

Environmental (Restrictive) Covenant Master Plan

Prepared for
Port of Vancouver

September 2013

Prepared by
Parametrix

Environmental (Restrictive) Covenant Master Plan

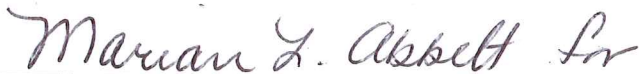
Submitted to:

Washington Department of Ecology

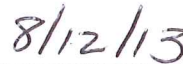
Submitted by:

Port of Vancouver, U.S.A.

State of Washington Department of Ecology Approval



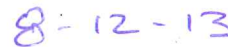
Rebecca S. Lawson, P.E., LHG
Section Manager, Toxics Cleanup Program
Southwest Regional Office
State of Washington Department of Ecology



Date



Garin Schrieve, P.E.
Industrial Section Manager
Waste 2 Resources Program
State of Washington Department of Ecology



Date

Port of Vancouver Approval



Patty Boyden
Director of Environmental Services
Port of Vancouver



Date

Environmental (Restrictive) Covenant Master Plan

Prepared for

Port of Vancouver
3103 NW Lower River Road
Vancouver, WA 98660

Prepared by

Parametrix
700 NE Multnomah, Suite 1000
Portland, OR 97232-4110
T. 503.233.2400 T. 360.694.5020 F. 503.233.4825
www.parametrix.com

September 2013

CITATION

Parametrix. 2013. Environmental (Restrictive)
Covenant Master Plan. Prepared by Parametrix,
Portland, Oregon. September 2013.

Exhibit 1

Record of Amendment Form

Provide a detail description of the proposed amendment to the Environmental (Restrictive) Covenant Master Plan.

AMENDMENT	DATE

Authorized Port of Vancouver Signature

Date of Approval

Authorized Washington Department of Ecology Signature

Date of Approval

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A Notification Forms (to be filed)

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1. INTRODUCTION

On behalf of the Port of Vancouver, USA (the port), Parametrix has prepared this Environmental (Restrictive) Covenant Master Plan (Master Plan) to facilitate the process for conducting construction activities on port properties with existing Environmental (Restrictive) Covenants. To meet its mission of sustainable economic development, the port conducts both large-scale and small-scale projects that could impact Environmental (Restrictive) Covenant properties. These include construction of new rail lines and associated infrastructure, construction of new buildings, storage tanks, or other facilities, utility system upgrades (i.e. water, electrical, natural gas, etc.), stormwater management upgrades (ponds, piping, etc.), and miscellaneous other infrastructure necessary to maintain an operating port facility.

As an active marine and industrial facility, many of the port's projects require working within Environmental (Restrictive) Covenant areas and this is expected to be continued. The concept for the Master Plan was developed by the port and its implementation is being completed in cooperation with the Washington Department of Ecology (Ecology). Ecology provided input to the Master Plan development and has reviewed and approved this Master Plan for use by the port for the following four specific properties:

- Former Carborundum Ponds, Plant and Fill Areas
- Former Automotive Services, Inc. (ASI) Property
- Former Fort Vancouver Plywood Property
- Port of Vancouver Terminal 5 (Former Alcoa Property)

The port has completed or is continuing cleanup projects on several properties in accordance with the Washington Model Toxics Control Act (MTCA), which are overseen by Ecology. As part of the institutional controls for the final remedies, an Environmental (Restrictive) Covenant(s) have been or will be recorded pursuant to Washington Administrative Code (WAC) 173-340-440. In the context of environmental cleanup projects, when the remedial action at the site results in concentrations of hazardous substances exceeding the MTCA cleanup level remaining at the site, institutional controls are required. Ecology typically uses Environmental (Restrictive) Covenants as the institutional control.

An Environmental (Restrictive) Covenant is an agreement between the land owner (e.g. the port) and the regulatory agency (e.g. Ecology) which limits or places restrictions on a specific property, typically land use or other property activities that may interfere with the integrity of a cleanup action or that may result in exposure to hazardous substances at a specific property.

The intent of the Environmental (Restrictive) Covenant is to ensure that site use is consistent with, and will not interfere with, the final cleanup determination made by Ecology, generally in the form of a Cleanup Action Plan (CAP). The CAP may include engineering or institutional controls, remedial actions, and/or monitoring requirements for the site, which are based on current and potential

future land use assumptions and associated risk evaluations. The Environmental (Restrictive) Covenant outlines permitted and non-permitted activities for the site, as well as requiring that Ecology be notified and approve any activity on the property that may result in the release or exposure to the environment of a hazardous substance that remains on the property as part of the remedial action. This Master Plan was developed to maintain the Environmental (Restrictive) Covenants of the properties and provide approval by Ecology for specific construction activities that may occur, provided the requirements of this plan are met.

Other than the activities expressly permitted by this Master Plan, the port must obtain prior written approval from Ecology for any activity that may result in the release or exposure to the environment of a hazardous substance that remains on the properties or that may result in a new exposure pathway. The port may not use the site(s) in any manner that is inconsistent with the Environmental (Restrictive) Covenants without prior approval from Ecology after public notice and comment (WAC 173-340-440(9)(f)). Activities expressly permitted by this Master Plan are not considered inconsistent with the Environmental (Restrictive) Covenants. Ecology's approval of this Master Plan does not constitute approval for any other environmental permits or discharges that may be necessary for construction activities at the port's property.

1.1 PURPOSE AND OBJECTIVES

The purpose of the Master Plan is to expedite and provide approval for construction activities that could occur in Environmental (Restrictive) Covenant areas, provided the requirements of this plan are met. The intent is to save time for both Ecology and port staff, while retaining the protective nature of the institutional controls.

The port owns and operates many sites at their facilities that contain Environmental (Restrictive) Covenants and has sought approval from Ecology for construction or other activities in accordance with the respective Environmental (Restrictive) Covenants. In the past, each activity would require a separate request from the port and submittal of project documents to Ecology. Ecology would review the plans, which would generally include site drawings, scope of work, media management procedures, and provide review, comment and approvals.

This Master Plan is intended to cover specific potential construction activities in the Environmental (Restrictive) Covenant areas for four specific properties which have recorded Environmental (Restrictive) Covenants:

- Former Carborundum Ponds, Plant and Fill Areas
- Former Automotive Services, Inc. (ASI) Property
- Former Fort Vancouver Plywood Property
- Port of Vancouver Terminal 5 (Former Alcoa Property)

Ecology's approval of the Master Plan provides the approval of specific activities listed in Section 3.3 for those four specific properties. Ecology's approval of the Master Plan shall not be interpreted to be an approval of construction activities at other Port properties.

The objectives of the Master Plan are to:

1. Identify and define the Environmental (Restrictive) Covenant areas at the port.
2. Describe existing environmental conditions in the Environmental (Restrictive) Covenant areas.
3. Outline potential construction activities that could occur in Environmental (Restrictive) Covenant areas.
4. Provide protocols and procedures for completing construction activities, including procedures to protect project related personnel, the public and the environment from potential exposure of hazardous substances during project construction in Environmental (Restrictive) Covenant areas.
5. Provide protocols and procedures for managing, characterizing and disposal of soil, debris, and/or water.
6. Provide notification and documentation procedures for the construction project(s).

1.2 UPDATES TO THE MASTER PLAN

The Master Plan will be reviewed by the port with each submittal to ensure that it contains current up-to-date information. If necessary, the Master Plan will be updated or amended to reflect new information. The Master Plan has been designed such that with the approval of Ecology, additional Environmental (Restrictive) Covenant areas can be incorporated as an additional Section at the end of the Master Plan.

The Master Plan shall be only amended by the written consent of both Ecology and the port. The party proposing an amendment shall use the Record of Amendment form (Exhibit 1) and submit the proposal to the other party. The reviewing party will indicate its approval or disapproval in writing and in a timely manner after the written request for amendment is received. Amendments to the Master Plan must be approved by both parties prior to implementation. This includes inclusion of a new Environmental (Restrictive) Covenant area or addition of activities that are not listed in the categories in Section 3.3. The Record of Amendment form is included as Exhibit 1.

1.3 TERMINATION OF THE MASTER PLAN

The Master Plan serves as an agreement between the port and Ecology and has been established to provide approval for specific construction activities on four specific properties which have recorded Environmental (Restrictive) Covenants.

At any time, either party has the right to terminate the Master Plan. A party wishing to terminate the Master Plan must provide 30-day written notice of termination to the other party.

1.4 COMPONENTS OF THE MASTER PLAN

The Environmental Restrictive Covenant Master Plan is organized as follows:

Chapter 1.0 - Introduction

Chapter 2.0 - Port of Vancouver Facility and Environmental (Restrictive) Covenants

Chapter 3.0 - Master Plan Framework

Site Sections are as follows:

Section A. Former Carborundum Facility, Former Fort Vancouver Plywood (FVP) Site, Former Automotive Services, Inc. (ASI) Site, and Port of Vancouver Terminal 5.

Each Section of the Master Plan includes a Notification Form, a map of the Environmental (Restrictive) Covenant areas, the recorded Environmental (Restrictive) Covenant documents, and a Contaminated Media Management Plan.

2. PORT OF VANCOUVER FACILITY AND RESTRICTIVE COVENANTS

The following sections summarize the Port of Vancouver operations and the Environmental (Restrictive) Covenant areas related to the Master Plan.

2.1 LOCATION AND OPERATIONS

The Port of Vancouver is located on the west side of Vancouver, Washington, adjacent to the Columbia River (Figure 1). The port's mission is to provide economic benefit to the community through leadership, stewardship and partnership in marine and industrial development. Developed port land is zoned industrial and is predominantly paved or graveled to allow for industrial activities and cargo movement by ship, truck, and rail.

The majority of the port's developed property is occupied by tenants who perform a variety of industrial and marine-related activities such as bulk product handling, auto/steel imports, and manufacturing. These areas often require site upgrades, and facilities management, which can involve soil excavation and pavement removal/replacement. Future development of areas could involve excavation, grading, and paving to allow for industrial or marine use.

2.2 PORT OF VANCOUVER ENVIRONMENTAL CLEANUP PROJECTS

Since the mid-1990s, the port has returned contaminated sites to productive property for use by tenants such as Pacific Coast Shredding, TriStar Transload PNW, and Cal Portland. With the purchase of the former Alcoa smelter property in 2009, an additional 218 acres of brownfields was returned to productive use at the port's Terminal 5. By July 2009, Terminal 5 was graded and graveled for storage of wind energy components. Additional development included the construction of a loop track as part of the West Vancouver Freight Access project and storage for marine operations.

The port works closely with Ecology to ensure site cleanup activities are conducted in a timely manner, and in accordance with MTCA, and other applicable laws and regulations. Ecology provides technical and regulatory oversight and, in some cases, shares the cost of investigation and cleanup under the Remedial Action Grants Program. Final cleanup remedies employed by the port have included active remedial actions, long-term monitoring, and/or engineering or institutional controls.

This Master Plan is for four port properties that utilized institutional controls in the form of an Environmental (Restrictive) Covenant. The four sites, including the facility site (FS) number, and the associated Environmental (Restrictive) Covenant number/date include:

- Former Carborundum Ponds, Plant (FS # 1012) and Fill Area (FS# 1047)
 - RC 9802230223, February 20, 1998 (Plant Site)

- RC 9802230224, February 20, 1998 (Fill Site)
- RC 9802230225, February 20, 1998 (Ponds)
- Former Automotive Services, Inc. (ASI) (FS#4380)
 - RC 5015545-COV, August 29, 2013
- Former Fort Vancouver Plywood Property (FS #1029)
 - RC 3226928, February 26, 1999 (Cell 1)
 - RC 4155720-COV, April 12, 2006 (Cell 2)
- Port of Vancouver Terminal 5 (Former Alcoa Property) (FS # 21, 22, 23, 24 and 25)
 - RC 4545480-COV, March 26, 2009 (East LF, N/N2 LF, Shoreline)
 - RC 42465-0003, December 31, 2008 (Ingot Plant)
 - RC 9603120195, March 8, 1996 (Vanexco)
 - RC 9212960226, March 23, 1992 (SPL Landfill)

A summary of these areas are presented in the following sections.

