5.3 U	21 U	10 U	10 U					10 U	10000 U
B-245	12/15/1999	15	ND			10 U	10 U					10 U	5230000
B-245	12/15/1999	30	19.8			55	110					110	10000 U
B-246	12/16/1999	5	ND	5.4 U	22 U	10 U	10 U					10 U	10000 U
B-246	12/16/1999	10		5.2 U	21 U								10000 U
B-246	12/16/1999	20		5.6 U	22 U								10000 U
B-247	12/17/1999	2.5		5.9 U	24 U								10000 U
B-247	12/17/1999	5		5.6 U	23 U			4000		15000	20000		10000 U
B-247	12/17/1999	16		5.5 U	22 U								
B-248	12/20/1999	2.5		4.5 U	18 U								10000 U
B-248	12/20/1999	15		5.2 U	21 U								10000 U
B-248	12/20/1999	25		5.3 U	21 U								10000 U
B-249	12/20/1999	2.5		5.4 U	22 U								10000 U
B-249	12/20/1999	20		5.7 U	23 U								10000 U
B-249	12/20/1999	25		5 U	20 U								10000 U
B-250	12/21/1999	20	9.2	5.4 U	21 U	10 U	10	7000		18000	27000	29	10000 U
B-250	12/21/1999	25	ND	5.5 U	22 U	14	53	3000		11000	17000	79	10000 U
B-250	12/21/1999	35	31.15	5.9 U	24 U	10 U	200	2000 U		9000	14000	140	10000 U
B-251	12/22/1999	2.5		6.1 U	25 U								10000 U
B-251	12/22/1999	10		5.6 U	22 U								10000 U
B-251	12/22/1999	25		5.5 U	22 U								10000 U
B-252	12/22/1999	15	ND			10 U	10 U	3000		28000	30000	10 U	10000 U
B-252	12/22/1999	20	ND			10 U	10 U	2000		27000	31000	10 U	10000 U
B-252	12/22/1999	25	ND			10 U	10 U	3000		30000	34000	10 U	10000 U
B-253	12/23/1999	25	64			990	630	5000		27000	36000	290	10000 U
B-255	01/14/2000	10	2400			52000	19000	20000		14000	14000	9300	10000 U
B-255	01/14/2000	15	ND			34	16	4000		26000	33000	10 U	10000 U

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	сРАН ТЕО	1,1,2,2-Tetra- chloroethane	1,2,4-Trimethyl- benzene	2-Methyl- naphthalene	Acenaphthene	Arsenic	Barium	Chromium	Copper	Dibenzofuran	Diesel-Range Organics
		Unit	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000	67000	217000	160000	2000000
	Soil	Remediation Level	18000	NV	NV	NV	NV	88000	NV	NV	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-255	01/14/2000	25											
B-256	01/14/2000	5	ND			10 U	10 U	4000		21000	17000	10 U	10000 U
B-256	01/14/2000	10	ND			10	64	5000		25000	37000	22	10000 U
B-256	01/14/2000	20											
B-261	01/20/2000	10	ND			10 U	10 U	2000		12000	17000	10 U	10000 U
B-261	01/20/2000	15	110			1000	970	2000		13000	18000	650	10000 U
B-261	01/20/2000	30	ND			10 U	10 U	1000		7000	15000	10 U	10000 U
B-264	08/17/2001	2.5	11			52	14 U	4900		25400	21800	14 U	16000
B-264	08/17/2001	10	ND			13 U	13 U	2200		21900	20600	13 U	20000
B-265	08/17/2001	5	ND			13 U	13 U	2500		24500	18500	13 U	12000 U
B-266	08/17/2001	5	ND			16 U	21	5300		22400	23400	16 U	16000 U
B-272	08/17/2001	5	54			700	1000	14400		45500	11800	330	130000
B-273	08/20/2001	5	33			950	580	3800		26000	27400	280	22000
B-274	08/20/2001	5	12			14 U	18	2600		19900	17100	14 U	14000 U
B-3	11/07/2000	0											240000
B-302	09/23/2005	20	NC			50.5 U	96 U					53 U	
B-303	09/26/2005	20	NC			36 U	233 U					908 U	
B-304	06/12/2008	10	2570	57.1 U	57.1 U	152 U	4950	38200		68700	24300	629	11800000
B-304	06/12/2008	19.5	ND	13.7 U	13.7 U	45.6 U	181	2280 U		21000	16800	71.1	25300
B-305	06/12/2008	10	ND	69.4 U	69.4 U	46.3 U	46.3 U	2310 U		17800	45800	46.3 U	38800
B-305	06/12/2008	19	ND	13.8 U	13.8 U	93.7	407	2550 U		34100	22800	227	29200
B-306	03/11/2009	15											
B-306	03/11/2009	18	5810				541	2750		18200	24300		
B-313	05/21/2009	2.5	ND			35.3 U	35.3 U	1530		7730	2740	35.3 U	15900 U
B-313	05/21/2009	5	ND			35.8 U	35.8 U	1560		8050	3060	35.8 U	
B-313	05/21/2009	10	ND			43 U	43 U	2220		12600	9530	43 U	19400 U
B-313	05/21/2009	15	ND			44.3 U	44.3 U	3570		21100	16800	44.3 U	19900 U
B-321	11/17/2011	2	225			342	1300	4020					
B-325	11/17/2011	10	7			8.02 U	8.02 U						
B-326	11/17/2011	4.5						17800					
B-42	12/09/1997	8	424			87	1290	3000		12000	28000	733	
B-42	12/09/1997	12.5						1000		9000	18000		10000 U
B-42	12/09/1997	15.5	2300			21000	15000	1000		10000	23000	10000	
B-47	11/18/1997	3.5	NC			1000 U	1000 U	6000		14000	15000	1000 U	
B-47	11/18/1997	9.5	ND			5 U	5 U	2000		8000	32000	5 U	
B-47	11/18/1997	15.5	1100			29000	32000	2000		11000	26000	24000	

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	сРАН ТЕО	1,1,2,2-Tetra- chloroethane	1,2,4-Trimethyl- benzene	2-Methyl- naphthalene	Acenaphthene	Arsenic	Barium	Chromium	Copper	Dibenzofuran	Diesel-Range Organics
		Unit	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000	67000	217000	160000	2000000
	Soi	l Remediation Level	18000	NV	NV	NV	NV	88000	NV	NV	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-49	11/25/1997	5	ND			1000 U	1000 U	7000		16000	11000	1000 U	
B-49	11/25/1997	9.5	NC			16000	9000	4000		8000	22000	6000	
B-50	11/21/1997	3.5	NC			1000 U	1000 U	15000		22000	14000	1000 U	
B-50	11/21/1997	8	7.2			14	11	5000		11000	24000	10	
B-51	11/24/1997	3.5	NC			10000	23000	7000		16000	14000	14000	
B-51	11/24/1997	9.5	ND				100 U	5000		16000	30000		10000 U
B-52	11/20/1997	3.5	122			174	136	101000		37000	20000	116	
B-52	11/20/1997	9.5	NC			98000	68000	3000		7000	19000	51000	
B-53	01/14/1998	9.5	ND			5 U	5 U	4000		14000	30000	5 U	
B-53	01/14/1998	15.5	115			115	224	2000		10000	39000	158	
B-54	01/14/1998	8	134			5 U	119	7000		22000	18000	131	
B-54	01/14/1998	15.5	NC			1000 U	1000 U	1000		9000	16000	1000 U	
B-55	01/15/1998	8	4.4			35	69	6000		20000	14000	66	
B-55	01/15/1998	17	NC			7000	5000	4000		12000	14000	3000	
B-56	01/15/1998	6.5	4.1			72	16	8000		20000	13000	5 U	
B-56	01/15/1998	12.5	NC			3000	3000	3000		8000	22000	2000	
B-57	01/16/1998	8	ND			5 U	5 U	8000		20000	15000	5 U	
B-57	01/16/1998	14	NC			14000	18000	2000		13000	24000	14000	
B-58	01/16/1998	6.5	4.4			5 U	5 U	2000		12000	21000	5 U	
B-58	01/16/1998	14	NC			7000	14000	2000		14000	21000	10000	
B-58A	06/12/1998	5	19			5 U	10 U					5 U	
B-58A	06/12/1998	17	ND			5 U	10 U					5 U	
B-6	02/04/1991	33											
B-62	06/12/1998	5	ND			5 U	10 U					5 U	
B-62	06/12/1998	17	ND			5 U	10 U					5 U	
B-63	06/12/1998	5	ND			5 U	10 U					5 U	
B-63	06/12/1998	17	ND			5 U	10 U					5 U	
B-66	06/12/1998	5	ND			5 U	10 U					5 U	
B-66	06/12/1998	17	ND			5 U	10 U					5 U	
B-69	06/16/1998	0.5	1700			5 U	10 U	19000		26000	33000	5 U	10000 U
B-69	06/16/1998	2.5	ND			5 U	10 U	4000		19000	19000	5 U	10000 U
B-69	06/16/1998	5	ND			5 U	10 U	4000		18000	24000	5 U	10000 U
B-69	06/16/1998	10	ND			5 U	10 U	1000		8000	19000	5 U	10000 U
B-69	06/16/1998	17	ND			5 U	10 U	2000		8000	17000	5 U	10000 U
B-7	02/04/1991	5.5											
B-7	02/04/1991	13.5											

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	сРАН ТЕО	1,1,2,2-Tetra- chloroethane	1,2,4-Trimethyl- benzene	2-Methyl- naphthalene	Acenaphthene	Arsenic	Barium	Chromium	Copper	Dibenzofuran	Diesel-Range Organics
		Unit	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000	67000	217000	160000	2000000
	Soi	l Remediation Level	18000	NV	NV	NV	NV	88000	NV	NV	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-72	06/17/1998	0.5	7000			120000	170000	22000		36000	50000	88000	
B-72	06/17/1998	5	20			5 U	26	3000		15000	16000	31	
B-72	06/17/1998	10	31			5 U	10	2000		16000	25000	12	
B-72	06/17/1998	17	ND			5 U	10 U	2000		8000	19000	5 U	
B-73	06/17/1998	17	ND			5 U	10 U					5 U	
B-74	06/17/1998	2.5	ND			5 U	10 U					5 U	
B-74	06/17/1998	17	ND			5 U	10 U					5 U	
B-75	06/17/1998	2.5	ND			5 U	10 U					5 U	
B-75	06/17/1998	17	ND			5 U	10 U					5 U	
B-76	06/17/1998	10	ND			5 U	10 U					5 U	
B-76	06/17/1998	27	31			5 U	10 U					5 U	
B-77	06/17/1998	2.5	ND			5 U	10 U					5 U	
B-77	06/17/1998	5	ND			5 U	10 U					5 U	
B-77	06/17/1998	17	9700			130000	83000					46000	
B-78	06/18/1998	0.5	4800			1100	13000					4600	
B-78	06/18/1998	17	ND			5 U	10 U					5 U	
B-79	06/18/1998	2.5	ND			3300	700					190	
B-79	06/18/1998	10	ND			5 U	10 U					5 U	
B-79	06/18/1998	17	ND			5 U	10 U					5 U	
B-80	06/19/1998	2.5	ND			5 U	10 U					5 U	
B-80	06/19/1998	15	ND			5 U	10 U					5 U	
B-80	06/19/1998	25	ND			5 U	10 U					5 U	
B-81	06/19/1998	2.5	ND			40	10 U					5 U	
B-82	06/19/1998	10	7.6			17	31					15	
B-82	06/19/1998	20	ND			5 U	10 U					5 U	
B-83	06/23/1998	5	ND			5 U	10 U					5 U	
B-83	06/23/1998	17	2600			100000	42000					24000	
B-84	06/23/1998	10	28			190	380					200	
B-84	06/23/1998	35	ND			14	10 U					5 U	
B-85	06/23/1998	5	160			370	97					77	
B-86	06/23/1998	5	ND			59	29					20	
B-86	06/23/1998	15	7500			190000	89000					53000	
B-87	06/23/1998	5	ND			34	10 U					6	
B-87	06/23/1998	15	140			1500	1500					950	
B-88	06/23/1998	5	ND			24	10 U					5 U	
B-88	06/23/1998	15	8.4			24	21					13	

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	сРАН ТЕО	1,1,2,2-Tetra- chloroethane	1,2,4-Trimethyl- benzene	2-Methyl- naphthalene	Acenaphthene	Arsenic	Barium	Chromium	Copper	Dibenzofuran	Diesel-Range Organics
		Unit	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000	67000	217000	160000	2000000
	Soi	l Remediation Level	18000	NV	NV	NV	NV	88000	NV	NV	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-89	06/23/1998	5	ND			5 U	10 U					5 U	
B-89	06/23/1998	15	ND			5 U	10 U					5 U	
B-90	06/23/1998	0.5	3000			380	2500					1000	
B-90	06/23/1998	17.5	9.6			5 U	22					19	
B-91	06/23/1998	0.5	200			960	85					110	
B-91	06/23/1998	15	ND			5 U	10 U					5 U	
B-92	06/23/1998	10	ND			5 U	150					5 U	
B-92	06/23/1998	30	ND			5 U	10 U					5 U	
B-93	06/24/1998	25	33			350	470					200	
B-93	06/24/1998	40	42			220	220					110	
B-94	06/24/1998	10	200			9400	4900					1800	
B-94	06/24/1998	35	ND			5 U	10 U					5 U	
B-95	06/24/1998	25	ND			60	37					19	
B-95	06/24/1998	32.5	ND			10	10 U					5 U	
B-96	07/08/1998	10											10000 U
B-96	07/08/1998	30	ND			5 U	10 U					5 U	
B-97	07/08/1998	2.5	ND			7	10 U					5 U	
B-97	07/08/1998	10											2088000
B-98	07/08/1998	17	ND			5 U	10 U					5 U	
B-99	07/08/1998	15											10000 U
B-99	07/08/1998	45	ND			5 U	10 U					5 U	
B-99	07/08/1998	64	ND			5 U	10 U					5 U	
DS-E	06/18/1997	0	ND			300 U	300 U	10000		24000	34000	300 U	10000 U
DS-W	06/18/1997	0	ND			300 U	300 U	40000		54000	38000	300 U	10000 U
GP10	05/20/2009	1.5	ND			38.7 U	38.7 U	4320		13500	14400	38.7 U	469000
GP10	05/20/2009	10	ND			45.3 U	45.3 U	2260		19200	18400	45.3 U	20400 U
GP10	05/20/2009	15	ND			44.7 U	44.7 U	2990		17000	14900	44.7 U	20100 U
GP11	05/21/2009	1.5	ND			38.2 U	38.2 U	6880		13000	4420	38.2 U	128000
GP11	05/21/2009	5	ND			42.2 U	42.2 U	2300		23800	17700	42.2 U	19000 U
GP11	05/21/2009	10	ND			45.5 U	45.5 U	3680		21400	17000	45.5 U	20500 U
GP11	05/21/2009	15	ND			43.9 U	43.9 U	3380		25000	17100	43.9 U	19800 U
GP8	05/22/2009	1.4	ND			175 U	175 U	2570		11300	8000	175 U	118000
GP8	05/22/2009	5	ND			129	145	1360		13500	9380	82.7	17600 U
GP8	05/22/2009	11	ND			210 U	210 U	13100		38100	30800	210 U	189000 U
GP8	05/22/2009	15	ND			117	94.6	3310		25600	17300	71.4	21300 U
MW-10	02/05/1991	0											

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	cPAH TEQ	1,1,2,2-Tetra- chloroethane	1,2,4-Trimethyl- benzene	2-Methyl- naphthalene	Acenaphthene	Arsenic	Barium	Chromium	Copper	Dibenzofuran	Diesel-Range Organics
		Unit	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000	67000	217000	160000	2000000
	Soi	l Remediation Level	18000	NV	NV	NV	NV	88000	NV	NV	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
MW-10	02/05/1991	0											
MW-10	02/05/1991	0											
MW-10	02/05/1991	0											
MW-10	02/05/1991	0											
MW-13	05/03/1993	5						1800		6400	3700		
MW-13	05/03/1993	15						5600		10200	20000 U		
MW-13	05/03/1993	20						2500		9200	16400		
MW-14	05/03/1993	5						4200		14600	19100		
MW-14	05/03/1993	20						4000		27600	17000		
MW-15	05/03/1993	10						2200		11100	7300		
MW-15	05/03/1993	20						5100		22300	22700		
MW-17	05/03/1993	5						4900		17400	11700		
MW-17	05/03/1993	12.5						5400		19500	21700		
MW-22	05/03/1993	10						3600		25300	16300		
MW-22	05/03/1993	15						3000		24300	12300		
MW-24	04/02/1996	0.5	370										
MW-24	04/02/1996	11	1300			33000	22000	11900	135000	14000	16100	13000	
MW-24	04/02/1996	21	4700			64000	51000					30000	
MW-25	04/02/1996	3	170			370 U	120					50	
MW-25	04/02/1996	36						2100	69500	11600	18000		
MW-26	04/02/1996	21	1000			15000	17000					9100	
MW-27	04/02/1996	6						6800	137000	16500	18800		
MW-31	04/02/1996	16						14300	100000	15200	12100		
MW-31	04/02/1996	21	81				150					73	
MW-31	04/02/1996	26	90				430 U					430 U	
MW-31	04/02/1996	31	ND				420 U					420 U	
MW-55	06/10/2008	10	ND	13.7 U	13.7 U	45.7 U	45.7 U	2740		18300	16000	45.7 U	26300
MW-55	06/10/2008	20	ND	14.1 U	14.1 U	46.9 U	163	2600 U		32400	24000	76.9	37000
MW-58D	06/18/2008	10	ND	10.9 U	10.9 U	36.3 U	36.3 U	15000		27000	18800	36.3 U	33300
MW-58D	06/18/2008	13.5	ND	14.9 U	14.9 U	103	512	4470		23500	32500	50.2	74900
NPY-03	02/06/1991	0											
NPY-04	02/06/1991	0											
SS-01	02/06/1991	0											
SS-13	02/26/2009	0.5	ND				7.1 U	2590		16100	5410		
SS-15	02/26/2009	0.5	ND				7.87 U	8320		18100	13400		
SS-16	02/26/2009	0.5	11				8 U	22900		46700	30700		

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	сРАН ТЕО	1,1,2,2-Tetra- chloroethane	1,2,4-Trimethyl- benzene	2-Methyl- naphthalene	Acenaphthene	Arsenic	Barium	Chromium	Copper	Dibenzofuran	Diesel-Range Organics
		Unit	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000	67000	217000	160000	2000000
	Soil	l Remediation Level	18000	NV	NV	NV	NV	88000	NV	NV	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
SS-17	02/26/2009	0.5	ND				7.46 U	1630		11400	10100		
SS-18	02/26/2009	0.5	5.65				7.49 U	2440		21200	10200		
SS-19	02/26/2009	0.5	2240				44.3	39500		57400	51700		
SS-2	04/02/1996	8.5						5300	165000	14900	20200		
TP-02	05/03/1993	0.2						6200		10400	35000		
TP-02	05/03/1993	5						8000		18000	10800		
TP-02	05/03/1993	9						7100		23000	11000		
TP-03	05/03/1993	10						2200		8300	4400		
TP-04	05/03/1993	0.5						2400		13200	21800		
TP-04	05/03/1993	5						1200		450	320		
TP-04	05/03/1993	10						500		8900	5900		
TP-05	05/03/1993	0.5						11300		24500	4000		
TP-05	05/03/1993	8						2200		16900	7500		
TP-06	05/03/1993	0.3						3700		10900	4200		
TP-06	05/03/1993	3				670 U	670 U	13100		26100	6600	670 U	
TP-06	05/03/1993	10						2500		20900	10300		
TP-09	05/03/1993	0.3						79600		52500	54600		
TP-09	05/03/1993	4				300 U	300 U	4800		14600	12100	300 U	
TP-09	05/03/1993	9		14000		86000	57000	61000		123000	16200	33000	
TP-11	05/03/1993	0.5						78000		69500	56500		
TP-11	05/03/1993	10						4700		17800	18600		
TP-12	05/03/1993	0.3						2400		15000	11600		
TP-12	05/03/1993	3				130000	67000 U					67000 U	
TP-12	05/03/1993	6.5				2400	2600	6900		16300	11300	1700 U	
TP-13	05/03/1993	5.5						32700		9000	9200		
TP-13	05/03/1993	7.5		5 U				10600		14800	17000		
TP-14	05/03/1993	0.5						50100		55400	32200		
TP-14	05/03/1993	5						2800		9100	5200		
TP-15	05/03/1993	0.2						22000		34100	29600		
TP-15	05/03/1993	6						51500		12100	7500		
TP-16	05/03/1993	0.3						41200		40700	55100		
TP-16	05/03/1993	7						7600		11100	11100		
TP-27	05/03/1993	10											
TP-28	05/03/1993	7											
TP-28	05/03/1993	9.5		5000 U		340000	250000					140000	
TP-32	05/03/1993	10											

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline-Range Organics	Residual-Range Organics	Naphthalene	Pentachloro- phenol	Pyrene	Styrene	Zinc
		Unit	ng/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	11	3200000	3200000	30000	2000000	1600000	8300	2400000	33000	360000
	Soi	l Remediation Level	1500	NV	NV	NV	NV	NV	1100000	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-1	11/07/2000	0				20000 U	1200000					
B-10	02/04/1991	0							15000			
B-10	02/04/1991	10.5		2.5 U	2.5 U			2.5 U	17000	2.5 U		
B-10	02/04/1991	16							7700			
B-100	07/08/1998	15				10000 U	25000 U					
B-100	07/08/1998	45		10 U	10 U			9	100 U	10 U		
B-100	07/08/1998	65		10 U	10 U			5 U	100 U	10 U		
B-101	07/08/1998	10		10 U	10 U			9	100 U	10 U		
B-101	07/08/1998	33		10 U	10 U			5 U	100 U	10 U		
B-103	07/08/1998	2.5		10 U	10 U			5 U	100 U	10 U		
B-104	06/03/1999	5							8			
B-104	06/03/1999	10							5 U			
B-104	06/03/1999	25							5 U			
B-105	06/03/1999	5							120			
B-105	06/03/1999	10							400			
B-105	06/03/1999	25							5 U			
B-106	06/04/1999	5							5 U			
B-106	06/04/1999	15							65			
B-107	06/04/1999	5							5 U			
B-107	06/04/1999	15							5 U			
B-107	06/07/1999	25							5 U			
B-107	06/07/1999	45							5 U			
B-108	06/07/1999	5							5 U			
B-108	06/07/1999	10							5 U			
B-109	06/08/1999	5							5 U			
B-109	06/08/1999	10							5 U			
B-109	06/08/1999	25							6.3			
B-109	06/08/1999	40							5 U			
B-11	02/04/1991	3							2500 U			
B-11	02/04/1991	13.5							2500 U			
B-110	06/08/1999	5							46 U			
B-110	06/08/1999	10							26			
B-110	06/08/1999	25							5 U			
B-110	06/08/1999	43							660			
B-111	06/10/1999	30							5 U			
B-112	06/10/1999	10							65			

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline-Range Organics	Residual-Range Organics	Naphthalene	Pentachloro- phenol	Pyrene	Styrene	Zinc
		Unit	ng/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	11	3200000	3200000	30000	2000000	1600000	8300	2400000	33000	360000
	Soi	il Remediation Level	1500	NV	NV	NV	NV	NV	1100000	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-112	06/10/1999	30							10			
B-113	06/11/1999	25							88			
B-114	06/11/1999	10							5 U			
B-114	06/11/1999	15							13			
B-114	06/14/1999	30							5 U			
B-115	06/14/1999	10							5 U			
B-115	06/14/1999	15							5 U			
B-116	06/14/1999	10							5 U			
B-116	06/15/1999	40							5 U			
B-116	06/15/1999	95							24			
B-117	06/15/1999	5							5 U			
B-117	06/15/1999	15							16			
B-117	06/16/1999	65							5 U			
B-117	06/16/1999	90							5 U			
B-119	06/17/1999	2.5				10000 U	25000 U		5 U			
B-119	06/17/1999	5				10000 U	34000		5 U			
B-119	06/17/1999	15				10000 U	25000 U		5 U			
B-12	02/05/1991	3							2500 U			
B-12	02/05/1991	13							2500 U			
B-13	02/05/1991	15.5							2500 U			
B-139	10/04/1999	2.5						20 U	5 U		5 U	
B-139	10/04/1999	5						20 U	5 U		5 U	
B-139	10/04/1999	20						20 U	5 U		5 U	
B-14	02/05/1991	8							2500 U			
B-14	02/05/1991	13							2500 U			
B-140	10/06/1999	10		29	180	10000 U	25000 U	1100	59	18		89000
B-147	10/08/1999	20							5 U			
B-149	10/08/1999	20							5 U			
B-15	02/05/1991	3							4300			
B-15	02/05/1991	15.5							30000			
B-153	10/11/1999	5							5 U			
B-153	10/11/1999	10		18	22	10000 U	25000 U	68	53	14	100 U	73000
B-155	10/12/1999	5		450	240	10000 U	110000	14000	37	340	200 U	83000
B-155	10/12/1999	9		20	13	10000 U	25000 U	37000	6.4	17	200 U	92000
B-160	10/13/1999	10		10 U	31	10000 U	25000 U	28	14	10 U	5 U	
B-161	10/13/1999	10							5 U			

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline-Range Organics	Residual-Range Organics	Naphthalene	Pentachloro- phenol	Pyrene	Styrene	Zinc
		Unit	ng/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	11	3200000	3200000	30000	2000000	1600000	8300	2400000	33000	360000
	Soi	il Remediation Level	1500	NV	NV	NV	NV	NV	1100000	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-162	10/13/1999	11.5							15			
B-165	10/13/1999	11.5							5 U			
B-167	10/14/1999	20							5 U			
B-170	10/15/1999	7.5							790			
B-18	05/03/1993	5										
B-18	05/03/1993	15										
B-18	05/03/1993	25										
B-187	10/21/1999	11.5							5 U			
B-188	10/21/1999	5							5 U			
B-188	10/21/1999	11.5							5 U			
B-189	10/22/1999	2.5						400 U	5 U		100 U	
B-189	10/22/1999	12						2000 U	5 U		2000 U	
B-19	05/03/1993	5							1100			
B-190	10/25/1999	2.5						200 U	5 U		50 U	
B-190	10/25/1999	5						200 U	5 U		50 U	
B-190	10/25/1999	10						200 U	5 U		50 U	
B-191	10/25/1999	2.5							5 U			
B-191	10/25/1999	5		10 U	10 U	10000 U	25000 U	10 U	5 U□	10 U		25000
B-192	10/25/1999	2.5		10 U	10 U			10 U	5.5	10 U		26000
B-192	10/25/1999	5							5 U			
B-193	10/25/1999	2.5		270	180	10000 U	25000 U	36	1200	230		46000
B-193	10/25/1999	5		3700	390	10000 U	25000 U	62	440	3900		191000
B-193	10/25/1999	10		10 U	10 U	10000 U	25000 U	10 U	9.5	10 U		59000
B-194	10/25/1999	2.5		1900	1400	10000 U	25000 U	23000	8300	1500		85000
B-194	10/25/1999	5		44	10 U	10000 U	25000 U	880	1900	37		85000
B-194	10/25/1999	10		4400	3000	10000 U	25000 U	18000	4700	3300		68000
B-195	10/26/1999	2.5		2300	390	10000 U	25000 U	93	3000	1700		626000
B-195	10/26/1999	5		90	13	10000 U	25000 U	10 U	440	100		72000
B-195	10/26/1999	10		61	14	10000 U	25000 U	120	14	57		79000
B-196	10/26/1999	3		10 U	10 U	10000 U	25000 U	10 U	9.6	10 U		11000
B-196	10/26/1999	9		430	140	10000 U	25000 U	790	17000	310		60000
B-197	10/26/1999	2.5		66	10 U	10000 U	140000	20	210	55	5 U	73000
B-197	10/26/1999	5		42	10 U	10000 U	25000 U	10 U	980	38		72000
B-197	10/26/1999	10		10 U	10 U	10000 U	25000 U	10 U	41	10 U	5 U	72000
B-198	10/27/1999	2.5		10 U	10 U	10000 U	25000 U	10 U	230000	10 U	5 U	24000
B-198	10/27/1999	5		10 U	10 U	10000 U	25000 U	10 U	40000	10 U	5 U	26000

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline-Range Organics	Residual-Range Organics	Naphthalene	Pentachloro- phenol	Pyrene	Styrene	Zinc
		Unit	ng/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	11	3200000	3200000	30000	2000000	1600000	8300	2400000	33000	360000
	Soi	il Remediation Level	1500	NV	NV	NV	NV	NV	1100000	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-199	10/27/1999	2.5		10 U	10 U	10000 U	25000 U	10 U	140	10 U		27000
B-199	10/27/1999	5		10 U	10 U	10000 U	25000 U	10 U	5.3	10 U		23000
B-199	10/27/1999	10		10 U	10 U	10000 U	25000 U	10 U	81	10 U	5 U	64000
B-199	10/27/1999	15		10 U	10 U	10000 U	25000 U	10 U	5 U□	10 U	5 U	41000
B-2	11/07/2000	0				20000 U	810000					
B-20	05/03/1993	5										
B-20	05/03/1993	20		200000	150000			34000		130000		
B-21	04/02/1996	26		2600	2000			2700	3600	2500		
B-21	04/02/1996	31										37300
B-22	04/02/1996	21		1300	580			380	43000	920 U		
B-22	04/02/1996	49		180 U	180 U			37	380	180 U		
B-23	04/02/1996	16		220 U	220 U			220 U	2100 U	220 U		
B-23	04/02/1996	21										117000
B-24	04/02/1996	26										61000
B-25	04/02/1996	11										
B-26	04/02/1996	8.5										27400
B-200	10/27/1999	2.5		10 U	10 U	10000 U	25000 U	10 U	19	10 U		40000
B-200	10/27/1999	5		10 U	10 U	10000 U	25000 U	10 U	5 U□	10 U	5 U	27000
B-201	10/28/1999	2.5		10 U	10 U	10000 U	25000 U	61	17	10 U		101000
B-201	10/28/1999	5		10 U	10 U	10000 U	25000 U	10 U	10	10 U		27000
B-201	10/28/1999	10						20 U	5 U		5 U	
B-201	10/28/1999	15		3100	5400	10000 U	25000 U	59000	19	2300		82000
B-201	10/28/1999	20		10 U	230	10000 U	25000 U	810	9.9	10 U		43000
B-202	10/28/1999	2.5		10 U	10 U	10000 U	25000 U	10 U	18	10 U		101000
B-202	10/28/1999	5		10 U	10 U	10000 U	25000 U	10 U	5 U□	10 U	5 U	37000
B-202	10/28/1999	15				10000 U	25000 U	140	5 U		5 U	
B-203	10/28/1999	2.5		10 U	10 U	10000 U	25000 U	10 U	21	10 U		40000
B-203	10/28/1999	5		10 U	10 U	10000 U	25000 U	10 U	11	10 U		28000
B-203	10/28/1999	10		4400	700	10000 U	25000 U	880	1300	4300		81000
B-221	11/09/1999	2.5		10	10 U	10000 U	65000	10 U	40	18		75000
B-221	11/09/1999	7.5		38	24	10000 U	25000 U	58	490	40		51000
B-222	11/10/1999	2.5		24000	22000	10000 U	25000 U	3000	320	17000		
B-222	11/10/1999	5		1900	1200	10000 U	25000 U	810	61	1400		58000
B-222	11/10/1999	10		10 U	81	10000 U	25000 U	10 U	25	10 U		74000
B-223	11/10/1999	2.5							5 U			
B-223	11/10/1999	5		17	10 U	10000 U	25000 U	10 U	7	17		55000

		Analyte	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline-Range Organics	Residual-Range Organics	Naphthalene	Pentachloro- phenol	Pyrene	Styrene	Zinc
		Unit	ng/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	11	3200000	3200000	30000	2000000	1600000	8300	2400000	33000	360000
	Soi	I Remediation Level	1500	NV	NV	NV	NV	NV	1100000	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-223	11/10/1999	10		10 U	14	10000 U	25000 U	10 U	7	10 U		79000
B-224	11/10/1999	2.5		11	10 U	10000 U	25000 U	10 U	45	11		71000
B-224	11/10/1999	5							5 U			
B-224	11/10/1999	10							5 U			
B-225	11/10/1999	2.5							5 U			
B-225	11/10/1999	5							5 U			
B-226	11/11/1999	2.5							5 U			
B-226	11/11/1999	5				10000 U	25000 U		9			39000
B-226	11/11/1999	10							5 U			
B-227	11/11/1999	2.5							5 U			
B-227	11/11/1999	5				10000 U	25000 U		14			61000
B-228	11/11/1999	5				10000 U	25000 U		140			26000
B-229	11/11/1999	2.5				10000 U	25000 U		19			66000
B-229	11/11/1999	5							5 U			
B-229	11/11/1999	10							5 U			
B-230	11/12/1999	2.5		97	48	10000 U	25000 U	250	120000	87		26000
B-230	11/12/1999	5		10 U	10 U	10000 U	25000 U	10 U	330	10 U		
B-231	11/12/1999	2.5		10 U	10 U	10000 U	25000 U	10 U	160	10 U		
B-231	11/12/1999	5							5 U			
B-231	11/12/1999	7		190	68	10000 U	25000 U	63	9600	140	5 U	30000
B-232	12/07/1999	5						26 U	5 U		6.5 U	
B-232	12/07/1999	25						95	5 U		6.6 U	
B-233	12/07/1999	5							5 U			
B-233	12/07/1999	15		49	790	10000 U	25000 U	27000	130	29		76000
B-233	12/07/1999	25							5 U			
B-234	12/07/1999	25							5 U			
B-235	12/08/1999	25		13	47	10000 U	25000 U	1900	5.4	10 U		69000
B-236	12/08/1999	10		220	220	10000 U	25000 U	2900	20	160		184000
B-236	12/08/1999	15		45	430	10000 U	25000 U	7400	71	29		64000
B-236	12/08/1999	25							5 U			
B-237	12/08/1999	5							5 U			
B-237	12/08/1999	15							5 U			
B-237	12/08/1999	25							5 U			
B-238	12/09/1999	25							5 U			
B-239	12/09/1999	25							5 U			
B-240	12/10/1999	5							5 U			