2.2.1 Former Carborundum Site

The Carborundum Company manufactured abrasive silicon carbide at its facility from 1949 until operations ceased in 1982, at which time the port purchased the property. The manufacturing process produced baghouse dust, slurries of which were disposed of in ponds to the northwest of the facility. After the port took possession of the property, heavy metals and polycyclic aromatic hydrocarbons (PAHs) were discovered in the disposal ponds. The ponds were subsequently excavated and capped. As part of early remedial activities, debris material was placed at a port-owned designated fill area to the northwest of the facility. The Carborundum plant, ponds, and fill areas are shown on Figure 2.

Environmental (Restrictive) Covenants are in place for the pond area, the fill area, and the plant area of the former Carborundum Company. The three parcels of the property are part of the same site, but each have a separate Environmental (Restrictive) Covenant. Ecology issued a no further action (NFA) determination for the site in 1998. The location of the Environmental (Restrictive) Covenant areas is shown on Figure 2. Details of the contaminants of concern (COCs), areas of impact, remedial actions conducted, and cap design and coverage is included in Section 2.1 of the CMMP in Section A.

2.2.2 Former Fort Vancouver Plywood Site

This property was the site of industrial activities, mostly wood-related manufacturing, for over 70 years. The last known industrial operation was a former plywood mill that closed in 1996. Site investigation revealed that the soil has been contaminated with petroleum hydrocarbons, PAH, metals, and volatile organic compounds (VOCs) exceeding Ecology standards. A remedial investigation and feasibility study (RI/FS) was completed for the site in 1998.

Remedial actions include excavation of contaminated soil, removal of debris-containing soil, construction of a riprap bank protection system, and backfilling the property and placement of an asphalt cap. Long-term groundwater monitoring was implemented as part of the final remedy. This site is now in use by a metal recycling facility. Restrictive Covenants for Cell 1 and Cell 2 were required as part of the final remedy and are shown on Figure 2. Details of the COCs, areas of impact, remedial actions conducted, and cap design and coverage is included in Section 2.2 of the CMMP in Section A.

2.2.3 Automotive Services, Inc. (ASI) Site

The ASI facility was constructed in 1972 and previously used kerosene to remove under-coatings from foreign automobile imports. Kerosene-impacted soils were identified onsite. Diesel-contaminated soils, which may not be related to former ASI activities, were also identified. The port successfully cleaned up the majority of the site using bioremediation, and the majority of the soil cleanup was completed by 2001. However, some residual impacted soil was inaccessible and was left in place. Groundwater sampling was conducted following soil remedial actions. As of 2012, diesel continues to exceed MTCA cleanup levels in one monitoring well and groundwater monitoring is ongoing. The site has been returned to productive use as a ready mix concrete facility. An Environmental (Restrictive) Covenant was placed on the property as part of the final remedy and is shown on Figure 2. Details of the COCs, areas of impact, remedial actions conducted, and cap design and coverage is included in Section 2.3 of the CMMP in Section A.

2.2.4 Terminal 5

In early 2009, the port acquired the Evergreen and Alcoa properties, which comprise the port's Terminal 5. Alcoa operated an aluminum smelter on the property from 1940 until 1987 when it sold the operation to Vanalco, Inc. Evergreen Aluminum purchased the site in 2002 but did not operate the smelter.

As a result of the smelting operations, soil and groundwater were impacted by several contaminants of concern, including PCBs, PAHs, and fluoride. Ecology required Alcoa and Evergreen to remediate their property to industrial cleanup levels and issued several orders outlining required cleanup actions throughout the site. Under a 2007 Enforcement Order 25 (EO), Evergreen completed building demolition and soil removal in 2008. Ecology issued a Final Project Approval letter in December 2008, stating Evergreen had satisfied the terms of the EO. Alcoa completed building demolition, soil removal, and shoreline/sediment cleanup in April 2009. Ecology issued a Final Project Approval letter for the Alcoa consent decree in March 2010. Alcoa and Ecology entered into a site-wide Consent Decree that held Alcoa responsible for remediation obligations referenced in the decree (URS 2008). The port acquired the property in 2009 and was obligated to finish the remaining tasks under the Consent Decree. Remedial activities are primarily complete; however, residual concentrations of contaminants remain in place and the port is required to

maintain the cap(s) in accordance with the Environmental (Restrictive) Covenant(s).

By July 2009, Terminal 5 was graded and graveled for storage of wind energy components. Additional development included the construction of a loop track as part of the WVFA project. A portion of Terminal 5 is proposed for future development as a potash handling facility.

Past uses of Terminal 5 resulted in significant groundwater and soil contamination, which has largely been cleaned up. A number of Environmental (Restrictive) Covenants have been placed on the property for separate parcels or areas including:

- Shoreline
- Ingot Plant
- North and North 2 Landfills
- SPL Landfill
- Site-wide Groundwater
- Vanexco
- East Landfill

The Environmental (Restrictive) Covenant areas are shown on Figure 3. Details of the COCs, areas of impact, remedial actions conducted, and cap design and coverage is included in Section 2.4 of the CMMP in Section A. At the request of the port, the East Landfill is not included as part of this Master Plan.

3. MASTER PLAN FRAMEWORK

The following provides the framework for the Environmental (Restrictive) Covenant Master Plan.

3.1 RATIONALE AND GENERAL PROCESS

The purpose of the Master Plan is to provide a central document that incorporates all the port's Environmental (Restrictive) Covenant areas and to provide approval for construction activities. As described, the port owns and operates many sites at their facilities that contain Environmental (Restrictive) Covenants and has sought approval from Ecology for all construction or other activities in accordance with the respective Environmental (Restrictive) Covenants.

In the past, each activity required a separate request from the port and submittal of project documents to Ecology. Ecology provided review, comments and approvals. While the process has worked adequately, it does create time constraints for fast-track projects and requires a significant amount of responsibility and effort for port and Ecology staff that could be reduced using a programmatic approach while still maintaining protection for human health and the environment. The Master Plan was primarily designed to outline how the port will approach, conduct, and oversee construction activities in the Environmental (Restrictive) Covenant areas, while maintaining the conditions of the Environmental (Restrictive) Covenants, complying with Ecology rules and regulations and continuing to maintain the integrity of cleanup actions at the various Port-owned sites.

By approval of this Master Plan, Ecology "pre-approves" the specific construction activities identified herein on four specific properties which have recorded Environmental (Restrictive) Covenants, so long as the specific construction activities are conducted in accordance with the notification, procedures, and processes outlined in the Master Plan and the site-specific CMMP(Section A).

3.2 APPLICABILITY OF THE MASTER PLAN

This Master Plan was developed to provide approval by Ecology of specific construction and disposal activities on four specific properties which have recorded Environmental (Restrictive) Covenants:

- Former Carborundum Ponds, Plant and Fill Areas
- Former Automotive Services, Inc. (ASI) Property
- Former Fort Vancouver Plywood Property
- Port of Vancouver Terminal 5 (Former Alcoa Property)

The activities allowed by this plan are routine in nature; and will consist of maintenance and routine facility infrastructure and upgrades. These routine projects typically consist of breaching the caps for placement of necessary facility

infrastructure and upgrades (stormwater catchbasins, rail line, piping, utilities, roadwork etc.). In addition, environmental and/or geotechnical investigative activities such as test pits, soil borings and monitoring wells are allowed under this Master Plan. The CMMPs developed for the specific Environmental (Restrictive) Covenant properties are intended to cover contaminated media management for these types of port activities.

This Master Plan and the associated CMMP does not permit expansion and development projects within the Environmental (Restrictive) Covenant properties. For projects of this nature, the port will submit the project scope and schematics for Ecology approval as outlined in the applicable Environmental (Restrictive) Covenant for the area.

Other than the activities expressly permitted by this Master Plan, the port must obtain prior written approval from Ecology for any activity that may result in the release or exposure to the environment of a hazardous substance that remains on the properties or that may result in a new exposure pathway. The port may not use the site(s) in any manner that is inconsistent with the Environmental (Restrictive) Covenants without prior approval from Ecology after public notice and comment (WAC 173-340-440(9)(f)). Activities expressly permitted by this Master Plan are not considered inconsistent with the Environmental (Restrictive) Covenants. Ecology's approval of this Master Plan does not constitute approval for any other environmental permits or discharges that may be necessary for activities at the port's property.

3.3 ACTIVITIES COVERED UNDER THE MASTER PLAN

The Environmental (Restrictive) Covenants require prior written Ecology approval for any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or that creates a new exposure pathway. The activities associated with routine maintenance and infrastructure projects covered under this Master Plan are grouped into the following general categories:

- **Excavation** – Excavation includes the movement and removal of subsurface soil at the site.
- **Grading** – Grading includes movement and manipulation of soils to achieve design grades. Grading is generally confined to surface soils. Excess soils may be generated based on the grade desired (and managed similar to direct excavation of soils). In some cases, imported fill material may be necessary to achieve design grades. Grading activities include clearing and grubbing of brush and other surface features.
- **Subsurface Drilling** – Drilling can include a variety of methods and equipment. In general, drilling conducted at the port would typically cover geotechnical borings, installation of monitoring wells or piezometers, and completion of investigations using geoprobe, cone penetrometers, or other similar methods and equipment. This activity also includes

decommissioning of monitoring wells or repair of monitoring wells, monuments or other infrastructure associated with monitoring wells.

As part of the Master Plan concept, a CMMP has been developed for the properties to include potential construction activities, rather than being developed for a specific project with known design and planning documents. By incorporating the CMMP into this Ecology-approved Master Plan, activities covered under and comply with the CMMP and are conducted within Environmental (Restrictive) Covenant properties are deemed pre-approved by Ecology without the Port's submitting a request through a formal approval process (i.e., obtaining prior written approval from Ecology). However, notification to Ecology of activities conducted within the Environmental (Restrictive) Covenant properties is required by the port as outlined in this Master Plan.

3.4 NOTIFICATION REQUIREMENTS

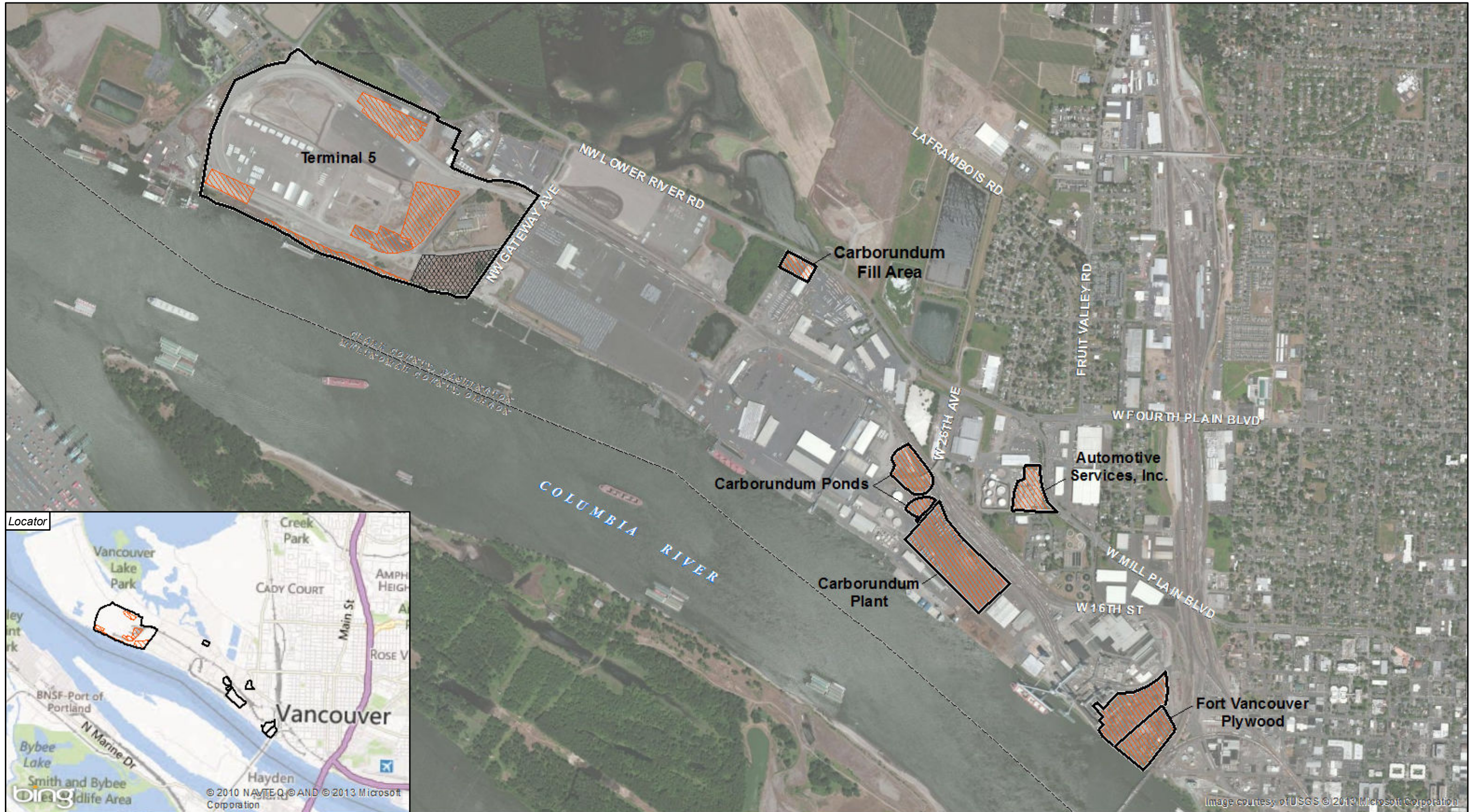
A major component of the Master Plan is the "pre-approval" of routine construction activities within Environmental (Restrictive) Covenant properties. For each project being conducted by the port, the port will notify Ecology of work within the Environmental (Restrictive) Covenant properties 14 days prior to commencing the work. If Ecology determines the project is not appropriate to be managed under this Master Plan, Ecology will notify the port and require preapproval prior to commencing construction of the project.

In certain circumstances, the 14 day notification may not be possible. These include emergency situations requiring immediate response. For these rare instances, the port will notify Ecology as soon as possible. A blank notification form is included at the beginning of each site Section in this Master Plan. The notification form shall be sent to the designated project manager for specific site. Notification should be sent via email as the preferred method. Copies of all notification forms and other Ecology correspondence should be filed in Appendix A and B, respectively, of this Master Plan.

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FIGURES








**Figure 1
Site Map**

Environmental (Restrictive) Covenant Master Plan
Port of Vancouver
Vancouver, Washington

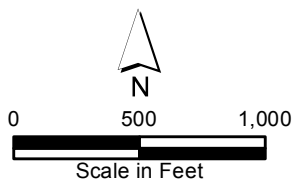
Note: The Environmental (Restrictive) Covenant Master Plan only addresses the restrictive covenant areas shown above.

 Restrictive Covenant Area
 State Boundary


 0 500 1,000
 Scale in Feet



bing™
 Parametrix Date: 8/7/2013 Name: ERCMP_FocusArea_South.mxd



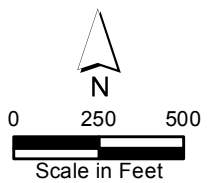
Study Area



Figure 2
Carborundum, Automotive Services, Inc. and
Fort Vancouver Plywood
Restricted Covenant Areas
 Environmental (Restrictive) Covenant Master Plan
 Port of Vancouver
 Vancouver, Washington



Figure 3
Terminal 5 Restrictive Covenant Areas

Environmental (Restrictive) Covenant Master Plan
 Port of Vancouver
 Vancouver, Washington



-  Restrictive Covenant Area
-  Restrictive Covenant Area not included in ERCMP

SECTION A

Former Carborundum Facility

Former Fort Vancouver Plywood Site

Former Automotive Services, Inc. Site

Port of Vancouver Terminal 5 Site

Section A is divided into three sub-sections, which include the following:

- Notification Form – This form provides notification to Ecology of the port's intent to perform a construction project that impacts an Environmental (Restrictive) Covenant area.
- Environmental (Restrictive) Covenant(s) – These legal documents outline permitted and non-permitted activities for the property with the intent to ensure that property use does not interfere with the integrity of the cleanup action or does not result in exposure of hazardous substances at the property.
- Contaminated Media Management Plan – This document provides instruction and guidance for potential development and construction activities, including special conditions and considerations, within the Restrictive Covenant area(s). This CMMP includes potential construction activities at the site, rather than being developed for a specific project with known design and planning documents.

Construction Notification

Activities Proposed

Concise Description of Proposed Activities (Attach additional information as necessary)

Anticipated Construction Start Date

Anticipated Construction Completion Date

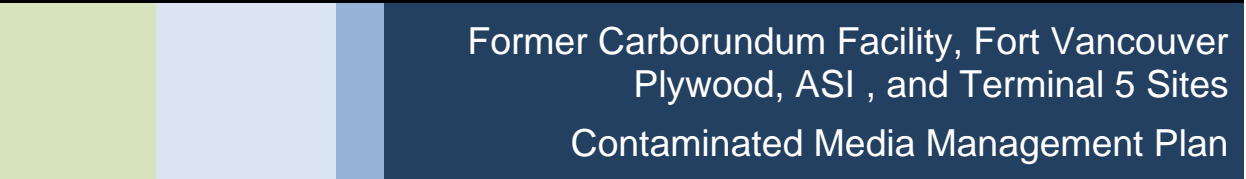
Identify what contaminated media is going to be impacted (for example – soil (arsenic).

Describe Area of Impact
(Attach map or drawing)

I have reviewed the Contaminated Media Management Plan (CMMP) for the _____ site at the Port of Vancouver, in Vancouver, WA. I acknowledge that the proposed activities listed above will be conducted in accordance with the CMMP.

Authorized Port of Vancouver Signature

Date



Former Carborundum Facility, Fort Vancouver
Plywood, ASI , and Terminal 5 Sites
Contaminated Media Management Plan

Contaminated Media Management Plan
Environmental (Restrictive) Covenant Areas
Former Carborundum Facility, Fort
Vancouver Plywood, ASI, and
Terminal 5 Sites
Port of Vancouver
Vancouver, WA

Prepared for

Port of Vancouver
3103 NW Lower River Road
Vancouver, WA 98661

Prepared by

Parametrix
700 NE Multnomah, Suite 1000
Portland, OR 97232-4110
T. 503.233.2400 T. 360.694.5020 F. 503.233.4825
www.parametrix.com

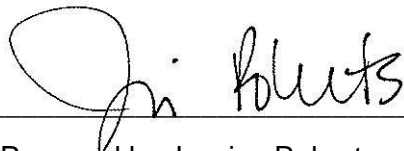
September 2013

CITATION

Parametrix. 2013.
Contaminated Media Management Plan
Environmental (Restrictive) Covenant Areas
Former Carborundum Facility, Fort Vancouver
Plywood, ASI, and Terminal 5 Sites
Port of Vancouver
Vancouver, WA
Prepared by Parametrix, Portland, Oregon.
September 2013.

CERTIFICATION

The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, whose seal, as a professional engineer licensed to practice as such, is affixed below.



Prepared by Jessica Roberts



Approved by Rick Wadsworth, P.E.



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Figure 2	Carborundum, Automotive Services, Inc. and Fort Vancouver Plywood Environmental (Restrictive) Covenant Areas
Figure 3	Terminal 5 Environmental (Restrictive) Covenant Areas

1. INTRODUCTION

On behalf of the Port of Vancouver (the port), Parametrix has prepared this Contaminated Media Management Plan (CMMP) to support potential development and/or construction activities within the Former Carborundum, Fort Vancouver Plywood, Automotive Services, Inc., or the Terminal 5 sites (Figure 1). Environmental (Restrictive) Covenants have been required at the sites by the Washington Department of Ecology (Ecology), which are primarily used to: 1) define or set approved land use restrictions, 2) prevent disturbance and exposure of contaminated media, 3) provide notification requirements for potential development or construction activities and/or changes in land use, and 4) ensure property acquisition or occupancy notification and land use restrictions to future Owners and/or lessors.

This CMMP was developed as part of the port's Environmental (Restrictive) Covenant Master Plan (Master Plan), which covers Environmental (Restrictive) Covenant areas within the port's property holdings. The primary purpose of this CMMP is to outline general procedures for handling and management of contaminated soil and/or groundwater during potential construction or other development activities in the Environmental (Restrictive) Covenant area(s).

Due to the Restrictive Covenant agreements, construction activities generally require a written request and plan for review and approval by Ecology. As part of the Master Plan concept, this CMMP has been developed to include potential construction activities at the site, rather than being developed for a specific project with known design and planning documents. By incorporating this CMMP into the Ecology-approved Master Plan, activities covered under this CMMP and conducted within the Environmental (Restrictive) Covenant areas are deemed pre-approved by Ecology, without submittal of a request through a formal approval process. However, 14-days prior notification to Ecology of any activities conducted within the Environmental (Restrictive) Covenant areas is required by the port as outlined in the Master Plan and this CMMP.

1.1 PURPOSE AND OBJECTIVES

The purpose of this CMMP is to provide general guidelines and procedures for assessing and managing contaminated media during any potential construction activities overseen by the port in the Environmental (Restrictive) Covenant areas. Proper media management is necessary to ensure that construction activities are consistent with the Environmental (Restrictive) Covenant(s).

This CMMP establishes minimum requirements approved by Ecology and the port. Contractors working within the Environmental (Restrictive) Covenant areas must comply with these minimum requirements, but may also be subject to additional requirements and protocols specified in contract documents, if any.

This CMMP applies during construction and disposal activities within the Environmental (Restrictive) Covenant areas.

Management procedures discussed in this CMMP have been developed to be consistent with general Ecology rules and regulations for solid and hazardous materials management and site-specific conditions identified in the Environmental (Restrictive) Covenant.

The objectives of this CMMP are to:

- Describe existing environmental conditions in the Environmental (Restrictive) Covenant areas.
- Describe potential construction activities that may occur at the site.
- Provide protocols and procedures for completing construction activities.
- Provide protocols and procedures for managing, characterizing and disposal of soil, debris, and/or water.
- Provide procedures to protect project related personnel from potential exposure of contamination during project construction.
- Provide procedures to protect ecological receptors from potential exposure from contamination during project construction.

In general, the primary activities expected at the site to be covered under this CMMP include:

- Excavation, including utility trenching activities,
- Subsurface borings,
- Earth work, including grading, grubbing, and similar activities,
- Dewatering and/or other groundwater control measures,
- Other maintenance/disturbance activities.

These activities are further defined in Section 3.3 of the Master Plan. Based on the known conditions of the site, these activities have the potential to encounter contaminated soil and/or groundwater, which must be managed appropriately to ensure consistency with the Restrictive Covenant.

2. SITE DESCRIPTIONS

The following provides brief descriptions of the sites.

2.1 FORMER CARBORUNDUM SITE

The Carborundum Company manufactured abrasive silicon carbide at its facility from 1949 until operations ceased in 1982, at which time the port purchased the property. The manufacturing process produced baghouse dust, which was disposed of in ponds near the facility. After the port took possession of the property, metals (arsenic, cadmium, chromium and lead) and polycyclic aromatic hydrocarbons (PAHs) were discovered in the disposal ponds. The ponds were

subsequently excavated and capped. Environmental (Restrictive) Covenants are in place for the pond area, the fill area, and the plant area of the former Carborundum Company. The three parcels of the property are part of the same site and each of the parcels has a separate Environmental (Restrictive) Covenant. Ecology issued a no further action (NFA) determination for the site in 1998. The location of the Environmental (Restrictive) Covenant areas are shown on Figure 2.

2.1.1 Remedial Actions

Between November 1992 and 1993, the port constructed an engineered fill over the Pond area as part of constructing a parking lot. The engineered fill consisted of approximately 12 inches of sand, covered by 8 to 18 inches of sandy silt, 4 inches of sand and gravel, and approximately 3 inches of crushed rock. The site was graded to provide drainage from the cap.

Contaminated soils in the Plant area were treated with a thermal desorption process to remove the PAH contamination. A total of 16,173 tons of soil were hauled offsite for thermal treatment. Approximately 8,100 tons of treated soil was returned to the port to be used as backfill.

Remedial activities at the site were evaluated with MTCA Method C cleanup levels for industrial soil and groundwater. Due to the use of these levels, the site was eligible for a no further action (NFA) determination with the implementation of institutional controls in the form of an Environmental (Restrictive) Covenant.

2.1.2 Residual Contaminants of Potential Concern

Based on data collected at the site, contaminants of potential concern (COPCs) for residual soil is limited to PAHs (specifically carcinogenic PAHs). During the various investigations and remedial actions, PAHs were detected in the fill area, pond area, and plant area. However, based on confirmation sampling, the concentrations left-in-place and beneath the capped areas are likely well below the site cleanup level of 18 mg/kg PAHs. Extensive confirmation sampling of the fill excavation (75 samples) indicated that only one sample (20 mg/kg PAHs) slightly exceeded the 18 mg/kg cleanup level used for the site.