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline-Range Organics	Residual-Range Organics	Naphthalene	Pentachloro- phenol	Pyrene	Styrene	Zinc
		Unit	ng/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	11	3200000	3200000	30000	2000000	1600000	8300	2400000	33000	360000
	Soi	l Remediation Level	1500	NV	NV	NV	NV	NV	1100000	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-240	12/10/1999	15		240	570	10000 U	25000 U	200	20	160		68000
B-240	12/10/1999	25							5 U			
B-241	12/10/1999	5		250	600	10000 U	25000 U	45000	100	180		162000
B-241	12/10/1999	15		230	780	10000 U	25000 U	10000	91	150		67000
B-241	12/10/1999	25							5 U			
B-242	12/13/1999	25							5 U			
B-243	12/14/1999	25							5 U			
B-244	12/15/1999	25				10000 U	25000 U	22 U	5 U		5.5 U	
B-244	12/15/1999	30				10000 U	25000 U					
B-244	12/15/1999	35		10 U	10 U	10000 U	25000 U	2110 U	33	10 U	5.3 U	
B-245	12/15/1999	15		23	10 U	10000 U	25000 U	10 U	17000	18		
B-245	12/15/1999	30		330	140	10000 U	25000 U	76	96	250		
B-246	12/16/1999	5		10 U	10 U	10000 U	63000	2210 U	9	10 U	5.4 U	
B-246	12/16/1999	10				10000 U	25000 U	21 U	5 U		5.2 U	
B-246	12/16/1999	20				10000 U	25000 U	22 U	5 U		5.6 U	
B-247	12/17/1999	2.5				10000 U	57000	24 U	5 U		5.9 U	
B-247	12/17/1999	5				10000 U	86000	23 U	13		5.6 U	52000
B-247	12/17/1999	16						22 U	5 U		5.5 U	
B-248	12/20/1999	2.5				10000 U	25000 U	18 U	5 U		4.5 U	
B-248	12/20/1999	15				10000 U	25000 U	21 U	5 U		5.2 U	
B-248	12/20/1999	25				10000 U	25000 U	21 U	5 U		5.3 U	
B-249	12/20/1999	2.5				10000 U	92000	22 U	5 U		5.4 U	
B-249	12/20/1999	20				10000 U	25000 U	23 U	5 U		5.7 U	
B-249	12/20/1999	25				10000 U	25000 U	20 U	5 U		5 U	
B-250	12/21/1999	20		19	10 U	10000 U	25000 U	10 U	110	16	5.4 U	42000
B-250	12/21/1999	25		39	69	10000 U	25000 U	13	8	30	5.5 U	27000
B-250	12/21/1999	35		480	260	10000 U	25000 U	10 U	6	380	5.9 U	22000
B-251	12/22/1999	2.5				10000 U	25000 U	25 U	5 U		6.1 U	
B-251	12/22/1999	10				10000 U	25000 U	22 U	5 U		5.6 U	
B-251	12/22/1999	25				10000 U	25000 U	22 U	5 U		5.5 U	
B-252	12/22/1999	15		10 U	10 U	10000 U	25000 U	10 U	3800	10 U		78000
B-252	12/22/1999	20		10 U	10 U	10000 U	25000 U	13	4300	10 U		75000
B-252	12/22/1999	25		10 U	10 U	10000 U	25000 U	10 U	57	10 U		87000
B-253	12/23/1999	25		340	400	10000 U	25000 U	2300	420	270		84000
B-255	01/14/2000	10		16000	9500	10000 U	25000 U	360000	7700	13000		64000
B-255	01/14/2000	15		10 U	10 U	10000 U	25000 U	190	49	10 U		199000

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline-Range Organics	Residual-Range Organics	Naphthalene	Pentachloro- phenol	Pyrene	Styrene	Zinc
		Unit	ng/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	11	3200000	3200000	30000	2000000	1600000	8300	2400000	33000	360000
	So	il Remediation Level	1500	NV	NV	NV	NV	NV	1100000	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-255	01/14/2000	25							5 U			
B-256	01/14/2000	5		10 U	10 U	10000 U	25000 U	24	15	10 U		45000
B-256	01/14/2000	10		44	44	10000 U	25000 U	49	14	36		58000
B-256	01/14/2000	20							5 U			
B-261	01/20/2000	10		10 U	10 U	10000 U	25000 U	10 U	420	10 U		61000
B-261	01/20/2000	15		1200	780	10000 U	25000 U	850	1800	930		37000
B-261	01/20/2000	30		10 U	10 U	10000 U	25000 U	10 U	110	10 U		30000
B-264	08/17/2001	2.5		15	14 U	13000 U	85000	120	66 U	14		
B-264	08/17/2001	10		13 U	13 U	13000 U	76000	13 U	65 U	13 U		
B-265	08/17/2001	5		13 U	13 U	12000 U	30000 U	13 U	62 U	13 U		
B-266	08/17/2001	5		16 U	16 U	16000 U	100000	52	80 U	16 U		
B-272	08/17/2001	5		710	490	17000	170000	2400	58 U	540		
B-273	08/20/2001	5		390	360	18000	49000	1700	74 U	290		
B-274	08/20/2001	5		76	14 U	14000 U	35000 U	1300	70 U	67		
B-3	11/07/2000	0				20000 U	1300000					
B-302	09/23/2005	20		500 U	92.4			85.2 U	53.7 U	564 U		
B-303	09/26/2005	20		2280 U	1060 U			61.1 U	180 U	1370 U		
B-304	06/12/2008	10		28300	1570		3270000	596	119000	32400	11.4 U	324000
B-304	06/12/2008	19.5		45.6 U	79.8		68400 U	13.7□ U□	68.4 U	45.6 U	13.7 U	56300
B-305	06/12/2008	10		46.3 U	46.3 U		69400 U	<b>46.3</b> ⋃	69.4 U	46.3 U	69.4 U	82600
B-305	06/12/2008	19		45.9 U	181		68900 U	13.8□	68.9 U	45.9 U	13.8 U	78300
B-306	03/11/2009	15	6600									
B-306	03/11/2009	18		55800	1530			61.4	853	55300		63500
B-313	05/21/2009	2.5	0.43	35.3 U	35.3 U		53000 U	35.3 U	53 U	35.3 U		32800
B-313	05/21/2009	5	0.36	35.8 U	35.8 U			35.8 U	53.7 U	35.8 U		47200
B-313	05/21/2009	10	0.32	43 U	43 U		80300	43 U	64.5 U	43 U		59000
B-313	05/21/2009	15	0.31	44.3 U	44.3 U		66500 U	44.3 U	66.5 U	44.3 U		59000
B-321	11/17/2011	2		2520	1230			347		1500		
B-325	11/17/2011	10		28.8	8.02 U			8.02 U		20		
B-326	11/17/2011	4.5										
B-42	12/09/1997	8		5000	1220			200	5000	4700		48000
B-42	12/09/1997	12.5				10000 U			55			38000
B-42	12/09/1997	15.5		13000	9000			68000	55000	13000		40000
B-47	11/18/1997	3.5		1000 U	1000 U			1000 U	3000	1000 U		52000
B-47	11/18/1997	9.5		5	5 U			10	1700	5 U		73000
B-47	11/18/1997	15.5		33000	20000			66000	32000	25000		38000

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline-Range Organics	Residual-Range Organics	Naphthalene	Pentachloro- phenol	Pyrene	Styrene	Zinc
		Unit	ng/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	11	3200000	3200000	30000	2000000	1600000	8300	2400000	33000	360000
	Soi	I Remediation Level	1500	NV	NV	NV	NV	NV	1100000	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-49	11/25/1997	5		1000 U	1000 U			1000 U	560	1000 U		55000
B-49	11/25/1997	9.5		5000	6000			52000	6000	5000		40000
B-50	11/21/1997	3.5		1000 U	1000 U			1000	2000	1000 U		62000
B-50	11/21/1997	8		32	10			42	1000	30		44000
B-51	11/24/1997	3.5		18000	13000			20000	13000	11000		55000
B-51	11/24/1997	9.5		50	20 U	10000 U		100 U	780	20 U		48000
B-52	11/20/1997	3.5		1050	168			964	3700	844		153000
B-52	11/20/1997	9.5		38000	37000			322000	39000	27000		36000
B-53	01/14/1998	9.5		5 U	5 U			5 U	15	5 U		38000
B-53	01/14/1998	15.5		833	287			26	200	742		48000
B-54	01/14/1998	8		168	161			27	600	150		59000
B-54	01/14/1998	15.5		1000 U	1000 U			1000 U	1000 U	1000 U		33000
B-55	01/15/1998	8		16	49			340	49	11		59000
B-55	01/15/1998	17		5000	3000			68000	21000	5000		37000
B-56	01/15/1998	6.5		5 U	5 U			252	35	5 U		53000
B-56	01/15/1998	12.5		4000	2000			8000	15000	2000		36000
B-57	01/16/1998	8		5 U	5 U			13	31	5 U		63000
B-57	01/16/1998	14		18000	13000			30000	94000	13000		44000
B-58	01/16/1998	6.5		11	5 U			5 U	69	10		38000
B-58	01/16/1998	14		21000	11000			11000	123000	18000		23000
B-58A	06/12/1998	5		15	10 U			5 U	100 U	17		
B-58A	06/12/1998	17		10 U	10 U			5 U	100 U	10 U		
B-6	02/04/1991	33							2500 U			
B-62	06/12/1998	5		10	10 U			5 U	100 U	11		
B-62	06/12/1998	17		10 U	10 U			5 U	100 U	10 U		
B-63	06/12/1998	5		10 U	10 U			5 U	100 U	10 U		
B-63	06/12/1998	17		10 U	10 U			5 U	100 U	10 U		
B-66	06/12/1998	5		10 U	10 U			5 U	100 U	10 U		
B-66	06/12/1998	17		10 U	10 U			5 U	100 U	10 U		
B-69	06/16/1998	0.5		1500	13	10000 U	219000	5 U	1300	2200		63000
B-69	06/16/1998	2.5		10 U	10 U	10000 U	25000 U	5 U	100 U	10 U		52000
B-69	06/16/1998	5		10 U	10 U	10000 U	25000 U	5 U	100 U	10 U		44000
B-69	06/16/1998	10		10 U	10 U	10000 U	25000 U	5 U	100 U	10 U		34000
B-69	06/16/1998	17		10 U	10 U	10000 U	25000 U	5 U	100 U	10 U		32000
B-7	02/04/1991	5.5							2500 U			
B-7	02/04/1991	13.5							2500 U			

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline-Range Organics	Residual-Range Organics	Naphthalene	Pentachloro- phenol	Pyrene	Styrene	Zinc
		Unit	ng/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	11	3200000	3200000	30000	2000000	1600000	8300	2400000	33000	360000
	Soi	il Remediation Level	1500	NV	NV	NV	NV	NV	1100000	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-72	06/17/1998	0.5		220000	130000			220000	20000 U	160000		111000
B-72	06/17/1998	5		220	51			5 U	100 U	160		32000
B-72	06/17/1998	10		330	31			5 U	100 U	250		41000
B-72	06/17/1998	17		40	10 U			5 U	100 U	32		34000
B-73	06/17/1998	17		10 U	10 U			5 U	100 U	10 U		
B-74	06/17/1998	2.5		10 U	10 U			5 U	100 U	10 U		
B-74	06/17/1998	17		12	10 U			5 U	100 U	10 U		
B-75	06/17/1998	2.5		10 U	10 U			5 U	100 U	10 U		
B-75	06/17/1998	17		10 U	10 U			5 U	100 U	10 U		
B-76	06/17/1998	10		10 U	10 U			5 U	100 U	10 U		
B-76	06/17/1998	27		110	10 U			5 U	100 U	90		
B-77	06/17/1998	2.5		22	10 U			50	100 U	20		
B-77	06/17/1998	5		10 U	10 U			17	100 U	10 U		
B-77	06/17/1998	17		73000	58000			370000	50000 U	57000		
B-78	06/18/1998	0.5		37000	9400			200	3900	32000		
B-78	06/18/1998	17		10 U	10 U			5 U	100 U	10 U		
B-79	06/18/1998	2.5		140	1600			50 U	1000 U	140		
B-79	06/18/1998	10		10 U	10 U			5 U	100 U	10 U		
B-79	06/18/1998	17		10 U	10 U			5 U	100 U	10 U		
B-80	06/19/1998	2.5		10 U	10 U			5 U	100 U	10 U		
B-80	06/19/1998	15		10 U	10 U			5 U	100 U	10 U		
B-80	06/19/1998	25		10 U	10 U			5 U	100 U	10 U		
B-81	06/19/1998	2.5		28	16			250	17000	25		
B-82	06/19/1998	10		61	34			40	1100	53		
B-82	06/19/1998	20		10 U	10 U			5 U	100 U	10 U		
B-83	06/23/1998	5		10 U	10 U			30	100 U	10 U		
B-83	06/23/1998	17		28000	27000			530000	2000 U	20000		
B-84	06/23/1998	10		360	380			890	100	250		
B-84	06/23/1998	35		10 U	10 U			43	100 U	10 U		
B-85	06/23/1998	5		270	77			1700	6500	260		
B-86	06/23/1998	5		34	24			300	100 U	26		
B-86	06/23/1998	15		85000	67000			520000	230000	64000		
B-87	06/23/1998	5		10 U	10 U			240	100 U	10 U		
B-87	06/23/1998	15		2100	1300			1900	3900	1600		
B-88	06/23/1998	5		10 U	10 U			210	100 U	10 U		
B-88	06/23/1998	15		80	23			150	170	61		

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline-Range Organics	Residual-Range Organics	Naphthalene	Pentachloro- phenol	Pyrene	Styrene	Zinc
		Unit	ng/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	11	3200000	3200000	30000	2000000	1600000	8300	2400000	33000	360000
	Soi	l Remediation Level	1500	NV	NV	NV	NV	NV	1100000	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-89	06/23/1998	5		10 U	10 U			22	100 U	10 U		
B-89	06/23/1998	15		10 U	10 U			5 U	100 U	10 U		
B-90	06/23/1998	0.5		17000	2300			100 U	7000	14000		
B-90	06/23/1998	17.5		100	27			5 U	100 U	82		
B-91	06/23/1998	0.5		1400	210			700	510000	1000		
B-91	06/23/1998	15		10 U	10 U			5 U	100 U	10 U		
B-92	06/23/1998	10		10	10 U			16	100 U	10 U		
B-92	06/23/1998	30		10 U	10 U			5 U	100 U	10 U		
B-93	06/24/1998	25		280	380			94	100 U	200		
B-93	06/24/1998	40		380	200			220	620	270		
B-94	06/24/1998	10		2100	2400			35000	430	1400		
B-94	06/24/1998	35		13	10 U			15	100 U	10 U		
B-95	06/24/1998	25		37	28			54	100 U	29		
B-95	06/24/1998	32.5		10 U	10 U			11	310	10 U		
B-96	07/08/1998	10				10000 U	25000 U					
B-96	07/08/1998	30		10 U	10 U			12	100 U	10 U		
B-97	07/08/1998	2.5		10 U	10 U			14	100 U	10 U		
B-97	07/08/1998	10				10000 U	25000 U					
B-98	07/08/1998	17		10 U	10 U			5 U	100 U	10 U		
B-99	07/08/1998	15				10000 U	25000 U					
B-99	07/08/1998	45		10 U	10 U			50	100 U	10 U		
B-99	07/08/1998	64		10 U	10 U			6	410	10 U		
DS-E	06/18/1997	0		300 U	300 U	10000 U		300 U	19000	300 U		131000
DS-W	06/18/1997	0		300 U	300 U	10000 U		300 U	5200	300 U		150000
GP10	05/20/2009	1.5	135	38.7 U	38.7 U		58100 U	38.7 U	58.1 U	38.7 U		60300
GP10	05/20/2009	10	0.21	45.3 U	45.3 U		67900 U	45.3 U	67.9 U	45.3 U		57500
GP10	05/20/2009	15	0.16	44.7 U	44.7 U		67100 U	44.7 U	67.1 U	44.7 U		49400
GP11	05/21/2009	1.5	370	38.2 U	38.2 U		276000	38.2 U	368	38.2 U		45400
GP11	05/21/2009	5	170	42.2 U	42.2 U		63300 U	42.2 U	63.3 U	42.2 U		131000
GP11	05/21/2009	10	0.34	45.5 U	45.5 U		68200 U	45.5 U	68.2 U	45.5 U		58200
GP11	05/21/2009	15	0.2	43.9 U	43.9 U		65900 U	43.9 U	65.9 U	43.9 U		80800
GP8	05/22/2009	1.4	420	175 U	175 U		389000	175 U	726	175 U		117000
GP8	05/22/2009	5	0.94	39.2 U	63.9		58800 U	39.2 U	58.8 U	39.2 U		49500
GP8	05/22/2009	11	8.5	210 U	210 U		11100000	210 U	315 U	210 U		132000
GP8	05/22/2009	15	0.16	43 U	55.1		71100 U	43 U	64.5 U	43 U		95200
MW-10	02/05/1991	0							2500 U			

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline-Range Organics	Residual-Range Organics	Naphthalene	Pentachloro- phenol	Pyrene	Styrene	Zinc
		Unit	ng/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	11	3200000	3200000	30000	2000000	1600000	8300	2400000	33000	360000
	Soi	il Remediation Level	1500	NV	NV	NV	NV	NV	1100000	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
MW-10	02/05/1991	0							2500 U			
MW-10	02/05/1991	0							2500 U			
MW-10	02/05/1991	0							2500 U			
MW-10	02/05/1991	0							2500 U			
MW-13	05/03/1993	5							46			
MW-13	05/03/1993	15							570			
MW-13	05/03/1993	20										
MW-14	05/03/1993	5							9300			
MW-14	05/03/1993	20										
MW-15	05/03/1993	10										
MW-15	05/03/1993	20										
MW-17	05/03/1993	5							500			
MW-17	05/03/1993	12.5										
MW-22	05/03/1993	10										
MW-22	05/03/1993	15							62			
MW-24	04/02/1996	0.5		100				130	1700 U	320		
MW-24	04/02/1996	11		14000	15000			4100 U	20000 U	9500		60200
MW-24	04/02/1996	21		38000	36000			8700 U	7800	16000		
MW-25	04/02/1996	3		440	70			370 U	1100	380		
MW-25	04/02/1996	36										32000
MW-26	04/02/1996	21		10000	9700			32000	1200	11000		
MW-27	04/02/1996	6										47100
MW-31	04/02/1996	16										54900
MW-31	04/02/1996	21		280	100			50	73	200		
MW-31	04/02/1996	26		430 U	430 U			430 U	2100 U	430 U		
MW-31	04/02/1996	31		420 U	420 U			420 U	2000 U	420 U		
MW-55	06/10/2008	10		45.7 U	45.7 U		68600 U	13.7 U□	68.6 U	45.7 U	13.7 U	103000
MW-55	06/10/2008	20		46.9 U	51.6		70300 U	752	70.3 U	46.9 U	14.1 U	72700
MW-58D	06/18/2008	10		36.3 U	36.3 U		103000	36.3 U	720	36.3 U	10.9 U	117000
MW-58D	06/18/2008	13.5		49.7 U	68.6		96800	49.7 U	74.5 U	49.7 U	14.9 U	162000
NPY-03	02/06/1991	0							2500 U			
NPY-04	02/06/1991	0							2500 U			
SS-01	02/06/1991	0							2500 U			
SS-13	02/26/2009	0.5	65	7.1 U	7.1 U			7.1 U	355 U	7.1 U		43700
SS-15	02/26/2009	0.5	260	11.8	7.87 U			16.5	393 U	17.3		64900
SS-16	02/26/2009	0.5	300	24	8 U			8 U	399 U	24		107000

Table A-2 LRIS Cell 2 Soil Cleanup Level Screening Former PWT Site

		Analyte	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline-Range Organics	Residual-Range Organics	Naphthalene	Pentachloro- phenol	Pyrene	Styrene	Zinc
		Unit	ng/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg	μg/kg
		Soil Cleanup Level	11	3200000	3200000	30000	2000000	1600000	8300	2400000	33000	360000
	Soi	I Remediation Level	1500	NV	NV	NV	NV	NV	1100000	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
SS-17	02/26/2009	0.5	18	7.46 U	7.46 U			7.46 U	372 U	7.46 U		38100
SS-18	02/26/2009	0.5	2.6	7.49 U	7.49 U			7.49 U	374 U	7.49 U		39000
SS-19	02/26/2009	0.5	820	5070	39.7			64.1	821	6610		119000
SS-2	04/02/1996	8.5										70400
TP-02	05/03/1993	0.2							160			
TP-02	05/03/1993	5							4000			
TP-02	05/03/1993	9										
TP-03	05/03/1993	10							4600			
TP-04	05/03/1993	0.5										
TP-04	05/03/1993	5							100000			
TP-04	05/03/1993	10							51000			
TP-05	05/03/1993	0.5							1600			
TP-05	05/03/1993	8										
TP-06	05/03/1993	0.3										
TP-06	05/03/1993	3		940	670 U			670 U	3600	1600		
TP-06	05/03/1993	10										
TP-09	05/03/1993	0.3							13000			
TP-09	05/03/1993	4		300 U				12000	1600 U	300 U		
TP-09	05/03/1993	9		43000	38000			280000	130000	34000	12000	
TP-11	05/03/1993	0.5							460			
TP-11	05/03/1993	10							40			
TP-12	05/03/1993	0.3							190			
TP-12	05/03/1993	3		200000	67000 U			810000	110000	67000 U		
TP-12	05/03/1993	6.5		5300	1700 U			19000	8500 U	6400		
TP-13	05/03/1993	5.5							85			
TP-13	05/03/1993	7.5									5 U	
TP-14	05/03/1993	0.5							730			
TP-14	05/03/1993	5										
TP-15	05/03/1993	0.2							450			
TP-15	05/03/1993	6										
TP-16	05/03/1993	0.3							620			
TP-16	05/03/1993	7							320			
TP-27	05/03/1993	10							35			
TP-28	05/03/1993	7							33			
TP-28	05/03/1993	9.5		240000	180000			1400000	330000 U	200000	5000 U	
TP-32	05/03/1993	10							190			

		Analyte	cPAH TEQ	1,1,2,2-Tetrachloroe	ethane	1,2,4-Trimethylben	zene	2-Methylnaphtha	lene	Acenaphthen	е	Arsenic	Barium
		Unit	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	ug/kg
		Soil Cleanup Level	140	5000		4000000		320000		4800000		5810	102000
		Soil Remediation Level	18000	NV		NV		NV		NV		88000	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result	Q	Result	Q	Result	Q	Result	Q	Result Q	Result
B-204	10/28/1999	2.5	4100	5	U	20	U	10	U	11		11000	
B-204	10/28/1999	5		5	U	20	U						
B-204	10/28/1999	10											
B-205	10/29/1999	2.5	520	5	U	20	U	18		41		3000	
B-205	10/29/1999	5		5	U	20	U						
B-205	10/29/1999	10											
B-206	11/1/1999	2.5	11	5	U	20	U	10	U	10	U	5000	
B-206	11/1/1999	5	ND	5	U	20	U	10	U	10	U		
B-206	11/1/1999	10	240					760		110		9000	
B-207	11/1/1999	2.5	270	5	U	20	U	10	U	24		8000	
B-207	11/1/1999	5	ND					10	U	10	U	7000	
B-207	11/1/1999	10	9.7					10	U	10	U	4000	
B-208	11/1/1999	2.5	230	5	U	34		280		540		5000	
B-208	11/1/1999	5	740	5	U	20	U	28		84		5000	
B-208	11/1/1999	10	ND					10	U	10	U		
B-209	11/1/1999	2.5	19					10	U	10	U		
B-209	11/1/1999	5											
B-209	11/1/1999	10	ND					10	U	10	U	3000	
B-210	11/1/1999	2.5	9.6	5	U	20	U	10	U	10	U		
B-210	11/1/1999	5	220	5	U	20	U	10	U	11		6000	
B-210	11/1/1999	15	ND					10	U	10	U	5000	
B-212	11/2/1999	2.5		5	U	20	U						
B-212	11/2/1999	5	16	5	U	20	U	10	U	10	U	6000	
B-212	11/2/1999	10											
B-213	11/2/1999	2.5	120					10	U	10	U	7000	
B-213	11/2/1999	5											
B-213	11/2/1999	10											
B-214	11/3/1999	2.5		5	U	20	U						
B-214	11/3/1999	5		5	U	20	U						
B-214	11/3/1999	10											
B-215	11/4/1999	2.5	180	5	U	20	U	10	U	10	U	6000	
B-215	11/4/1999	5	99	5	U	20	U	10	U	10	U	5000	
B-215	11/4/1999	10	7.6					10	U	10	U	5000	
B-216	11/4/1999	5	ND	5	U	20	U	10	U	10	U	5000	
B-216	11/4/1999	10										4000	

		Analyte	cPAH TEQ	1,1,2,2-Tetrachloroeth	nane	1,2,4-Trimethylbenz	ene	2-Methylnaphthalene	Acenaphthene		Arsenic	Barium
		Unit	ug/kg	ug/kg		ug/kg		ug/kg	ug/kg		ug/kg	ug/kg
		Soil Cleanup Level	140	5000		4000000		320000	4800000		5810	102000
		Soil Remediation Level	18000	NV		NV		NV	NV		88000	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result	Q	Result	Q	Result O	Result	2	Result Q	Result
B-217	11/5/1999	2.5	590	5	U	20	U	10 U	55		13000	
B-217	11/5/1999	10	200					30	50		52000	
B-217	11/5/1999	15	ND					10 U	10	J	6000	
B-218	11/8/1999	5	2500	5	U	20	U	21	180		11000	
B-218	11/8/1999	10										
B-218	11/8/1999	15	ND					10 U	10	J	5000	
B-219	11/8/1999	2.5		5	U	20	U					
B-219	11/8/1999	5		5	U	20	U					
B-219	11/8/1999	10	9					10 U	10	J	5000	
B-275	7/8/2004	0.5	190					13	10	J	6700	
B-275	7/8/2004	5	ND					10 U	10	J	7200	
B-275	7/8/2004	10	ND					10 U	10	J	6000	
B-276	7/13/2004	0.5	ND					10 U	10	J	2400	
B-276	7/13/2004	3	ND					10 U	10	J	1600	
BH-27	4/2/1996	1	1200									
BH-27	4/2/1996	6	220						380	J		
BH-27	4/2/1996	26									1300 U	147000
B-277	7/9/2004	0.5	ND					9.4 U	9.4	J	2100 U	
B-277	7/9/2004	2.5	16					10 U	10	J	2600	
B-277	7/9/2004	5	ND					9.6 U	9.6	J	2300 U	
B-277	7/9/2004	10	ND					9.8 U	9.8	J	2600	
B-278	7/9/2004	0.5	340					9.8 U	9.8	J	6300	
B-278	7/9/2004	2.5	37					9.9 U	9.9	J	2900	
B-278	7/9/2004	10	ND					10 U	10	J	2900	
B-279	7/9/2004	0.5	ND					10 U	10	J	3000	
B-279	7/9/2004	2.5	16					10 U	10	J	3900	
B-279	7/9/2004	5	ND					9.8 U	9.8	J	5000	
B-279	7/9/2004	10	ND					10 U	10	J	3400	
BH-28	4/2/1996	0.5	540									
BH-28	4/2/1996	6									3000	134000
B-280	7/13/2004	0.5	38					10 U	10	J	4300	
B-280	7/13/2004	5	250					10 U	10	J	5400	
B-280	7/13/2004	10	ND					10 U	10	J	2800	
B-281	7/9/2004	0.5	88					26	14		4800	
B-281	7/9/2004	2.5	63					150	63		2900	

		Analyte	cPAH TEQ	1,1,2,2-Tetrachloroetha	ane	1,2,4-Trimethylbenze	ene	2-Methylnaphthalene	Acenaphth	nene	Arsenic		Barium	
		Unit	ug/kg	ug/kg		ug/kg		ug/kg	ug/kg		ug/kg		ug/kg	
		Soil Cleanup Level	140	5000		4000000		320000	480000	0	5810		102000	
		Soil Remediation Level	18000	NV		NV		NV	NV		88000		NV	
Sample Location	Sample Date	Depth (ft bgs)	Result	Result	Q	Result	Q	Result Q	Result	Q	Result	Q	Result	Q
B-281	7/9/2004	10	ND					9.9 U	9.9	U	10100			
B-282	7/8/2004	0.5	890					100 U	100	U	25900			
B-282	7/8/2004	5	41					10 U	10	U	6200			
B-282	7/8/2004	10	ND					10 U	10	U	6700			-
B-283	7/12/2004	0.5	ND					9.9 U	9.9	U	1300			-
B-283	38180	3	10					10 U	10	U	1100	U		-
B-283	7/12/2004	5	ND					10 U	10	U	1400			-
B-284	7/13/2004	0.5	110					230	100	U	17500			-
B-284	7/13/2004	2.5	33					11 U	11	U	3600			-
B-284	7/13/2004	5	ND					10 U	10	U	4800			-
B-284	7/13/2004	10	ND					10 U	10	U	4200			-
B-285	7/13/2004	0.5	930					200 U	200	U	37200			-
B-285	7/13/2004	5	136					110	130		5600			-
B-285	7/13/2004	10	ND					10 U	10	U	2900			-
B-286	7/8/2004	0.5	440					100 U	100	U	8400			-
B-286	7/8/2004	2.5	26					75	10	U	4400			-
B-286	7/8/2004	5	ND					10 U	10	U				-
B-286	7/8/2004	10	ND					10 U	10	U				-
B-287	7/12/2004	0.5	320					51 U		U				-
B-287	7/12/2004	2.5	45					9.8 U	9.8	U				-
B-287	7/12/2004	5	94					10 U	10	U				-
B-287	7/12/2004	10	ND					9.7 U	9.7	U				-
B-288	7/8/2004	0.5	170					36	10	U				
B-288	7/8/2004	10	ND					10 U	10	U				-
B-289	7/12/2004	0.5	ND					9.1 U	9.1	U				
B-289	7/12/2004	2.5	1300					830	99	U				
B-289	7/12/2004	5	16					13	10	U				
B-289	7/12/2004	10	ND					10 U	10	U				
BH-29	4/2/1996	6									9300		160000	
B-290	7/13/2004	0.5	310					100 U	100	U				-
B-290	7/13/2004	2.5	790					120	360		28900			
B-290	7/13/2004	5	230					100 U			5600			
B-290	7/13/2004	10	ND					10 U		U				
B-291	7/12/2004	0.5	400					100 U		U				
B-291	7/12/2004	2.5	430					100 U	110		10400			-

		Analyte	cPAH TEQ	1,1,2,2-Tetrachloroethan	1,2,4-Trimethylbenzene	2-Methylnaphthalene	Acenaphthene	Arsenic	Barium
		Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000
		Soil Remediation Level	18000	NV	NV	NV	NV	88000	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
B-291	7/12/2004	5	9.4			10 U	10 U	5200	
B-291	7/12/2004	10	ND			11 U	11 U	2600	
B-292	7/8/2004	0.5	300			110 U	110 U	14900	
B-292	7/8/2004	2.5	23			10 U	10 U	4400	
B-292	7/8/2004	5	ND			10 U	10 U	4300	
B-292	7/8/2004	10	ND			10 U	10 U	7600	
B-293	7/12/2004	0.5	210			9.6 U	11	12800	
B-293	7/12/2004	2.5	890			470	290	17200	
B-293	7/12/2004	5	ND			9.9 U	9.9 U	2200	
B-293	7/12/2004	10	ND			10 U	10 U	4500	
B-294	7/12/2004	0.5	30			10 U	10 U	1000	
B-294	7/12/2004	2.5	730			99 U	380	8900	
B-294	7/12/2004	5	62			9.5 U	9.5 U	29400	
B-294	7/12/2004	10	ND			9.8 U	9.8 U	3100	
B-295	7/12/2004	0.5	620			110 U	110 U	13800	
B-295	7/12/2004	2.5	190			10 U	24	2500	
B-295	7/12/2004	5	ND			10 U	10 U	3200	
B-295	7/12/2004	10	ND			9.7 U	9.7 U	3200	
B-296	7/9/2004	0.5	3600			100 U	100 U	38700	
B-296	7/9/2004	2.5	ND			67	10 U	6300	
B-296	7/9/2004	5	48			23000	3100	5000	
B-296	7/9/2004	10	18			1500	690	7500	
B-297	7/9/2004	1	540			100 U	210	27600	
B-297	7/9/2004	2.5	38			10 U	10 U	8100	
B-297	7/9/2004	5	ND			10 U	10 U	7900	
B-297	7/9/2004	10	ND			10 U	10 U	3400	
B-297	7/9/2004	15							
B-299	7/21/2004	0.5	51			10 U		2100 U	
B-299	7/21/2004	2.5	150			10 U	10 U	11200	
B-299	7/21/2004	5	20			10 U	10 U	19600	
B-299	7/21/2004	10	110			220	700	15500	
B-300	7/21/2004	0.5	28			10 U		2300	
B-300	7/21/2004	2.5	52			11 U		6900	
B-300	7/21/2004	10	ND			10 U	10 U	5400	
B-301	7/21/2004	0.5	6200			500 U	500 U	61200	

		Analyte	cPAH TEQ	1,1,2,2-Tetrachloroethan	e 1,2,4-Trimethylbenz	zene	2-Methylnaphthalen	ne	Acenaphthene		Arsenic	Barium
		Unit	ug/kg	ug/kg	ug/kg		ug/kg		ug/kg		ug/kg	ug/kg
		Soil Cleanup Level	140	5000	4000000		320000		4800000		5810	102000
		Soil Remediation Level	18000	NV	NV		NV		NV		88000	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result C	. Result	Q	Result	Q	Result	Q	Result Q	Result C
B-301	7/21/2004	2.5	71				10	U	10	U	25900	
B-301	7/21/2004	5	ND				10	U	10	U	3000	
B-307	2/26/2009	0.5	145						7.12	U	9120	
B-307	2/26/2009	2.5	27.1						7.43	U	3830	
B-307	2/26/2009	20	ND						7.93	U	1890	
MW-19	5/3/1993	20									2800	
MW-19	5/3/1993	5									5200	
MW-20S	5/3/1993	20									3100	
MW-20S	5/3/1993	5									2800	
MW-28S	4/2/1996	0.5	2400									
MW-28S	4/2/1996	6	120						380	U	3900	235000
MW-29	4/2/1996	8.5									5300	182000
MW-29	4/2/1996	11									5900	180000
MW-29	4/2/1996	16									6400	212000
MW-45D	7/20/2004	0.5	440				11	U	11	U	17400	
MW-45D	7/20/2004	2.5	ND				11	U	11	U	1900	
MW-45D	7/20/2004	5	ND				10	U	10	U	1800	
MW-45D	7/20/2004	10	ND				10	U	10	U	5300	
MW-9S	7/14/2004	2.5	1400				4900		13000		9300	
MW-9S	7/14/2004	5	120				780		2500		8200	
MW-9S	7/14/2004	10	24				19		78		4700	
SPY-01A	5/9/2002	5	36				13	U	13	U	3100	
SPY-01A	5/9/2002	10	ND				26	U	26	U	10900	
SPY-01B	5/9/2002	10	1400				2100		12000		11200	
SPY-01C	5/9/2002	1	3200				11	U	16		27900	
SPY-01C	5/9/2002	5	10				13	U	13	U	2300	
SPY-01C	5/9/2002	10	ND				13	U	13	U	6800	
SPY-01D	5/9/2002	1	160				31	$\neg$	77		12900	
SPY-01D	5/9/2002	5	ND				12	U	12	U	2300	
SPY-01D	5/9/2002	10	ND				24	U	24	U	5600	
SPY-01E	5/9/2002	1	1600				11	U	32		17300	
SPY-01E	5/9/2002	5	16				22		13	U	8000	
SPY-01E	5/9/2002	10	ND				13	U	13	U	7900	
SPY-01F	5/9/2002	1	320				11	U	11	U	12000	
SPY-01F	5/9/2002	5	ND				11	U	11	U	1400	

		Analyte	cPAH TEQ	1,1,2,2-Tetrachloroethan	1,2,4-Trimethylbenzene	2-Methylnaphthalene	Acenaphthene	Arsenic	Barium
		Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000
		Soil Remediation Level	18000	NV	NV	NV	NV	88000	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q
SPY-01F	5/9/2002	10	ND			13 U	13 U	8000	
SPY-01G	5/9/2002	1	660			58 U	90	16800	
SPY-01G	5/9/2002	3	11			12 U	12 U	3500	
SPY-01G	5/9/2002	5	ND			12 U	12 U	3600	
SPY-01G	5/9/2002	10	ND			12 U	12 U	6300	
SPY-01H	5/9/2002	1	330			11 U	11 U	9400	
SPY-01H	5/9/2002	5	110			13 U	13 U	4400	
SPY-01H	5/9/2002	10	ND			13 U	13 U	5900	
SPY-02A	5/9/2002	0.5							
SPY-02A	5/9/2002	1.5							
SPY-02B	5/9/2002	0.5							
SPY-02B	5/9/2002	1.5							
SPY-02C	5/9/2002	0.5							
SPY-02C	5/9/2002	1.5							
SPY-02D	5/9/2002	0.5							
SPY-02D	5/9/2002	1.5							
SPY-02E	5/9/2002	0.5							
SPY-02E	5/9/2002	1.5							
SPY-02F	5/9/2002	0.5							
SPY-02F	5/9/2002	1.5							
SPY-02G	5/9/2002	0.5							
SPY-02G	5/9/2002	1.5							
SPY-02H	5/9/2002	0.5							
SPY-02H	5/9/2002	1.5							
SPY-02I	5/9/2002	0.5							
SPY-02I	5/9/2002	1.5							
SPY-03	2/6/1991	0							
SPY-04	2/6/1991	0							
SS-1	4/2/1996	1	186				52	2600	266000
SS-8	7/17/2008	1.5	615			11.1	7.92 U	3720	
SS-10	2/26/2009	0.5	8.69				7.62 U	1820	
SS-11	2/26/2009	0.5	1197				7.59 U	6050	
SS-12	2/26/2009	0.5	7.43				7.4 U	34400	
SS-40	6/17/2010	0	7.972				8.67 U	8540	
TP-17	5/3/1993	0.5	917					9100	

		Analyte	cPAH TEQ	1,1,2,2-Tetrachloroethane	1,2,4-Trimethylbenzene	2-Methylnaphthalene	Acenaphthene	Arsenic	Barium
		Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	102000
		Soil Remediation Level	18000	NV	NV	NV	NV	88000	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result O
TP-17	5/3/1993	5						2800	
TP-18	5/3/1993	0.3						17800	
TP-18	5/3/1993	3	233					3100	
TP-18A	4/16/2002	7						6100	
TP-18A	4/16/2002	9						7100	
TP-18B	4/16/2002	7						4500	
TP-18B	4/16/2002	9						7100	
TP-18C	4/16/2002	7						2900	
TP-18C	4/16/2002	9						9900	
TP-18CEN	4/25/2002	7						12900	
TP-18CEN	4/25/2002	9						8500	
TP-18D	4/16/2002	7						1300	
TP-18D	4/16/2002	9						5300	
TP-18E	4/16/2002	7						4900	
TP-18E	4/16/2002	9						5800	
TP-18F	4/16/2002	7						9700	
TP-18F	4/16/2002	9						6800	
TP-18G	4/16/2002	7						5600	
TP-18G	4/16/2002	9						4400	
TP-18H	4/16/2002	7						5600	
TP-18H	4/16/2002	9						5100	
TP-19	5/3/1993	0.5	8260					29600	
TP-19	5/3/1993	4.5						1000	
TP-20	5/3/1993	0.2						16800	
TP-20	5/3/1993	4.5						3400	
TP-22	5/3/1993	0.5	1557					36700	
TP-22	5/3/1993	6						3400	

Table A-3
LRIS Cell 3 Soil Cleanup Level Screening
Former PWT Site

		Analyte	Chromium	Copper	Dibenzofuran	Diesel	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline
		Unit	ug/kg	ug/kg	ug/kg	ug/kg	ng/kg	ug/kg	ug/kg	ug/kg
		Soil Cleanup Level	67000	217000	160000	2000000	11	3200000	3200000	30000
		Soil Remediation Level	NV	NV	NV	NV	1500	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result C	Result Q	Result Q	. Result	Q Result	Result Q	Result Q	Result C
B-204	10/28/1999	2.5	32000	41000	11	670000		1600	16	10000 L
B-204	10/28/1999	5								
B-204	10/28/1999	10								
B-205	10/29/1999	2.5	18000	23000	17	160000		250	34	10000 L
B-205	10/29/1999	5								
B-205	10/29/1999	10								
B-206	11/1/1999	2.5	21000	20000	10 U	112000		43	10 U	10000 L
B-206	11/1/1999	5			10 U			10 U	10 U	
B-206	11/1/1999	10	27000	24000	170	1090000		2000	440	10000 L
B-207	11/1/1999	2.5	18000	18000	10 U	884000		380	25	10000 L
B-207	11/1/1999	5	31000	27000	10 U	10000	U	10 U	10 U	10000 L
B-207	11/1/1999	10	30000	27000	10 U	10000	U	10 U	10 U	10000 L
B-208	11/1/1999	2.5	27000	23000	670	3390000		3800	1200	10000 L
B-208	11/1/1999	5	28000	34000	52	214000		940	110	10000 L
B-208	11/1/1999	10			10 U			10 U	10 U	
B-209	11/1/1999	2.5			10 U			51	10 U	
B-209	11/1/1999	5								
B-209	11/1/1999	10	24000	24000	10 U	10000	U	11	10 U	10000 l
B-210	11/1/1999	2.5			10 U			34	10 U	
B-210	11/1/1999	5	29000	20000	30	10000	U	2000	71	10000 L
B-210	11/1/1999	15	28000	31000	10 U	10000	U	10 U	10 U	10000 l
B-212	11/2/1999	2.5								
B-212	11/2/1999	5	22000	45000	10 U	10000	U	23	10 U	10000 l
B-212	11/2/1999	10								
B-213	11/2/1999	2.5	25000	28000	10 U			52	10 U	
B-213	11/2/1999	5								
B-213	11/2/1999	10								
B-214	11/3/1999	2.5								
B-214	11/3/1999	5								
B-214	11/3/1999	10								
B-215	11/4/1999	2.5	16000	18000	10 U	<u> </u>	U	230	10 U	10000 L
B-215	11/4/1999	5	28000	22000	10 U	<u> </u>		180	10 U	10000 l
B-215	11/4/1999	10	20000	23000	10 U		U	10 U	10 U	10000 l
B-216	11/4/1999	5	21000	22000	10 U		U	10 U	10 U	10000 l
B-216	11/4/1999	10	22000	25000		10000	U			10000 L

Table A-3 LRIS Cell 3 Soil Cleanup Level Screening Former PWT Site

		Analyte	Chromium	Copper	Dibenzofuran	Diesel	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline
		Unit	ug/kg	ug/kg	ug/kg	ug/kg	ng/kg	ug/kg	ug/kg	ug/kg
		Soil Cleanup Level	67000	217000	160000	2000000	11	3200000	3200000	30000
	So	oil Remediation Level	NV	NV	NV	NV	1500	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result Q	Result Q	Result Q	Result Q	Result	Result Q	Result Q	Result Q
B-217	11/5/1999	2.5	17000	25000	28	520000		1400	91	10000 U
B-217	11/5/1999	10	32000	70000	36	10000 U		450	86	10000 U
B-217	11/5/1999	15	30000	32000	33	10000 U		10 U	43	10000 U
B-218	11/8/1999	5	21000	25000	200	1400000		7400	790	10000 U
B-218	11/8/1999	10								
B-218	11/8/1999	15	27000	24000	110	10000 U		10 U	140	10000 U
B-219	11/8/1999	2.5								
B-219	11/8/1999	5								
B-219	11/8/1999	10	23000	24000	10 U	10000 U		10	10 U	10000 U
B-275	7/8/2004	0.5	15300	24200	10 U	33000		140	11	
B-275	7/8/2004	5	21000	17000	10 U	15000 U		10 U	10 U	
B-275	7/8/2004	10	15000	20700	10 U	15000 U		10 U	10 U	
B-276	7/13/2004	0.5	15100	32100	10 U	13000 U		10 U	10 U	
B-276	7/13/2004	3	30400	20600	10 U	13000 U		10 U	10 U	
BH-27	4/2/1996	1						350		
BH-27	4/2/1996	6						220		
BH-27	4/2/1996	26	15600	27500						
B-277	7/9/2004	0.5	7700	14500	9.4 U	13000 U		9.4 U	9.4 U	
B-277	7/9/2004	2.5	20200	18700	10 U	15000 U		13	10 U	
B-277	7/9/2004	5	23100	19900	9.6 U	15000 U		9.6 U	9.6 U	
B-277	7/9/2004	10	21000	21700	9.8 U	16000 U		9.8 U	9.8 U	
B-278	7/9/2004	0.5	26100	29800	12	44000		220	29	
B-278	7/9/2004	2.5	12900	20700	9.9 U	25000		57	11	
B-278	7/9/2004	10	26500	28500	10 U	16000 U		10 U	10 U	
B-279	7/9/2004	0.5	14000	17400	10 U	14000 U		15	10 U	
B-279	7/9/2004	2.5	15100	13800	10 U	14000 U		17	10 U	
B-279	7/9/2004	5	20900	22800	9.8 U	17000 U		9.8 U	9.8 U	
B-279	7/9/2004	10	26100	28200	10 U	17000 U		10 U	10 U	
BH-28	4/2/1996	0.5						260		
BH-28	4/2/1996	6	16000	22700						
B-280	7/13/2004	0.5	13500	44800	10 U	13000 U		40	10 U	
B-280	7/13/2004	5	22200	32500	10 U	43000		150	10 U	
B-280	7/13/2004	10	20300	21300	10 U	13000 U		10 U	10 U	
B-281	7/9/2004	0.5	17400	19900	16	22000		130	11	
B-281	7/9/2004	2.5	10400	27000	38	23000		150	26	

Table A-3 LRIS Cell 3 Soil Cleanup Level Screening Former PWT Site

		Analyte	Chromium	Copper	Dibenzofuran	Diesel	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline
		Unit	ug/kg	ug/kg	ug/kg	ug/kg	ng/kg	ug/kg	ug/kg	ug/kg
		Soil Cleanup Level	67000	217000	160000	2000000	11	3200000	3200000	30000
	So	oil Remediation Level	NV	NV	NV	NV	1500	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result Q	Result Q	Result Q	Result Q	Result	Result Q	Result Q	Result Q
B-281	7/9/2004	10	22400	27900	9.9 U	16000 U		9.9 U	9.9 U	
B-282	7/8/2004	0.5	24000	31700	100 U	290000		240	100 U	
B-282	7/8/2004	5	20800	15000	10 U	160000		210	10 U	
B-282	7/8/2004	10	15900	20700	10 U	15000 U		10	10 U	
B-283	7/12/2004	0.5	11100	10100	9.9 U	13000 U		16	9.9 U	
B-283	38180	3	12500	19500	10 U	92000		19	10 U	
B-283	7/12/2004	5	15100	20900	10 U	13000 U		10 U	10 U	
B-284	7/13/2004	0.5	32200	44200	100 U	330000		880	100 U	
B-284	7/13/2004	2.5	19200	22900	11 U	36000		120	11 U	
B-284	7/13/2004	5	26700	36100	10 U	13000 U		10 U	10 U	
B-284	7/13/2004	10	26600	31000	10 U	13000 U		10 U	10 U	
B-285	7/13/2004	0.5	50300	38800	200 U	140000		760	200 U	
B-285	7/13/2004	5	31600	29900	140	200000		460	85	
B-285	7/13/2004	10	17200	21800	10 U	13000 U		10 U	10 U	
B-286	7/8/2004	0.5	37800	22900	100 U	5100000		8900	100 U	
B-286	7/8/2004	2.5	20000	22100	24	24000		92	10 U	
B-286	7/8/2004	5	18000	12000	10 U	16000 U		10 U	10 U	
B-286	7/8/2004	10	19500	19500	10 U	15000 U		10 U	10 U	
B-287	7/12/2004	0.5	46100	27400	51 U	60000		270	51 U	
B-287	7/12/2004	2.5	16200	18700	9.8 U	13000 U		29	9.8 U	
B-287	7/12/2004	5	29600	26900	10 U	19000		64	10 U	
B-287	7/12/2004	10	32600	27300	9.7 U	13000 U		9.7 U	9.7 U	
B-288	7/8/2004	0.5	21400	26600	24	67000		180	13	
B-288	7/8/2004	10	13100	18400	10 U	15000 U		10 U	10 U	
B-289	7/12/2004	0.5	9300	9800	9.1 U	140000		9.1 U	9.1 U	
B-289	7/12/2004	2.5	22000	22600	1400	13000 U		10000	5600	
B-289	7/12/2004	5	16400	17800	19	13000 U		57	54	
B-289	7/12/2004	10	49400	28300	10 U	15000 U		13	11	
BH-29	4/2/1996	6	19200	23400						
B-290	7/13/2004	0.5	21100	50600	100 U	89000		360	100 U	
B-290	7/13/2004	2.5	134000	51900	240	650000		2100	440	
B-290	7/13/2004	5	33800	32500	100 U	88000		320	100 U	
B-290	7/13/2004	10	28700	27100	10 U	13000 U		10 U	10 U	
B-291	7/12/2004	0.5	256000	58500	100 U	97000		220	100 U	
B-291	7/12/2004	2.5	41500	38200	100 U	450000		1400	100	

Table A-3 LRIS Cell 3 Soil Cleanup Level Screening Former PWT Site

		Analyte	Chromium	Copper	Dibenzofuran	Diesel	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline
		Unit	ug/kg	ug/kg	ug/kg	ug/kg	ng/kg	ug/kg	ug/kg	ug/kg
		Soil Cleanup Level	67000	217000	160000	2000000	11	3200000	3200000	30000
	So	oil Remediation Level	NV	NV	NV	NV	1500	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result Q	Result Q	Result Q	Result Q	Result	Result Q	Result Q	Result Q
B-291	7/12/2004	5	27200	25600	10 U	58000		32	10 U	
B-291	7/12/2004	10	26800	27900	11 U	42000		11 U	11 U	
B-292	7/8/2004	0.5	31600	26800	110 U	230000		720	110 U	
B-292	7/8/2004	2.5	19300	15100	10 U	16000 U		10 U	10 U	
B-292	7/8/2004	5	19200	12800	10 U	67000		10 U	10 U	
B-292	7/8/2004	10	16400	19400	10 U	16000 U		10 U	10 U	
B-293	7/12/2004	0.5	14400	39700	12	37000		600	19	
B-293	7/12/2004	2.5	42000	31300	260	840000		14000	480	
B-293	7/12/2004	5	18100	18300	9.9 U	13000 U		9.9 U	9.9 U	
B-293	7/12/2004	10	29600	30900	10 U	13000 U		10 U	10 U	
B-294	7/12/2004	0.5	10100	19400	10 U	13000 U		20	10 U	
B-294	7/12/2004	2.5	33300	36500	120	36000		6200	240	
B-294	7/12/2004	5	35700	32200	9.5 U	330000		73	9.5 U	
B-294	7/12/2004	10	27200	32200	9.8 U	13000 U		9.8 U	9.8 U	
B-295	7/12/2004	0.5	32200	56300	110 U	310000		550	110 U	
B-295	7/12/2004	2.5	23800	25100	10 U	64000		1300	16	
B-295	7/12/2004	5	22400	22200	10 U	17000		12	10 U	
B-295	7/12/2004	10	23500	29000	9.7 U	13000 U		9.7 U	9.7 U	
B-296	7/9/2004	0.5	95900	115000	100 U	110000		6000	100 U	
B-296	7/9/2004	2.5	19900	16100	22	28000		10 U	10 U	
B-296	7/9/2004	5	31500	22500	2700	1800000		590	1800	
B-296	7/9/2004	10	15000	25500	400	41000		71	270	
B-297	7/9/2004	1	60900	70300	160	560000		4300	450	
B-297	7/9/2004	2.5	23500	17500	10 U	16000 U		230	10 U	
B-297	7/9/2004	5	21700	19800	10 U	16000 U		12	10 U	
B-297	7/9/2004	10	29500	25000	10 U	17000 U		10 U	10 U	
B-297	7/9/2004	15								
B-299	7/21/2004	0.5	21300	18300	10 U	14000 U		39	10 U	
B-299	7/21/2004	2.5	22300	20500	34	150000		1000	73	
B-299	7/21/2004	5	37800	26900	10 U	330000		31	10 U	
B-299	7/21/2004	10	63200	33700	400	560000		1700	650	
B-300	7/21/2004	0.5	11000	19300	10 U	14000 U		32	10 U	
B-300	7/21/2004	2.5	18900	15700	11 U	29000		40	11 U	
B-300	7/21/2004	10	25400	25500	10 U	17000 U		10 U	10 U	
B-301	7/21/2004	0.5	125000	119000	500 U	730000		2300	500 U	

Table A-3 LRIS Cell 3 Soil Cleanup Level Screening Former PWT Site

		Analyte	Chromium	Copper	Dibenzofuran	Diesel	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline
		Unit	ug/kg	ug/kg	ug/kg	ug/kg	ng/kg	ug/kg	ug/kg	ug/kg
		Soil Cleanup Level	67000	217000	160000	2000000	11	3200000	3200000	30000
	So	oil Remediation Level	NV	NV	NV	NV	1500	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result Q	Result Q	Result Q	Result Q	Result	Result Q	Result Q	Result Q
B-301	7/21/2004	2.5	40500	29900	10 U	170000		100	10 U	
B-301	7/21/2004	5	35300	15300	10 U	15000 U		10 U	10 U	
B-307	2/26/2009	0.5	15400	24600				72.6	7.12 U	
B-307	2/26/2009	2.5	14800	15300			370	17.8	7.43 U	
B-307	2/26/2009	20	9110	12600			1.8	7.93 U	7.93 U	
MW-19	5/3/1993	20	13100	15200						
MW-19	5/3/1993	5	11200	7400						
MW-20S	5/3/1993	20	15500	17500						
MW-20S	5/3/1993	5	15100	13400						
MW-28S	4/2/1996	0.5						1200		
MW-28S	4/2/1996	6	10800	20600				93		
MW-29	4/2/1996	8.5	20300	26300						
MW-29	4/2/1996	11	18700	24900						
MW-29	4/2/1996	16	22800	31400						
MW-45D	7/20/2004	0.5	35900	62000	11 U	130000		310	16	
MW-45D	7/20/2004	2.5	19000	16900	11 U	15000 U		11 U	11 U	
MW-45D	7/20/2004	5	18100	16400	10 U	15000 U		10 U	10 U	
MW-45D	7/20/2004	10	26000	27500	10 U	17000 U		10 U	10 U	
MW-9S	7/14/2004	2.5	31500	21900	8200	4500000		17000	11000	
MW-9S	7/14/2004	5	30500	20000	2100	78000		1700	2200	
MW-9S	7/14/2004	10	23100	22600	140	13000 U		280	130	
SPY-01A	5/9/2002	5	21200	19800	13 U			68	13 U	
SPY-01A	5/9/2002	10	23300	13000	26 U			26 U	26 U	
SPY-01B	5/9/2002	10	31500	21200	7900			26000	11000	
SPY-01C	5/9/2002	1	75400	77000	11 U			1300	22	
SPY-01C	5/9/2002	5	20300	20700	13 U			13 U	13 U	
SPY-01C	5/9/2002	10	17000	11600	13 U			13 U	13 U	
SPY-01D	5/9/2002	1	34600	23900	68			840	96	
SPY-01D	5/9/2002	5	20700	21000	12 U			12 U	12 U	
SPY-01D	5/9/2002	10	20300	11200	24 U			24 U	24 U	
SPY-01E	5/9/2002	1	17600	21800	14			1800	26	
SPY-01E	5/9/2002	5	20700	16600	13 U			13 U	13 U	
SPY-01E	5/9/2002	10	19600	12200	13 U			13 U	13 U	
SPY-01F	5/9/2002	1	19100	30000	11 U			490	11 U	
SPY-01F	5/9/2002	5	14100	19900	11 U			11 U	11 U	

Table A-3 LRIS Cell 3 Soil Cleanup Level Screening Former PWT Site

		Analyte	Chromium	Copper	Dibenzofuran	Diesel	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline
		Unit	ug/kg	ug/kg	ug/kg	ug/kg	ng/kg	ug/kg	ug/kg	ug/kg
		Soil Cleanup Level	67000	217000	160000	2000000	11	3200000	3200000	30000
	S	ioil Remediation Level	NV	NV	NV	NV	1500	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result C	Result	Q Result Q	Result Q	Result	Result Q	Result Q	Result Q
SPY-01F	5/9/2002	10	20000	12200	13 U			13 U	13 U	
SPY-01G	5/9/2002	1	25100	13600	66			2100	170	
SPY-01G	5/9/2002	3	15500	17700	12 U			15	12 U	
SPY-01G	5/9/2002	5	19800	16900	12 U			12 U	12 U	
SPY-01G	5/9/2002	10	19900	12000	12 U			12 U	12 U	
SPY-01H	5/9/2002	1	12700	19700	11 U			190	11 U	
SPY-01H	5/9/2002	5	16900	21600	13 U			63	13 U	
SPY-01H	5/9/2002	10	18400	10900	13 U			13 U	13 U	
SPY-02A	5/9/2002	0.5								
SPY-02A	5/9/2002	1.5								
SPY-02B	5/9/2002	0.5								
SPY-02B	5/9/2002	1.5								
SPY-02C	5/9/2002	0.5								
SPY-02C	5/9/2002	1.5								
SPY-02D	5/9/2002	0.5								
SPY-02D	5/9/2002	1.5								
SPY-02E	5/9/2002	0.5								
SPY-02E	5/9/2002	1.5								
SPY-02F	5/9/2002	0.5								
SPY-02F	5/9/2002	1.5								
SPY-02G	5/9/2002	0.5								
SPY-02G	5/9/2002	1.5								
SPY-02H	5/9/2002	0.5								
SPY-02H	5/9/2002	1.5								
SPY-02I	5/9/2002	0.5								
SPY-02I	5/9/2002	1.5								
SPY-03	2/6/1991	0								
SPY-04	2/6/1991	0								
SS-1	4/2/1996	1	30300	20800				2300		
SS-8	7/17/2008	1.5	15100	20800			19	716	7.92 U	
SS-10	2/26/2009	0.5	11600	15100			100	7.62 U	7.62 U	
SS-11	2/26/2009	0.5	18600	22500			710	381	11.4	
SS-12	2/26/2009	0.5	32100	22000			230	7.4 U	7.4 U	
SS-40	6/17/2010	0	18500	19200			82	47.7	8.67 U	
TP-17	5/3/1993	0.5	23800	24800	1300 U			1300 U		

Table A-3 LRIS Cell 3 Soil Cleanup Level Screening Former PWT Site

		Analyte	Chromium	Copper		Dibenzofuran		Diesel		Dioxin/Furan TEQ	Fluoranthene	)	Fluorene		Gasoline	<u> </u>
		Unit	ug/kg	ug/kg		ug/kg		ug/kg		ng/kg	ug/kg		ug/kg		ug/kg	
		Soil Cleanup Level	67000	217000		160000		2000000		11	3200000		3200000		30000	
		Soil Remediation Level	NV	NV		NV		NV		1500	NV		NV		NV	
Sample Location	Sample Date	Depth (ft bgs)	Result	Q Result	Q	Result	Q	Result	Q	Result	Result	Q	Result	Q	Result	Q
TP-17	5/3/1993	5	18500	14200												
TP-18	5/3/1993	0.3	31200	56300												
TP-18	5/3/1993	3	19100	12900		330	U				370					
TP-18A	4/16/2002	7														
TP-18A	4/16/2002	9														
TP-18B	4/16/2002	7														
TP-18B	4/16/2002	9														
TP-18C	4/16/2002	7														
TP-18C	4/16/2002	9														
TP-18CEN	4/25/2002	7														
TP-18CEN	4/25/2002	9														
TP-18D	4/16/2002	7														
TP-18D	4/16/2002	9														
TP-18E	4/16/2002	7														
TP-18E	4/16/2002	9														
TP-18F	4/16/2002	7														
TP-18F	4/16/2002	9														
TP-18G	4/16/2002	7														
TP-18G	4/16/2002	9														
TP-18H	4/16/2002	7														
TP-18H	4/16/2002	9														
TP-19	5/3/1993	0.5	37000	59700		4000	U				41000					
TP-19	5/3/1993	4.5	4100	4100												
TP-20	5/3/1993	0.2	20100	27000												
TP-20	5/3/1993	4.5	24000	20600												
TP-22	5/3/1993	0.5	36700	48200		1700	U				1700	U				
TP-22	5/3/1993	6	9600	8100												

		AnalyteR	esidual Range Or	ganics	Naphthalene	9	Pentachlorophe	enol	Pyrene		Styrene		Zinc
		Unit	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg		ug/kg
		Soil Cleanup Level	2000000		1600000		8300		2400000		33000		360000
	Ç	Soil Remediation Level	NV		NV		1100000		NV		NV		NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result C
B-204	10/28/1999	2.5	25000	U	10	U	4300		9700		5	U	49000
B-204	10/28/1999	5			20	U	5	U			5	U	
B-204	10/28/1999	10					5	U					
B-205	10/29/1999	2.5	25000	U	53		330		300		5	U	58000
B-205	10/29/1999	5			20	U	5	U			5	U	
B-205	10/29/1999	10					5	U					
B-206	11/1/1999	2.5	25000	U	10	U	1800		39		5	U	46000
B-206	11/1/1999	5			10	U	5	U	10	U	5	U	
B-206	11/1/1999	10	25000	U	1600		340000		1700				62000
B-207	11/1/1999	2.5	25000	U	10	U	1100		470		5	U	87000
B-207	11/1/1999	5	25000	U	10	U	6.1		10	U			79000
B-207	11/1/1999	10	25000	U	10	U	8		22				69000
B-208	11/1/1999	2.5	25000	U	190		43000		2900		5	U	57000
B-208	11/1/1999	5	25000	U	20		1400		950		5	U	85000
B-208	11/1/1999	10			10	U	5	U	10	U			
B-209	11/1/1999	2.5			12		5	U	63				
B-209	11/1/1999	5					5	U					
B-209	11/1/1999	10	25000	U	10	U	5		10				66000
B-210	11/1/1999	2.5			10	U	47		38		5	U	
B-210	11/1/1999	5	190000		10	U	1800		1800		5	U	74000
B-210	11/1/1999	15	25000	U	10	U	11		10	U			75000
B-212	11/2/1999	2.5			20	U	5	U			5	U	
B-212	11/2/1999	5	297000		10	U	14		22		5	U	181000
B-212	11/2/1999	10					5	U					
B-213	11/2/1999	2.5			10	U	43		60				80000
B-213	11/2/1999	5					5	U					
B-213	11/2/1999	10					5	U					
B-214	11/3/1999	2.5			20	U	5	U			5	U	
B-214	11/3/1999	5			20	U	5	U			5	U	
B-214	11/3/1999	10					5	U					
B-215	11/4/1999	2.5	25000	U	10	U	620		230		5	U	40000
B-215	11/4/1999	5	25000	U	10	U	430		170		5	U	53000
B-215	11/4/1999	10	500000	1	10	U	780		12				56000
B-216	11/4/1999	5	25000	U	10	U	91		10	U	5	U	63000
B-216	11/4/1999	10	25000	U			5	U					63000

		Analyte R	esidual Range Or	ganics	Naphthalene	Э	Pentachlorophe	enol	Pyrene		Styrene		Zinc
		Unit	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg		ug/kg
		Soil Cleanup Level	2000000		1600000		8300		2400000		33000		360000
	Ç	Soil Remediation Level	NV		NV		1100000		NV		NV		NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result C
B-217	11/5/1999	2.5	25000	U	10	U	500		1300		5	U !	59000
B-217	11/5/1999	10	25000	U	30		180		430	İ		1	163000
B-217	11/5/1999	15	25000	U	10	U	2000		10	U		7	73000
B-218	11/8/1999	5	25000	U	10	U	5100		7800	İ	5	U	63000
B-218	11/8/1999	10					5	U					
B-218	11/8/1999	15	25000	U	10	U	1200		10	U		(	64000
B-219	11/8/1999	2.5			20	U	5	U			5	U	
B-219	11/8/1999	5			20	U	5	U			5	U	
B-219	11/8/1999	10	25000	U	10	U	8.8		10			(	64000
B-275	7/8/2004	0.5	130000		36		50	U	180				
B-275	7/8/2004	5	57000	U	10	U	50	U	10	U			
B-275	7/8/2004	10	60000	U	10	U	50	U	10	U			
B-276	7/13/2004	0.5	71000		10	U	50	U	10	U			
B-276	7/13/2004	3	50000	U	10	U	47	U	10	U			
BH-27	4/2/1996	1					190		490				
BH-27	4/2/1996	6					340		390				
BH-27	4/2/1996	26										!	55500
B-277	7/9/2004	0.5	51000	U	9.4	U	50	U	9.4	U			
B-277	7/9/2004	2.5	58000	U	10	U	48	U	10	U			
B-277	7/9/2004	5	58000	U	9.6	U	49	U	9.6	U			
B-277	7/9/2004	10	62000	U	11		600		10				
B-278	7/9/2004	0.5	97000		13		120		240				
B-278	7/9/2004	2.5	57000	U	9.9	U	50	U	88				
B-278	7/9/2004	10	64000	U	10	U	50	U	10	U			
B-279	7/9/2004	0.5	55000	U	48		50	U	16				
B-279	7/9/2004	2.5	54000	U	10	U	49	U	20				
B-279	7/9/2004	5	67000	U	9.8	U	50	U	9.8	U			
B-279	7/9/2004	10	67000	U	10	U	200		10	U			
BH-28	4/2/1996	0.5					270		390				
BH-28	4/2/1996	6										!	54700
B-280	7/13/2004	0.5	50000	U	26		280		47				
B-280	7/13/2004	5	110000		10	U	50	U	190				
B-280	7/13/2004	10	50000	U	10	U	1300		10	U			
B-281	7/9/2004	0.5	55000		63		1400		110				
B-281	7/9/2004	2.5	60000	U	320		270		130				