Because of the placement of soils from the Plant area to the Fill area and then subsequently re-excavated, it is assumed that PAHs have the potential to be present in all areas as outlined as Environmental (Restrictive) Covenant areas, unless demonstrated otherwise. There are no known specific hot-spot areas or other indication that contamination is present in distinct areas. This CMMP was developed such that management of soils in the Environmental (Restrictive) Covenant areas is consistent with the known conditions and assumptions.

2.2 FORT VANCOUVER PLYWOOD

The site is the Fort Vancouver Plywood's (FVP) former leasehold, and is currently leased and jointly occupied by Pacific Coast Shredding and Great

Western Malting. The former FVP site was occupied by plywood manufacturers and other lumber-related operations from the mid-1920s to the mid-1990s. FVP operated at the site from approximately 1955 until July 1996, when site operations terminated and the leasehold reverted to the port. FVP's activities included log sorting, processing raw logs, and manufacturing plywood. Several of FVP's operations and facilities had the potential for spills and releases including, but not limited to: an oil/water separator, diesel underground storage tanks (USTs), chemical storage, a boiler house, a maintenance shop, and other fuel storage areas.

Currently, the majority of Cell 1 is being used by Pacific Coast Shredding, a port tenant who exports shredded metal products, and Cell 2 is occupied by Pacific Coast Shredding and Great Western Malting. Property leases require that tenants comply with Ecology's requirements under the Environmental (Restrictive) Covenants and do not result in remobilization of contamination remaining onsite.

2.2.1 Remedial Actions

Remedial actions were conducted at Cell 1 and Cell 2 and are summarized below.

2.2.1.1 Cell 1

Pursuant to the conditions of an Agreed Order, the port completed an Interim Action at Cell 1 from November 1998 to February 1999. The Interim Action included:

- Removal and offsite disposal of soil containing contaminants of concern exceeding the MTCA Method A/C cleanup criteria for industrial soils.
- Removal, offsite chemical stabilization, and offsite disposal of soils exhibiting dangerous waste characteristics for lead.
- Removal and offsite disposal of debris-containing soils within 50 feet of the Columbia River.
- Relocation of the wood waste stockpile to the Port's Terminal 4 property.
- Backfilling the resulting excavations using clean overburden and the Port's sand fill material following appropriate chemical characterization.
- Conducting performance monitoring to evaluate the completeness of the removal action and to document site conditions following completion of the interim action (Kennedy/Jenks 1999).

In 1999 and 2000, approximately 12,350 cubic yards of soil was removed from the southern portion of Cell 1 and replaced with clean fill. The Cell 1 cap was constructed between July 1999 and January 2000 using three different cap types: low permeable asphalt concrete for use in normal traffic areas; reinforced Portland cement concrete overlaying a geomembrane liner in high traffic areas requiring higher structural support due to equipment or machinery; and reinforced Portland cement concrete foundations for buildings and machines. Reinforced

concrete foundations were installed for various structures at the site, including the shredder foundation, maintenance building, power transformer, stormwater reservoir, oil/water separator, truck scales, maintenance building conveyors, and bin shelters.

2.2.1.2 Cell 2

Pursuant to the conditions of an Agreed Order, the Port completed a Remedial Action at Cell 2 from October 2000 to December 2000. The Interim Action included:

- Removal and offsite disposal of soil containing contaminants of concern exceeding the MTCA Method A/C cleanup criteria for industrial soils.
- Removal, offsite chemical stabilization, and offsite disposal of soils exhibiting dangerous waste characteristics for lead.
- Removal and offsite disposal of abandoned underground asbestos containing transite pipe.
- Removal and offsite disposal of numerous treated wood piles.
- Construction of a riprap bank protection system along the Columbia River bank.
- Backfilling upland site excavations with crushed concrete and clean overburden and compacting to match the surrounding grade. Backfilling of the riverbank excavation with clean imported sand and compacting to match the surrounding grade (Kennedy Jenks 2001).

Soil from three areas within the southern portion of Cell 2, identified as Removal Areas D, E, and F in the Cell 2 Remedial Action report, were excavated in October and November 2000 and replaced with clean fill.

The Cell 2 cap was constructed in 2002 with low permeability asphalt. The Cell 2 cap consists of a minimum 12-inch thick layer of compacted fill, followed by a 10-inch thick layer or crushed surfacing base course, and a 4-inch asphalt pavement cap.

2.2.2 Residual Contaminants of Potential Concern

Based on all data collected at the site, contaminants of potential concern for the residual soil are total petroleum hydrocarbons (TPH), lead, and carcinogenic PAHs (cPAHs). COPCs for residual groundwater are TPH as gasoline and diesel, VOCs and MTBE. These were generally detected at low levels at the site, but need to be considered for management of waste material. The following summarizes the presence of residual contamination on Cell 1 and Cell 2.

CELL 1

Primary COPCs associated with Cell 1 are TPH, lead, and PAHs. Based on the remedial excavations conducted at the site and confirmation samples, residual soil within Cell 1 is expected to contain concentrations of the COPCs below the MTCA cleanup levels. Following the remedial excavations in 1999 and 2000, confirmation samples were collected from the sidewalls and floor and tested for

PAHs, metals, and oil-range petroleum hydrocarbons. None of the samples exceeded the MTCA cleanup levels and no hot spots or isolated areas of elevated concentrations are known to exist within Cell 1. The Environmental (Restrictive) Covenant was placed on the site to cap any residual low level contamination.

CELL 2

Primary COPCs for Cell 2 are TPH, lead, and PAHs. Soil from three areas within the southern portion of Cell 2, identified as Removal Areas D, E, and F, were excavated in October and November 2000 and replaced with clean fill.

In general, soil near Removal Area D does not contain COPCs above MTCA cleanup levels. However, soil samples collected from the vicinity of Removal Area D during the 1999 RI/FS indicated petroleum hydrocarbon-impacted soil is present south/southeast of Removal Area D and monitoring well C2-MW-13B. Diesel and oil-range petroleum were identified at concentrations up to 3,100 mg/kg at depths between 3 and 15 feet below ground surface in this area. This area of impacted soil remains in-place.

Approximately 730 cubic yards of impacted soil was excavated from Removal Area E. Confirmation samples indicate that no soil is present at concentrations exceeding MTCA cleanup levels.

Approximately 7,850 cubic yards of impacted soil, as well as debris primarily consisting of wood, brick, and boiler waste, was excavated from Removal Area F. Confirmation samples collected from the excavations indicated petroleum hydrocarbons, cPAHs, and lead were not detected above MTCA cleanup levels. One confirmation soil sample collected from the Removal Area F excavation slightly exceeded the site-specific cleanup criterion of 200 mg/kg TPH; however, the exceedance (210 mg/kg) does not exceed the MTCA unrestricted use cleanup level of 2,000 mg/kg.

Based on analytical results obtained during the RI/FS, confirmation samples obtained from within the Removal Area D, E, and F excavations, and analytical results from the fill material used to backfill the excavations, a relatively small area of petroleum-hydrocarbon-impacted soil is believed to be present near the west end of Cell 2. This CMMP was developed such that management of soils in the Environmental (Restrictive) Covenant areas is consistent with the known conditions and assumptions.

Groundwater

Vinyl chloride has historically been observed above MTCA groundwater cleanup levels in samples collected from monitoring wells C2-MW-9 and C2-MW-11 and other VOCs have been detected at low concentrations below the respective MTCA groundwater cleanup levels in these wells. Diesel has been observed at concentrations greater than the MTCA cleanup level in samples collected from C2-MW-11 and diesel has been detected at concentrations below the MTCA groundwater cleanup level in samples collected from C2-M2-9. It should be assumed that petroleum hydrocarbons and VOCs are present in groundwater across the site and managed accordingly.

2.3 AUTOMOTIVE SERVICES, INC.

The site is the Automotive Service Inc.'s former leasehold, and is currently leased and occupied by CalPortland. The ASI car wash facility (formerly port building #2273) was built in 1972. The facility was used to clean coatings from new foreign automobiles after shipment to the Port of Vancouver. The coatings protected the automobiles from corrosion during shipment, and Cosmoline (aka: Petrolatum, Filtrolatum, and Kremoline) was historically used as the protective coating. Cosmoline is a brown colored, wax-like mass that is made up of hydrocarbons. Hot water, with a kerosene solvent added, was used to remove the coating from the new automobiles. Contamination of the soil and groundwater resulted from leaks and overflows of the wastewater treatment system.

A 4,000-gallon diesel spill was reported by Tesoro to have occurred on September 21, 1980. The spill was on the east side of their tank-farm property. This large tank farm and a small bermed tank located at the Olympic Pipeline facility were also considered to be potential sources for subsurface contamination at the ASI property.

Petroleum contamination proximate to the car wash site has been recognized since at least 1980. Subsequent investigations and cleanups provided more definition for the nature and extent of the contamination. However, cleanup was limited by the presence of the car wash facility, including two large concrete vaults. When ASI ceased using the car wash in approximately 1997, the port demolished the building and prepared the site for new industrial and commercial uses.

2.3.1 Remedial Actions

The primary COPCs on the site were diesel and kerosene. Two areas of soil contamination were excavated, followed by on-site bioremediation. The soil remediation for the kerosene site was started in August 1999 and completed in August 2000. The diesel-contaminated soil was excavated in August 1999, and the soil remediation was started in October 1999 and completed in February 2001. However, some residual impacted soil was inaccessible and was left in place.

The Glacier (now CalPortland) facility modified the site (late 2002 through early 2003) so that much of the eastern two-thirds is covered with a concrete pad (engineered cap). Thus, only the western third of the property is presently uncapped. It is used mostly for storage of aggregate and sand.

The port is conducting groundwater monitoring every 18 months as required by Ecology as part of the institutional control under which the site was closed. The groundwater investigation began after the extensive soil remediation project was completed. A NFA determination is forthcoming, pending Ecology's approval of the Environmental (Restrictive) Covenant, which was recorded in August 2013.

2.3.2 Residual Contaminants of Potential Concern

Based on all data collected at the site, contaminants of potential concern for the residual soil are TPH as diesel and kerosene. COPCs for residual groundwater are VOCs and TPH as diesel, which were generally detected at low levels at the site, but need to be considered for management of waste material.

Soil remains at the site with TPH as diesel and heavy oil concentrations greater than MTCA Method A cleanup levels, but below MTCA Method C industrial cleanup levels. Confirmation samples following remedial efforts indicated that petroleum hydrocarbons were detected at concentrations ranging from 1,240 mg/kg to a maximum of 11,400 mg/kg. As part of the risk strategy for the site, Ecology's interim TPH policy analysis was used and risk calculations conducted. From these results, it was concluded that the soil had been successfully treated even though residual diesel concentrations were relatively high in several of the samples. The petroleum hydrocarbons remaining on the site appear to be significantly weathered such that they present low risk. Based on the confirmation sampling, petroleum hydrocarbons are assumed to be potentially present in any area beneath the Environmental (Restrictive) Covenant boundary.

Groundwater has been impacted by the contamination detected in shallow soil. As part of the site remediation, groundwater monitoring is required every 18 months. Recent results indicate that VOCs are below MTCA Method A cleanup levels in all samples, and TPH as diesel was only detected above the MTCA Method A cleanup level (0.8 mg/L) in monitoring well GL-2. However, for the purposes of groundwater management, it should be assumed that petroleum hydrocarbons and VOCs are present in groundwater across the site and managed accordingly.

2.4 TERMINAL 5

The Terminal 5 Environmental (Restrictive) Covenant areas are located within the Port of Vancouver facility in Vancouver, Washington. The site is bounded by NW Old Lower River Road to the north, Terminal 3 to the east, the Columbia River to the south, and to the west by multiple industrial property owners.

2.4.1 Site History and Regulatory Setting

The site was originally constructed and operated as an aluminum smelting facility by the Aluminum Corporation of America (Alcoa) in the 1940s. Over the next several years Alcoa added several fabrication operations and by 1970 the facility contained a series of fabrication plants, including a cable plant, rod mill, and an extrusion plant, to form the aluminum into finished products. Alcoa operated an aluminum smelter on the property from 1940 until 1987 when it sold the operation to Vanalco, Inc. Evergreen Aluminum purchased the site in 2002 but did not operate the smelter.