		Analyte	Residual Range Org	ganics	Naphthalene	е	Pentachlorophe	enol	Pyrene		Styrene		Zinc
		Unit	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg		ug/kg
		Soil Cleanup Level	2000000		1600000		8300		2400000		33000		360000
	Ç	Soil Remediation Level	NV		NV		1100000		NV		NV		NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result
B-281	7/9/2004	10	63000	U	9.9	U	6100		9.9	U			
B-282	7/8/2004	0.5	390000		100	U	3600		100	U			
B-282	7/8/2004	5	58000	U	10	U	86		200				
B-282	7/8/2004	10	59000	U	10	U	50	U	10	U			
B-283	7/12/2004	0.5	50000	U	9.9	U	350		14				
B-283	38180	3	50000	U	10	U	50	U	19				
B-283	7/12/2004	5	49000	U	10	U	110000		10	U			
B-284	7/13/2004	0.5	230000		220		6800		710				
B-284	7/13/2004	2.5	50000	U	13		50	U	100				
B-284	7/13/2004	5	50000	U	10	U	50	U	10	U			
B-284	7/13/2004	10	50000	U	10	U	8900		10	U			
B-285	7/13/2004	0.5	580000		200	U	3900		790				
B-285	7/13/2004	5	600000		85		50	U	400				
B-285	7/13/2004	10	50000	U	10	U	110000		10	U			
B-286	7/8/2004	0.5	3900000		100	U	1100		7700				
B-286	7/8/2004	2.5	57000	U	71		50	U	420				
B-286	7/8/2004	5	61000	U	10	U	50	U	10	U			
B-286	7/8/2004	10	60000	U	10	U	950		10	U			
B-287	7/12/2004	0.5	140000		51	U	160		250				
B-287	7/12/2004	2.5	50000	U	9.8	U	250		33				
B-287	7/12/2004	5	50000	U	10	U	95		65				
B-287	7/12/2004	10	50000	U	9.7	U	1100		9.7	U			
B-288	7/8/2004	0.5	260000		120		50	U	220				
B-288	7/8/2004	10	58000	U	10	U	46	U	10	U			
B-289	7/12/2004	0.5	240000		9.1	U	500	U	9.1	U			
B-289	7/12/2004	2.5	49000	U	410		50	U	9200				
B-289	7/12/2004	5	49000	U	10	U	50	U	53				
B-289	7/12/2004	10	59000	U	10	U	690		10	U			
BH-29	4/2/1996	6											55000
B-290	7/13/2004	0.5	240000		100	U	7200		310				
B-290	7/13/2004	2.5	640000		370		500	U	2200	İ			
B-290	7/13/2004	5	72000	1	100	U	50	U	340				
B-290	7/13/2004	10	50000	U	10	U	730		10	U			
B-291	7/12/2004	0.5	190000		100	U	12000		380				
B-291	7/12/2004	2.5	1000000		100	U	110		1400				

		Analyte	Residual Range Org	ganics	Naphthalene	е	Pentachlorophe	enol	Pyrene		Styrene		Zinc
		Unit	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg		ug/kg
		Soil Cleanup Level	2000000		1600000		8300		2400000		33000		360000
	S	Soil Remediation Level	NV		NV		1100000		NV		NV		NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result
B-291	7/12/2004	5	94000		10	U	51	U	37				
B-291	7/12/2004	10	200000		11	U	16000		11	U			
B-292	7/8/2004	0.5	190000		110	U	50	U	1000				
B-292	7/8/2004	2.5	62000	U	10	U	50	U	53				
B-292	7/8/2004	5	59000	U	10	U	50	U	10	U			
B-292	7/8/2004	10	63000	U	10	U	370		10	U			
B-293	7/12/2004	0.5	82000		9.6	U	130000		510				
B-293	7/12/2004	2.5	280000		1000		76		11000				
B-293	7/12/2004	5	50000	U	9.9	U	50	U	9.9	U			
B-293	7/12/2004	10	50000	U	10	U	89		10	U			
B-294	7/12/2004	0.5	51000	U	10	U	3300		20				
B-294	7/12/2004	2.5	50000	U	99	U	240		6800				
B-294	7/12/2004	5	500000		9.5	U	49	U	87				
B-294	7/12/2004	10	51000	U	9.8	U	4200		9.8	U			
B-295	7/12/2004	0.5	160000		110	U	1700		630				
B-295	7/12/2004	2.5	51000	U	10	U	50	U	1200				
B-295	7/12/2004	5	50000	U	10	U	49	U	10	U			
B-295	7/12/2004	10	50000	U	9.7	U	11000		9.7	U			
B-296	7/9/2004	0.5	130000		100	U	27000		5300				
B-296	7/9/2004	2.5	58000	U	1900		620000		10	U			
B-296	7/9/2004	5	590000		110000		7800		460				
B-296	7/9/2004	10	61000	U	4400		120000		59				
B-297	7/9/2004	1	890000		100	U	200		1300				
B-297	7/9/2004	2.5	61000	U	10	U	50	U	180				
B-297	7/9/2004	5	62000	U	10	U	50	U	13				
B-297	7/9/2004	10	66000	U	10	U			10	U			
B-297	7/9/2004	15					120						
B-299	7/21/2004	0.5	54000	U	10	U	270		36				
B-299	7/21/2004	2.5	190000		10	U	91		800				
B-299	7/21/2004	5	270000		10	U	1200		31				
B-299	7/21/2004	10	120000		660		120		1300				
B-300	7/21/2004	0.5	54000	U	57		130		14				
B-300	7/21/2004	2.5	84000	一十	11	U	50	U	38				
B-300	7/21/2004	10	65000	U	10	U	15000		10	U			
B-301	7/21/2004	0.5	1800000		500	U	1100		2100				

		Analyte	Residual Range Or	ganics	Naphthalene	е	Pentachlorophe	enol	Pyrene		Styrene		Zinc
		Unit	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg		ug/kg
		Soil Cleanup Level	2000000		1600000		8300		2400000		33000		360000
	Ş	Soil Remediation Level	NV		NV		1100000		NV		NV		NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result C
B-301	7/21/2004	2.5	360000		10	U	50	U	130				
B-301	7/21/2004	5	57000	U	10	U			10	U			
B-307	2/26/2009	0.5			7.12	U	885		109				46800
B-307	2/26/2009	2.5			7.43	U	909		28.2				60100
B-307	2/26/2009	20			7.93	U	396	U	7.93	U			33200
MW-19	5/3/1993	20											
MW-19	5/3/1993	5											
MW-20S	5/3/1993	20											
MW-20S	5/3/1993	5											
MW-28S	4/2/1996	0.5					2000		2200				
MW-28S	4/2/1996	6					3000		86				58500
MW-29	4/2/1996	8.5											65900
MW-29	4/2/1996	11											75100
MW-29	4/2/1996	16											78200
MW-45D	7/20/2004	0.5	520000		11	U	1900	İ	370				
MW-45D	7/20/2004	2.5	58000	U	11	U	51	U	11	U			
MW-45D	7/20/2004	5	62000		10	U	50	U	10	U			
MW-45D	7/20/2004	10	66000	U	10	U	50	U	10	U			
MW-9S	7/14/2004	2.5	540000		3500		4600	İ	13000				
MW-9S	7/14/2004	5	56000		860		5600		1300				
MW-9S	7/14/2004	10	51000	U	15		89		210				
SPY-01A	5/9/2002	5			13	U	62	U	120				48700
SPY-01A	5/9/2002	10			26	U	130	U	26	U			55500
SPY-01B	5/9/2002	10			170		130000		19000				73500
SPY-01C	5/9/2002	1			11	U	3600		1400				70500
SPY-01C	5/9/2002	5			13	U	63	U	13	U			50200
SPY-01C	5/9/2002	10			13	U	61	U	13	U			60500
SPY-01D	5/9/2002	1			44		4900		730				111000
SPY-01D	5/9/2002	5			12	U	140		17				59900
SPY-01D	5/9/2002	10			24	U	120	U	24	U			60300
SPY-01E	5/9/2002	1			11	U	1700		2000				43100
SPY-01E	5/9/2002	5			16		61	U	37				80800
SPY-01E	5/9/2002	10			13	U	61	U	13	U			58900
SPY-01F	5/9/2002	1			11	U	660		440				66600
SPY-01F	5/9/2002	5			11	U	54	U	11	U			43100

		Analyte	Residual Range Or	ganics	Naphthalene	е	Pentachlorophe	nol	Pyrene		Styrene		Zinc
		Unit	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg		ug/kg
		Soil Cleanup Level	2000000		1600000		8300		2400000		33000		360000
	S	oil Remediation Level	NV		NV		1100000		NV		NV		NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result (
SPY-01F	5/9/2002	10			13	U	61	U	13	U			56400
SPY-01G	5/9/2002	1			58	U	130000		6900				80300
SPY-01G	5/9/2002	3			12	U	220		30				54100
SPY-01G	5/9/2002	5			12	U	57	U	12	U			58700
SPY-01G	5/9/2002	10			12	U	59	U	12	U			64100
SPY-01H	5/9/2002	1			11	U	390		200				35900
SPY-01H	5/9/2002	5			13	U	350		62				65500
SPY-01H	5/9/2002	10			13	U	62	U	13	U			63100
SPY-02A	5/9/2002	0.5					170						
SPY-02A	5/9/2002	1.5					130						
SPY-02B	5/9/2002	0.5					650						
SPY-02B	5/9/2002	1.5					80						
SPY-02C	5/9/2002	0.5					2600						
SPY-02C	5/9/2002	1.5					63000						
SPY-02D	5/9/2002	0.5					630						
SPY-02D	5/9/2002	1.5					470000						
SPY-02E	5/9/2002	0.5					1500						
SPY-02E	5/9/2002	1.5					570						
SPY-02F	5/9/2002	0.5					780						
SPY-02F	5/9/2002	1.5					320000						
SPY-02G	5/9/2002	0.5					2400						
SPY-02G	5/9/2002	1.5					1400						
SPY-02H	5/9/2002	0.5					16000						
SPY-02H	5/9/2002	1.5					68000						
SPY-02I	5/9/2002	0.5					550						
SPY-02I	5/9/2002	1.5					1300						
SPY-03	2/6/1991	0					8400						
SPY-04	2/6/1991	0					14000						
SS-1	4/2/1996	1					950		1500				50900
SS-8	7/17/2008	1.5			20.6		374		802				90600
SS-10	2/26/2009	0.5			7.62	U	381	U	15.2				44100
SS-11	2/26/2009	0.5			9.86		2950		601				43300
SS-12	2/26/2009	0.5			7.4	U	369	U	7.4	U			78300
SS-40	6/17/2010	0			8.67	U	19.5	U	32.9				105000
TP-17	5/3/1993	0.5			1300	U	72000		1300	U			

		Analyte Re	sidual Range Or	ganics	Naphthalen	е	Pentachloroph	enol	Pyrene		Styrene		Zino	С
		Unit	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg		ug/k	kg
		Soil Cleanup Level	2000000		1600000		8300		2400000		33000		3600	)00
	:	Soil Remediation Level	NV		NV		1100000		NV		NV		NV	/
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	t Q
TP-17	5/3/1993	5												
TP-18	5/3/1993	0.3					560							
TP-18	5/3/1993	3			330	U	1600	U	350					
TP-18A	4/16/2002	7												
TP-18A	4/16/2002	9												
TP-18B	4/16/2002	7												
TP-18B	4/16/2002	9												
TP-18C	4/16/2002	7												
TP-18C	4/16/2002	9												
TP-18CEN	4/25/2002	7												
TP-18CEN	4/25/2002	9												
TP-18D	4/16/2002	7												
TP-18D	4/16/2002	9												
TP-18E	4/16/2002	7												
TP-18E	4/16/2002	9												
TP-18F	4/16/2002	7												
TP-18F	4/16/2002	9												
TP-18G	4/16/2002	7												
TP-18G	4/16/2002	9												
TP-18H	4/16/2002	7												
TP-18H	4/16/2002	9												
TP-19	5/3/1993	0.5			4000	U	22000		38000					
TP-19	5/3/1993	4.5												
TP-20	5/3/1993	0.2												
TP-20	5/3/1993	4.5												
TP-22	5/3/1993	0.5			1700	U	8300	U	1700	U				
TP-22	5/3/1993	6												

		Analyte	cPAH TEQ	Tetrachloroethane	1,2,4-Trimethylbenzene	2-Methylnaphthalene	Acenaphthene	Arsenic	Chromium
		Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	67000
	!	Soil Remediation Level	18000	NV	NV	NV	NV	88000	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result C
B-120	6/17/1999	2.5							
B-120	6/17/1999	5							
B-120	6/17/1999	15							
B-121	6/18/1999	2.5							
B-121	6/18/1999	5							
B-121	6/18/1999	20							
B-122	9/21/1999	2.5	ND			10 U	10 U	9000	13000
B-122	9/21/1999	15	ND			10 U	10 U		
B-122	9/21/1999	20	ND			10 U	10 U		
B-123	9/22/1999	2.5							
B-123	9/22/1999	5	ND			10 U	10 U		
B-123	9/22/1999	10							
B-123	9/22/1999	15							
B-123	9/22/1999	20							
B-124	9/23/1999	2.5	11			10 U	10 U	4000	15000
B-124	9/23/1999	5							
B-124	9/23/1999	10							
B-125	9/24/1999	2.5	ND			10 U	10 U	5000	12000
B-125	9/24/1999	5							
B-125	9/24/1999	10	ND			34	18	4000	15000
B-125	9/24/1999	15	ND			10 U	10 U	2000	13000
B-125	9/24/1999	20	11			10 U	10 U	3000	13000
B-126	9/24/1999	5	190			10 U	10 U	3000	12000
B-126	9/24/1999	10							
B-126	9/24/1999	15							
B-126	9/24/1999	20							
B-127	9/27/1999	2.5		5 U	20 U				
B-127	9/27/1999	5							
B-127	9/27/1999	10							
B-127	9/27/1999	15							
B-127	9/27/1999	20							
B-128	9/27/1999	5		5 U	20 U				
B-128	9/27/1999	10		5 U	20 U				
B-128	9/27/1999	20							
B-129	9/28/1999	2.5	190			5 U	5 U	4000	14000

		Analyte	cPAH TEQ	Tetrachloroethane	1,2,4-Trimethylbenzene	2-Methylnaphthalene	Acenaphthene	Arsenic	Chromium
		Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	67000
		Soil Remediation Level	18000	NV	NV	NV	NV	88000	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result Q	Result Q	Result Q	Result Q	Result C
B-129	9/28/1999	5							
B-129	9/28/1999	20							
B-130	9/28/1999	2.5							
B-130	9/28/1999	5							
B-130	9/28/1999	15							
B-131	9/29/1999	2.5	5			5 U	5 U	9000	14000
B-131	9/29/1999	5							
B-131	9/29/1999	20							
B-132	9/29/1999	2.5	11			5 U	5 U	3000	20000
B-132	9/29/1999	5		5 U	20 U				
B-132	9/29/1999	15		5 U	20 U				
B-132	9/29/1999	20							
B-133	9/29/1999	2.5	11			5 U	5 U	2000	18000
B-133	9/29/1999	10		5 U	20 U				
B-133	9/29/1999	20		5 U	20 U				
B-134	9/30/1999	3	200	5 U	20 U	41	120	2000	17000
B-134	9/30/1999	10	32	5 U	20 U	32	660	10000	26000
B-134	9/30/1999	20	12			11	33	3000	19000
B-135	9/30/1999	2.5		5 U	20 U				
B-135	9/30/1999	5		5 U	20 U				
B-135	9/30/1999	10							
B-135	9/30/1999	20							
B-136	10/1/1999	0							
B-136	9/30/1999	2.5		5 U	20 U				
B-136	9/30/1999	5		5 U	20 U				
B-136	9/30/1999	10		5 U	20 U				
B-136	10/1/1999	15		5 U	20 U				
B-136	10/1/1999	20		5 U	20 U				
B-137	10/4/1999	2.5		5 U	20 U				
B-137	10/4/1999	5		5 U	20 U				
B-137	10/4/1999	20		5 U	20 U				
B-138	10/4/1999	2.5		5 U	20 U				
B-138	10/4/1999	5		5 U	20 U				
B-138	10/4/1999	20		5 U	20 U				
B-211	11/2/1999	2.5							

		Analyte	cPAH TEQ	Tetrachloroethane	1,2,4-Trimethylbenzen	2-Methylnaphthalene	Acenaphthene	Arsenic	Chromium
		Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	67000
	!	Soil Remediation Level	18000	NV	NV	NV	NV	88000	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result Q	Result	Q Result Q	Result Q	Result Q	Result Q
B-211	11/2/1999	10							
B-211	11/2/1999	20	ND			10 U	10 U	2000	9000
B-211	11/2/1999	5							
B-309	2/26/2009	5							
B-310	2/27/2009	5							
NPY-01	2/6/1991	0							
NPY-02	2/6/1991	0							
SS-20	2/18/2009	0.5	ND				7.83 U	2400	16200
SS-21	2/18/2009	0.5	24				7.31 U	2540	8590
SS-21	2/18/2009	1.5							
SS-22	2/18/2009	0.5	ND				8.08 U	1510	7680
SS-23	2/18/2009	0.5	6.3				7.36 U	3040	13800
SS-23	2/18/2009	1.5							
SS-24	2/18/2009	0.5	53.8				7.14 U	6260	13500
SS-24	2/18/2009	1.5							
SS-25	2/18/2009	0.5	45.7				7.92 U	1580	6490
SS-25	2/18/2009	1.5							
SS-26	2/18/2009	0.5	9.67				7.89 U	3370	19600
SS-26	2/18/2009	1.5							
SS-27	2/18/2009	0.5	14.7				7.13 U	7460	8190
SS-27	2/18/2009	1.5							
SS-28	2/18/2009	0.5	ND				7.46 U	1450	2610
SS-28	2/18/2009	1.5							
SS-29	2/18/2009	1.5							
SS-29	2/19/2009	0.5	42.2				7.39 U	3830	5180
SS-5	7/16/2008	0.3	190			- 7.1 U	8.51	5620	17600
TP-23	5/3/1993	0.3						1900	9400
TP-23	5/3/1993	4						4400	12800
TP-24	5/3/1993	0.5						14900	9600
TP-24	5/3/1993	3						3100	11000
TP-25	5/3/1993	0.5	1700					59200	57600
TP-25	5/3/1993	5						5100	14600
TP-26	5/3/1993	0.4						10400	14200
TP-26	5/3/1993	4.5						5600	7600
W-9	2/4/1991	0							

## Table A-4 LRIS Cell 4 Soil Cleanup Level Screening Former PWT Site

		Analyte	cPAH TEQ	Tetrachloroethane	1,2,4-Trimethylbenzene	2-Methylnaphthalene	Acenaphthene	Arsenic	Chromium
		Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
		Soil Cleanup Level	140	5000	4000000	320000	4800000	5810	67000
	S	oil Remediation Level	18000	NV	NV	NV	NV	88000	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Result (	Result C	Result Q	Result Q	Result Q	Result Q
W-9	2/4/1991	0							
W-9	2/4/1991	0							

		Analyte	Copper		Dibenzofura	n	Diesel Range Orga	nics	Dioxin/Furan TEQ	Fluoranthene	9	Fluorene		Gasoline Range Organics
		Unit	ug/kg		ug/kg		ug/kg		ng/kg	ug/kg		ug/kg		ug/kg
		Soil Cleanup Level	217000		160000		2000000		11	3200000		3200000		30000
		Soil Remediation Level	NV		NV		NV		1500	NV		NV		NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result	Q	Result	Result	Q	Result	Q	Result Q
B-120	6/17/1999	2.5					10000	U						10000 U
B-120	6/17/1999	5					10000	U						10000 U
B-120	6/17/1999	15					10000	U						10000 U
B-121	6/18/1999	2.5					10000	U						10000 U
B-121	6/18/1999	5					10000	U						10000 U
B-121	6/18/1999	20					10000	U						10000 U
B-122	9/21/1999	2.5	21000		10	U	10000	U		10	U	10	U	10000 U
B-122	9/21/1999	15			10	U				10	U	10	U	
B-122	9/21/1999	20			10	U				10	U	10	U	
B-123	9/22/1999	2.5												
B-123	9/22/1999	5			10	U				10	U	10	U	
B-123	9/22/1999	10												
B-123	9/22/1999	15												
B-123	9/22/1999	20												
B-124	9/23/1999	2.5	19000		10	U	10000	U		73		10	U	10000 U
B-124	9/23/1999	5												
B-124	9/23/1999	10												
B-125	9/24/1999	2.5	17000		10	U	10000	U		10	U	10	U	10000 U
B-125	9/24/1999	5												
B-125	9/24/1999	10	19000		11		10000	U		10	U	10		10000 U
B-125	9/24/1999	15	26000		10	U	10000	U		10	U	10	U	10000 U
B-125	9/24/1999	20	22000		10	U	10000	U		18		10	U	10000 U
B-126	9/24/1999	5	14000	i	10	U	10000	U		380		10	U	10000 U
B-126	9/24/1999	10												
B-126	9/24/1999	15												
B-126	9/24/1999	20												
B-127	9/27/1999	2.5					10000	U						10000 U
B-127	9/27/1999	5												
B-127	9/27/1999	10					10000	U						10000 U
B-127	9/27/1999	15												
B-127	9/27/1999	20					10000	U						10000 U
B-128	9/27/1999	5												
B-128	9/27/1999	10					10000	U						10000 U
B-128	9/27/1999	20					10000	U						10000 U
B-129	9/28/1999	2.5	24000		5	U	10000	U		430		5	U	10000 U

		Analyte	Copper		Dibenzofura	n	Diesel Range Orga	nics	Dioxin/Furan TEQ	Fluoranthene	;	Fluorene		Gasoline Range Organics
		Unit	ug/kg		ug/kg		ug/kg		ng/kg	ug/kg		ug/kg		ug/kg
		Soil Cleanup Level	217000		160000		2000000		11	3200000		3200000		30000
		Soil Remediation Level	NV		NV		NV		1500	NV		NV		NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result	Q	Result	Result	Q	Result	Q	Result Q
B-129	9/28/1999	5					10000	U						10000 U
B-129	9/28/1999	20					10000	U						10000 U
B-130	9/28/1999	2.5					10000	U						10000 U
B-130	9/28/1999	5												
B-130	9/28/1999	15												
B-131	9/29/1999	2.5	22000		5	U	10000	U		5	U	5	U	10000 U
B-131	9/29/1999	5												
B-131	9/29/1999	20												
B-132	9/29/1999	2.5	19000		5	U	10000	U		12		5	U	10000 U
B-132	9/29/1999	5					10000	U						10000 U
B-132	9/29/1999	15												
B-132	9/29/1999	20												
B-133	9/29/1999	2.5	14000		5	U	10000	U		28		5	U	10000 U
B-133	9/29/1999	10					10000	U						10000 U
B-133	9/29/1999	20												
B-134	9/30/1999	3	23000		93		89000			1700		170		10000 U
B-134	9/30/1999	10	18000		300		70000			440		260		10000 U
B-134	9/30/1999	20	27000		20		10000	U		240		26		10000 U
B-135	9/30/1999	2.5												
B-135	9/30/1999	5												
B-135	9/30/1999	10												
B-135	9/30/1999	20												
B-136	10/1/1999	0												
B-136	9/30/1999	2.5												
B-136	9/30/1999	5												
B-136	9/30/1999	10												
B-136	10/1/1999	15												
B-136	10/1/1999	20												
B-137	10/4/1999	2.5												
B-137	10/4/1999	5												
B-137	10/4/1999	20												
B-138	10/4/1999	2.5												
B-138	10/4/1999	5												
B-138	10/4/1999	20												
B-211	11/2/1999	2.5												

		Analyte	Copper		Dibenzofura	an	Diesel Range Orga	anics	Dioxin/Furan TEQ	Fluoranthene	е	Fluorene		Gasoline Range Organics
		Unit	ug/kg		ug/kg		ug/kg		ng/kg	ug/kg		ug/kg		ug/kg
		Soil Cleanup Level	217000		160000		2000000		11	3200000		3200000		30000
	:	Soil Remediation Level	NV		NV		NV		1500	NV		NV		NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result	Q	Result	Result	Q	Result	Q	Result C
B-211	11/2/1999	10												
B-211	11/2/1999	20	24000		10	U	10000	U		10	U	10	U	10000 U
B-211	11/2/1999	5												
B-309	2/26/2009	5							102					
B-310	2/27/2009	5							89					
NPY-01	2/6/1991	0												
NPY-02	2/6/1991	0												
SS-20	2/18/2009	0.5	14800						1.7	7.83	U	7.83	U	
SS-21	2/18/2009	0.5	13800						150	40.2		7.31	U	
SS-21	2/18/2009	1.5							84					
SS-22	2/18/2009	0.5	5100						9.3	8.08	U	8.08	U	
SS-23	2/18/2009	0.5	18200						74	7.36	U	7.36	U	
SS-23	2/18/2009	1.5							4.2					
SS-24	2/18/2009	0.5	15200						920	34.3		7.14	U	
SS-24	2/18/2009	1.5							16					
SS-25	2/18/2009	0.5	39100						54	26.9		7.92	U	
SS-25	2/18/2009	1.5							3.3					
SS-26	2/18/2009	0.5	17200						69	7.89	U	7.89	U	
SS-26	2/18/2009	1.5							440					
SS-27	2/18/2009	0.5	11300						58	12.1		7.13	U	
SS-27	2/18/2009	1.5							16					
SS-28	2/18/2009	0.5	36100						130	7.46	U	7.46	U	
SS-28	2/18/2009	1.5							400					
SS-29	2/18/2009	1.5							5.5					
SS-29	2/19/2009	0.5	14700						41	17		7.39	U	
SS-5	7/16/2008	0.3	14100						100	514		14.9		
TP-23	5/3/1993	0.3	13800											
TP-23	5/3/1993	4	8500											
TP-24	5/3/1993	0.5	39500											
TP-24	5/3/1993	3	12800											
TP-25	5/3/1993	0.5	65000							4900				
TP-25	5/3/1993	5	13800											
TP-26	5/3/1993	0.4	18000											
TP-26	5/3/1993	4.5	13400											
W-9	2/4/1991	0												

## Table A-4 LRIS Cell 4 Soil Cleanup Level Screening Former PWT Site

		Analyte	Copper		Dibenzofuran		Diesel Range Organics	Dioxin/Furan TEQ	Fluoranthene	Fluorene	Gasoline Range Organics
		Unit	ug/kg		ug/kg		ug/kg	ng/kg	ug/kg	ug/kg	ug/kg
	Soil Cleanup L		217000		160000		2000000	11	3200000	3200000	30000
	Soil Remediation I		NV		NV		NV	1500	NV	NV	NV
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result Q	Result	Result C	Result (	2 Result Q
W-9	2/4/1991	0									
W-9	2/4/1991	0									

		Analyte	Organics		Naphthalene		Pentachlorophe	enol	Pyrene		Styrene		Zinc	
		Unit	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	
		Soil Cleanup Level	2000000		1600000		8300		2400000		33000		360000	
		Soil Remediation Level	NV		NV		1100000		NV		NV		NV	
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
B-120	6/17/1999	2.5	25000	U			9							
B-120	6/17/1999	5	25000	U			10							
B-120	6/17/1999	15	25000	U			6							
B-121	6/18/1999	2.5	25000	U			5	U						
B-121	6/18/1999	5	25000	U			5	U						
B-121	6/18/1999	20	25000	U			5	U						
B-122	9/21/1999	2.5	25000	U	10	U	6		10	U			67000	
B-122	9/21/1999	15			10	U	5	U	10	U				
B-122	9/21/1999	20			10	U	5	U	10	U				
B-123	9/22/1999	2.5					5	U						
B-123	9/22/1999	5			10	U	5	U	10	U				
B-123	9/22/1999	10					5	U						
B-123	9/22/1999	15					5	U						
B-123	9/22/1999	20					5	U						
B-124	9/23/1999	2.5	25000	U	10	U	20		62				61000	
B-124	9/23/1999	5					5	U						
B-124	9/23/1999	10					5	U						
B-125	9/24/1999	2.5	25000	U	10	U	340		10	U			53000	
B-125	9/24/1999	5					5	U						
B-125	9/24/1999	10	25000	U	40		22		10	U			45000	
B-125	9/24/1999	15	25000	U	10	U	11		10	U			43000	
B-125	9/24/1999	20	25000	U	21		9		27				36000	
B-126	9/24/1999	5	25000	U	10	U	250		880				47000	
B-126	9/24/1999	10					5	U						
B-126	9/24/1999	15					5	U						
B-126	9/24/1999	20					5	U						
B-127	9/27/1999	2.5	25000	U	20	U	5	U			5	U		
B-127	9/27/1999	5					5	U						
B-127	9/27/1999	10	25000	U			5	U						
B-127	9/27/1999	15					5	U						
B-127	9/27/1999	20	25000	U			5	U						
B-128	9/27/1999	5			20	U	5	U			5	U		
B-128	9/27/1999	10	25000	U	20	U	5	U			5	U		
B-128	9/27/1999	20	25000	U			5	U						
B-129	9/28/1999	2.5	180000	T	5	U	34	Ī	370				47000	

		Analyte	Organics		Naphthalene	:	Pentachloroph	enol	Pyrene	Styrene		Zinc	
		Unit	ug/kg		ug/kg		ug/kg	ĺ	ug/kg	ug/kg		ug/kg	
		Soil Cleanup Level	2000000		1600000		8300	Î	2400000	33000		360000	
		Soil Remediation Level	NV		NV		1100000		NV	NV		NV	
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result	Q	Result C	Result	Q	Result	Q
B-129	9/28/1999	5	25000	U			5	U					
B-129	9/28/1999	20	25000	U			5	U					
B-130	9/28/1999	2.5	25000	U			5	U					
B-130	9/28/1999	5					5	U					
B-130	9/28/1999	15					5	U					
B-131	9/29/1999	2.5	25000	U	5	U	18	ĺ	5 U			54000	
B-131	9/29/1999	5					5	U					
B-131	9/29/1999	20					5	U					
B-132	9/29/1999	2.5	25000	U	5	U	5.3		9			36000	
B-132	9/29/1999	5	25000	U	20	U	5	U		5	U		
B-132	9/29/1999	15			20	U				5	U		
B-132	9/29/1999	20					5	U					
B-133	9/29/1999	2.5	25000	U	5	U	5.1		24			37000	
B-133	9/29/1999	10	25000	U	20	U	5	U		5	U		
B-133	9/29/1999	20			20	U	5	U		5	U		
B-134	9/30/1999	3	25000	U	60				1100	5	U	55000	
B-134	9/30/1999	10	64000		140		470		300	5	U	59000	
B-134	9/30/1999	20	25000	U	39		130		150			48000	
B-135	9/30/1999	2.5			20	U	5	U		5	U		
B-135	9/30/1999	5			20	U				5	U		
B-135	9/30/1999	10					5	U					
B-135	9/30/1999	20					5	U					
B-136	10/1/1999	0					5	U					
B-136	9/30/1999	2.5			20	U				5	U		
B-136	9/30/1999	5			20	U				5	U		
B-136	9/30/1999	10			20	U				<u> </u>	U		
B-136	10/1/1999	15			20	U				5	U		
B-136	10/1/1999	20			20	U				5	U		
B-137	10/4/1999	2.5			20	U		U		5	U		
B-137	10/4/1999	5			20	U	5	U		5	U		
B-137	10/4/1999	20			20	U	5	U		<u> </u>	U		
B-138	10/4/1999	2.5			20	U		U		<u> </u>	U		
B-138	10/4/1999	5			20	U	5	U		5	U		
B-138	10/4/1999	20			20	U	5	U		5	U		
B-211	11/2/1999	2.5					5	U					

		Analyte	Organics		Naphthalene	9	Pentachloroph	enol	Pyrene		Styrene	Z	inc	
		Unit	ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	u(	g/kg	
		Soil Cleanup Level	2000000		1600000		8300		2400000		33000	36	0000	
		Soil Remediation Level	NV		NV		1100000		NV		NV	1	NV	
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result	Q	Result	Q	Result C	2 Res	ult	Q
B-211	11/2/1999	10					5	U						
B-211	11/2/1999	20	25000	U	10	U	5.3		10	U		400	00	
B-211	11/2/1999	5					5	U						
B-309	2/26/2009	5												
B-310	2/27/2009	5												
NPY-01	2/6/1991	0					2500							
NPY-02	2/6/1991	0					8000							
SS-20	2/18/2009	0.5			7.83	U	391	U	15.7	U		494	00	
SS-21	2/18/2009	0.5			7.31	U	365	U	31.4			408	00	
SS-21	2/18/2009	1.5												
SS-22	2/18/2009	0.5			8.08	U	404	U	16.2	U		172	00	
SS-23	2/18/2009	0.5			7.36	U	367	U	7.36	U		- 988	00	
SS-23	2/18/2009	1.5												
SS-24	2/18/2009	0.5			7.14	U	1540		42.8			- 501	00	
SS-24	2/18/2009	1.5												
SS-25	2/18/2009	0.5			7.92	U	395	U	21.4			410	00	
SS-25	2/18/2009	1.5												
SS-26	2/18/2009	0.5			7.89	U	394	U	7.89	U		- 656	00	
SS-26	2/18/2009	1.5												
SS-27	2/18/2009	0.5			7.13	U	356	U	10.7			- 346	00	
SS-27	2/18/2009	1.5												
SS-28	2/18/2009	0.5			7.46	U	372	U	7.46	U		357	00	
SS-28	2/18/2009	1.5												
SS-29	2/18/2009	1.5												
SS-29	2/19/2009	0.5			7.39	U	369	U	17			- 385	00	
SS-5	7/16/2008	0.3			7.8		116		392			- 507	00	
TP-23	5/3/1993	0.3					1100							
TP-23	5/3/1993	4												
TP-24	5/3/1993	0.5					4400							
TP-24	5/3/1993	3												
TP-25	5/3/1993	0.5							2600					
TP-25	5/3/1993	5												
TP-26	5/3/1993	0.4												
TP-26	5/3/1993	4.5												
W-9	2/4/1991	0					2500	U						

		Analyte	Organics		Naphthalene		Pentachloropher	nol	Pyrene	Styrene		Zinc	
		Unit	ug/kg		ug/kg		ug/kg		ug/kg	ug/kg		ug/kg	
		Soil Cleanup Level	2000000		1600000		8300		2400000	33000		360000	
		Soil Remediation Level	NV		NV		1100000		NV	NV		NV	
Sample Location	Sample Date	Depth (ft bgs)	Result	Q	Result	Q	Result	Q	Result C	Result	Q	Result	Q
W-9	2/4/1991	0					2500	U					
W-9	2/4/1991	0					2500	U					

Table A-5
LRIS Groundwater Cleanup Level Screening
Former PWT Site

Location	Date Collected	сРАН ТЕО	1,1,2,2- Tetra- chloroetha ne	1,1,2- Trichloro- ethane	1,2,3- Trichloro- propane	1,2,4- Trimethyl- benzene	1,3,5- Trimethyl- benzene	2-Methyl- naphthale ne	2,3,4,6- Tetrachlor ophenol	2,4,5- Trichloroph enol	2,4,6- Trichloroph enol	Acenaph- thene	Acetone	Anthracen e	Arsenic	Benzene	Bis(2- ethylhexyl) phthalate (BEHP)	Carbazole	Chloro- methane	Chromium	cis-1,2- Dichloroet hene
	Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Cleanup Level	0.012	0.22	0.77	0.0063	24	25	32	480	800	4	960	800	4800	5	0.8	6.3	4.4	5.2	48	80
UWBZ: Ce	ls 1 and 2																				
Cell 1 (UW	,	<u> </u>															1	1		<u> </u>	<u> </u>
MW-7	01/26/2010	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	3.93	3.17	0.951 U	0.951 U	50 U	2.29	4.6	0.3 U	0.951 U	3.8	1 U	6	1 U
	08/24/2010	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	2.6	0.3 U	0.951 U	0.951 U	1 U	6.8	1 U
	01/25/2011	ND	1 U	1 U	1 U	1 U	10	0.958 U	0.958 U	1.44	0.958 U	0.958 U	50 U	1.25	4.44	0.3 U	0.958 U	1.74	1 U	5 U	1 U
	09/01/2011	ND	1 U	1 U	1 U	1 U	1 U	0.957 U	0.957 U	0.957 U	0.957 U	0.957 U	50 U	0.957 U	2.08	0.3 U	0.957 U	0.957 U	1 U	7.2	1 U
MW-44	01/01/2010	NS 2.20	NS	NS	NS	NS	NS	NS 1.00	NS	NS	NS	NS 7.01	NS FF (	NS 14.5	NS 0.7	NS	NS	NS 7.4	NS	NS 0.1	NS
	08/25/2010	3.39	1 U	1 U	1 U	1 U	1 U	1.98	0.963 U	0.963 U	0.963 U	7.21	55.6	14.5	9.7	0.3 U	0.963 U	7.4	1 U	8.1	1 U
	01/24/2011	0.791	1 U	1 U	1 U	1 U	1 U	0.961 U	0.961 U	1.25 9.5	0.961 U	1.95	50 U	2.74 3.93	2.71	0.3 U	0.961 U	3.32	1 U	6.9	1 U
EPA-4S	09/02/2011	7.51	1 U	1 U 1 U	1 U	1 U 1 U	1 U	1.34	0.961 U	9.5 0.95 U	0.961 U	1.86	50 U	0.95 U	9.54	0.3 U	0.961 U 0.95 U	3.24	1 U	8.5	1 U
EPA-43	01/29/2010 08/24/2010	ND	1 U 1 U	1 U	1 U 1 U	1 U	1 U	0.95 U 0.948 U	0.95 U 0.948 U	0.95 U 0.948 U	0.95 U 0.948 U	0.95 U 0.948 U	50 U 50 U	0.95 U 0.948 U	1.1 2.8	0.3 U	0.95 U 0.948 U	0.95 U 0.948 U	1 U 1 U	5.1 6.7	1 U
	01/25/2011	ND ND	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U	0.946 U 0.952 U	0.946 U	0.946 U	50 U	0.948 U	4.65	0.3 U 0.3 U	0.948 U	0.948 U	1 U	6.1	1 U
	09/01/2011	ND	1 U	1 U	1 U	1 U	1 U	0.962 U	0.962 U	0.962 U	0.962 U	0.962 U	50 U	0.962 U	6.9	0.3 U	0.962 U	0.962 U	1 U	6.9	1 U
EPA-4D	01/29/2010	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.762 U	0.762 U	0.951 U	50 U	0.762 U	1 U	0.3 U	0.762 U	0.762 U	1 U	8.2	1 U
LITTE	08/24/2010	ND	1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U	0.947 U	0.947 U	0.947 U	50 U	0.947 U	1 U	0.3 U	0.947 U	0.947 U	1 U	9.8	1 U
	01/25/2011	ND	1 U	1 U	1 U	1 U	1 U	0.955 U	0.955 U	0.955 U	0.955 U	0.955 U	50 U	0.955 U	0.766	0.3 U	0.955 U	0.955 U	1 U	8	1 U
	09/01/2011	ND	1 U	1 U	1 U	1 U	1 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	50 U	0.96 U	0.974	0.3 U	0.96 U	0.96 U	1 U	7.5	1 U
Cell 2 (UV				1																	
MW-4	01/19/2010	ND	1 U	1 U	1 U	1 U	1 U	0.945 U	0.945 U	0.945 U	0.945 U	40.9	50 U	0.945 U	43	0.3 U	0.945 U	0.945 U	1 U	6.8	1 U
	08/13/2010	ND	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U	0.95 U	0.95 U	34.6	50 U	0.95 U	48	0.3 U	0.95 U	0.95 U	1 U	11.6	1 U
	01/20/2011	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	52.6	50 U	0.951 U	42.7	0.3 U	0.951 U	0.951 U	1 U	10	1 U
	08/26/2011	ND	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U	0.954 U	0.954 U	22.9	50 U	0.954 U	45.2	0.3 U	0.954 U	0.954 U	1 U	9.3	1 U
MW-5	01/22/2010	ND	1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U	0.947 U	0.947 U	37.9	50 U	0.947 U	38	0.3 U	0.947 U	0.947 U	1 U	6.3	1 U
	08/13/2010	ND	1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U	0.946 U	0.946 U	21.2	50 U	0.946 U	35	0.3 U	0.946 U	0.946 U	1 U	10.9	1 U
	01/20/2011	ND	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U	0.952 U	0.952 U	41.1	50 U	0.952 U	26.5	0.3 U	0.952 U	0.952 U	1 U	10.3	1 U
	08/26/2011	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	26.3	50 U	0.951 U	30	0.3 U	0.951 U	0.951 U	1 U	6.9	1 U
PZ-06	01/13/2010	ND	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U	0.948 U	0.948 U	0.948 U	50 U	0.948 U	23	0.3 U	0.948 U	0.948 U	1 U	9.2	1 U
	08/01/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	01/13/2011	ND	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U	0.952 U	0.952 U	0.952 U	50 U	0.952 U	25.2	0.3 U	0.952 U	0.952 U	1 U	7.4	1 U
	08/24/2011	ND	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U	0.954 U	0.954 U	0.954 U	50 U	0.954 U	27.8	0.3 U	0.954 U	0.954 U	1 U	9.6	1 U
MW-13	01/11/2010	ND	1 U	1 U	1 U	95.2	32.9	128	0.951 U	0.951 U	0.951 U	140	50 U	2.83	35	0.3 U	3.85	1.1	1 U	6.5	1 U
	08/11/2010	ND	1 U	1 U	1 U	23.4	3.58	21.3	0.952 U	0.952 U	0.952 U	85.3	50 U	1.77	26	0.3 U	1.77	0.952 U	1 U	9.1	1 U
	01/12/2011	ND	1.04	1 U	1 U	12.1	3.35	20.9	0.956 U	0.956 U	0.956 U	51	50 U	1.21	0.264	0.3 U	0.956 U	0.956 U	1 U	7.5	1 U

Table A-5
LRIS Groundwater Cleanup Level Screening
Former PWT Site

Location	Date Collected	сРАН ТЕО	1,1,2,2- Tetra- chloroetha ne	1,1,2- Trichloro- ethane	1,2,3- Trichloro- propane	1,2,4- Trimethyl- benzene	1,3,5- Trimethyl- benzene	2-Methyl- naphthale ne	2,3,4,6- Tetrachlor ophenol	2,4,5- Trichloroph enol	2,4,6- Trichloroph enol	Acenaph- thene	Acetone	Anthracen e	Arsenic	Benzene	Bis(2- ethylhexyl) phthalate (BEHP)	Carbazole	Chloro- methane	Chromium	cis-1,2- Dichloroet hene
	Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Cleanup Level	0.012	0.22	0.77	0.0063	24	25	32	480	800	4	960	800	4800	5	0.8	6.3	4.4	5.2	48	80
	08/23/2011	ND	1 U	1 U	1 U	3.48	1 U	0.953 U	0.953 U	0.953 U	0.953 U	0.953 U	50 U	0.953 U	20.3	0.3 U	0.953 U	0.953 U	1 U	8.2	1 U
MW-15	01/12/2010	ND	1 U	1 U	1 U	1 U	1 U	0.947 U	94.2	5.19	0.947 U	0.947 U	50 U	0.947 U	1.9	0.3 U	0.947 U	1.62	1 U	6.1	4.53
	08/11/2010	ND	1 U	1 U	1 U	1 U	1 U	0.956 U	19.8	3.45	0.956 U	0.956 U	50 U	0.956 U	1.3	0.49	0.956 U	0.956 U	1 U	7.9	1.76
	01/13/2011	ND	1 U	1 U	1 U	1 U	1 U	0.95 U	5.94	1.53	0.95 U	0.95 U	50 U	0.95 U	1.39	0.3 U	0.95 U	0.95 U	1 U	6.2	1.25
	08/23/2011	ND	1 U	1 U	1 U	1 U	1 U	0.955 U	0.955 U	0.955 U	0.955 U	0.955 U	50 U	0.955 U	1.57	0.3 U	0.955 U	0.955 U	1 U	8.3	1 U
MW-16	01/21/2010	ND	1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U	0.946 U	0.946 U	1.66	50 U	0.946 U	1 U	0.3 U	0.946 U	0.946 U	1 U	5 U	1 U
	08/17/2010	ND	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U	0.95 U	0.95 U	1.35	50 U	0.95 U	10 U	0.46	0.95 U	0.95 U	1 U	7.7	1 U
	01/21/2011	ND	1 U	1 U	1 U	1 U	1 U	0.953 U	0.953 U	0.953 U	0.953 U	2.81	50 U	0.953 U	0.722	0.69	0.953 U	0.953 U	1 U	7.3	1 U
	08/30/2011	ND	1 U	1 U	1 U	1 U	1 U	0.956 U	0.956 U	0.956 U	0.956 U	2.38	50 U	0.956 U	1.95	0.3 U	0.956 U	0.956 U	1 U	8.5	1 U
MW-21	01/21/2010	ND	1 U	1 U	1 U	1 U	1 U	0.953 U	0.953 U	0.953 U	0.953 U	0.953 U	50 U	0.953 U	2.8	0.3 U	0.953 U	0.953 U	1 U	6.9	1 U
	08/17/2010	ND	1 U	1 U	1 U	244	67.6	2.32	0.962 U	0.962 U	0.962 U	20.7	50 U	1.76	10 U	4.1	0.962 U	16.8	1 U	9.5	1 U
	01/21/2011	ND	1 U	1 U	1 U	1 U	1 U	0.96 U	0.96 U	0.96 U	0.96 U	1.16	50 U	0.96 U	7.67	0.53	0.96 U	0.96 U	1 U	7.3	1 U
	08/30/2011	ND	1 U	1 U	1 U	1 U	1 U	0.959 U	0.959 U	0.959 U	0.959 U	0.959 U	50 U	0.959 U	17.8	0.88	0.959 U	0.959 U	1 U	7.8	1 U
MW-23	01/11/2010	ND	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U	0.948 U	0.948 U	0.948 U	50 U	0.948 U	2.1	0.3 U	0.948 U	0.948 U	1 U	7.9	1 U
	08/30/2011	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25	01/27/2010	ND	1 U	1 U	1 U	1 U	1 U	0.949 U	0.949 U	0.949 U	0.949 U	0.949 U	50 U	0.949 U	1 U	0.3 U	0.949 U	0.949 U	1 U	5.8	1 U
	08/31/2011	ND	1 U	1 U	1 U	1 U	1 U	0.959 U	0.959 U	0.959 U	0.959 U	0.959 U	50 U	0.959 U	1	0.3 U	0.959 U	0.959 U	1 U	8	1 U
MW-26	01/25/2010	1.37	1 U	1 U	1 U	248	754	921	0.951 U	4.75 U	4.75 U	311	50 U	14	76	36.1	0.951 U	181	1 U	5.6	2.43
	08/16/2010	0.14	1 U	1 U	1 U	532	161	590	0.952 U	0.952 U	0.952 U	187	50 U	6.71	93	56.3	0.952 U	85.3	1 U	9	3.85
	01/20/2011	ND	1 U	1 U	1 U	186	509	946	0.957 U	0.957 U	0.957 U	269	50 U	9.23	114	42.2	0.957 U	167	1 U	9.4	2.94
	08/30/2011	ND	1 U	1 U	1 U	641	205	450	0.956 U	0.956 U	0.956 U	155	50 U	5.61	103	30	0.956 U	120	1 U	9	2.86
MW-27	08/29/2011	ND	1 U	1 U	1 U	2.03	1 U	9.25	0.953 U	0.953 U	0.953 U	5.63	50 U	0.953 U	3.04	8.02	0.953 U	0.953 U	1.18	6.9	1 U
MW-38	01/21/2010	ND	1 U	1 U	1 U	1 U	1 U	0.949 U	0.977	0.949 U	0.949 U	0.949 U	50 U	0.949 U	1 U	0.3 U	0.949 U	0.949 U	1 U	5.1	1 U
dup	01/21/2010	ND	1 U	1 U	1 U	1 U	1 U	0.952 U	1.22	0.952 U	0.952 U	0.952 U	50 U	0.952 U	1 U	0.3 U	0.952 U	0.952 U	1 U	5 U	1 U
	08/17/2010	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	1.2	0.3 U	0.951 U	0.951 U	1 U	8	1 U
dup	08/17/2010	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	1.2	0.3 U	0.951 U	0.951 U	1 U	6.4	1 U
	01/21/2011	ND	1 U	1 U	1 U	1 U	1 U	0.956 U	0.956 U	0.956 U	0.956 U	0.956 U	50 U	0.956 U	1.02	0.3 U	0.956 U	0.956 U	1 U	7	1 U
	08/31/2011	ND	1 U	1 U	1 U	1 U	1 U	0.957 U	0.957 U	0.957 U	0.957 U	0.957 U	50 U	0.957 U	1.13	0.3 U	0.957 U	0.957 U	1 U	7.3	1 U
dup	08/31/2011	ND	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U	0.954 U	0.954 U	0.954 U	50 U	0.954 U	1.15	0.3 U	0.954 U	0.954 U	1 U	7.9	1 U
MW-39	01/21/2010	ND	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U	50 U	0.95 U	1.6	0.3 U	0.95 U	0.95 U	1 U	6.7	1 U
dup	01/21/2010	ND	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U	0.948 U	0.948 U	0.948 U	50 U	0.948 U	1.6	0.3 U	0.948 U	0.948 U	1 U	5 U	1 U
	08/17/2010	ND	1 U	1 U	1 U	1 U	1 U	0.949 U	0.949 U	0.949 U	0.949 U	1.92	50 U	1.14	12	0.3 U	0.949 U	4.45	1 U	6.5	1 U
	01/21/2011	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	0.506	0.3 U	0.951 U	0.951 U	1 U	6.8	1 U
	08/31/2011	ND	1 U	1 U	1 U	1 U	1 U	0.953 U	0.953 U	0.953 U	0.953 U	0.953 U	50 U	0.953 U	1.13	0.3 U	0.953 U	0.982	1 U	7.5	1 U

Table A-5
LRIS Groundwater Cleanup Level Screening
Former PWT Site

Location	Date Collected	сРАН ТЕО	1,1,2,2- Tetra- chloroetha ne	1,1,2- Trichloro- ethane	1,2,3- Trichloro- propane	1,2,4- Trimethyl- benzene	1,3,5- Trimethyl- benzene	2-Methyl- naphthale ne	2,3,4,6- Tetrachlor ophenol	2,4,5- Trichloroph enol	2,4,6- Trichloroph enol	Acenaph- thene	Acetone	Anthracen e	Arsenic	Benzene	Bis(2- ethylhexyl) phthalate (BEHP)	Carbazole	Chloro- methane	Chromium	cis-1,2- Dichloroet hene
	Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Cleanup Level	0.012	0.22	0.77	0.0063	24	25	32	480	800	4	960	800	4800	5	0.8	6.3	4.4	5.2	48	80
dup	08/31/2011	ND	1 U	1 U	1 U	1 U	1 U	0.953 U	0.953 U	0.953 U	0.953 U	0.953 U	50 U	0.953 U	1.2	0.3 U	0.953 U	0.953 U	1 U	7.4	1 U
MW-48S	01/27/2010	ND	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U	0.948 U	0.948 U	0.948 U	50 U	0.948 U	12	0.3 U	0.948 U	0.948 U	1 U	6.4	1 U
	08/17/2010	ND	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U	0.952 U	0.952 U	0.952 U	50 U	2.23	18	0.3 U	0.952 U	0.962	1 U	7.7	1 U
	01/24/2011	ND	1 U	1 U	1 U	2.12	9.07	28.4	0.956 U	0.956 U	0.956 U	20.5	50 U	2.52	20.6	0.39	0.956 U	15.6	1 U	6.7	1 U
	08/31/2011	0.869	1 U	1 U	1 U	1 U	1 U	0.96 U	0.96 U	0.96 U	0.96 U	1.86	50 U	1.21	27.2	0.3 U	0.96 U	2.61	1 U	7.1	1 U
MW-49D	01/12/2010	ND	1 U	1 U	1 U	1 U	1 U	1.5	213	5.69	0.967 U	2.67	50 U	0.967 U	14	0.3 U	0.967 U	11.8	1 U	7.8	1.19
	08/11/2010	0.27	1 U	1 U	1 U	1.65	1 U	15.1	0.973 U	0.973 U	0.973 U	70.1	68.7	10.7	21	0.74	0.973 U	13.5	1 U	6.3	1.16
	01/13/2011	0.911	1 U	1 U	1 U	1 U	1 U	4.19	0.966 U	0.966 U	0.966 U	37.4	50 U	11.7	33.4	0.44	0.966 U	3.61	1 U	5 U	1 U
	08/23/2011	1.05	1 U	1 U	1 U	1 U	1 U	9.85	0.979 U	0.979 U	0.979 U	22.5	50 U	10.2	51.1	0.38	0.979 U	5.53	1 U	8.3	1 U
MW-50S	01/26/2010	ND	1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U	0.946 U	0.946 U	0.946 U	50 U	0.946 U	21	0.3 U	0.946 U	0.946 U	1 U	5.8	1 U
	08/16/2010	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	13	0.3 U	0.951 U	0.951 U	1 U	10.2	1 U
	01/21/2011	ND	1 U	1 U	1 U	1 U	1 U	0.953 U	0.953 U	0.953 U	0.953 U	0.953 U	50 U	0.953 U	15	0.3 U	0.953 U	0.953 U	1 U	9.6	1 U
	08/30/2011	ND	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U	0.952 U	0.952 U	0.952 U	50 U	0.952 U	21.8	0.3 U	0.952 U	0.952 U	1 U	10.5	1 U
MW-51D	01/13/2010	ND	1 U	1 U	1 U	1 U	1 U	0.944 U	0.944 U	0.944 U	0.944 U	0.944 U	50 U	0.944 U	1.3	0.3 U	0.944 U	0.944 U	1 U	6.8	1 U
	08/12/2010	ND	1 U	1 U	1 U	1 U	1 U	0.955 U	1.9	0.955 U	0.955 U	0.955 U	50 U	0.955 U	1	0.3 U	1	0.955 U	1 U	5.1	1 U
	01/13/2011	ND	1 U	1 U	1 U	1 U	1 U	0.956 U	1.97	0.956 U	0.956 U	0.956 U	50 U	0.956 U	0.868	0.3 U	0.956 U	0.956 U	1 U	5 U	1.45
	08/24/2011	ND	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U	0.954 U	0.954 U	0.954 U	50 U	0.954 U	0.872	0.3 U	0.954 U	0.954 U	1 U	6.9	1 U
MW-52D	01/25/2010	ND	1 U	1 U	1 U	1 U	1 U	0.955 U	78.8	9.41	0.955 U	1.62	50 U	0.955 U	53	0.67	0.955 U	1.22	1 U	5 U	1.11
	08/16/2010	ND	1 U	1 U	1 U	1 U	1 U	0.961 U	0.961 U	0.961 U	0.961 U	0.961 U	50 U	0.961 U	51	0.71	0.961 U	0.961 U	1 U	8.9	1 U
	01/20/2011	ND	1 U	1 U	1 U	1 U	1 U	0.956 U	1.05	1.05	0.956 U	0.956 U	50 U	0.956 U	37.2	0.35	0.956 U	0.956 U	1 U	8	1 U
	08/30/2011	ND	1 U	1 U	1 U	1 U	1 U	0.961 U	0.961 U	0.961 U	0.961 U	0.961 U	50 U	0.961 U	54.3	0.44	0.961 U	0.961 U	1 U	8.1	1 U
MW-53S	01/20/2010	ND	1 U	1 U	1 U	32.1	2.07	44.9	0.949 U	0.949 U	0.949 U	144	50 U	0.949 U	39	8.51	0.949 U	124	1 U	6.3	4.22
	08/16/2010	ND	1 U	1 U	1 U	29	1 U	39.7	0.949 U	0.949 U	0.949 U	62.6	50 U	0.949 U	25	10.2	0.949 U	64.4	1 U	9	1 U
	01/18/2011	ND	1 U	1 U	1 U	1.72	33.2	177	0.952 U	0.952 U	0.952 U	179	50 U	1.32	48.5	6.6	0.952 U	206	1 U	12.3	1 U
	08/11/2011	ND	1 U	1 U	1 U	35	1 U	154	0.957 U	0.957 U	0.957 U	93.4	50 U	2.03	57.9	2.85	0.957 U	87.2	1 U	9.1	1 U
MW-53D	01/20/2010	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	93.6	3.36	0.951 U	0.951 U	50 U	0.951 U	9.4	1.29	0.951 U	5.81	1 U	8.9	7.47
	08/16/2010	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	1.76	1.34	0.951 U	0.951 U	50 U	0.951 U	7.4	0.67	0.951 U	0.951 U	1 U	6.8	1.86
	01/18/2011	ND	1 U	1 U	1 U	1 U	1 U	0.956 U	2.77	1.26	0.956 U	0.956 U	50 U	0.956 U	9.6	0.3 U	0.956 U	0.956 U	1 U	6.4	1.02
	08/11/2011	ND	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U	0.954 U	0.954 U	0.954 U	50 U	0.954 U	12.4	0.3 U	0.954 U	0.954 U	1 U	7.3	1 U
MW-55S	08/20/2010	ND	1 U	1 U	1 U	4.74	2.29	248	0.953 U	0.953 U	0.953 U	202	50 U	5	35	3.47	1.22	43.5	1 U	12.1	1 U
	01/14/2011	ND	1 U	1 U	1 U	3.37	1 U	214	0.953 U	0.953 U	0.953 U	267	50 U	4.05	36.7	0.34	0.953 U	61.2	1 U	9.9	1 U
	08/08/2011	ND	1 U	1 U	1 U	4.09	1 U	66.1	0.96 U	0.96 U	0.96 U	95.8	50 U	2.61	36.5	0.3 U	0.96 U	41.7	1 U	12.2	1 U
MW-55D	09/07/2010	ND	1 U	1 U	1 U	1 U	1 U	0.982 U	8.74	0.982 U	1.45	0.982 U	50 U	0.982 U	7.4	0.3 U	0.982 U	0.982 U	1 U	6.8	1 U
	01/14/2011	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	12.4	2.16	0.951 U	0.951 U	50 U	0.951 U	9.18	3.81	0.951 U	0.951 U	1 U	5 U	3.22

Table A-5 LRIS Groundwater Cleanup Level Screening Former PWT Site

Location	Date Collected	сРАН ТЕО	1,1,2,2- Tetra- chloroetha ne	1,1,2- Trichloro- ethane	1,2,3- Trichloro- propane	1,2,4- Trimethyl- benzene	1,3,5- Trimethyl- benzene	2-Methyl- naphthale ne	2,3,4,6- Tetrachlor ophenol	2,4,5- Trichloroph enol	2,4,6- Trichloroph enol	Acenaph- thene	Acetone	Anthracen e	Arsenic	Benzene	Bis(2- ethylhexyl) phthalate (BEHP)	Carbazole	Chloro- methane	Chromium	cis-1,2- Dichloroet hene
	Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Cleanup Level	0.012	0.22	0.77	0.0063	24	25	32	480	800	4	960	800	4800	5	0.8	6.3	4.4	5.2	48	80
	08/08/2011	ND	1 U	1 U	1 U	1 U	1 U	0.953 U	4.25	1.54	0.953 U	0.953 U	50 U	0.953 U	8	0.4	0.953 U	0.953 U	1 U	7.5	3.1
MW-57S	01/13/2010	ND	1 U	1 U	1 U	813	85.7	667	0.948 U	0.948 U	0.948 U	196	50 U	8.5	61	0.64	0.948 U	154	1 U	9.6	1 U
	08/12/2010	ND	1 U	1 U	1 U	567	93.5	784	0.948 U	0.948 U	0.948 U	180	50 U	10.7	40	2.08	0.948 U	152	1 U	11	1 U
	01/14/2011	ND	1 U	1 U	1 U	816	104	1150	0.954 U	0.954 U	0.954 U	201	50 U	9.32	38.5	2.13	0.954 U	149	1 U	10.4	1 U
	08/25/2011	ND	1 U	1 U	1 U	541	90.3	588	0.964 U	0.964 U	0.964 U	142	50 U	0.964 U	36.9	1.76	0.964 U	64.2	1 U	10.1	1 U
MW-57D	01/13/2010	ND	1 U	1 U	1 U	1 U	1 U	0.947 U	89.9	2.65	0.947 U	0.947 U	50 U	0.947 U	21	33.6	0.947 U	9.32	1 U	6.5	15
dup	01/13/2010	ND	1 U	1 U	1 U	1 U	1 U	0.947 U	92.1	2.89	0.947 U	0.947 U	50 U	0.947 U	22	31.6	0.947 U	9.39	1 U	6.7	15
	08/12/2010	ND	1 U	1 U	1 U	1 U	1 U	1.04	139	3.03	0.948 U	0.948 U	50 U	0.948 U	19	31.3	0.948 U	10.3	1 U	10.5	20.4
dup	08/12/2010	ND	1 U	1 U	1 U	1 U	1 U	0.947 U	119	2.91	0.947 U	0.947 U	50 U	0.947 U	14	25.4	0.947 U	8.3	1 U	7.2	17
_	01/14/2011	ND	1 U	1 U	1 U	1 U	1 U	1.27	201	5.31	0.953 U	0.953 U	50 U	0.953 U	18.6	30.6	0.953 U	13.3	1 U	7.7	22.7
dup	01/14/2011	ND	1 U	1 U	1 U	1 U	1 U	1.07	189	4.11	0.951 U	0.951 U	50 U	0.951 U	17.6	32.5	0.951 U	10.1	1 U	7.2	24
	08/25/2011	ND	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U	0.952 U	0.952 U	0.952 U	50 U	0.952 U	20.4	27.1	0.952 U	7.86	1 U	7.7	20.2
dup	08/25/2011	ND	1 U	1 U	1 U	1 U	1 U	0.955 U	0.955 U	0.955 U	0.955 U	0.955 U	50 U	0.955 U	21	28.7	0.955 U	8.27	1 U	6.7	21.6
MW-58D	01/14/2010	ND	1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U	0.947 U	0.947 U	0.947 U	50 U	0.947 U	13	16.1	0.947 U	0.947 U	1 U	5	1 U
_	08/12/2010	ND	1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U	0.947 U	0.947 U	0.947 U	50 U	0.947 U	10	13.6	0.947 U	0.947 U	1 U	5 U	1 U
<u> </u>	01/19/2011	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	2.72	19.5	0.951 U	0.951 U	1 U	5 U	1 U
	08/26/2011	ND	1 U	1 U	1 U	1 U	1 U	0.957 U	0.957 U	0.957 U	0.957 U	0.957 U	50 U	0.957 U	10.3	18.3	0.957 U	0.957 U	1 U	5 U	1 U
EPA-5S	01/08/2010	ND	1 U	1 U	1 U	1 U	1 U	0.945 U	0.945 U	0.945 U	0.945 U	0.945 U	50 U	0.945 U	1 U	0.3 U	0.945 U	0.945 U	1 U	20.7	1 U
<u> </u>	08/11/2010	ND	1 U	1 U	1 U	1 U	1 U	0.949 U	0.949 U	0.949 U	0.949 U	0.949 U	50 U	0.949 U		0.3 U	0.949 U	0.949 U	1 U		1 U
<u> </u>	01/12/2011	ND	1 U	1 U	1 U	1 U	1 U	0.953 U	0.953 U	0.953 U	0.953 U	0.953 U	50 U	0.953 U	0.311	0.3 U	0.953 U	0.953 U	1 U	20.8	1 U
	08/09/2011	ND	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U	0.952 U	0.952 U	0.952 U	50 U	0.952 U	5.74	0.3 U	0.952 U	0.952 U	1 U	20.5	1 U
EPA-5D	01/08/2010	ND	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U	0.954 U	0.954 U	0.954 U	50 U	0.954 U	1 U	0.3 U	0.954 U	0.954 U	1 U	11.5	1 U
	08/11/2010	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	1 U	0.3 U	0.951 U	0.951 U	1 U	10.1	1 U
	01/12/2011	ND	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U	50 U	0.95 U	13.3	0.3 U	0.95 U	0.95 U	1 U	9.4	1 U
	08/09/2011	ND	1 U	1 U	1 U	1 U	1 U	0.955 U	0.955 U	0.955 U	0.955 U	0.955 U	50 U	0.955 U	0.486	0.3 U	0.955 U	0.955 U	1 U	8.4	1 U
EPA-6S	01/25/2010	ND	1 U	1 U	1 U	1 U	1 U	2.33	0.946 U	0.946 U	0.946 U	79.3	50 U	5.42	78	0.44	0.946 U	1.14	1 U	6.7	1 U
	08/13/2010	ND	1 U	1 U	1 U	1 U	1 U	0.97	0.951 U	0.951 U	0.951 U	39.7	50 U	2.52	78	0.65	0.951 U	0.951 U	1 U	9.6	1 U
	01/19/2011	ND	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U	0.954 U	0.954 U	52.4	50 U	3.32	63.1	0.33	0.954 U	0.954 U	1 U	7.9	1 U
dup	01/19/2011	ND	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U	0.952 U	0.952 U	51.1	50 U	3.41	63.6	0.32	0.952 U	0.952 U	1 U	8.3	1 U
	08/10/2011	ND	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U	0.954 U	0.954 U	40.1	50 U	3.29	66.9	0.3 U	0.954 U	0.954 U	1 U	6.9	1 U
EPA-6D	01/25/2010	ND	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U	0.948 U	0.948 U	0.948 U	50 U	0.948 U	3	0.3 U	0.948 U	0.948 U	1 U	5.8	1 U
<u> </u>	08/13/2010	ND	1 U	1 U	1 U	1 U	1 U	0.949 U	0.949 U	0.949 U	0.949 U	0.949 U	50 U	0.949 U	10 U	3.37	0.949 U	0.949 U	1 U	7.7	1 U
	01/19/2011	ND	1 U	1 U	1 U	1 U	1 U	0.957 U	0.957 U	0.957 U	0.957 U	0.957 U	50 U	0.957 U	8.08	5.25	0.957 U	0.957 U	1 U	5 U	1 U
	08/10/2011	ND	1 U	1 U	1 U	1 U	1 U	0.957 U	0.957 U	0.957 U	0.957 U	0.957 U	50 U	0.957 U	7.15	1.93	0.957 U	0.957 U	1 U	6.8	1 U