Prior to the mid-1980s several onsite landfills and storage areas were operated on the eastern portion of the site. Following the landfill closures in the 1980s, the waste materials were transported offsite for disposal. As a result of the smelting operations, soil and groundwater were impacted by several contaminants of

concern, including polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), and fluoride. Ecology required Alcoa and Evergreen to remediate their property to industrial cleanup levels and issued several orders outlining required cleanup actions throughout the site. Under a 2007 Enforcement Order 25 (EO), Evergreen completed building demolition and soil removal in 2008. Ecology issued a Final Project Approval letter in December 2008, stating Evergreen had satisfied the terms of the EO. Alcoa completed building demolition, soil removal, and shoreline/sediment cleanup in April 2009. Ecology issued a Final Project Approval letter for the Alcoa consent decree in March 2010. Alcoa and Ecology have entered into a site-wide Consent Decree that held Alcoa responsible for remediation obligations referenced in the decree.

The port acquired the property in 2009 and is obligated to finish the remaining tasks under the Consent Decree. By July 2009, Terminal 5 was graded and graveled for storage of wind energy components. Additional development included the construction of a loop track as part of the WVFA project. A portion of Terminal 5 is proposed for future development as a potash handling facility.

Ecology has assigned facility site (FS) numbers of 21, 22, 23, 24, and 25 for individual areas of the property. There are a number of Consent Decrees, Agreed Orders, Enforcement Orders, and Environmental (Restrictive) Covenants for the property dating back to the 1990s. As part of the property transaction in 2009, an Environmental (Restrictive) Covenant and a Consent Decree were established, which supersede several of the former Agreed Orders and Consent Decrees. At this time, the following Environmental (Restrictive) Covenants (RC #) are applicable for the Terminal 5 property:

- RC 4545480-COV, March 26, 2009 (East Landfill, North and North 2 Landfill, Shoreline, Site-wide Groundwater)
- RC 42465-0003, December 31, 2008 (Ingot Plant)
- RC 9603120195, March 8, 1996 (Vanexco)
- RC 9212960226, March 23, 1992 (SPL Landfill)

The following summarizes the site history of the six Environmental (Restrictive) Covenant areas (not including the East Landfill, which is not part of this CMMP) that were implemented as a result of the former Alcoa site operations.

2.4.1.1 Ingot Plant

The Ingot Plant was located in the southwest corner of the site, adjacent to the former potliner area. Following demolition of the facility, elevated PCBs were found in the soil, floor brick and concrete rubble. Over 14,000 tons of soil, brick, and concrete containing PCBs were shipped offsite for disposal, approximately 3,900 tons of the waste contained PCB concentrations greater than 50 mg/kg following demolition.

A cap was installed at the former Ingot Plant. The Ingot Plant Cap protects the environment from direct contact to residual PCB contaminated soils. Some areas beneath the cap contain PCBs at levels classified as dangerous waste.

2.4.1.2 Vanexco

The extrusion plant was known as Vancouver Extrusion Company (Vanexco) and was located in the northern portion of the site just south of NW Old Lower River Road. Vanexco was operated by Alcoa until 1991 when it was closed.

The floor slab of the former Vanexco facility, known as the Vanexco cap, limits the soils and substructures beneath from exposure to precipitation. The cover over Vanexco is described in the Rod Mill Site Consent Decree deed restrictions, which required that the building and foundations (floor slabs) serve as a cap and that any redevelopment plans for the area be reviewed and approved by Ecology. Direct contact of contaminated soils and surface drainage were the primary concerns driving the remedial action alternative chosen for the site. The area below the cap is contaminated with PCBs and petroleum hydrocarbons (TPH).

2.4.1.3 North and North 2 Landfills

Materials related to site operations, such as alumina, bath, cryolite, aluminum fluoride, carbon, anodes, concrete, plastic, wire, paper, drums, aluminum metal, pallets, conveyor belts, and asphalt chunks were placed in two landfill areas known as North and North 2 landfills. In addition, contaminated waste containing trichloroethene-bearing solvents, PCBs, and PAHs; and miscellaneous maintenance debris, may have been disposed in the landfills.

Following a Consent Decree with Ecology in 2009, the former Alcoa landowner entered into an Environmental (Restrictive) Covenant limiting activity in the North and North 2 landfills due to residual concentrations of contaminants exceeding MTCA cleanup levels for soil and/or groundwater. In 2010, in compliance with the Consent Decree, the port placed a complete one foot cover of clean sand over the landfilled sediments.

2.4.1.4 Shoreline

Shoreline remediation efforts were completed in 2009 and included removal of contaminated soil and stabilizing the shoreline with grading, armor rock, hydroseeding, berming, and gravel bedding. The shoreline is included in the 2009 Environmental (Restrictive) Covenant 4545480-COV.

2.4.1.5 SPL Landfill

Spent potliner (SPL) is produced during the aluminum manufacturing process which includes a potline, a row of electrolytic cells for reducing the aluminum from fused salts. The spent potliner on the Alcoa site was stored in a separate location that eventually became a landfill. The site was remediated under a consent decree between Alcoa and Ecology. The 1992 Consent Decree required

that the cap for the SPL Landfill be either a synthetic liner covered with two feet of clean sand and topsoil including vegetation, or two feet of recompacted clay or other material. An Environmental (Restrictive) Covenant (#9212960226) was placed on the site on March 23, 1992 and includes restrictions on removal of groundwater, activities that interfere with the cleanup action, prohibits activity that may result in a release of residual hazardous substances.

2.4.1.6 Site-wide Groundwater

The 2009 Environmental (Restrictive) Covenant was been placed at the site and includes a restriction to utilize groundwater across the site. Restrictions include no groundwater extraction (with the exception of groundwater monitoring and temporary dewatering) within the entire property area.

3. HEALTH AND SAFETY REQUIREMENTS

Soil containing elevated levels of COPCs may be encountered during construction at the site(s). If determined by the port, a site-specific health and safety plan (HASP) will be prepared in accordance with all local, state, and federal requirements. The HASP should address site-specific activities (excavation, trenching, heavy equipment, etc.) as well as potential contaminants that may be encountered. Field activities should be completed in accordance with all Occupational Safety and Health Administration (OSHA) regulations for worker safety, including 29 CFR 1910.120.

Based on the known construction activities and contaminants at the site, it is expected that at a minimum, Level D personal protection will be implemented for all site workers. This includes gloves, hardhat, safety glasses, and steel-toe boots or shoes. In addition, if conditions dictate that dust generation may be an issue, PPE may also include the use of a mask or respirator, as appropriate.

4. EXCAVATION

This section addresses management of contaminated media at the sites due to excavation activities.

4.1 DANGEROUS OR HAZARDOUS WASTE

The term “dangerous/hazardous waste” means materials that are regulated under Washington Administrative Code (WAC) 173-303 and 40 Code of Federal Regulations (CFR) 260-268. Environmental media at all of the sites (ASI, Fort Vancouver Plywood, Carborundum, and Terminal 5) have been characterized during the respective environmental investigations. Based on the concentrations detected, some areas of Terminal 5 do exhibit characteristics of dangerous or hazardous waste (i.e. PCBs beneath the Vanexco cap). All dangerous/hazardous waste will be handled in accordance with state and federal law and will be disposed of at a Subtitle C landfill. The port will utilize “generator knowledge” and

conduct waste characterization sampling for all areas that are known or suspected of containing hazardous waste in accordance with state and federal regulations for management of dangerous/hazardous waste.

Based on the concentrations detected at the other three sites, there does not appear to be any soils or materials on-site that would be considered dangerous or hazardous waste. In addition, none of the environmental media encountered at the sites would be expected to exhibit the characteristic of ignitability, corrosivity, reactivity, or toxicity. The port can utilize “generator knowledge” such that additional characterization for dangerous or hazardous waste may not be necessary. Characterization for disposal will be completed as outlined in Section 4.4.1.

If conditions are encountered during construction activities that indicates that a dangerous or hazardous waste may be present, that material will be considered suspect dangerous/hazardous waste and will be tested in accordance with the regulations cited above. All dangerous/hazardous waste will be handled in accordance with state and federal law and will be disposed of at a Subtitle C landfill.

4.2 ASPHALT OR CONCRETE CUTTINGS

Asphalt or concrete cuttings may be generated during removal of the capped surfaces as required for construction. This material is generally considered non-contaminated. However, the port has specific protocols for determination of waste, such that all asphalt or concrete cuttings generated at the site will be managed in accordance with the port’s Standard Operation Procedure (SOP).

Clean asphalt or concrete may be ground into pieces 2 inches or less and hauled to a port-designated location for stockpiling or can be disposed of off-site directly. Asphalt or concrete that exhibits unusual staining or coloration should be treated as suspect contaminated material and sampled accordingly.

4.3 SUBSURFACE DEBRIS

There is no indication that subsurface debris is present in significant quantities at the sites. However, if encountered, the debris (typically includes concrete, bricks, metal, and wood) will be managed such that it can be separated from contaminated material. This management provides an alternative for the port to reduce the volume of material to be disposed off-site at a Subtitle D landfill.

If encountered and deemed feasible, bulk debris material can be screened and segregated from soil. It is expected that all screening and segregation will be conducted on-site and the two streams of materials will be subsequently managed in accordance with this CMMP.

The screening and segregation could reduce the overall volume of material that would otherwise be required to be disposed of at a permitted landfill. The bulk debris is assumed to be uncontaminated and, if separated, will not require

special handling and disposal based on environmental concerns. This uncontaminated debris will be recycled as much as possible.

Debris that cannot be recycled will be disposed of at a Construction and Debris (C&D) landfill as solid waste. All requirements of the C&D landfill for disposal of the debris material will be met by the port.

4.4 SOIL

The effective management of contaminated soil requires a series of actions or decisions during construction. The fundamental element of contaminated soil management is characterizing the soil and determining the best management option. The process for managing soil excavated from the site includes:

- Excavation of soil as required for construction of a building, utilities, or other associated infrastructure;
- Soil characterization, which includes collecting and analyzing samples;
- Soil classification for disposal;
- Disposal of excavated soil;
- Documentation of soil management.

The following provides procedures for soil characterization, handling and disposal.

4.4.1 Soil Characterization

If excavation of soil is required, it must be characterized appropriately for disposal purposes. Note that soil has been characterized during the remedial investigations at the site and no dangerous or hazardous waste is present. The soil characterization described below is only for disposal on non-dangerous or non-hazardous waste.

A minimum of three soil samples will be collected for any excavation up to 100 cubic yards and one sample per 250 cubic yards thereafter. This number of samples will be sufficient for characterization and obtaining a disposal permit. For very small excavations (i.e. less than 10 yards), one soil sample is sufficient to provide soil characterization and obtain a disposal permit.

Discrete grab soil samples (i.e., not composited) will generally be collected from the stockpiled soil. Soil samples will be collected from representative areas and depths. The discrete soil samples will be transferred to laboratory provided containers. Samples will be couriered to the laboratory under a chain-of-custody within the specified holding times. The analytical detection limits, and laboratory quality assurance/quality control measures will be no more than half the concentration necessary for waste determination. Laboratory analysis will be consistent with the COPCs of the specific sites, as described in Section 2, and as required by the disposal facility.

4.4.2 Soil Handling

All excavated soil will be stockpiled, placed into appropriate containers (i.e. covered roll-off boxes), or directly loaded onto trucks, depending on the volume of soil to be excavated and construction needs. Each container will be properly labeled to indicate the point of generation, contents, and date.

Stockpiled soil will be placed on plastic sheeting, covered with plastic, and managed such that no stormwater runoff impacting the soil will occur.

Soils excavated within the Environmental (Restrictive) Covenant area may be used as backfill within other areas of the same Environmental (Restrictive) Covenant area. The on-site movement (relocation) of soil within the Environmental (Restrictive) Covenant area does not require characterization and does not constitute the generation of waste.

4.4.2.1 Stockpiling

Soil may be stored in temporarily stockpiles. Stockpiled soil will be managed in a manner that minimizes erosion, contact with stormwater runoff, dust generation, and worker contact. The port shall ensure that:

- Stockpile locations will be within port-owned areas. If possible, stockpiles will be placed within the Environmental (Restrictive) Covenant area. However, if space is limited or other circumstances dictate, the port may stockpile soil in a designated separate location. The port will maintain control of all stockpile locations and materials.
- Stockpiles of suspect contaminated media are lined and covered while awaiting chemical analysis and profiling.
- Any known hazardous waste that must be stockpiled is placed in lined and covered containers awaiting off-site disposal. Containers must be labeled in accordance with the requirements of Chapter 173-303 WAC.