Table A-5
LRIS Groundwater Cleanup Level Screening
Former PWT Site

Location	Date Collected	сРАН ТЕО	1,1,2,2- Tetra- chloroetha ne	1,1,2- Trichloro- ethane	1,2,3- Trichloro- propane	1,2,4- Trimethyl- benzene	1,3,5- Trimethyl- benzene	2-Methyl- naphthale ne	2,3,4,6- Tetrachlor ophenol	2,4,5- Trichloroph enol	2,4,6- Trichloroph enol	Acenaph- thene	Acetone	Anthracen e	Arsenic	Benzene	Bis(2- ethylhexyl) phthalate (BEHP)	Carbazole	Chloro- methane	Chromium	cis-1,2- Dichloroet hene
	Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Cleanup Level	0.012	0.22	0.77	0.0063	24	25	32	480	800	4	960	800	4800	5	0.8	6.3	4.4	5.2	48	80
Carty Lak	e Monitoring Wells								T					T		T	1	ı			
USDFW-1	01/28/2010	ND	1 U	1 U	1 U	1 U	1 U	1.01 U	1.01 U	1.01 U	1.01 U	1.01 U	50 U	1.01 U	1.9	0.3 U	1.01 U	1.01 U	1 U	8	1.94
	08/26/2010	ND	1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U	0.946 U	0.946 U	0.946 U	50 U	0.946 U	2.2	0.3 U	0.946 U	0.946 U	1 U	11.5	1 U
	01/26/2011	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	1.79	0.3 U	0.951 U	0.951 U	1 U	12.8	1.11
	09/06/2011	ND	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U	0.954 U	0.954 U	0.954 U	50 U	0.954 U	2.04	0.3 U	0.954 U	0.954 U	1 U	11.6	3.45
USDFW-3	08/26/2010	ND						0.946 U	0.946 U	0.946 U	0.946 U	0.946 U		0.946 U			0.946 U	0.946 U			
RMW-2S	01/28/2010	ND	1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U	0.947 U	0.947 U	0.947 U	50 U	0.947 U	2.9	0.3 U	0.947 U	0.947 U	1 U	6.3	1 U
	08/26/2010	ND	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U	0.948 U	0.948 U	0.948 U	50 U	0.948 U	3.3	0.3 U	0.948 U	0.948 U	1 U	8.4	1 U
	01/26/2011	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	0.503	0.3 U	0.951 U	0.951 U	1 U	6.5	2.46
51.01/.05	09/06/2011	ND	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U	0.952 U	0.952 U	0.952 U	50 U	0.952 U	4.46	0.3 U	0.952 U	0.952 U	1 U	6.8	1 U
RMW-2D	01/28/2010	ND	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U	0.948 U	0.948 U	0.948 U	50 U	0.948 U	1 U	0.3 U	0.948 U	0.948 U	1 U	5.3	1 U
	08/26/2010	ND	1 U	1 U	1 U	1 U	1 U	0.945 U	0.945 U	0.945 U	0.945 U	0.945 U	50 U	0.945 U	1 U	0.3 U	0.945 U	0.945 U	1 U	6.1	1 U
	01/26/2011	ND	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U	0.952 U	0.952 U	0.952 U	50 U	0.952 U	2.8	0.3 U	0.952 U	0.952 U	1 U	7.9	1 U
LWD7: Cal	09/06/2011	ND This I also	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	0.481	0.3 U	0.951 U	0.951 U	1 U	7.8	1 U
Cell 1 (LW	ls 1 and 2 and Cai	пу саке																			
MW-40	01/29/2010	ND	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U	0.952 U	0.952 U	0.952 U	50 U	0.952 U	1 U	0.3 U	0.952 U	1.33	1 U	5.2	1 U
	08/25/2010	ND	1 U	1 U	1 U	1 U	1 U	0.96 U	3.4	0.96 U	0.96 U	0.96 U	50 U	0.96 U	1.1	0.3 U	0.96 U	1.64	1 U	6.5	1 U
	01/24/2011	ND	1 U	1 U	1 U	1 U	1 U	0.955 U	3.01	0.955 U	0.955 U	0.955 U	50 U	0.955 U	1.1	0.3 U	0.955 U	0.955 U	1 U	7.6	1 U
	09/02/2011	ND	1 U	1 U	1 U	1 U	1 U	0.96 U	0.979	0.96 U	0.96 U	0.96 U	50 U	0.96 U	1.1	0.3 U	0.96 U	0.96 U	1 U	8.1	1 U
Cell 2 (LW	/BZ)									•			•	•		•	•				
MW-33	01/11/2010	ND	1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U	0.946 U	0.946 U	0.946 U	50 U	0.946 U	1.1	0.3 U	0.946 U	0.946 U	1 U	6.6	6.85
	08/09/2011	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	0.993	0.3 U	0.951 U	0.951 U	1 U	6.7	1.5
MW-35	01/22/2010	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	77.5	4.81	0.951 U	0.951 U	50 U	0.951 U	3.4	7.93	0.951 U	4.88	1 U	6.3	3.35
	08/16/2010	ND	1 U	1 U	1 U	1.13	1 U	0.949 U	33.4	1.67	0.949 U	0.949 U	50 U	0.949 U	2.7	7.8	0.949 U	2.31	1 U	8.6	5.43
	01/20/2011	ND	1 U	1 U	1 U	1 U	1 U	0.953 U	50.4	10.2	0.953 U	0.953 U	50 U	0.953 U	3.18	7.75	0.953 U	4.3	1 U	5 U	5.26
	08/29/2011	ND	1 U	1 U	1 U	1 U	1 U	0.956 U	39.7	2.05	0.956 U	0.956 U	50 U	0.956 U	3.28	6.14	0.956 U	3.52	1 U	8.9	4.97
MW-36	01/26/2010	ND	1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U	0.947 U	0.947 U	0.947 U	50 U	0.947 U	1 U	0.3 U	0.947 U	0.947 U	1 U	5.6	1 U
	08/16/2010	ND	1 U	1 U	1 U	1 U	1 U	0.957 U	1.72	0.957 U	0.957 U	0.957 U	50 U	0.957 U	1 U	0.3 U	0.957 U	0.957 U	1 U	7.8	1 U
	01/21/2011	ND	1 U	1 U	1 U	1 U	1 U	0.955 U	2.37	0.955 U	0.955 U	0.955 U	50 U	0.955 U	0.66	0.3 U	0.955 U	0.955 U	1 U	5.8	1 U
	08/30/2011	ND	1 U	1 U	1 U	1 U	1 U	0.954 U	2.4	0.954 U	0.954 U	0.954 U	50 U	0.954 U	0.671	0.3 U	0.954 U	0.954 U	1 U	6.5	1 U
MW-37	01/27/2010	ND	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U	0.948 U	0.948 U	0.948 U	50 U	0.948 U	1 U	0.3 U	0.948 U	0.948 U	1 U	6.4	1 U
	08/31/2011	ND	1 U	1 U	1 U	1 U	1 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	50 U	0.96 U	0.639	0.3 U	0.96 U	0.96 U	1 U	7.1	1 U
MW-54	01/13/2010	ND	1 U	1 U	1 U	1 U	1 U	0.953 U	0.953 U	0.953 U	0.953 U	0.953 U	50 U	0.953 U	1.1	0.3 U	0.953 U	0.953 U	1 U	6.5	1 U

Table A-5
LRIS Groundwater Cleanup Level Screening
Former PWT Site

Location	Date Collected	сРАН ТЕО	1,1,2,2- Tetra- chloroetha ne	1,1,2- Trichloro- ethane	1,2,3- Trichloro- propane	1,2,4- Trimethyl- benzene	1,3,5- Trimethyl- benzene	2-Methyl- naphthale ne	2,3,4,6- Tetrachlor ophenol	2,4,5- Trichloroph enol	2,4,6- Trichloroph enol	Acenaph- thene	Acetone	Anthracen e	Arsenic	Benzene	Bis(2- ethylhexyl) phthalate (BEHP)	Carbazole	Chloro- methane	Chromium	cis-1,2- Dichloroet hene
	Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Cleanup Level	0.012	0.22	0.77	0.0063	24	25	32	480	800	4	960	800	4800	5	0.8	6.3	4.4	5.2	48	80
	08/12/2010	ND	1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U	0.947 U	0.947 U	0.947 U	50 U	0.947 U	1 U	0.3 U	0.947 U	0.947 U	1 U	8.1	1 U
	01/13/2011	ND	1 U	1 U	1 U	1 U	1 U	0.957 U	0.957 U	0.957 U	0.957 U	0.957 U	50 U	0.957 U	0.675	0.3 U	0.957 U	0.957 U	1 U	5.7	1 U
	08/24/2011	ND	1 U	1 U	1 U	1 U	1 U	0.956 U	0.956 U	0.956 U	0.956 U	0.956 U	50 U	0.956 U	0.808	0.3 U	0.956 U	0.956 U	1 U	7.9	1 U
MW-55	01/14/2010	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	7.04	0.951 U	0.951 U	0.951 U	50 U	0.951 U	1	0.3 U	0.951 U	0.951 U	1 U	6	1.45
	08/12/2010	ND	1 U	1 U	1 U	1 U	1 U	0.949 U	7.66	1.13	0.949 U	0.949 U	50 U	0.949 U	1 U	0.3 U	0.949 U	0.949 U	1 U	7.7	3.53
	01/14/2011	ND	1 U	1 U	1 U	1 U	1 U	0.957 U	8.91	1.23	0.957 U	0.957 U	50 U	0.957 U	1 U	0.3 U	0.957 U	0.957 U	1 U	6	3.26
	08/08/2011	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	4.9	0.951 U	0.951 U	0.951 U	50 U	0.951 U	0.938	0.3 U	0.951 U	0.951 U	1 U	8	2.41
MW-56	01/14/2010	ND	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U	0.952 U	0.952 U	0.952 U	50 U	0.952 U	2.9	0.3 U	0.952 U	0.952 U	1 U	8.5	1 U
	08/12/2010	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	2.8	0.3 U	0.951 U	0.951 U	1 U	7.8	1 U
	01/19/2011	ND	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U	0.952 U	0.952 U	0.952 U	50 U	0.952 U	2.78	0.3 U	0.952 U	0.952 U	1 U	6.1	1 U
	08/26/2011	ND	1 U	1 U	1 U	1 U	1 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	50 U	0.96 U	2.87	0.3 U	0.96 U	0.96 U	1 U	6.6	1 U
MW-59	01/21/2010	ND	1 U	1 U	1 U	1 U	1 U	0.949 U	0.949 U	0.949 U	0.949 U	0.949 U	50 U	0.949 U	1.8	0.3 U	0.949 U	0.949 U	1 U	6.5	1 U
	08/13/2010	ND	1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U	0.946 U	0.946 U	0.946 U	50 U	0.946 U	4.7	0.3 U	0.946 U	0.946 U	1 U	6.9	1 U
	01/20/2011	ND	1 U	1 U	1 U	1 U	1 U	0.964 U	0.964 U	0.964 U	0.964 U	0.964 U	50 U	0.964 U	3.36	0.3 U	0.964 U	0.964 U	1 U	8.4	1 U
	08/29/2011	ND	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U	0.954 U	0.954 U	0.954 U	50 U	0.954 U	3.72	0.3 U	0.954 U	0.954 U	1 U	7.3	1 U
MW-62	09/08/2010	ND	1 U	1 U	1 U	1 U	1 U	0.985 U	0.985 U	0.985 U	0.985 U	0.985 U	50 U	0.985 U	1	0.3 U	0.985 U	0.985 U	1 U	7.2	1 U
	01/14/2011	1.60	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	1.19	1 U	0.3 U	1.14	1.1	1 U	6.2	1 U
	08/25/2011	ND	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U	0.954 U	0.954 U	0.954 U	50 U	0.954 U	0.889	0.3 U	0.954 U	0.954 U	1 U	6.6	1 U
Carty Lak	e (LWBZ)																				
MW-60	01/28/2010	ND	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U	0.948 U	0.948 U	0.948 U	50 U	0.948 U	1 U	0.3 U	0.948 U	0.948 U	1 U	6.9	10
	08/25/2010	ND	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U	50 U	0.95 U	1 U	0.3 U	0.95 U	0.95 U	1 U	7.8	8.46
	01/24/2011	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	0.556	0.3 U	0.951 U	0.951 U	1 U	7.4	9.48
	09/06/2011	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	2.5	0.951 U	0.951 U	0.951 U	50 U	0.951 U	0.81	0.3 U	0.951 U	0.951 U	1 U	8.2	11.5
MW-61	09/03/2010	ND	1 U	1 U	1 U	1 U	1 U	1.01 U	1.01 U	1.01 U	1.01 U	1.01 U	50 U	1.01 U	1.7	0.3 U	1.01 U	1.01 U	1 U	6.3	1 U
	01/24/2011	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	1.34	0.3 U	0.951 U	0.951 U	1 U	7.9	1 U
	09/02/2011	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	1.47	0.3 U	0.951 U	0.951 U	1 U	10	1 U
Cell 3 Sha	llow and Deep UV	VBZ	<u> </u>							-			-	-		-	-	-			-
Cell 3 Sha	llow UWBZ																				
MW-9S	01/07/2010	ND	1 U	1 U	1 U	1 U	1 U	0.949 U	0.949 U	0.949 U	0.949 U	4.12	50 U	1.42	98	0.3 U	0.949 U	0.949 U	1 U	7.7	1 U
MW-20S	01/08/2010	ND	1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U	0.947 U	0.947 U	0.947 U	50 U	0.947 U	2.6	0.3 U	0.947 U	0.947 U	1 U	5 U	1 U
MW-45S	01/07/2010	ND	1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U	0.946 U	0.946 U	0.946 U	50 U	0.946 U	2.2	0.3 U	0.946 U	0.946 U	1 U	7.6	1 U
MW-46S	01/08/2010	ND	1 U	1 U	1 U	1 U	1 U	0.949 U	0.949 U	0.949 U	0.949 U	0.949 U	50 U	0.949 U	32	0.3 U	0.949 U	0.949 U	1 U	5	1 U
	08/24/2011						-								24.1						
MW-47S	01/07/2010	ND	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U	0.948 U	0.948 U	0.948 U	50 U	0.948 U	3.1	0.3 U	0.948 U	0.948 U	1 U	7.3	1 U

Table A-5 LRIS Groundwater Cleanup Level Screening Former PWT Site

Location	Date Collected	сРАН ТЕО	1,1,2,2- Tetra- chloroetha ne	1,1,2- Trichloro- ethane	1,2,3- Trichloro- propane	1,2,4- Trimethyl- benzene	1,3,5- Trimethyl- benzene	2-Methyl- naphthale ne	2,3,4,6- Tetrachlor ophenol	2,4,5- Trichloroph enol	2,4,6- Trichloroph enol	Acenaph- thene	Acetone	Anthracen e	Arsenic	Benzene	Bis(2- ethylhexyl) phthalate (BEHP)	Carbazole	Chloro- methane	Chromium	cis-1,2- Dichloroet hene
	Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Cleanup Level	0.012	0.22	0.77	0.0063	24	25	32	480	800	4	960	800	4800	5	0.8	6.3	4.4	5.2	48	80
Cell 3 Dee	ep UWBZ																				
MW-20D	01/08/2010	ND	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U	0.951 U	0.951 U	0.951 U	50 U	0.951 U	3.5	0.3 U	0.951 U	0.951 U	1 U	5 U	1 U
MW-29D	01/07/2010	ND	1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U	0.946 U	0.946 U	0.946 U	50 U	0.946 U	1.1	0.3 U	0.946 U	0.946 U	1 U	6.8	1 U
	08/22/2011																				
MW-45D	01/08/2010	ND	1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U	0.947 U	0.947 U	0.947 U	50 U	0.947 U	1 U	0.3 U	0.947 U	0.947 U	1 U	5 U	1 U
	08/22/2011																				
MW-46D	01/08/2010							0.947 U	0.947 U	0.947 U	0.947 U	0.947 U		0.947 U	1 U		0.947 U	0.947 U		6.3	
MW-47D	01/07/2010	ND	1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U	0.946 U	0.946 U	0.946 U	50 U	0.946 U	1.4	0.3 U	0.946 U	0.946 U	1 U	6.5	1 U
	08/22/2011																				

Location	Date Collected	Dibenzo- furan	Dichloro- difluorome thane	Diesel- Range Organics	Ethyl- benzene	Fluoranthene	Fluorene	Hexachloro- butadiene	m,p- Xylene	Naphtha- lene	o-Xylene	Pentachlor o-phenol (PCP)	Residual- Range Organics	Styrene	Tetrachloro- ethene (PCE)	Toluene	Trichloro- ethene (TCE)	Vinyl chloride	Naphthalene	Pyrene
	Unit	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Cleanup Level	32	9.9	0.5	800	640	640	0.56	310	160	440	0.73	0.5	1.5	0.081	640	0.42	0.029	160	480
UWBZ: Cel	lls 1 and 2																			
Cell 1 (UW	/BZ)																			
MW-7	01/26/2010	0.951 U	1 U	1.97	1 U	3.67	0.951 U	1 U	2 U	1 U	1 U	38.4	2.42	1 U	1 U	1 U	1 U	1 U	1.33	2.28
	08/24/2010	0.951 U	1 U	0.503	1 U	1.09	0.951 U	1 U	2 U	1 U	1 U	19.2	0.432	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U
	01/25/2011	0.958 U	1 U	1.44	1 U	1.57	0.958 U	1 U	2 U	1 U	1 U	15.1	1.1	1 U	1 U	1 U	1 U	1 U	0.958 U	0.958 U
	09/01/2011	0.957 U	1 U	0.0995	1 U	0.957 U	0.957 U	1 U	2 U	1 U	1 U	6.17	0.193 U	1 U	1 U	1 U	1 U	1 U	0.957 U	0.957 U
MW-44	01/01/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	08/25/2010	3.59	1 U	4.65	1 U	64.5	18.7	1 U	2 U	4.17	1 U	9.04	2.76	1 U	1 U	1 U	1 U	1 U	2.19	53.2
	01/24/2011	0.961 U	1 U	0.449	1 U	11	4.73	1 U	2 U	61.5	1 U	1.44 U	1.17	1 U	1 U	1 U	1 U	1 U	0.961 U	6.32
	09/02/2011	1.6	1 U	6.53	1 U	37.3	11.3	1 U	2 U	4.48	1 U	4.36	3.67	1 U	1 U	1 U	1 U	1 U	2.98	32.8
EPA-4S	01/29/2010	0.95 U	1 U	0.0833	1 U	0.95 U	0.95 U	1 U	2 U	1 U	1 U	1.42 U	0.19 U	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	08/24/2010	0.948 U	1 U	0.163	1 U	0.948 U	0.948 U	1 U	2 U	1 U	1 U	1.42 U	0.436	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U
	01/25/2011	0.952 U	1 U	0.119	1 U	0.952 U	0.952 U	1 U	2 U	1 U	1 U	1.43 U	0.19 U	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U
	09/01/2011	0.962 U	1 U	0.243	1 U	0.962 U	0.962 U	1 U	2 U	1 U	1 U	17	0.305	1 U	1 U	1 U	1 U	1 U	0.962 U	0.962 U
EPA-4D	01/29/2010	0.951 U	1 U	0.076 U	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	1.43 U	0.19 U	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U
	08/24/2010	0.947 U	1 U	0.076 U	1 U	0.947 U	0.947 U	1 U	2 U	1 U	1 U	1.42 U	0.19 U	1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U
	01/25/2011	0.955 U	1 U	0.0763 U	1 U	0.955 U	0.955 U	1 U	2 U	1 U	1 U	1.43 U	0.191 U	1 U	1 U	1 U	1 U	1 U	0.955 U	0.955 U
	09/01/2011	0.96 U	1 U	0.077 U	1 U	0.96 U	0.96 U	1 U	2 U	1 U	1 U	1.44 U	0.192 U	1 U	1 U	1 U	1 U	1 U	0.96 U	0.96 U
Cell 2 (UW	/BZ)																			
MW-4	01/19/2010	0.945 U	1 U		1 U	0.945 U	12.1	1 U	2 U	2.47	1 U	1.42 U		1 U	1 U	1 U	1 U	1 U	0.945 U	0.945 U
	08/13/2010	0.95 U	1 U		1 U	0.95 U	11.6	1 U	2 U	1 U	1 U	3.68		1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	01/20/2011	0.951 U	1 U		1 U	0.951 U	18	1 U	2 U	1.06	1 U	1.43 U		1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U
	08/26/2011	0.954 U	1 U		1 U	0.954 U	7.27	1 U	2 U	1.62	1 U	1.43 U		1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U
MW-5	01/22/2010	0.947 U	1 U		1 U	0.947 U	3.54	1 U	2 U	1 U	2.72	1.42 U		1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U
	08/13/2010	0.946 U	1 U		1 U	0.946 U	1.85	1 U	2 U	1 U	2.39	1.42 U		1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U
	01/20/2011	0.952 U	1 U		1 U	0.952 U	3.23	1 U	2 U	1 U	1.73	1.43 U		1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U
	08/26/2011	0.951 U	1 U		1 U	0.951 U	1.21	1 U	2 U	1.22	1 U	1.43 U		1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U
PZ-06	01/13/2010	0.948 U	1 U		1 U	0.948 U	0.948 U	1 U	2 U	1 U	1 U	1.42 U		1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U
	08/01/2010	NS	NS		NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS	NS	NS	NS	NS
	01/13/2011	0.952 U	1 U		1 U	0.952 U	0.952 U	1 U	2 U	1 U	1 U	1.43 U		1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U
	08/24/2011	0.954 U	1 U		1 U	0.954 U	0.954 U	1 U	2 U	1.8	1 U	1.43 U		1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U
MW-13	01/11/2010	47.9	1 U		3.58	2.25	45.1	1 U	2.51	3200	4.52	1.43 U		1 U	1 U	1 U	1 U	1 U	379	1.64
	08/11/2010	35.2	1 U		1 U	0.952 U	31.1	1 U	2 U	186	1 U	1.43 U		1 U	1 U	1 U	1 U	1 U	51.5 B	0.952 U
	01/12/2011	21.2	1 U		1 U	0.956 U	19	1 U	2 U	150	1 U	1.43 U		1 U	1 U	1 U	1 U	1 U	36.6	0.956 U

Table A-5
LRIS Groundwater Cleanup Level Screening
Former PWT Site

Location	Date Collected	Dibenzo- furan	Dichloro- difluorome thane	Diesel- Range Organics	Ethyl- benzene	Fluoranthene	Fluorene	Hexachloro- butadiene	m,p- Xylene	Naphtha- lene	o-Xylene	Pentachlor o-phenol (PCP)	Residual- Range Organics	Styrene	Tetrachloro- ethene (PCE)	Toluene	Trichloro- ethene (TCE)	Vinyl chloride	Naphthalene	Pyrene
	Unit	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Cleanup Level	32	9.9	0.5	800	640	640	0.56	310	160	440	0.73	0.5	1.5	0.081	640	0.42	0.029	160	480
	08/23/2011	0.953 U	1 U		1 U	0.953 U	0.953 U	1 U	2 U	6.4	1 U	1.43 U		1 U	1 U	1 U	1 U	1 U	0.953 U	0.953 U
MW-15	01/12/2010	4.7	1 U	0.996	1 U	0.947 U	0.994	1 U	2 U	2.76	1 U	464	0.854	1 U	10.9	1 U	5.09	1.1	0.947 U	0.947 U
	08/11/2010	1.36	1 U	1.75	1 U	0.956 U	0.956 U	1 U	2 U	1 U	1 U	341	2.43	1 U	2.4	1 U	1.31	1 U	0.956 U	0.956 U
	01/13/2011	0.95 U	1 U	0.348	1 U	0.95 U	0.95 U	1 U	2 U	1 U	1 U	89.4	0.293	1 U	1 U	1 U	1 U	1.58	0.95 U	0.95 U
	08/23/2011	0.955 U	1 U	0.27	1 U	0.955 U	0.955 U	1 U	2 U	1 U	1 U	1.43 U	0.323	1 U	1 U	1 U	1 U	1 U	0.955 U	0.955 U
MW-16	01/21/2010	0.946 U	1 U	0.353	1.27	0.946 U	1.05	1 U	2 U	1 U	2.96	1.42 U	0.335	1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U
	08/17/2010	0.95 U	1 U	1.72	1.07	0.95 U	0.95 U	1 U	2 U	1 U	3.27	1.42 U	0.598	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	01/21/2011	1.19	1 U	0.133	1.33	0.953 U	1.78	1 U	2 U	1 U	1.7	1.43 U	0.191 U	1 U	1 U	1 U	1 U	1 U	0.953 U	0.953 U
	08/30/2011	0.956 U	1 U	1.41	1 U	0.956 U	1.57	1 U	2 U	1 U	1 U	1.43 U	0.449	1 U	1 U	1 U	1 U	1 U	0.956 U	0.956 U
MW-21	01/21/2010	0.953 U	1 U	0.491	1 U	0.953 U	0.953 U	1 U	2 U	1 U	1 U	1.43 U	0.682	1 U	1 U	1 U	1 U	1 U	0.953 U	0.953 U
	08/17/2010	10.2	1 U	2.55	49	9.66	11.1	1 U	79.7	107	62.2	2.47	0.968	1.36	1 U	10.8	1 U	1 U	22.5 B	4.64
	01/21/2011	0.96 U	1 U	0.15	1.81	3.18	0.96 U	1 U	2 U	24.6	1.83	1.44 U	0.192 U	1 U	1 U	1 U	1 U	1 U	8.49	2.16
	08/30/2011	0.959 U	1 U	0.867	1 U	5.2	0.959 U	1 U	2 U	1 U	1 U	7.79	1.22	1 U	1 U	1 U	1 U	1 U	0.959 U	3.6
MW-23	01/11/2010	0.948 U	1 U	0.851	1 U	0.948 U	0.948 U	1 U	2 U	1 U	1 U	10.7	0.461	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U
	08/30/2011	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25	01/27/2010	0.949 U	1 U		1 U	0.949 U	0.949 U	1 U	2 U	1 U	1 U	13.3		1 U	1 U	1 U	1 U	1 U	0.949 U	0.949 U
	08/31/2011	0.959 U	1 U		1 U	0.959 U	0.959 U	1 U	2 U	1 U	1 U	15.2		1 U	1 U	1 U	1 U	1 U	0.959 U	0.959 U
MW-26	01/25/2010	154	1 U	15.9	1440	13.8	90.1	1 U	909	12300	543	19.7	0.972	31.5	1.34	334	1.76	1.31	13600	11.2
	08/16/2010	54.1	1 U	8.45	1120	7.32	43.4	1 U	706	17200	433	1.88	1.07	9.51	1.17	291	2.34	1.55	7640	5.35
	01/20/2011	92.1	1 U	22.2	1090	6.38	68.7	1 U	895	28100	549	1.44 U	1.25	91.6	2.01	420	3.51	1 U	12700	3.94
	08/30/2011	46.9	1 U	19	1380	4.64	39.4	1 U	1060	16000	615	2.59	0.789	89.4	1.69	487	3.48	1.24	4640	2.99
MW-27	08/29/2011	0.953 U	1 U	1.53	57.2	0.953 U	0.991	1 U	2 U	1040	4.88	1.43 U	0.192 U	1 U	1 U	1.39	1 U	1 U	331	0.953 U
MW-38	01/21/2010	0.949 U	1 U	0.305	1 U	0.949 U	0.949 U	1 U	2 U	1.16	1 U	6.34	0.51	1 U	1 U	1 U	1 U	1 U	0.949 U	0.949 U
dup	01/21/2010	0.952 U	1 U	0.252	1 U	0.952 U	0.952 U	1 U	2 U	1 U	1 U	6.81	0.316	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U
	08/17/2010	0.951 U	1 U	0.249	1 U	0.951 U	0.951 U	1 U	2 U	3.7	1 U	2.39	0.312	1 U	1 U	1 U	1 U	1 U	1.42 B	0.951 U
dup	08/17/2010	0.951 U	1 U	0.265	1 U	0.951 U	0.951 U	1 U	2 U	3.3	1 U	1.86	0.308	1 U	1 U	1 U	1 U	1 U	1.67 B	0.951 U
	01/21/2011	0.956 U	1 U	0.125	1 U	0.956 U	0.956 U	1 U	2 U	1 U	1 U	1.43 U	0.476	1 U	1 U	1 U	1 U	1 U	0.956 U	1.42
	08/31/2011	0.957 U	1 U	0.567	1 U	1.96	0.957 U	1 U	2 U	1 U	1 U	2.69	0.785	1 U	1 U	1 U	1 U	1 U	0.957 U	3.36
dup	08/31/2011	0.954 U	1 U	0.395	1 U	2.04	0.954 U	1 U	2 U	1 U	1 U	2.69	0.365	1 U	1 U	1 U	1 U	1 U	0.954 U	3.55
MW-39	01/21/2010	0.95 U	1 U	0.131	1 U	0.95 U	0.95 U	1 U	2 U	1 U	1 U	1.42 U	0.281	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
dup	01/21/2010	0.948 U	1 U	0.138	1 U	0.948 U	0.948 U	1 U	2 U	1 U	1 U	1.42 U	0.305	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U
	08/17/2010	3.69	1 U	1.4	1 U	0.949 U	3.14	1 U	2 U	8.17	1 U	8.91	0.994	1 U	1 U	1 U	1 U	1 U	2.52 B	0.949 U
	01/21/2011	0.951 U	1 U	0.0764 U	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	1.43 U	0.191 U	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U
	08/31/2011	1.19	1 U	0.254	1 U	1.12	0.953 U	1 U	2 U	1 U	1 U	1.43 U	0.293	1 U	1 U	1 U	1 U	1 U	0.953 U	0.953 U

Table A-5
LRIS Groundwater Cleanup Level Screening
Former PWT Site

Location	Date Collected	Dibenzo- furan	Dichloro- difluorome thane	Diesel- Range Organics	Ethyl- benzene	Fluoranthene	Fluorene	Hexachloro- butadiene	m,p- Xylene	Naphtha- lene	o-Xylene	Pentachlor o-phenol (PCP)	Residual- Range Organics	Styrene	Tetrachloro- ethene (PCE)	Toluene	Trichloro- ethene (TCE)	Vinyl chloride	Naphthalene	Pyrene
	Unit	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Cleanup Level	32	9.9	0.5	800	640	640	0.56	310	160	440	0.73	0.5	1.5	0.081	640	0.42	0.029	160	480
dup	08/31/2011	1.07	1 U	0.213	1 U	0.982	0.953 U	1 U	2 U	1 U	1 U	1.43 U	0.247	1 U	1 U	1 U	1 U	1 U	0.953 U	0.953 U
MW-48S	01/27/2010	0.948 U	1 U	0.514	1 U	2.36	0.948 U	1 U	2 U	1 U	1 U	1.42 U	1	1 U	1 U	1 U	1 U	1 U	0.948 U	1.52
	08/17/2010	0.952 U	1 U	2.12	1 U	7.86	0.952 U	1 U	2 U	5.65	3.26	1.43 U	2.21	1 U	1 U	1 U	1 U	1 U	0.952 U	6.17
	01/24/2011	13.9	1 U	0.11	5.75	3.53	19.3	1 U	4.91	1010	3.09	1.43 U	0.193 U	2.33	1 U	1 U	1 U	1 U	219	3.45
	08/31/2011	0.96 U	1 U	0.823	1 U	10.4	0.96 U	1 U	2 U	1 U	1 U	2.31	0.973	1 U	1 U	1 U	1 U	1 U	0.96 U	8.8
MW-49D	01/12/2010	2.32	1 U	1.1	1 U	1.57	1.27	1 U	2 U	6.78	1 U	461	0.598	1 U	1.54	1 U	1.57	1 U	10.2	1.09
	08/11/2010	11.1	1 U	1.94	1 U	51.3	18	1 U	2 U	115	1 U	10.9	0.554	1 U	1 U	1 U	1 U	1 U	74.1 B	39.1
	01/13/2011	0.966 U	1 U	1.85	1 U	37.8	6.02	1 U	2 U	68.1	1 U	1.45 U	0.902	1 U	1 U	1 U	1 U	1 U	22.2	29.9
	08/23/2011	0.979 U	1 U	1.24	1 U	39.9	11.3	1 U	2 U	70.9	1 U	1.47 U	1.02	1 U	1 U	1 U	1 U	1 U	28.4	31.3
MW-50S	01/26/2010	0.946 U	1 U	0.243	1 U	0.946 U	0.946 U	1 U	2 U	1 U	1 U	6.37	0.317	1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U
	08/16/2010	0.951 U	1 U	0.202	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	1.43 U	0.261	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U
	01/21/2011	0.953 U	1 U	0.0763 U	1 U	0.953 U	0.953 U	1 U	2 U	1 U	1 U	1.43 U	0.191 U	1 U	1 U	1 U	1 U	1 U	0.953 U	0.953 U
	08/30/2011	0.952 U	1 U	0.174	1 U	0.952 U	0.952 U	1 U	2 U	1 U	1 U	1.43 U	0.205 U	1 U	1 U	1 U	1 U	1 U	1.16	0.952 U
MW-51D	01/13/2010	0.944 U	1 U	0.359	1 U	0.944 U	0.944 U	1 U	2 U	1 U	1 U	95.8	0.231	1 U	1 U	1 U	1 U	1.43	0.944 U	0.944 U
	08/12/2010	0.955 U	1 U	0.301	1 U	0.955 U	0.955 U	1 U	2 U	1 U	1 U	116	0.191 U	1 U	1 U	1 U	1 U	1 U	0.955 U	0.955 U
	01/13/2011	0.956 U	1 U	0.128	1 U	0.956 U	0.956 U	1 U	2 U	1 U	1 U	109	0.192 U	1 U	1 U	1 U	1 U	2.34	0.956 U	0.956 U
	08/24/2011	0.954 U	1 U	0.252	1 U	0.954 U	0.954 U	1 U	2 U	1 U	1 U	1.43 U	0.201 U	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U
MW-52D	01/25/2010	0.955 U	1 U	0.466	1 U	1.38	0.955 U	1 U	2 U	6.51	1 U	211	1.09	1 U	1 U	1 U	1.27	1 U	13.4	1.19
1	08/16/2010	0.961 U	1 U	0.35	1 U	0.961 U	0.961 U	1 U	2 U	2.73	1 U	22.6	0.557	1 U	1 U	1 U	1 U	1 U	2.62 B	0.961 U
	01/20/2011	0.956 U	1 U	0.404	1 U	1.21	0.956 U	1 U	2 U	1.91	1 U	14	0.536	1 U	1 U	1 U	1 U	1 U	2.87	0.956 U
1	08/30/2011	0.961 U	1 U	0.595	1 U	2.02	0.961 U	1 U	2 U	2.23	1 U	1.44 U	2.04	1 U	1 U	1 U	1 U	1 U	0.98	1.48
MW-53S	01/20/2010	58.2	1 U	18.1	178	0.949 U	51.9	1 U	50.4	9630	31.5	1.42 U	0.614	1.31	1 U	9.06	1 U	1 U	14200	0.949 U
1	08/16/2010	28.1	1 U	2.55	159	0.949 U	24.3	1 U	39.2	15500	23.1	3.9	0.385	1 U	1 U	8.9	1 U	1 U	3730	0.949 U
	01/18/2011	60.1	1 U	14.3	174	0.952 U	53	1 U	53.3	26300	25.8	1.43 U	0.744	2.85	1 U	8.71	1 U	1 U	11100	0.952 U
	08/11/2011	48.2	1 U	13.1	132	0.957 U	46.8	1 U	29.1	24200	16.5	1.44 U	0.528	1 U	1 U	4.09	1 U	1 U	7280	0.957 U
MW-53D	01/20/2010	1.5	1 U	0.591	1 U	0.951 U	2.09	1 U	2 U	10	1 U	254	0.526	1 U	2.37	1 U	2.89	1 U	6.69	0.951 U
	08/16/2010	0.951 U	1 U	0.707	1 U	1.37	0.951 U	1 U	2 U	1 U	1 U	44	0.524	1 U	1 U	1 U	1.94	1 U	0.951 U	0.998
	01/18/2011	0.956 U	1 U	0.803	1 U	3.2	0.956 U	1 U	2 U	1 U	1 U	30.3	1.59	1 U	1 U	1 U	1.25	1 U	1.46	2.16
	08/11/2011	0.954 U	1 U	0.483	1 U	4.06	0.954 U	1 U	2 U	1 U	1 U	2.35	0.339	1 U	1 U	1 U	1 U	1 U	0.954 U	2.6
MW-55S	08/20/2010	51.5	1 U	3.39	19.7	1.03	42.4	1 U	2 U	2490	5.54	1.43 U	0.776	1 U	1 U	1 U	1 U	1 U	582	0.953 U
	01/14/2011	64.6	1 U	4.04	24.5	0.953 U	50.9	1 U	4.73	1900	5.49	2.61	0.5	1 U	1 U	1 U	1 U	1 U	625	0.953 U
	08/08/2011	41	1 U	2.99	24.3	0.96 U	33.8	1 U	2.93	938	4.51	1.44 U	0.419	1 U	1 U	1 U	1 U	1 U	322	0.96 U
MW-55D	09/07/2010	0.982 U	1 U	0.649 U	1 U	0.982 U	0.982 U	1 U	2 U	1 U	1 U	632	0.332 U	1 U	1 U	1 U	1 U	1 U	0.982 U	0.982 U
	01/14/2011	0.951 U	1 U	0.463	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	185	0.235	1 U	5.98	1 U	3.06	1 U	0.951 U	0.951 U

Table A-5
LRIS Groundwater Cleanup Level Screening
Former PWT Site

Location	Date Collected	Dibenzo- furan	Dichloro- difluorome thane	Diesel- Range Organics	Ethyl- benzene	Fluoranthene	Fluorene	Hexachloro- butadiene	m,p- Xylene	Naphtha- lene	o-Xylene	Pentachlor o-phenol (PCP)	Residual- Range Organics	Styrene	Tetrachloro- ethene (PCE)	Toluene	Trichloro- ethene (TCE)	Vinyl chloride	Naphthalene	Pyrene
	Unit	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Cleanup Level	32	9.9	0.5	800	640	640	0.56	310	160	440	0.73	0.5	1.5	0.081	640	0.42	0.029	160	480
	08/08/2011	0.953 U	1 U	0.628	1 U	0.953 U	0.953 U	1 U	2 U	1 U	1 U	7.15 U	0.204 U	1 U	7.2	1 U	3.52	1 U	0.953 U	0.953 U
MW-57S	01/13/2010	86.4	1 U	23	135	3.26	67.6	1 U	147	16300	119	1.87	1.34	1 U	1 U	13.3	1 U	1 U	11100	2.22
	08/12/2010	64.6	1 U	5.99	228	3.54	50.7	1 U	202	16600	144	1.42 U	0.606	1 U	1 U	15	1 U	1 U	9680	2.12
	01/14/2011	68.8	1 U	25.3	340	3.94	56.3	1 U	241	22800	161	1.46	0.734	1 U	1 U	15.1	1 U	1 U	12700	2.52
	08/25/2011	0.964 U	1 U	13.9	164	2.64	36.4	1 U	190	18700	136	1.45 U	0.502	1 U	1 U	13.4	1 U	1 U	4380	1.71
MW-57D	01/13/2010	3.96	1 U	3.48	1 U	0.947 U	0.947 U	1 U	2 U	96.4	13.2	3640	0.707	1 U	97.6	1 U	14.4	5.6	49.1	0.947 U
dup	01/13/2010	4.08	1 U	3.85	1 U	0.947 U	0.947 U	1 U	2 U	131	12.7	3580	0.761	1 U	91.1	1 U	13.3	6	48.9	0.947 U
	08/12/2010	5.09	1 U	3.37	1 U	0.948 U	0.948 U	1 U	2 U	134	16.4	4160	0.419	1 U	98.3	1 U	16.6	4.2	49.3 B	0.948 U
dup	08/12/2010	3.95	1 U	4.02	1 U	0.947 U	0.947 U	1 U	2 U	107	12.5	3700	0.424	1 U	71	1 U	12.8	3.26	45.4 B	0.947 U
	01/14/2011	7.62	1 U	4.08	1 U	0.953 U	0.953 U	1 U	2 U	161	18.9	4800	0.49	1 U	103	1 U	14.2	3.52	84.7	0.953 U
dup	01/14/2011	5.8	1 U	4.01	1 U	0.951 U	0.951 U	1 U	2 U	177	15.5	4480	0.462	1 U	113	1 U	14.5	3.73	74.6	0.951 U
	08/25/2011	0.952 U	1 U	1.58	1 U	0.952 U	0.952 U	1 U	2 U	128	14	1820	0.257	1 U	87.4	1 U	14.2	4.55	35.7	0.952 U
dup	08/25/2011	4.14	1 U	1.83	1 U	0.955 U	0.955 U	1 U	2 U	132	14.6	2430	0.277	1 U	93.5	1 U	14.5	5.03	38.8	0.955 U
MW-58D	01/14/2010	0.947 U	1 U	0.328	1 U	0.947 U	0.947 U	1 U	2 U	1 U	1 U	5.33	0.302	1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U
	08/12/2010	0.947 U	1 U	0.278	1 U	0.947 U	0.947 U	1 U	2 U	1 U	1 U	2.73	0.19 U	1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U
	01/19/2011	0.951 U	1 U	0.507	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	1.43 U	0.26	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U
	08/26/2011	0.957 U	1 U	0.37	1 U	0.957 U	0.957 U	1 U	2 U	1 U	1 U	1.44 U	0.194 U	1 U	1 U	1 U	1 U	1 U	0.957 U	0.957 U
EPA-5S	01/08/2010	0.945 U	1 U	0.0756 U	1 U	0.945 U	0.945 U	1 U	2 U	1 U	1 U	1.42 U	0.223	1 U	1 U	1 U	1 U	1 U	0.945 U	0.945 U
	08/11/2010	0.949 U	1 U	0.0759 U	1 U	0.949 U	0.949 U	1 U	2 U	1 U	1 U	1.42 U	0.19 U	1 U	1 U	1 U	1 U	1 U	0.949 U	0.949 U
	01/12/2011	0.953 U	1 U	0.0765 U	1 U	0.953 U	0.953 U	1 U	2 U	1 U	1 U	1.43 U	0.262	1 U	1 U	1 U	1 U	1 U	0.953 U	0.953 U
	08/09/2011	0.952 U	1 U	0.131	1 U	0.952 U	0.952 U	1 U	2 U	1 U	1 U	1.43 U	0.204 U	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U
EPA-5D	01/08/2010	0.954 U	1 U	0.0963	1 U	0.954 U	0.954 U	1 U	2 U	1 U	1 U	1.43 U	0.245	1 U	1.72	1 U	1 U	1 U	0.954 U	0.954 U
	08/11/2010	0.951 U	1 U	0.0936	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	1.43 U	0.398	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U
	01/12/2011	0.95 U	1 U	0.0765 U	1 U	0.95 U	0.95 U	1 U	2 U	1 U	1 U	1.42 U	0.482	1 U	1 U	1 U	1 U	1 U	0.95 U	0.95 U
	08/09/2011	0.955 U	1 U	0.232	1 U	0.955 U	0.955 U	1 U	2 U	1 U	1 U	1.43 U	0.205 U	1 U	1 U	1 U	1 U	1 U	0.955 U	0.955 U
EPA-6S	01/25/2010	6.48	1 U	0.931	1 U	10.1	14.5	1 U	2 U	1.63	1 U	23	0.307	1 U	1 U	1 U	1 U	1 U	0.946 U	7.96
	08/13/2010	2.86	1 U	0.771	1 U	5.22	6.59	1 U	2 U	10.1	1.53	1.43 U	0.19 U	1 U	1 U	1 U	1 U	1 U	3.53	3.89
	01/19/2011	2.63	1 U	0.912	1 U	6.58	7.24	1 U	2 U	1.72	1.12	1.43 U	0.326	1 U	1 U	1 U	1 U	1 U	0.954 U	4.27
dup	01/19/2011	2.62	1 U	1.04	1 U	6.71	7.2	1 U	2 U	1.74	1.13	1.43 U	0.388	1 U	1 U	1 U	1 U	1 U	0.952 U	4.3
	08/10/2011	2.43	1 U	0.652	1 U	6.53	6.67	1 U	2 U	1.51	1 U	1.43 U	0.204 U	1 U	1 U	1 U	1 U	1 U	0.954 U	4.42
EPA-6D	01/25/2010	0.948 U	1 U	0.106	1 U	0.948 U	0.948 U	1 U	2 U	1 U	1 U	1.42 U	0.687	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U
	08/13/2010	0.949 U	1 U	0.482	2.89	0.949 U	0.949 U	1 U	2.12	196	3.62	1.42 U	0.191 U	1 U	1 U	1.1	1 U	1 U	62.1	0.949 U
	01/19/2011	0.957 U	1 U	0.68	1.7	0.957 U	0.957 U	1 U	2 U	69.4	2.76	1.44 U	0.342	1 U	1 U	1.41	1 U	1 U	25.7	0.957 U
	08/10/2011	0.957 U	1 U	0.469	1.4	0.957 U	0.957 U	1 U	2 U	53.2	1.16	1.44 U	0.203 U	1 U	1 U	1.29	1 U	1 U	16.1	0.957 U

Table A-5
LRIS Groundwater Cleanup Level Screening
Former PWT Site

Location	Date Collected	Dibenzo- furan	Dichloro- difluorome thane	Diesel- Range Organics	Ethyl- benzene	Fluoranthene	Fluorene	Hexachloro- butadiene	m,p- Xylene	Naphtha- lene	o-Xylene	Pentachlor o-phenol (PCP)	Residual- Range Organics	Styrene	Tetrachloro- ethene (PCE)	Toluene	Trichloro- ethene (TCE)	Vinyl chloride	Naphthalene	Pyrene
	Unit	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Cleanup Level	32	9.9	0.5	800	640	640	0.56	310	160	440	0.73	0.5	1.5	0.081	640	0.42	0.029	160	480
Carty Lak	e Monitoring Wells		•									•								
USDFW-1	01/28/2010	1.01 U	1 U	0.277	1 U	1.01 U	1.01 U	1 U	2 U	1 U	1 U	1.52 U	0.282	1 U	1 U	1 U	1 U	1 U	1.01 U	1.01 U
	08/26/2010	0.946 U	1 U	0.316	1 U	0.946 U	0.946 U	1 U	2 U	1 U	1 U	1.42 U	0.323	1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U
	01/26/2011	0.951 U	1 U	0.338	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	1.43 U	0.326	1 U	1 U	1 U	2.07	1 U	0.951 U	0.951 U
	09/06/2011	0.954 U	1 U	0.401	1 U	0.954 U	0.954 U	1 U	2 U	1 U	1 U	1.43 U	0.193 U	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U
USDFW-3	08/26/2010	0.946 U				0.946 U	0.946 U					1.42 U							0.946 U	0.946 U
RMW-2S	01/28/2010	0.947 U	1 U	0.108	1 U	0.947 U	0.947 U	1 U	2 U	1 U	1 U	1.42 U	0.19 U	1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U
	08/26/2010	0.948 U	1 U	0.342	1 U	0.948 U	0.948 U	1 U	2 U	1 U	1 U	1.42 U	0.437	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U
	01/26/2011	0.951 U	1 U	0.179	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	1.43 U	0.245	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U
	09/06/2011	0.952 U	1 U	0.434	1 U	0.952 U	0.952 U	1 U	2 U	1 U	1 U	1.43 U	0.319	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U
RMW-2D	01/28/2010	0.948 U	1 U	0.13	1 U	0.948 U	0.948 U	1 U	2 U	1 U	1 U	1.42 U	0.189 U	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U
	08/26/2010	0.945 U	1 U	0.084	1 U	0.945 U	0.945 U	1 U	2 U	1 U	1 U	3.53	0.19 U	1 U	1 U	1 U	1 U	1 U	0.945 U	0.945 U
	01/26/2011	0.952 U	1 U	0.134	1 U	0.952 U	0.952 U	1 U	2 U	1 U	1 U	1.74	0.219	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U
	09/06/2011	0.951 U	1 U	0.158	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	3.04	0.194 U	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U
LWBZ: Cel	ls 1 and 2 and Car																			
Cell 1 (LW	/BZ)																			
MW-40	01/29/2010	2.35	1 U	0.317	1 U	0.952 U	0.952 U	1 U	2 U	1 U	1 U	184	0.191 U	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U
	08/25/2010	0.969	1 U	0.308	1 U	0.96 U	0.96 U	1 U	2 U	1 U	1 U	159	0.202	1 U	1 U	1 U	1 U	1 U	0.96 U	0.96 U
	01/24/2011	0.955 U	1 U	0.111	1 U	0.955 U	0.955 U	1 U	2 U	1 U	1 U	102	0.191 U	1 U	1 U	1 U	1 U	1 U	0.955 U	0.955 U
	09/02/2011	0.96 U	1 U	0.251	1 U	0.96 U	0.96 U	1 U	2 U	1 U	1 U	95.3	0.269	1 U	1 U	1 U	1 U	1 U	0.96 U	0.96 U
Cell 2 (LW			1							ı	1	T	I	ı					T	
MW-33	01/11/2010	0.946 U	1 U		1 U	0.946 U	0.946 U	1 U	2 U	1 U	1 U	94.7		1 U	1.83	1 U	1 U	1 U	0.946 U	0.946 U
	08/09/2011	0.951 U	1 U		1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	37.3		1 U	2.03	1 U	1 U	1 U	0.951 U	0.951 U
MW-35	01/22/2010	3.6	1 U	1.6	1 U	0.951 U	0.951 U	1 U	2 U	6.49	1 U	1990	0.317	1 U	23.9	1 U	4.5	1 U	12.9	0.951 U
	08/16/2010	1.78	1 U	1.31	1 U	0.949 U	0.949 U	1 U	2 U	9.76	1.23	1270	0.261	1 U	19.4	1 U	5.73	1.98	3.46 B	0.949 U
	01/20/2011	4.11	1 U	1.41	1 U	0.953 U	0.953 U	1 U	2 U	4.38	1 U	1200	0.396	1 U	20	1 U	5.43	2.34	3.42	0.953 U
	08/29/2011	3.39	1 U	1.25	1 U	0.956 U	0.956 U	1 U	2 U	12.3	1 U	1110	0.218	1 U	16.1	1 U	4.76	2.62	7.66	0.956 U
MW-36	01/26/2010	1.06	1 U		1 U	0.947 U	0.947 U	1 U	2 U	1 U	1 U	61.4		1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U
	08/16/2010	1.09	1 U		1 U	0.957 U	0.957 U	1 U	2 U	1 U	1 U	109		1 U	1.01	1 U	1.07	1 U	0.957 U	0.957 U
	01/21/2011	1.78	1 U		1 U	0.955 U	0.955 U	1 U	2 U	1 U	1 U	94.7		1 U	1 U	1 U	1 U	1 U	0.955 U	0.955 U
	08/30/2011	1.42	1 U		1 U	0.954 U	0.954 U	1 U	2 U	1 U	1 U	102		1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U
MW-37	01/27/2010	0.948 U	1 U		1 U	0.948 U	0.948 U	1 U	2 U	1 U	1 U	1.63		1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U
	08/31/2011	0.96 U	1 U		1 U	0.96 U	0.96 U	1 U	2 U	1 U	1 U	8.15		1 U	1 U	1 U	1 U	1 U	0.96 U	0.96 U
MW-54	01/13/2010	0.953 U	1 U	0.135	1 U	0.953 U	0.953 U	1 U	2 U	1 U	1 U	40.2	0.198	1 U	1 U	1 U	1.21	1 U	0.953 U	0.953 U

Table A-5
LRIS Groundwater Cleanup Level Screening
Former PWT Site

Location	Date Collected	Dibenzo- furan	Dichloro- difluorome thane	Diesel- Range Organics	Ethyl- benzene	Fluoranthene	Fluorene	Hexachloro- butadiene	m,p- Xylene	Naphtha- lene	o-Xylene	Pentachlor o-phenol (PCP)	Residual- Range Organics	Styrene	Tetrachloro- ethene (PCE)	Toluene	Trichloro- ethene (TCE)	Vinyl chloride	Naphthalene	Pyrene
	Unit	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Cleanup Level	32	9.9	0.5	800	640	640	0.56	310	160	440	0.73	0.5	1.5	0.081	640	0.42	0.029	160	480
	08/12/2010	0.947 U	1 U	0.0833	1 U	0.947 U	0.947 U	1 U	2 U	1 U	1 U	74.2	0.189 U	1 U	1 U	1 U	1.6	1 U	0.947 U	0.947 U
	01/13/2011	0.957 U	1 U	0.0764 U	1 U	0.957 U	0.957 U	1 U	2 U	1 U	1 U	63.7	0.191 U	1 U	1 U	1 U	1.59	1 U	0.957 U	0.957 U
	08/24/2011	0.956 U	1 U	0.122	1 U	0.956 U	0.956 U	1 U	2 U	1 U	1 U	1.43 U	0.201 U	1 U	1 U	1 U	1.55	1 U	0.956 U	0.956 U
MW-55	01/14/2010	0.951 U	1 U	0.64	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	293	0.477	1 U	3.75	1 U	4.05	1 U	0.951 U	0.951 U
	08/12/2010	1.34	1 U	1.89	1 U	0.949 U	0.949 U	1 U	2 U	1 U	1 U	632	0.206	1 U	5.16	1 U	5.03	1 U	0.949 U	0.949 U
	01/14/2011	1.39	1 U	0.563	1 U	0.957 U	0.957 U	1 U	2 U	1 U	1 U	544	0.257	1 U	4.79	1 U	3.77	1 U	0.957 U	0.957 U
	08/08/2011	1.2	1 U	0.538	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	7.13 U	0.204 U	1 U	2.91	1 U	3.12	1 U	0.951 U	0.951 U
MW-56	01/14/2010	0.952 U	1 U	0.0755 U	1 U	0.952 U	0.952 U	1 U	2 U	1 U	1 U	10.1	0.337	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U
	08/12/2010	0.951 U	1 U	0.0764 U	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	31.9	0.191 U	1 U	1 U	1 U	1.01	1 U	0.951 U	0.951 U
	01/19/2011	0.952 U	1 U	0.107	1 U	0.952 U	0.952 U	1 U	2 U	1 U	1 U	23.3	0.22	1 U	1 U	1 U	1 U	1 U	0.952 U	0.952 U
	08/26/2011	0.96 U	1 U	0.0908	1 U	0.96 U	0.96 U	1 U	2 U	1 U	1 U	26.1	0.193 U	1 U	1 U	1 U	1.08	1 U	0.96 U	0.96 U
MW-59	01/21/2010	0.949 U	1 U	0.0798	1 U	0.949 U	0.949 U	1 U	2 U	3.53	1 U	1.42 U	0.189 U	1 U	1 U	1 U	1 U	1 U	0.949 U	0.949 U
	08/13/2010	0.946 U	1 U	0.0758 U	1 U	0.946 U	0.946 U	1 U	2 U	1 U	1 U	18	0.189 U	1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U
	01/20/2011	0.964 U	1 U	0.113	1 U	0.964 U	0.964 U	1 U	2 U	1 U	1 U	2.19	0.259	1 U	1 U	1 U	1 U	1 U	0.964 U	0.964 U
	08/29/2011	0.954 U	1 U	0.0771 U	1 U	0.954 U	0.954 U	1 U	2 U	1 U	1 U	5.09	0.193 U	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U
MW-62	09/08/2010	0.985 U	1 U	0.140 U	1 U	0.985 U	0.985 U	1 U	2 U	1 U	1 U	22.4	0.321 U	1 U	1 U	1 U	1 U	1 U	0.985 U	0.985 U
	01/14/2011	0.951 U	1 U	0.0763 U	1 U	1.25	0.951 U	1 U	2 U	1 U	1 U	10.7	0.191 U	1 U	1 U	1 U	1 U	1 U	0.951 U	1.12
	08/25/2011	0.954 U	1 U	0.126	1 U	0.954 U	0.954 U	1 U	2 U	1 U	1 U	1.43 U	0.2 U	1 U	1 U	1 U	1 U	1 U	0.954 U	0.954 U
Carty Lake	e (LWBZ)																			
MW-60	01/28/2010	0.948 U	1 U	0.207	1 U	0.948 U	0.948 U	1 U	2 U	1 U	1 U	70.2	0.197	1 U	1 U	1 U	7.17	2.19	0.948 U	0.948 U
	08/25/2010	0.95 U	1 U	0.208	1 U	0.95 U	0.95 U	1 U	2 U	1 U	1 U	72.2	0.292	1 U	1 U	1 U	6.87	1 U	0.95 U	0.95 U
	01/24/2011	0.951 U	1 U	0.0904	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	80.4	0.19 U	1 U	1 U	1 U	8.19	2.96	0.951 U	0.951 U
	09/06/2011	0.951 U	1 U	0.273	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	94.4	0.194 U	1 U	1 U	1 U	6.47	4.92	0.951 U	0.951 U
MW-61	09/03/2010	1.01 U	1 U	0.0789 U	1 U	1.01 U	1.01 U	1 U	2 U	1 U	1 U	1.51 U	0.197 U	1 U	1 U	1 U	1 U	1 U	1.01 U	1.01 U
	01/24/2011	0.951 U	1 U	0.0762 U	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	1.43 U	0.19 U	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U
	09/02/2011	0.951 U	1 U	0.0773 U	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	1.43 U	0.193 U	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U
Cell 3 Sha	llow and Deep UV		-							•									•	
Cell 3 Sha	llow UWBZ																			
MW-9S	01/07/2010	0.949 U	1 U	0.985	1 U	0.949 U	3.84	1 U	2 U	1 U	1 U	1.42 U	0.887	1 U	1 U	1 U	1 U	1 U	0.949 U	0.949 U
MW-20S	01/08/2010	0.947 U	1 U	0.26	1 U	0.947 U	0.947 U	1 U	2 U	1 U	1 U	1.42 U	0.473 U	1 U	1 U	1 U	1 U	1 U	0.947 U	0.947 U
MW-45S	01/07/2010	0.946 U	1 U	0.368	1 U	0.946 U	0.946 U	1 U	2 U	1 U	1 U	1.42 U	0.474 U	1 U	1 U	1 U	1 U	1 U	0.946 U	0.946 U
MW-46S	01/08/2010	0.949 U	1 U	0.398	1 U	0.949 U	0.949 U	1 U	2 U	1 U	1 U	1.42 U	0.474 U	1 U	1 U	1 U	1 U	1 U	0.949 U	0.949 U
	08/24/2011																			
MW-47S	01/07/2010	0.948 U	1 U	0.237 U	1 U	0.948 U	0.948 U	1 U	2 U	1 U	1 U	1.42 U	0.473 U	1 U	1 U	1 U	1 U	1 U	0.948 U	0.948 U

# Table A-5 LRIS Groundwater Cleanup Level Screening Former PWT Site

Location	Date Collected	Dibenzo- furan	Dichloro- difluorome thane	Diesel- Range Organics	Ethyl- benzene	Fluoranthene	Fluorene	Hexachloro- butadiene	m,p- Xylene	Naphtha- lene	o-Xylene	Pentachlor o-phenol (PCP)	Residual- Range Organics	Styrene	Tetrachloro- ethene (PCE)	Toluene	Trichloro- ethene (TCE)	Vinyl chloride	Naphthalene	Pyrene
	Unit	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Cleanup Level	32	9.9	0.5	800	640	640	0.56	310	160	440	0.73	0.5	1.5	0.081	640	0.42	0.029	160	480
Cell 3 Dee	ep UWBZ																			
MW-20D	01/08/2010	0.951 U	1 U	0.237 U	1 U	0.951 U	0.951 U	1 U	2 U	1 U	1 U	1.43 U	0.474 U	1 U	1 U	1 U	1 U	1 U	0.951 U	0.951 U
MW-29D	01/07/2010	0.946 U	1 U		1 U	0.946 U	0.946 U	1 U	2 U	1 U	1 U	1.42 U		1 U	12.1	1 U	1 U	1 U	0.946 U	0.946 U
	08/22/2011														9.85					
MW-45D	01/08/2010	0.947 U	1 U	0.255	1 U	0.947 U	0.947 U	1 U	2 U	1 U	1 U	35.5	0.473 U	1 U	6.4	1 U	1 U	1 U	0.947 U	0.947 U
	08/22/2011			1							-	19.4		-	6.9				1	
MW-46D	01/08/2010	0.947 U		0.237 U		0.947 U	0.947 U					1.42 U	0.474 U						0.947 U	0.947 U
MW-47D	01/07/2010	0.946 U	1 U	0.237 U	1 U	0.946 U	0.946 U	1 U	2 U	1 U	1 U	1.42 U	0.474 U	1 U	7.86	1 U	1 U	1 U	0.946 U	0.946 U
	08/22/2011														15.4					

# Table A-6 Port-owned Properties Soil Cleanup Level Screening Former PWT Site

		Analyte	Dioxin (p-dibenzo) TEQ <sup>a</sup>	Furan TEQ <sup>a</sup>
		Unit	ng/kg	ng/kg
		Cleanup Level	9.8 <sup>a</sup>	11.4 <sup>a</sup>
Sample Location	Sample Date	Depth (ft bgs)	Result	Result
SS-6	7/17/2008	0.3	24	20
SS-37	6/17/2010	0	29	24
SS-38	6/17/2010	0	37	24
SS-39	6/17/2010	0	3.3	4.3
SS-41	8/9/2010	0	13	9.9
SS-41-DUP	8/9/2010	0	15	12
SS-42	8/10/2010	0	76	59
SS-50	5/24/2011	0	23	24
SS-50-Comp-0-6	9/20/2012	0-6	11	5.1

			Dioxin/Fura	1,2,3,4,6,7,8,9-	1,2,3,4,6,7,8,9-	1,2,3,4,6,7,8-	1,2,3,4,6,7,8-	1,2,3,4,7,8,9-	1,2,3,4,7,8-	1,2,3,4,7,8-	1,2,3,6,7,8-	1,2,3,6,7,8-	1,2,3,7,8,9-	1,2,3,7,8,9-	1,2,3,7,8-	1,2,3,7,8-	2,3,4,6,7,8-	2,3,4,7,8-		
		Analyte	n TEQ	OCDF	OCDD	HpCDF	HpCDD	HpCDF	HxCDF	HxCDD	HxCDF	HxCDD	HxCDF	HxCDD	PeCDF	PeCDD	HxCDF	PeCDF	2,3,7,8-TCDF	2,3,7,8-TCDD
		Unit	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg
	Sediment	Cleanup Level	5	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
	Rem	nediation Level	NV	4600000	4600000	110000	140000	110000	430	86	430	540	430	540	240	43	430	2.9	38	1.4
Sample Location	Sample Date	Depth	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
LRIS-LR-01-SS	4/19/2010	0-10 cm	37 <sup>b</sup>	470 J	13000 J	190 J	1400 J	13	14	5.8	7.5	70	0.94 J	13 J	5.2	2.8 J	6.5	5.9 J	2.4	0.28 U
LRIS-LR-02-SS	4/19/2010	0-10 cm	3.3	38	1000	16	100	1 J	1.5 J	0.86 J	0.75 J	4.9	0.09 J	1.8 J	0.41 U	0.41 J	0.49 J	0.66 J	0.7 J	0.12 U
LRIS-LR-04-SS	4/19/2010	0-10 cm	1.6	13 J	420 J	6.2 J	45 J	0.59 U	0.72 U	0.46 U	0.46 U	2 J	0.4 U	1 U	0.38 U	0.68 UJ	0.36 U	0.45 U	0.81	0.19 U
LRIS-LR-05-SS	4/19/2010	0-10 cm	30 <sup>b</sup>	300 J	9700 J	140 J	1100 J	9.9	21	3.4 J	6.2	45	0.68 J	10 J	5.2	2.5 J	4.7	7.7 J	2.5	0.44 J
LRIS-LR-07-SS	4/19/2010	0-10 cm	1.4	21	360	8.1	40	0.58 U	0.93 J	0.29 U	0.5 U	1.9 J	0.17 U	0.68 U	0.42 U	0.41 U	0.22 J	0.55 U	0.45 U	0.19 U
LRIS-LR-08-SS	4/19/2010	0-10 cm	220 <sup>b</sup>	640 J	120000 J	770 J	8700 J	47	190	14	55	240	4	45 J	30	8.5 J	39	56 J	7.4	0.59 J
LRIS-LR-09-SS	4/19/2010	0-10 cm	580 <sup>b</sup>	250	2100	180 J	5400 J	140	45	730 J	31	720	16	1800	6.1	180	5.3	0.87 U	0.38 U	5.2
LRIS-LR-10-SS	4/19/2010	0-10 cm	57 <sup>b</sup>	180 J	15000 J	150 J	1600 J	10	27	11	10	69	0.75 J	51 J	5.7	11 J	11	9.7 J	2.9	2.3
LRIS-LR-11-SS	4/20/2010	0-10 cm	2.5	26	900	12	89	0.67 U	2.1 J	1.1 J	0.79 J	3.8 U	0.24 U	1.9 U	0.4 U	0.37 U	0.59 J	0.46 U	0.57 U	0.24 U
LRIS-LR-12-SS	4/20/2010	0-10 cm	61 <sup>b</sup>	180 J	18000 J	160 J	2000 J	9.5	25	20	9.9	80	1.4 J	41 J	4.6	13 J	5.7	5.8 J	1.2	0.83
LRIS-LR-13-SS	4/20/2010	0-10 cm	16	210	7900 J	56	540	3.3 J	6.6	3.5 J	2.8 J	28	0.27 U	8.1	1.4 J	1.9 J	1.6 J	1.9 J	0.97 J	0.45 U
LRIS-LR-14-SS	4/20/2010	0-10 cm	13	92 J	4600 J	71 J	510 J	4.5	8.2	3.1 J	3.7	17	0.75 J	4.1 J	1.9 J	1.1 J	2.7 J	2 J	0.84	0.22 U
LRIS-LR-15-SS	4/20/2010	0-10 cm	1.2	19	370	0.19 U	44	0.28 U	0.51 U	0.42 U	0.49 J	2.1 U	0.27 U	1 U	0.38 U	0.36 U	0.31 U	0.45 U	0.58 U	0.2 U
LRIS-LR-16-SS	4/20/2010	0-10 cm	14	170 J	5500 J	60 J	600 J	3.7 J	4.4	2.8 J	2.4 J	22	0.59 J	5 J	1.5 J	1.3 U	1.9 J	1.6 J	1.2	0.3 U
LRIS-LR-17-SS	4/20/2010	0-10 cm	4.3	55	1100	32	190	2.1 U	0.2 U	0.47 U	1.1 J	9.4	0.2 U	1.8 J	0.32 U	0.32 U	0.98 J	0.39 U	0.41 J	0.14 U
LRIS-LR-18-SS	4/20/2010	0-10 cm	1.7	14	270	4.8 U	30	0.49 J	0.37 U	0.66 U	0.36 U	2 J	0.28 U	1.2 U	0.83 U	0.75 U	0.29 U	0.96 U	0.87	0.54 U
LRIS-LR-19-SS	4/21/2010	0-10 cm	110 <sup>b</sup>	3500 J	40000 J	780 J	4800 J	54 J	49 J	17 J	20 J	180	2.4 U	27 J	6.1 U	3.5 J	17 J	9.3 J	3.5 U	1.2 U
LRIS-LR-20-SS	4/21/2010	0-10 cm	260 <sup>b</sup>	2600 J	92000 J	1000 J	11000 J	61	99	36	40	520	3.9 J	81 J	35	14 J	39	36 J	15	1.2 U
LRIS-LR-21-SS	4/21/2010	0-10 cm	0.51	3.9 J	96 J	1.7 U	13 J	0.21 U	0.23 J	0.15 U	0.089 U	0.62 J	0.094 U	0.23 U	0.15 U	0.24 UJ	0.079 U	0.16 U	0.15 U	0.14 U
LRIS-LR-23-SS	4/21/2010	0-10 cm	0.59	5.6 J	120 J	2.5 J	14 J	0.17 U	0.34 U	0.17 U	0.62 J	0.58 J	0.26 U	0.47 J	0.14 U	0.15 UJ	0.24 U	0.15 U	0.3 J	0.084 U
LRIS-LR-24-SS	4/21/2010	0-10 cm	170 <sup>b</sup>	570 J	70000 J	700 J	5600 J	44	210	26	55	220	4.8 J	48 J	28	8.9 J	30	58 J	7.5	1.1 J
LRIS-LR-25-SS	4/21/2010	0-10 cm	260 <sup>b</sup>	980 J	68000 J	680 J	7800 J	43	100	53	38	320	3.7 J	120 J	24	58 J	27	31 J	10	15
LRIS-LR-27-SS	4/21/2010	0-10 cm	0.93	14 J	170 J	4.2 J	23 J	0.52 U	0.51 J	0.26 J	0.46 U	0.98 J	0.24 U	0.46 J	0.24 U	0.26 UJ	0.2 U	0.28 U	0.58 J	0.21 U
LRIS-LR-28-SS	4/21/2010	0-10 cm	0.84	3.9 J	260 J	3.3 J	30 J	0.19 U	0.23 U	0.22 J	0.3 J	1.3 J	0.22 U	0.35 J	0.15 U	0.17 UJ	0.22 J	0.17 U	0.25 U	0.085 U
LRIS-LR-103	12/4/2012	0-10 cm	4.2	32	1300	16	120 J	0.64 J	3.2 J	0.53 U	1.2 J	6.7	0.054 U	2.1 J	1 J	0.45 U	1.7 J	1.1 J	0.73 J	0.21 J
LRIS-LR-106	12/4/2012	0-10 cm	14	88	4500	56	450 J	2.5 J	10	2.7 J	3.4 J	23	0.084 U	6.6	2.2 J	0.91 J	2.5 J	3.1 J	0.94 J	0.35 J
LRIS-LR-122	12/4/2012	0-10 cm	250 <sup>b</sup>	490	73000	1000 J	8300	49 J	330 J	21	110 J	340	4.9	66	51	7.2	58 J	91	14 J	0.53 U
LRIS-LR-126	12/4/2012	0-10 cm	140 <sup>b</sup>	550	37000	620	4300 J	28 J	110	37	33	260	1.2 U	120	18 J	11	19 J	19 J	6.3 J	2 J
LRIS-LR-129	12/4/2012	0-10 cm	2.2	19	540	8.8	60 J	0.15 U	1.5 J	0.52 U	0.67 J	3.2 J	0.066 U	1.1 U	0.31 J	0.27 J	0.63 U	0.66 J	0.65 J	0.31 U
LRIS-LR-130	12/4/2012	0-10 cm	0.68	13	250	2.9 U	25 J	0.083 U	0.68 J	0.19 J	0.27 J	1.2 U	0.035 U	0.54 J	0.11 U	0.074 U	0.24 J	0.073 U	0.24 U	0.044 U
LRIS-LR-130-FD-1	12/4/2012	0-10 cm	0.62	7.2	170	2.9 J	19 J	0.056 U	0.47 J	0.23 U	0.22 J	1 J	0.025 U	0.42 U	0.15 J	0.051 U	0.25 J	0.15 J	0.3 J	0.029 U
LRIS-LR-131	12/4/2012	0-10 cm	0.62	7.4	200	3.4	22 J	0.12 U	0.5 J	0.18 J	0.21 J	1 U	0.05 U	0.55 J	0.089 U	0.099 U	0.043 U	0.11 U	0.059 U	0.062 U
LRIS-LR-132	12/4/2012	0-10 cm	5.8	66	1600	24 J	180	1.6 J	3.5 J	0.9 U	1.5 J	8.9	0.19 U	4.4 J	0.77 U	0.74 J	0.91 J	1.4 J	0.19 U	0.13 U
LRIS-LR-133	12/4/2012	0-10 cm	5.4	73	1600	27 J	190	1.5 J	3.8 J	1.4 J	1.5 U	8.5	0.17 U	2.7 U	1.2 J	0.72 J	0.98 J	1.1 U	0.82 J	0.092 U
LRIS-LR-134	12/4/2012	0-10 cm	28	710	9500	150 J	1100	8.9 J	14 J	4.8	6.2 J	44	0.23 U	13	2.9 J	1.7 J	4.6 J	3.7 J	1.6 J	0.34 U
LRIS-LR-137	12/4/2012	0-10 cm	1.2	15	350	6	36 J	0.24 U	0.83 J	0.36 J	0.35 U	2 J	0.057 U	0.88 J	0.14 U	0.1 U	0.48 U	0.33 J	0.47 J	0.057 U