The following BMPs will be implemented at the site:

- Stockpiled soil and debris will be placed on plastic sheeting that overlies the cap or an impervious surface. Stockpiles will also be covered at the end of each day with plastic sheeting to eliminate contact with precipitation and to prevent blowing dust.
- The sheeting will be placed so that it will not collect precipitation and will be anchored with sand bags or similar equivalent.
- Stockpiles will be inspected at least once a week to ensure that soils are properly covered.
- Earthen berms or an equivalent will be provided to prevent surface or stormwater from entering the stockpile areas or open excavations.
- The water content of excavated soils will be minimized prior to placement in stockpiles in order to control free liquids so that they are not released to the environment. Free liquids draining from stockpiles shall be controlled and shall not be released to the environment (e.g., soils or surface water).

Any free liquid will be tested for contamination and disposed of in accordance with state and federal law (See Section 4.5.1).

- Suitable barricades, fencing, signing and other warning and safety devices will be provided to protect the public and other site workers from stockpiles, contaminated media, open excavations, heavy equipment, and other construction activities.

All stockpiles will be labeled and inventoried. To the extent practical, stockpiles will be located in a centralized area.

4.4.2.2 Drop Boxes or Containers

Soil destined for off-site disposal may also be stored in drop boxes or containers. The following BMPs will be implemented at the site:

- Drop boxes will be placed on plastic sheeting that overlies the cap or an impervious surface.
- Drop boxes will be lined with a plastic insert liner and covered nightly to eliminate contact with precipitation and to prevent blowing dust.
- The water content of excavated soils will be minimized prior to placement in containers in order to control free liquids so that they are not released to the environment (e.g., soils or surface water).
- Suitable barricades, fencing, signing and other warning and safety devices will be provided to protect the public and other site workers from contaminated media, open excavations, heavy equipment, and other construction activities.

All storage containers will be labeled and inventoried. The label will include project name, storage container number, description of contents, generation date, and contact information. To the extent practical, storage containers will be located in a centralized area.

4.4.3 Soil Disposal

It is expected that all soil will be disposed of at a Subtitle D landfill. However, the sample results can be used to evaluate the potential disposal options of the soil material. The port has developed a Clean Fill SOP, which can be used to assess whether soil material can be managed as unrestricted clean fill on port property. The soil must also meet the MTCA Method A cleanup levels. Soils exceeding MTCA Method A cleanup levels will be disposed at a Subtitle D landfill under a permit.

The following table shows how management of material will be completed dependent on the concentrations detected:

Table 4-1. Soil Management Options

Management Option	SOIL		
	All Analytical Results are Below Port Clean Fill SOP Criteria and MTCA Method A	Results Above Port Clean Fill SOP and MTCA Method A	Exhibiting Hazardous Waste Criteria ^a
Treat as Unrestricted Fill – On-Site or Off-Site Use	X		
Landfill Disposal (Subtitle D Facility)		X	
Landfill Disposal (Subtitle C Facility)			X

Notes:

a WAC 173-303 and 40 CFR 461.

Soil with non-detects for all COPCs or that otherwise meet the port’s Clean Fill SOP criteria may be considered clean fill and may be reused in the excavation, transported off-site for reuse, or disposed of as solid waste.

4.4.4 Soil Transportation

A disposal permit will be obtained prior to any material being transported off-site. A waste profile sheet will be prepared for each waste stream and provided to the determined off-site disposal facility. All trucks carrying contaminated soil must be lined and covered during transport. All measures to ensure that tracking of material off-site does not occur will be followed.

4.5 WATER MANAGEMENT

The effective management of contaminated groundwater requires a series of actions or decisions during construction. The fundamental element of contaminated groundwater management is characterizing the groundwater and determining the best management option. The process for managing groundwater encountered at the site includes:

- Collection of groundwater encountered during construction activities;
- Water characterization, which includes collecting and analyzing samples;
- Treatment of water based on characterization and disposal options;
- Disposal of accumulated water;
- Documentation of water management.

The port will obtain all necessary water discharge permits as described in Section 4.5.4. In no circumstances does this CMMP authorize waste water discharge.

4.5.1 Collection of Water

Water requiring management during a project may be generated from the following activities:

- Water pumped from an open excavation or utility trench (dewatering).
- Water that leaches from stockpiles or containers used to store contaminated media.
- Decontamination water from equipment decontamination, including during drilling (augers, tooling, etc.) or wheel wash water.

All water will be collected in drums, baker tanks, or similar apparatus depending on the volume of water generated. The water will be contained such that it will prevent the spread of contamination to adjacent soil or water. Each container will be properly labeled to indicate the point of generation, contents, and date. Characterization will be used to assess management options for the collected water.

4.5.2 Water Characterization

Water pumped from excavations shall be characterized in accordance with a port-approved Groundwater Treatment Plan. In general, characterization of water will be dictated by the type of disposal permit obtained, the disposal location, and the treatment technology employed. Water characterization will be conducted in accordance with the acquired Permit, in addition to characterization necessary for treatment design selection.

Any water generated from stockpiling contaminated media or as part of decontamination activities will be the responsibility of the port or its' contractor to test and dispose of in accordance with federal, state and local regulations.

4.5.3 Treatment Plan

If necessary, a Groundwater Treatment Plan will be prepared. The treatment plan will include treatment design and specifications, location and placement of the treatment system, and the expected volume of water to be treated and discharged. In addition, the treatment plan will include the type of discharge permit obtained, monitoring and sampling requirements, and discharge location and expected dates.

4.5.4 Discharge Permits

The port or its' contractor will obtain a discharge permit from the appropriate agency or entity for all water to be discharged at the site. The type of discharge permit may depend on the characterization of the water and available infrastructure near the project area (location of discharge point). Potential types of discharge permits include:

1. Batch discharge permit for disposal of water to the City of Vancouver sanitary sewer system.
2. Discharge permit for land application of treated water.

3. Discharge permit to discharge treated water to stormwater infrastructure or surface water.

Each of these permits have different treatment, sampling, and discharge requirements.

5. GRADING ACTIVITIES

In general, soil management during grading activities will be conducted in accordance with the procedures outlined in Section 4. However, specific management procedures associated with grading are summarized below.

5.1 SOIL MANAGEMENT

Management of excess soils generated as part of grading activities will follow the general procedures for excavated material as outlined in Section 4.

5.2 ON-SITE MOVEMENT OF SOILS

Excess soils generated by grading within the Environmental (Restrictive) Covenant area may be used as backfill within other areas of the same Environmental (Restrictive) Covenant area. The on-site movement (relocation) of soil within the Environmental (Restrictive) Covenant area does not require characterization and does not constitute the generation of waste. The soils must be placed under a cap that meets the requirements in the Environmental (Restrictive) Covenant.

5.3 DUST CONTROL

Grading activities, specifically in the summer months, have the potential to generate significant dust and particulate matter if adequate controls are not implemented. Wind events can exacerbate the migration of dust across the site and onto adjacent properties. Controls shall be implemented during project activities to ensure that dust generation of exposed soils is minimized to the extent possible. At a minimum, the following BMPs shall be implemented:

1. Periodic misting with water, as needed, will be used as a control measure during excavation and grading activities to minimize airborne particulate matter. Oil shall not be used as a dust control measure in any of the port's Environmental (Restrictive) Covenant areas.
2. Utilize other control measures, including erosion control mats, silt curtains, or berms, as necessary, and consistent with required stormwater and erosion control measures.
3. Care will be taken not to saturate soil and/or generate runoff from wetting operations. If wetting operations generate runoff inadvertently and has the potential to carry site soils to adjacent stormwater infrastructure or surface water, the port shall be contacted immediately.

4. Open excavations will be covered with sheeting or wetted as needed to suppress particulate matter.
5. Wetting operations will be increased, as necessary, during wind events or other atmospheric conditions that have the potential to carry particulate matter off-site.

5.4 STORMWATER AND EROSION CONTROL

Stormwater runoff and wind have the potential to exacerbate existing exposed soil contamination if not mitigated during construction. If required due to project size and activity, stormwater and soil erosion will be managed under the project-specific National Pollutant Discharge Elimination System (NPDES) Waste Discharge Permit for General Construction in compliance with the provisions of the State of Washington Water Pollution Control Law Chapter 90.48 Revised Code of Washington and The Federal Water Pollution Control Act (The Clean Water Act) Title 33 United States Code, Section 1342 et seq.

Under this permit, the port will submit a Notice of Intent (NOI) to discharge stormwater associated with construction activities and to meet pollution prevention requirements. Site controls will be implemented to limit the airborne migration of dust from bare or open ground. The port recognizes that the Department of Ecology may require additional site controls through the construction permitting process.

6. SUBSURFACE DRILLING

Drilling can include a variety of methods and equipment. In general, drilling conducted at the port would typically cover geotechnical borings, installation of monitoring wells or piezometers, and completion of investigations using geoprobe, cone penetrometers, or other similar methods and equipment. In general, management of soil and groundwater generated during drilling activities will be conducted in accordance with the procedures outlined in Section 5. However, specific management procedures associated with subsurface borings are summarized below.

6.1 BORING/MONITORING WELL PERMITS

The port is required to obtain all permits associated with completion of soil borings or monitoring wells at the site. Drinking water wells are not allowed to be installed within the Environmental (Restrictive) Covenant areas and are not covered under this CMMP.

6.2 SOIL AND GROUNDWATER MANAGEMENT

Due to the nature of the activity and the relatively small volume of soil generated during drilling, all soil cuttings generated in Environmental (Restrictive) Covenant

areas are required to be contained in drums and/or drop boxes. Stockpiling of drill cuttings will not be permitted, unless otherwise approved by the port. Management, handling, and disposal of the drill cuttings will be conducted in accordance with the requirements outlined in Section 4 and/or a site-specific Drilling Plan.

Similarly, all groundwater or washwater generated during drilling activities is required to be contained in drums or tanks. Management, handling, and disposal of the groundwater/washwater will be conducted in accordance with the requirements outlined in Section 4 and/or a site-specific Drilling Plan. Unless otherwise approved by the port and Ecology, groundwater or washwater generated during drilling shall not be discharged on-site (see Section 4.5.4).

6.3 INSTALLATION/DECOMMISSIONING

The following items will be implemented at the site:

1. At the conclusion of drilling activities, all borings completed in Restrictive Covenant areas shall be decommissioned in accordance with Ecology regulations, with the exception of permanent monitoring wells or piezometers.
2. If a permanent monitoring well or piezometer has been installed, it will be identified and maintained in accordance with Ecology regulations. The well will be completed using a traffic-rated well monument and include protective bollards (if necessary), as required or specified by the port.
3. The integrity of the remedial cap design and surface shall be restored after decommissioning borings. In no cases shall the portion of the decommissioned boring that penetrates the cap be of inferior quality of the original cap. The surface finish shall match the surrounding surface, unless otherwise specified by the port.

7. DEWATERING

Dewatering may be required during excavation activities in the Environmental (Restrictive) Covenant areas. Due to the relatively shallow groundwater in the port area, significant volume of water can be generated within deep excavations. The primary issue with dewatering activities is the treatment of the discharge water. Permits are generally required and include can include a batch-permit to discharge to sanitary sewer, discharge to stormwater/surface water infrastructure, or land application. Treatment of the water is generally required for all discharge alternatives.

Characterization, management, and disposal of groundwater during dewatering shall follow the procedures outlined in Section 4.

8. MAINTAINING REMEDIAL ACTIONS

It is expected that remedial actions at the site may be impacted by potential construction activities. The port will employ all measures to maintain the integrity of remedial actions in accordance with the conditions of the Environmental (Restrictive) Covenant. If necessary, the port will include remedial action restoration requirements or protective measures in design specifications and/or contract documents.

The following general best management practices (BMPs) will be implemented during construction projects that impact the remedial actions at the site.

8.1 RESTORATION OF CAPPED AREAS

In accordance with the Environmental (Restrictive) Covenant, any breach of the engineered cap must be repaired after construction activities are complete to ensure the integrity of the cap and continued isolation of contaminated materials. The following should be conducted:

1. Minimize the lateral area of the cap which will be breached. In areas where the cap includes an asphalt or concrete cover, the asphalt or concrete will be removed as necessary to accommodate construction.
2. Protect other areas of the cap from damage by construction equipment. Minimize the routes across the existing cap to the work area.
3. The edges of the breached portion of the cap will be maintained as best as possible to allow for seamless repair after construction is complete.
4. Cap material removed to allow access for construction shall be assumed contaminated similar to underlying material, unless shown otherwise, and managed in accordance with site requirements and Section 4 of this CMMP.
5. Repair of the cap will be consistent with the existing cap design and construction. In no cases shall the repaired area have lesser design requirements or be of inferior quality of the original cap.
6. Excavated contaminated materials shall be stockpiled and/or disposed off-site in accordance with Section 5 of this CMMP. Stockpiled contaminated material may be returned to the excavation as long as the cap will be restored to its full design specification to isolate the material. In no cases shall excavated materials from one site be moved to a different site with different requirements.
7. If fill material is necessary to replace excavated material disposed off-site, the fill shall be uncontaminated and meet the port's imported fill requirements. Compaction of the soils or fill material will be conducted to ensure that subsidence of the repaired portion of the cap will not occur.

8.2 MONITORING WELLS

All monitoring wells shall be protected and maintained during any construction activities, unless otherwise approved by Ecology. Monitoring wells shall be marked or flagged to remain visible to construction workers and equipment operators. Sufficient barriers (cones, concrete barrier, bollards, etc.) shall be placed around the monitoring well such that it will prevent damage from all construction equipment and vehicles.

In the event that monitoring wells will be removed due to construction work or placement of infrastructure, the port will coordinate with Ecology to decommission monitoring wells in accordance with Ecology regulations. All monitoring well repair work or decommissioning will be conducted by a licensed driller in accordance with Ecology regulations. Replacement of monitoring wells may be required based on ongoing project needs and will be specified by the port, in cooperation with the Ecology project manager.

9. NOTIFICATION, RECORD KEEPING, AND REPORTING

Two weeks (14 days) prior to commencement of a project and management activities, a notification form (located in the Master Plan, Section A) shall be submitted to Ecology. A copy of this form shall be kept in Appendix A of the Master Plan (Project Files). If Ecology determines the project is not appropriate to be managed under the Master Plan, Ecology will notify the port and require preapproval prior to commencing construction of the project.

In certain circumstances, the 14 day notification may not be possible. These include emergency situations requiring immediate response. For these rare instances, the port will notify Ecology as soon as possible. The notification form shall be sent to the designated project manager for specific site. Notification should be sent via email as the preferred method.

The Port will notify Ecology via email or letter confirmation of project completion. Notification will be made within 30 days of project completion.

Record keeping associated with contaminated media management will include sampling and analysis documentation (e.g., chain-of-custody forms, sampling logs), entries in field notebooks regarding container identification and disposition, analytical results of soil testing, and documentation of proper disposal (bill of lading which shall include: date, time of shipment, name of transportation company, name of truck driver, disposal site, and a weight/volume slip). All record keeping associated with the Master Plan shall be made available by the Port to Ecology upon its request.

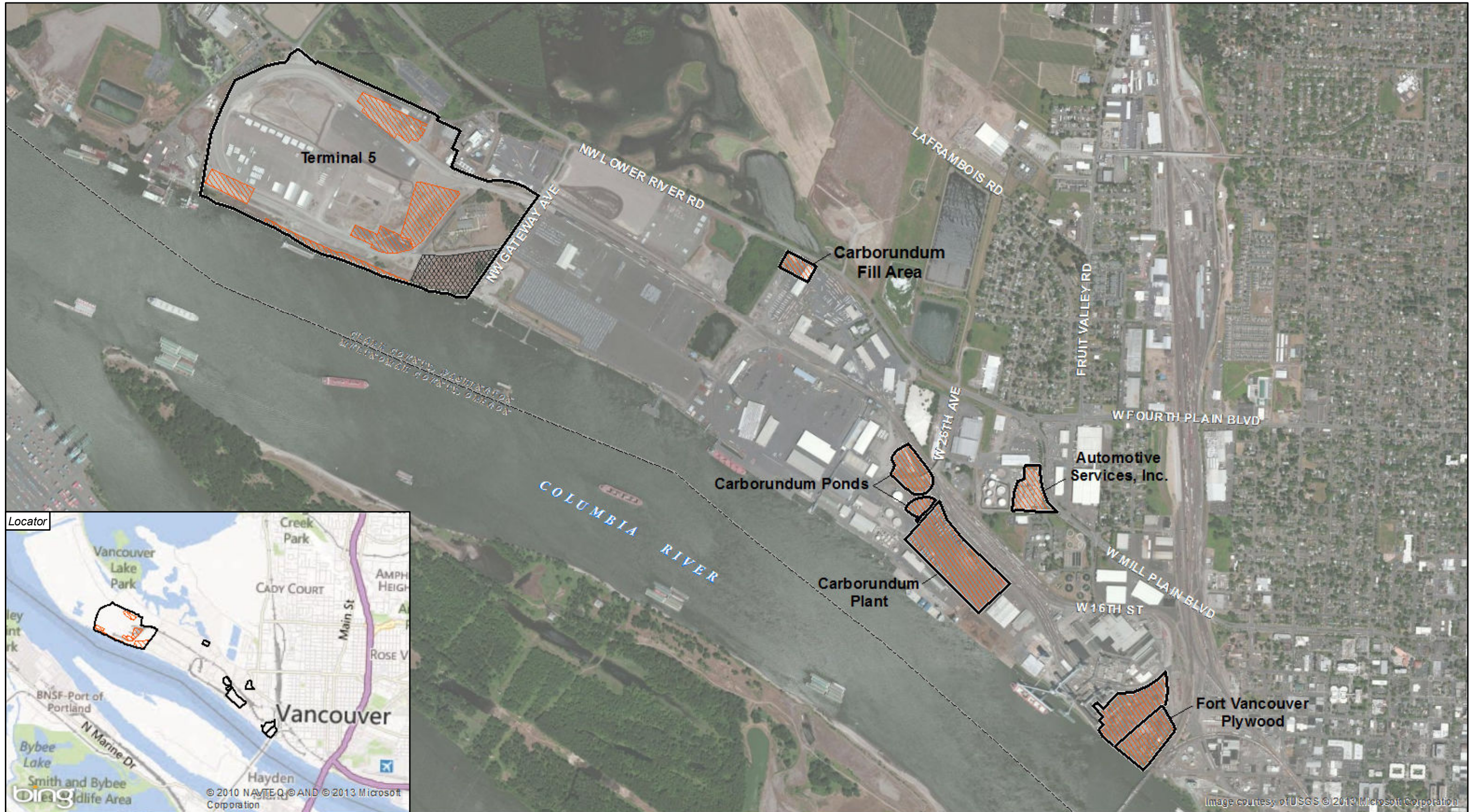
10. REFERENCES

- CEC. 2001a. Re: Final Confirmatory Soil-Sample Analysis Results for Remediation of Soil Contaminated with Diesel from the West Side of the Former ASI Car-Wash Leasehold. April 18, 2001.
- CEC. 2001b. Final Report on the Investigation and Remediation of Kerosene-Contaminated Soil at the Automotive Services, Inc. Site Port of Vancouver, WA. July 17, 2001.
- Coles Environmental Consulting (CEC).1996. Report on a Subsurface Investigation at the Automotive Services, Inc. Site Port of Vancouver, WA. November 4, 1996.
- Ecology. 1998a. Restrictive Covenant Carborundum Plant Site. February 20, 1998.
- Ecology. 1998b. Restrictive Covenant Carborundum Pond Site. February 20, 1998.
- Ecology. 2004. Restrictive Covenant Former Fort Vancouver Plywood Site – Cell 2. March 2004.
- Ecology. 2011. Periodic Review. Carborundum Company Plant and Ponds Site Facility Site ID #: 1012. December 2011.
- Ecology. 2012. Restrictive Covenant Former ASI Site. February 9, 2012.
- ERM. 2007. Cell 1 Groundwater Monitoring Report, May 2007. Former Fort Vancouver Plywood, Port of Vancouver, USA, Vancouver, Washington. Prepared for Port of Vancouver USA. March 2008.
- Kennedy/Jenks Consultants. 1998. Cell 1 Remedial Investigation and Feasibility Study, Former Fort Vancouver Plywood Site, Vancouver, Washington. Volume 1. Port of Vancouver USA.
- Kennedy/Jenks Consultants. 1999. Cell 1 Remedial Action, Former Fort Vancouver Plywood Site. Port of Vancouver USA.
- POV (Port of Vancouver). 2011. Fill Sampling and Acceptance Criteria Standard Operating Procedure (SOP). December 8, 2011.

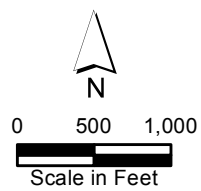
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FIGURES





Parametrix Date: 8/7/2013 Path: P:\GIS\POV\ERCMP\ERCMP_SiteMap.mxd



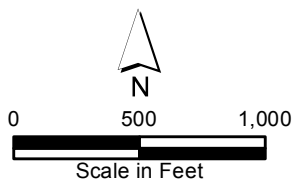
- Restrictive Covenant Area
- State Boundary

Note: The Environmental (Restrictive) Covenant Master Plan only addresses the restrictive covenant areas shown above.

**Figure 1
Site Map**
Environmental (Restrictive) Covenant Master Plan
Port of Vancouver
Vancouver, Washington



Parametrix Date: 8/7/2013 Name: ERCMP_FocusArea_South.mxd

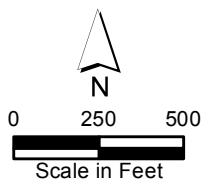


Study Area

Figure 2
Carborundum, Automotive Services, Inc. and
Fort Vancouver Plywood
Restricted Covenant Areas
 Environmental (Restrictive) Covenant Master Plan
 Port of Vancouver
 Vancouver, Washington



Parametrix Date: 8/7/2013 Name: ERCMP_FocusArea_North.mxd



- Restrictive Covenant Area
- Restrictive Covenant Area not included in ERCMP

Figure 3
Terminal 5 Restrictive Covenant Areas

Environmental (Restrictive) Covenant Master Plan
Port of Vancouver
Vancouver, Washington



Restrictive Covenant Legal
Descriptions and Maps

Former Carborundum Facility

After Recording Return To:
David F. Bartz, Jr.
Schwabe, Williamson & Wyatt, P.C.
1211 SW Fifth Avenue, Suite 1700
Portland, OR 97204

9802230223

RESTRICTIVE COVENANT

DATED: 2/20, 1997⁸

GRANTOR: PORT OF VANCOUVER
a Washington municipal corporation

GRANTEE: None

ABBREVIATED LEGAL DESCRIPTION: SEC 20 T2N R1E and SEC 28 T2N R1E

FULL LEGAL DESCRIPTION LOCATED ON: PAGE 1

ASSESSOR'S PROPERTY TAX PARCEL OR ACCOUNT NUMBER: 059115-010.0

REFERENCE NUMBERS OF RELATED DOCUMENTS: None

45 38' 5.1" N

122 41' 55.1" W

RESTRICTIVE COVENANT

On the former Carborundum Silicon Carbide Plant Site
2101 West 16th Street, Vancouver, WA 98660

The Port of Vancouver is the fee owner of real property in the County of Clark, State of Washington (the "Site") which has been the subject of an independent remedial action under Chapter 70.105D RCW. The Site is legally described as follows:

That portion of the Charles Proulx and George Malick Donation Land Claims lying in the North half of Section 28 and the South half of Section 21, Township 2 North, Range 1 East, Willamette Meridian, City of Vancouver, Clark County, Washington described as follows:

Beginning at a 2 inch iron pipe marking the Northwest corner of the Amos Short Donation Land Claim as shown in Book 39 of Surveys at Page 125, records of said county; thence along the West line of said Short Donation Land Claim South 02° 19' 42" West, 2181.82 feet; thence North 87° 40' 18" West, 776.51 feet to the South line of a 100.00 foot strip of land as conveyed to Clark County for the purposes of a public highway and recorded in Volume 123 of Deeds at Pages 175 to 180, Records of said County and the True Point of Beginning; thence along said South line North 44° 38' 03" West, 1478.53 feet; thence South 43° 24' 10" West, 542.38 feet; thence South 46° 35' 50" East, 41.00 feet; thence South 43° 24' 10" West, 222.58 feet to the inner harborline as shown in Book 20 of Surveys at Page 67, Records of said County; thence along said inner harborline South 46° 35' 50" East, 1436.66 feet; thence leaving said inner harbor line North 43° 24' 10" East, 714.31 feet to the True Point of Beginning.