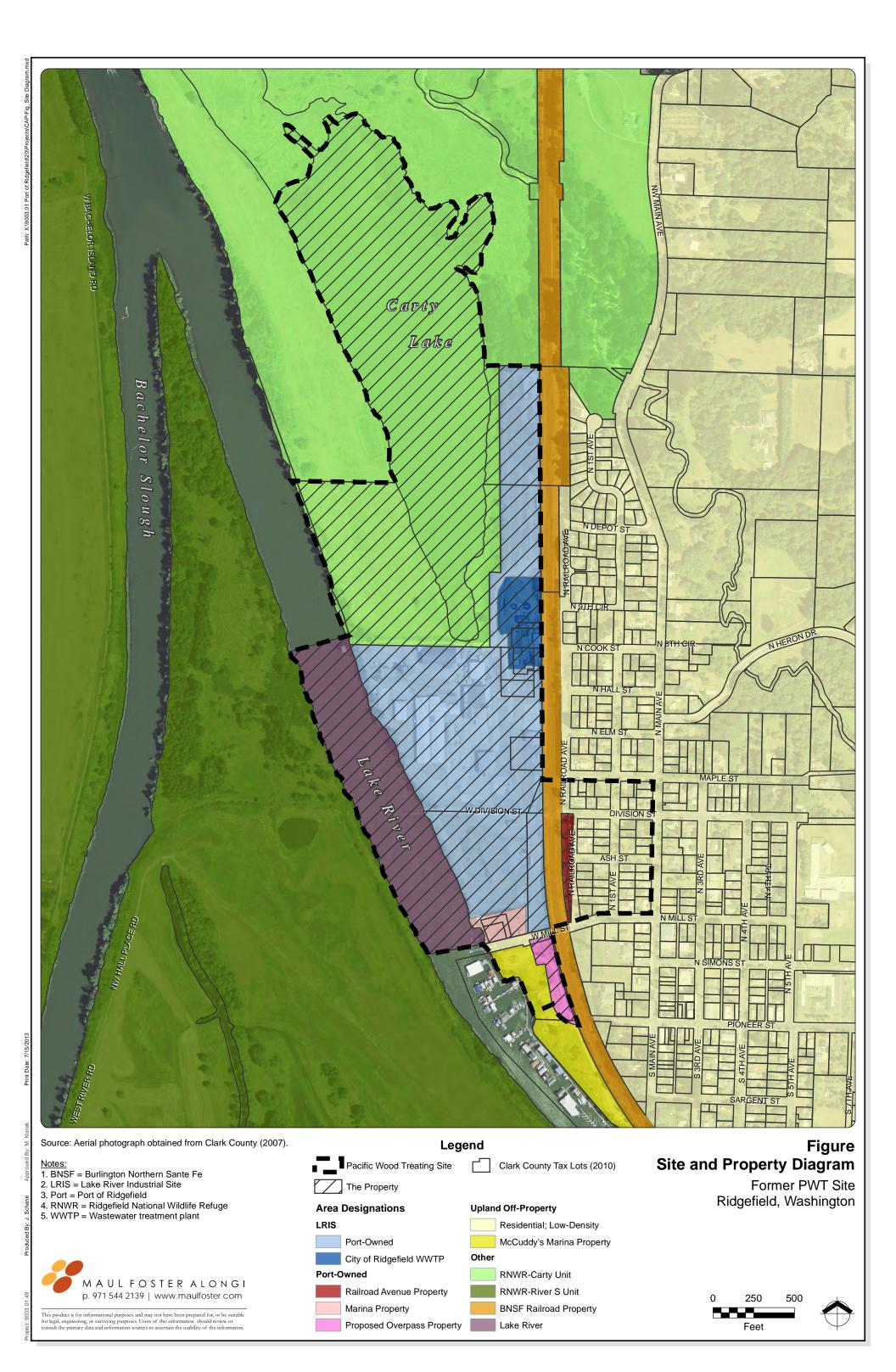
			Dioxin/Fura	1,2,3,4,6,7,8,9-	1,2,3,4,6,7,8,9-	1,2,3,4,6,7,8-	1,2,3,4,6,7,8-	1,2,3,4,7,8,9-	1,2,3,4,7,8-	1,2,3,4,7,8-	1,2,3,6,7,8-	1,2,3,6,7,8-	1,2,3,7,8,9-	1,2,3,7,8,9-	1,2,3,7,8-	1,2,3,7,8-	2,3,4,6,7,8-	2,3,4,7,8-		
		Analyte	n TEQ	OCDF	OCDD	HpCDF	HpCDD	HpCDF	HxCDF	HxCDD	HxCDF	HxCDD	HxCDF	HxCDD	PeCDF	PeCDD	HxCDF	PeCDF	2,3,7,8-TCDF	2,3,7,8-TCDD
		Unit	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg
	Sediment	Cleanup Level	5	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
	Rem	nediation Level	NV	4600000	4600000	110000	140000	110000	430	86	430	540	430	540	240	43	430	2.9	38	1.4
LRIS-LR-01-SB-1-2	4/26/2010	1-2 ft	6.4	27	2,200	27	210	2.2 J	4.7	1.5 U	2.7 J	8.8	0.2 J	4.4	1.5 J	0.75 U	1.2 J	1.6 U	1.7	0.54 U
LRIS-LR-05-SB-1-2	4/27/2010	1-2 ft	17	120	8800 J	55	600	3.3	6.1	3.5	4.5	30	0.45 J	7.3 J	2.5 J	1 J	2.1 J	2.3 J	1.5	0.36 J
LRIS-LR-08-SB-1-2	4/28/2010	1-2 ft	910 <sup>b</sup>	1400 J	260000 J	4100 J	30000 J	200	1300	70	380	1200	48 J	120 J	200	15 J	190	410 J	93	3.9 J
LRIS-LR-09-SB-1-2	4/29/2010	1-2 ft	1.5	20	460	8.3	49	0.77 J	0.72 J	0.4 U	0.43 U	2.1 J	0.16 U	0.68 J	0.26 U	0.29 U	0.25 J	0.34 J	0.56 U	0.18 U
LRIS-LR-10-SB-1-2	4/28/2010	1-2 ft	79 <sup>b</sup>	290	19000 J	200	3200 J	15	22	38	14 U	150	3 U	95	7.4	7.2 U	5.7 U	8.6 U	3.7	4 U
LRIS-LR-12-SB-1-2	4/28/2010	1-2 ft	9.7	47	3500 J	48	300	3.6	7.6	2 J	3.5	13	0.32 U	4.4	1.8 J	1 J	1.5 J	1.9 J	1.1	0.28 U
LRIS-LR-103-2	12/3/2012	1-2 ft	6.1	41	1600	22 J	190	0.63 U	3.3 J	1.2 U	1.8 U	12	0.14 U	5.5	1.7 J	0.62 U	1.3 J	1.2 U	1.8 J	0.37 J
LRIS-LR-106-2	12/2/2012	1-2 ft	0.06	0.15 U	2 U	0.077 U	0.38 U	0.03 U	0.019 U	0.026 U	0.018 U	0.084 J	0.024 U	0.076 U	0.034 U	0.044 U	0.018 U	0.032 U	0.033 U	0.023 U
LRIS-LR-119-2	12/3/2012	1-2 ft	33 <sup>b</sup>	290	9000	120 J	1100	7.7 J	14 J	6.5	9.4 J	65	7.1	19	5.6	2.7 J	5.5 J	4.7	3.2 J	0.69 J
LRIS-LR-120-2	12/3/2012	1-2 ft	26	120	9500	92	930 J	4.3 J	12	7.2	8.6	46	0.12 U	17	3.9	1.7 J	3.5 J	3 J	2.1 J	0.46 J
LRIS-LR-122-2	12/3/2012	1-2 ft	38 <sup>b</sup>	180	15000	190	1400 J	9.9 J	36	6.4	15	58	0.22 U	17	6.8 J	1.4 J	6.9 J	6.6 J	2.1 J	0.081 U
LRIS-LR-124-2	12/3/2012	1-2 ft	113 <sup>b</sup>	330	33000	490	3300 J	33 J	160	14	53	170	0.59 U	42	25 J	2.9 J	23 J	41 J	12 J	1.1 J
LRIS-LR-125-2	12/2/2012	1-2 ft	170 <sup>b</sup>	450	42000	460 J	7300	16 J	58 J	73	27 J	230	2.6 J	240	12	11	18 J	11	5.6 J	2.5 J
LRIS-LR-126-2	12/2/2012	1-2 ft	12	42	3400	31	420 J	2.4 J	8.7	4.4	3.3	14	0.057 U	12	1.1 J	0.63 J	1.3 U	1.2 J	1.1 J	0.56 J
LRIS-LR-129-2	12/2/2012	1-2 ft	2.0	22	510	8.2	57 J	0.47 U	1.2 J	0.61 U	0.99 J	2.9 J	0.063 U	1.2 U	0.25 U	0.25 U	1.4 J	0.3 J	0.66 J	0.29 U
LRIS-LR-130-2	12/2/2012	1-2 ft	0.82	6.8	270	3.2	27 J	0.053 U	0.28 U	0.3 U	0.19 J	1.4 J	0.026 U	0.61 J	0.044 U	0.056 U	0.3 J	0.098 J	0.32 U	0.16 U
LRIS-LR-130-FD	12/2/2012	1-2 ft	1.9	14	660	7.1	72 J	0.19 U	0.57 U	0.54 J	0.35 J	3.6	0.091 U	0.96 J	0.18 U	0.19 U	0.72 J	0.2 U	0.12 U	0.16 U
LRIS-LR-131-2	12/2/2012	1-2 ft	1.7	9.8	440	5.2	52 J	0.086 U	1.1 J	0.5 J	0.63 U	2.4 J	0.038 U	1.1 U	0.089 U	0.22 U	0.58 U	0.27 U	0.61 J	0.26 J
LRIS-LR-132-2	12/3/2012	1-2 ft	2.1	11	240	6.8	31 U	0.22 U	0.3 U	0.64 J	0.33 U	1.4 J	0.11 U	2.1 U	0.2 U	0.27 U	0.093 U	0.25 U	0.48 J	1.2 J
LRIS-LR-133-2	12/3/2012	1-2 ft	1.0	17	330	6.3	31 J	0.15 U	0.74 J	0.31 J	0.52 J	1.6 J	0.062 U	0.85 U	0.19 U	0.11 U	0.47 U	0.21 U	0.56 J	0.064 U
LRIS-LR-134-2	12/2/2012	1-2 ft	17	290	5700	79	550 J	3.7 J	8	3.5	5.1	32	0.097 U	9.4	2.5 J	1.6 J	3 J	2.3 U	1.8 J	0.51 J
LRIS-LR-108-3	12/3/2012	2-3 ft	41 <sup>b</sup>	160	14000	170 J	1300	7.3 J	46 J	7.6	21 J	51	0.33 U	14	11	1.6 J	8.3 J	12	5 J	0.83 J
LRIS-LR-109-3	12/2/2012	2-3 ft	3.5	14	920	12	100 J	0.62 U	2.1 J	0.97 J	1.2 J	5.9	0.058 U	2.2 U	0.73 J	0.34 J	0.7 J	1.1 J	1 J	0.14 U
LRIS-LR-110-3	12/3/2012	2-3 ft	78 <sup>b</sup>	250	20000	180	2100 J	9.8 J	38	23	16	110	0.23 U	84	9.5 J	14	9.2 J	11 J	4 J	3.2 J
LRIS-LR-119-3	12/3/2012	2-3 ft	3.8	20 J	1100	17	99	0.78 J	2.8 J	0.94 J	1.9 J	4.8	0.15 U	2.1 J	1 J	0.42 J	1 J	1 J	1.2 J	0.2 U
LRIS-LR-122-3	12/3/2012	2-3 ft	1.6	5.2 J	560	7	47	0.38 U	2.1 J	0.1 U	0.99 J	2.2 J	0.062 U	0.52 J	0.41 J	0.051 U	0.46 J	0.49 J	0.57 J	0.023 U
LRIS-LR-124-3	12/3/2012	2-3 ft	56 <sup>b</sup>	170 J	18000	240	1800	13	83	5	30	67	1 J	16	12	1.5 J	15	17	4.4 J	0.51 J
LRIS-LR-125-3	12/2/2012	2-3 ft	2.4	9.8 J	970	10	63	0.52 U	2.6	0.38 U	1.2 J	2.9	0.095 J	0.98 J	0.59 J	0.061 U	0.55 J	0.43 J	0.26 J	0.33 J
LRIS-LR-08-SB-3-4	4/28/2010	3-4 ft	6.9	18 J	1300 J	31 J	140 J	1.6 J	12	1.4 J	3.4 J	6.2	0.63 U	1.5 J	1 J	0.53 UJ	2.2 J	1.8 J	1.6	1.1
LRIS-LR-110-4	12/3/2012	3-4 ft	46	130 J	11000	110	1400	6.9	21	20	12	63	1.2 J	45	6.4	7.1	5.7	5.2	2.4 J	1.4
LRIS-LR-124-4	12/3/2012	3-4 ft	0.86	3.3 J	280	4.1	26	0.057 U	1.2 J	0.025 U	0.65 J	1.3 U	0.036 U	0.35 U	0.23 U	0.065 U	0.58 U	0.39 U	0.39 J	0.079 U
LRIS-LR-09-SB-4-5	4/29/2010	4-5 ft	3.1	19	800	12	84	2 J	0.35 U	0.96 U	1.3 J	5.4	0.38 U	2 U	0.93 U	0.79 U	0.31 J	1.1 U	0.93	0.6 U
LRIS-LR-110-5	12/3/2012	4-5 ft	62	180	14000	160	2100	9.3	39	14	19	98	1.8 U	48	8.6	6.8	9.1	8.3	3.7	2.4
LRIS-LR-132-5	12/3/2012	4-5 ft	0.14	0.22 U	6.6	0.23 U	0.83 J	0.038 U	0.071 U	0.037 U	0.059 U	0.11 U	0.061 U	0.092 U	0.04 U	0.055 U	0.023 U	0.041 U	0.13 J	0.11 U

Table A-8
Carty Lake Sediment Cleanup Level Screening
Former PWT Site

	Analyte	Dioxin/Furan	1,2,3,4,6,7,8,9-	1,2,3,4,6,7,8,9-	1,2,3,4,6,7,8-	1,2,3,4,6,7,8-	1,2,3,4,7,8,9-	1,2,3,4,7,8-	1,2,3,4,7,8-	1,2,3,6,7,8-	1,2,3,6,7,8-	1,2,3,7,8,9-	1,2,3,7,8,9-	1,2,3,7,8-	1,2,3,7,8-	2,3,4,6,7,8-	2,3,4,7,8-	2,3,7,8-	2,3,7,8-
	Arialyte	TEQ	OCDF	OCDD	HpCDF	HpCDD	HpCDF	HxCDF	HxCDD	HxCDF	HxCDD	HxCDF	HxCDD	PeCDF	PeCDD	HxCDF	PeCDF	TCDF	TCDD
	Units	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg	ng/kg
Sediment C	leanup Level	5	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Reme	diation Level	NV	10000000	10000000	250000	310000	250000	980	200	980	1200	980	1200	550	98	980	6.5	86	3.3
Sample Location	Depth	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
LRIS-BKG-04-SS	0-10 cm	18	44	3,000	41	510	2.9	6.9	7.4	5.2	27	0.5 U	22	3.4	3.2	2.4	3	1.4	0.23
LRIS-CL-01-SS	0-10 cm	140 <sup>b</sup>	590	38,000	480	4,600	27	91	41	31	250	2.1 J	71	21	13	24	39	9.4	1.4
LRIS-CL-02-SS	0-10 cm	1400 <sup>b</sup>	2800 J	220000 J	6200 J	63000 J	430	1000	450	510	350	67 J	810 J	320	140 J	360	390 J	120	12 U
LRIS-CL-03-SS	0-10 cm	24	91	4800 J	83	800	3.9 J	12	8.1	5.2	43	0.44 J	16	3 J	3.1 J	4.5	4.5	1.8	0.29 U
LRIS-CL-04-SS	0-10 cm	300 <sup>b</sup>	790 J	64000 J	1100 J	12000 J	48 U	170	77 J	82 J	540	24 U	140 J	42 J	22 J	65 J	50 J	18	7.1 U
LRIS-CL-05-SS	0-10 cm	1.8	5.3 J	400	5.3	62	0.46 U	0.81 J	0.78 J	0.47 U	3.3	0.28 U	1.6 J	0.39 U	0.32 U	0.35 J	0.31 U	0.33 U	0.12 U
LRIS-CL-06-SS	0-10 cm	22	54 J	5000 J	51 J	780 J	4.4 U	6.8	8.5	5.6	34	1.4 U	17 J	3 J	3.3 J	2.9 U	2.9 J	1.4	0.38 U
LRIS-CL-07-SS	0-10 cm	32	110 J	8700 J	100 J	1300 J	5	10	8.3	7	55	1.6 U	17 J	4.1	3.1 J	5.2	3.9 J	2.1	0.27 U
LRIS-CL-08-SS	0-10 cm	27	66	4800 J	60	840	3 J	8.9	12	7.5	41	0.54 J	30	4.3 UJ	5.2	4.1 J	4 UJ	3	0.44 J
LRIS-CL-09-SS	0-10 cm	54	140	11000 J	130	2000	5.1 U	16	22	13	76	0.81 U	53	6.7 UJ	8.6	8	6.3 UJ	2.9	0.65 J
LRIS-CL-10-SS	0-10 cm	15	45	2500	35	400	1.9 U	5.3	7.2	5	26	0.39 J	16	2.7 UJ	3.3 J	3.1 J	2.4 UJ	0.81 U	0.15 U
LRIS-CL-11-SS	0-10 cm	27	64	3400	50	620	4 J	8.5	13	8.2	46	0.47 J	28	5.3	6.7	4.9 J	5 UJ	2.2	0.53 J
LRIS-CL-12-SS	0-10 cm	20	51	2800	41	490	3 U	6.9	9.5	6.3	32	0.51 J	21	4.1 UJ	5.2	4 J	4 UJ	1.8	0.4 U
LRIS-CL-13-SS	0-10 cm	1.9	7.2	330	5.3	53	0.85 UJ	0.99 UJ	0.62 J	0.5 U	2.7 J	0.08 U	2.6 UJ	0.24 U	0.35 J	0.41 J	0.35 J	0.32 U	0.38 UJ
LRIS-CL-14-SS	0-10 cm	26	65	3400	51	620	3.7 U	8.1	13	7.4	43	0.41 J	28	4.4 UJ	6.2	4.8 J	4.3 UJ	2.3	0.46 J
LRIS-CL-15-SS	0-10 cm	25	67	3500	51	620	3.4 J	8.6	13	7.3	39	0.42 U	25	4.8 UJ	6.1	5.6 J	4.5 UJ	2.6 U	0.57 J
LRIS-CL-01-SB-1-2	1-2 ft	5.5	25	1,700	18	190	1 U	2.7 J	1.7 J	1.2 J	7.5	0.52 J	2 J	1.1 U	0.63 J	0.78 J	1.7 J	0.56 J	0.14 U
LRIS-CL-02-SB-1-2	1-2 ft	130 <sup>b</sup>	330	32000 J	420	4600 J	23	71	40	31	250	3.4 J	56	25	11	19	30	13	0.56 U
LRIS-CL-03-SB-1-2	1-2 ft	1.1	3.7 J	490	2.9 J	24	0.41 U	0.57 U	0.61 J	0.44 U	1.2 J	0.5 U	0.91 J	0.5 U	0.32 U	0.38 U	0.57 U	0.2 J	0.13 U
LRIS-CL-04-SB-1-2	1-2 ft	2.1	5.5 J	510	6.8	78	0.39 U	1.4 J	0.58 J	0.54 J	3.8	0.29 U	1.4 J	0.45 J	0.23 U	0.24 U	0.41 U	0.49 J	0.081 U
LRIS-CL-05-SB-1-2	1-2 ft	0.74	0.99 U	37	0.61 U	5	0.19 U	0.24 U	0.16 J	0.14 U	0.35 J	0.18 J	3.1 U	0.17 U	0.091 U	0.12 U	0.14 U	0.47 J	0.61 U
LRIS-CL-06-SB-1-2	1-2 ft	0.31	0.43 U	43	0.49 U	6.4	0.11 U	0.067 U	0.13 J	0.064 U	0.4 J	0.069 U	0.27 J	0.17 U	0.13 U	0.061 U	0.19 U	0.28 U	0.057 U
LRIS-CL-07-SB-1-2	1-2 ft	0.65	2 U	130	1.9 J	19	0.54 U	0.31 J	0.22 U	0.16 U	1 J	0.15 U	0.52 U	0.16 U	0.24 U	0.16 U	0.2 U	0.11 U	0.093 U
LRIS-CL-02-SB-2-3	2-3 ft	2.5	3.5 U	280	6.2	39	2.7	0.93 UJ	0.42 U	0.44 U	2.3 J	0.49 U	4.6 U	0.8 U	1.7 U	0.44 U	0.81 U	0.64 U	0.66 U

# **EXHIBIT B**

**Site and Property Diagram** 



# **EXHIBIT C**

**Project Schedule** 

## Pacific Wood Treating Consent Decree Project Schedule\*

Performance or Deliverable	Explanation	Schedule
Monthly Reporting		
Monthly Report	Reporting monthly status of work cleanup completed as outlined in the Cleanup Action Plan (CAP)	Submit report to Ecology by the 17 <sup>th</sup> of each month
Lake River Industrial Site		
Lake River Industrial Site (LRIS) Interim Action Completion Report	This report will document work not previously reported for interim action work in Cells 1 through 4.	Draft: By October 1, 2013 Final: Within 30 days of receiving Ecology comments on the draft
PORT-OWNED PROPER	ΓΙΕS	
Railroad Avenue Engineering Design Report (EDR)	Engineering design for soil capping Railroad Avenue parcels	<b>Draft</b> : Submit by the end of August 2013 <b>Final</b> : Within 30 days of receiving Ecology comments on the draft
Railroad Avenue Construction Plans and Specifications	Plans and specifications for capping Railroad Avenue parcels	<b>Draft</b> : Submit by the end of August 2013 <b>Final</b> : Within 30 days of receiving Ecology comments on the draft
Railroad Avenue Cleanup Construction	Implementing the capping construction work	Begin construction within 90 days of receiving Ecology approval of Construction Plans and Specifications

### Pacific Wood Treating Consent Decree Project Schedule\*

Performance or Deliverable	Explanation	Schedule
Railroad Avenue Construction Completion Report	Construction completion report and as-built for capping work at Railroad Avenue parcels	Draft: Submit within 90 days of capping completion Final: Within 30 days of receiving Ecology comments on the draft
Overpass Property EDR	Engineering design for soil capping of Overpass Property	Draft: Submit by the end of August 2013 Final: Within 30 days of receiving Ecology comments on the draft
Overpass Property Construction Plans and Specifications	Plans and specifications for capping Overpass Property	<b>Draft</b> : Submit within 30 days of submittal of Engineering Design Report for Overpass property <b>Final</b> : Within 30 days of receiving Ecology comments on the draft
Overpass Property Cleanup Construction	Implementing the capping construction work	Begin construction within 30 days of receiving Ecology approval of Plans and Specifications
Overpass Property Construction Completion Report	Construction completion report and as-built for capping work at Overpass Property	Draft: Submit within 90 days of capping completion Final: Within 30 days of receiving Ecology comments on the draft
Port Marina Property Construction Completion Report	Asphalt and soil capping is already complete	Not applicable

#### **LAKE RIVER and CARTY LAKE**

## Pacific Wood Treating Consent Decree Project Schedule\*

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Performance or	Explanation	Schedule
Deliverable		
Lake River EDR	Engineering design report documenting dredging, enhanced	<b>Draft</b> : Within 7 days of the effective date
	natural recovery (ENR) sand cap placement and shoreline	of this Consent Decree (CD)
	stabilization along Lake River. It is acknowledged that details	
	of the project design may be modified after Ecology review of	
	draft, in response to comments from permitting agencies during	<b>Final:</b> Within 30 days of receiving permit
Lake River Construction	the U.S. Army Corps of Engineers 404 permit process.  Construction plans and specifications for Lake River. Plans	approval from Corps of Engineers <b>Draft</b> : Within 90 days of receiving permit
Plans and Specifications	and specifications shall include measures determined for	approval from Corps of Engineers
Tans and Specifications	cultural resources protection as determined during Corps of	<b>Final</b> : Within 30 days of receiving Ecology
	Engineers permit Section 106 consultation with tribes.	comments on draft
Lake River Cleanup	Implementing dredging, ENR and shoreline stabilization and	Begin construction within 90 days of
Construction	planting construction work	receiving Ecology approval on Plans and
		Specifications
Lake River Construction	Construction completion report and as-built for Lake River	<b>Draft</b> : Within 90 days from demobilizing
Completion Report	cleanup	construction equipment from the site
		<b>Final</b> : Within 30 days of receiving Ecology
		comments on draft
		D 6: XXIII 00 1 61 61
Carty Lake EDR	Engineering design report for dredging, residuals management	<b>Draft</b> : Within 30 days of days of the
	capping, wetland restoration and bulkhead replacement at Carty Lake. It is acknowledged that details of the project design may	effective date of this Consent Decree  Final: Within 30 days of receiving permit
	be modified after Ecology review of draft, in response to	approval from Corps of Engineers
	comments from permitting agencies during the U.S. Army	approvar from corps of Engineers
	Corps of Engineers 404 permit process.	
Carty Lake Construction	Construction plans and specifications for Carty Lake. Plans	<b>Draft</b> : Within 90 days of receiving permit
Plans and Specifications	and specifications shall include measures determined for	approval from Corps of Engineers
-	cultural resources protection as determined during Corps of	<b>Final</b> : Within 30 days of receiving Ecology
	Engineers permit Section 106 consultation with tribes.	comments on draft

### Pacific Wood Treating Consent Decree Project Schedule\*

Performance or Deliverable	Explanation	Schedule
Carty Lake Cleanup Construction	Implementing dredging, residuals management capping, wetland restoration and bulkhead replacement at Carty Lake	Begin construction within 90 days of receiving Ecology approval on Plans and Specifications.
Carty Lake Construction Completion Report	Construction completion report and as-builts for Carty Lake cleanup	<b>Draft</b> : Within 90 days from demobilizing construction equipment from the site <b>Final</b> : Within 30 days of receiving Ecology comments on draft

#### INSTITUTIONAL CONTROLS AND MONITORING

Soil Management and Cap Maintenance Plan	Plan for maintenance and monitoring of soil caps on LRIS and Port-owned properties	Draft: Was submitted prior to effective date of Consent Decree Final: Within 30 days of receiving Ecology comments on the draft
Lake River Sediment and Bank Operations and Maintenance and Monitoring Plan	Maintenance and monitoring plans for ENR and bank	Draft: Within 90 days of receiving Ecology approval on the Construction Plans and Specifications Final: Within 30 days of receiving Ecology comments on draft
Carty Lake Sediment and Bank Operations and Maintenance and Monitoring Plan	Maintenance and monitoring plans for ENR, wetland restoration and bulkhead installation	Draft: Within 90 days of receiving Ecology approval on the Construction Plans and Specifications Final: Within 30 days of receiving Ecology comments on draft

## Pacific Wood Treating Consent Decree Project Schedule\*

Performance or Deliverable	Explanation	Schedule
Environmental Covenant	A draft Environmental Covenant will be submitted to Ecology using the form provided by Ecology. A final Environmental Covenant, incorporating Ecology comments, shall be recorded with Clark County Auditor. The covenant shall prohibit groundwater use; require measures to protect future building indoor air from vapor migration, require adherence to the soil management and cap maintenance plan.	Draft: Within 60 days before projected completion of capping measures on Port owned property Final: The Environmental Covenant shall be recorded within 10 days of completion of capping measures on Port-owned property
Comprehensive Operations and Maintenance Plan (COMP)	The COMP shall include:  • The approved Soil Management and Cap Maintenance Plan  • A copy of the recorded Environmental Covenant  • A copy of the Compliance Monitoring Plan (groundwater)  • Sediment and Bank Operations and Maintenance and Monitoring Plan for Lake River remediation area  • Sediment and Bank Operations and Maintenance and Monitoring Plan for Carty Lake remediation area	Draft: Within 60 days before projected completion of capping measures on Port owned property Final: Submit within 10 days of Environmental Covenant being recorded with Clark County
* Refer to Sections I and VI		
of Cleanup Action Plan		
(Introduction and Work to Be Performed)		