This Restrictive Covenant is required by Ecology as defined in WAC 173-340-440 because the remedial actions undertaken to clean the Site (the "Cleanup Actions") resulted in residual concentrations of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) which exceed Model Toxics Control Act

Method A cleanup levels for soil and groundwater established under WAC 173-340-720(2).

The Cleanup Actions are described in the following reports:

The Standard Oil Company Technical Service Response No. 5427, October 7, 1984.

The Standard Oil Company Technical Service Response No. 5554, Project 1196-02, Vancouver SIC Plant Baghouse Slurry Pond Evaluation, April 14, 1986.

Hart Crowser, Inc., Fill Site Removal Report, Port of Vancouver, Washington, December 24, 1992.

Hart Crowser, Inc., Soil Cover Construction Report, Former Carborundum Waste Disposal Ponds, Port of Vancouver, Washington, November 9, 1993.

CH2M Hill Port of Vancouver, Former Carborundum Facility, Vancouver, Washington, Groundwater Assessment, November 1994.

CH2M Hill Alternatives Assessment Report Remediation of Contaminated Soils, Port of Vancouver, Former Carborundum Facility Port of Vancouver, USA, March 1995.

CH2M Hill, Independent Remedial Action Close-out Report, Former Carborundum Site, December 1995.

CH2M Hill, December 1995 Groundwater Sampling Results, January 25, 1996.

CH2M Hill, Port of Vancouver Former Carborundum Facility Test Pit Results, November 8, 1996.

CH2M Hill, Port of Vancouver Former Carborundum Facility Railroad Soil Remediation Alternatives, February 4, 1997.

CH2M Hill, Port of Vancouver Former Carborundum
Facility Groundwater Assessment Summary, June 17,
1997.

The above documents are on file at the State of Washington,
Department of Ecology ("Ecology") Southwest Regional Office.

The Cleanup Action meets the Model Toxics Control Act Method C cleanup levels for industrial soil and groundwater established under WAC 173-340-700(3)(c) and 720(4) in conformity with the criteria established in WAC 173-340-745. Soil with CPAH concentrations greater than MTCA Industrial cleanup levels was removed from the plant footprint and the excavated area backfilled with clean soil. A layer of clean crushed rock overlies areas of soil with residual CPAH concentrations. A layer of soil with CPAH concentrations greater than eh cleanup level remains along the former railroad spur line located at the southern edge of eh site. The contaminated soil lies beneath about 3 feet of clean fill. Because the Site is located within the Port marine industrial area, access is limited. The Site is fenced and patrolled by Port security 24 hours a day. CPAH concentrations greater than MTCA levels and arsenic concentrations barely above MTCA levels have been detected in shallow groundwater in a small area within the Site. The Site is serviced by the City water system; therefore, use of groundwater is highly unlikely.

The Port of Vancouver makes the following declarations as to limitations, restrictions, and uses to which the Site may be put, and specifies that such declaration shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Site.

Section 1: The Site may be used only for industrial purposes. The substantial and disproportionate argument for allowing residual CPAH concentrations to remain includes the maintenance of a soil cap.

Section 2: As of the date of recording this instrument, there are no structures on the Site. It is anticipated that some disturbances of the soil may be necessary for further use

of the property consistent with the Port of Vancouver's industrial purposes. Any significant disturbance will be conducted in accordance with a Health and Safety Plan consistent with then current Ecology regulations. Ecology will be notified in advance of any significant disturbance or removal of contaminated soil.

Section 3: The owner of the property must give written notice to Ecology, or a successor agency, of the owner's intent to convey any interest in the property.

Section 4: No conveyance of title, easement, lease or other interest in the property shall be consummated by the owner without adequate and complete provision for continued compliance with this Deed Restriction. The owner must notify and obtain approval from Ecology, or its successor agency, prior to any use of the property that is inconsistent with the terms of this Restrictive Covenant. Ecology or its successor agency may approve any inconsistent use only after appropriate public notice and comment.

Section 5: The owner shall provide authorized representatives of Ecology, or its successor agency, the right to enter the property at a reasonable time, after prior notice to owner, for the purpose of evaluating the Cleanup Action, taking samples, inspecting remedial actions conducted at the property, and inspecting records that are related to the Cleanup Action.

Section 6: No wells shall be hereafter installed on the subject property for the extraction of potable water for human ingestion.

Section 7: The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

Section 8: The owner of the Site and the owner's assigns and successors in interest reserve the right under WAC 173-340-440(7) to record an instrument which provides that this Restrictive Covenant shall no longer limit use of the property or be of any further force or effect. However, such an instrument may be recorded only with the consent of Ecology,

9802230224

After Recording Return To:
David F. Bartz, Jr.
Schwabe, Williamson & Wyatt, P.C.
1211 SW Fifth Avenue, Suite 1700
Portland, OR 97204

RESTRICTIVE COVENANT

DATED: 2/20, 199~~7~~⁸

GRANTOR: PORT OF VANCOUVER
a Washington municipal corporation

GRANTEE: None

ABBREVIATED LEGAL DESCRIPTION: SEC 20 T2N R1E

FULL LEGAL DESCRIPTION LOCATED ON: PAGE 1

ASSESSOR'S PROPERTY TAX PARCEL OR ACCOUNT NUMBER: 059117-882.0

REFERENCE NUMBERS OF RELATED DOCUMENTS: None

45 38' 44.19" N
122 42' 27.31 W

RESTRICTIVE COVENANT

On the former Carborundum Fill Site
3309 N.W. Lower River Road, Vancouver, WA 98660

The Port of Vancouver is the fee owner of real property in the County of Clark, State of Washington (the "Site") which has been the subject of an independent remedial action under Chapter 70.105D RCW. The Site is legally described as follows:

That portion of the Henry Van Alman Donation Land Claim lying in the Northeast Quarter of Section 20, Township 2 North, Range 1 East, Willamette Meridian, City of Vancouver, Clark County, Washington, described as follows:

Beginning at a 2 inch iron pipe marking the Northwest corner of the Amos Short Donation Land Claim, as shown in Book 39 of Surveys at Page 125, records of said county; thence along the Northerly extension of the West line of said Short Donation Land Claim North $02^{\circ} 19' 42''$ East, 2093.23 feet; thence North $87^{\circ} 40' 18''$ West, 4062.04 feet to the intersection of the South right of way line of SR 501 (Lower River Road) with the West line of the Bonneville Power Administration right of way line as shown in Book 29 of Surveys at Page 161, records of said county; thence along said South right of way line South $64^{\circ} 04' 18''$ East, 100.00 feet to the True Point of Beginning; thence continuing along said South right of way line South $64^{\circ} 04' 18''$ East, 360.00 feet; thence leaving said South right of way line South $25^{\circ} 55' 42''$ West, 210.00 feet; thence North $64^{\circ} 04' 18''$ West, 360.00 feet; thence North $25^{\circ} 55' 42''$ East, 210.00 feet to the True Point of Beginning.

This Restrictive Covenant is required by Ecology as defined in WAC 173-340-440 because the remedial actions undertaken to clean up the Site (the "Cleanup Actions") resulted in residual concentrations of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) which exceed Model Toxics Control Act Method A cleanup levels for soil and groundwater established under WAC 173-340-720(2).

The remedial actions undertaken to clean up the Site (hereafter the "Cleanup Actions") are described in the following reports:

The Standard Oil Company Technical Service Response No. 5427, October 7, 1984.

The Standard Oil Company Technical Service Response No. 5554, Project 1196-02, Vancouver SIC Plant Baghouse Slurry Pond Evaluation, April 14, 1986.

Hart Crowser, Inc., Fill Site Removal Report, Port of Vancouver, Washington, December 24, 1992.

Hart Crowser, Inc., Soil Cover Construction Report, Former Carborundum Waste Disposal Ponds, Port of Vancouver, Washington, November 9, 1993.

CH2M Hill Port of Vancouver, Former Carborundum Facility, Vancouver, Washington, Groundwater Assessment, November 1994.

CH2M Hill Alternatives Assessment Report Remediation of Contaminated Soils, Port of Vancouver, Former Carborundum Facility Port of Vancouver, USA, March 1995.

CH2M Hill, Independent Remedial Action Close-out Report, Former Carborundum Site, December 1995.

CH2M Hill, December 1995 Groundwater Sampling Results, January 25, 1996.

CH2M Hill, Port of Vancouver Former Carborundum Facility Test Pit Results, November 8, 1996.

CH2M Hill, Port of Vancouver Former Carborundum Facility Railroad Soil Remediation Alternatives, February 4, 1997.

CH2M Hill, Port of Vancouver Former Carborundum Facility Quarterly Groundwater Sampling Results, June 11, 1997.

Restrictive Covenant (Carborundum Fill Site)
December 17, 1997
Page 3

CH2M Hill, Port of Vancouver Former Carborundum
Facility Groundwater Assessment Summary, June 17,
1997.

The above documents are on file at the State of Washington,
Department of Ecology ("Ecology") Southwest Regional Office.

The Cleanup Action meets the Model Toxics Control Act
Method C cleanup levels for industrial soil and groundwater
established under WAC 173-340-700(3)(c) and 720(4) in
conformity with the criteria established in WAC 173-340-745.
Soil with CPAH concentrations greater than MTCA Industrial
cleanup levels is not present on the Site. The soil with
elevated CPAH concentrations is covered by several feet of
engineered fill, pavement and a building. Because the Site is
located within the Port marine industrial area, access is
limited. The Site is fenced and patrolled by Port security on
a 24 hour basis.

The undersigned, Port of Vancouver, is the fee owner
of the real property described above and makes the following
declarations as to limitations, restrictions, and uses to which
the Site may be put, and specifies that such declaration shall
constitute covenants to run with the land, as provided by law,
and shall be binding on all parties and all persons claiming
under them, including all current and future owners of any
portion of or interest in the Site.

Section 1: The Site may be used only for industrial purposes.

Section 2: The current structures on the Site include a
building covering approximately one half of the Site. It is
anticipated that some disturbances of the soil may be necessary
for further use of the property consistent with the Port of
Vancouver's industrial purposes. Any significant disturbance
will be conducted in accordance with a Health and Safety Plan
consistent with then current Ecology regulations. Any removal
of contaminated soil will be reported to Ecology.

Section 3: The owner of the property must give written notice
to Ecology, or a successor agency, of the owner's intent to
convey any interest in the property.

Section 4: No conveyance of title, easement, lease or other interest in the property shall be consummated by the owner without adequate and complete provision for continued compliance with this Deed Restriction. The owner must notify and obtain approval from Ecology, or its successor agency, prior to any use of the property that is inconsistent with the terms of this Restrictive Covenant. Ecology or its successor agency may approve any inconsistent use only after appropriate public notice and comment.

Section 5: The owner shall provide authorized representatives of Ecology, or its successor agency, the right to enter the property at a reasonable time, after prior notice to owner, for the purpose of evaluating the Cleanup Action, taking samples, inspection remedial actions conducted at the property, and inspecting records that are related to the Cleanup Action.

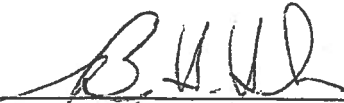
Section 6: No wells shall be hereafter installed on the subject property for the extraction of potable water for human ingestion.

Section 7: The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

Section 8: The owner of the Site and the owner's assigns and successors in interest reserve the right under WAC 173-340-440(7) to record an instrument which provides that this Restrictive Covenant shall no longer limit use of the property or be of any further force or effect. However, such an instrument may be recorded only with the consent of Ecology, or its successor agency. Ecology, or its successor agency, may consent to the recording of such an instrument only after appropriate public notice and comment.

PORT OF VANCOUVER

Date: February 20, 1998

By: 
Title: 6 Exec D -

After Recording Return To:
David F. Bartz, Jr.
Schwabe, Williamson & Wyatt, P.C.
1211 SW Fifth Avenue, Suite 1700
Portland, OR 97204

9802230225

RESTRICTIVE COVENANT

DATED: 2/20, 1997⁸

GRANTOR: PORT OF VANCOUVER
a Washington municipal corporation

GRANTEE: None

ABBREVIATED LEGAL DESCRIPTION: SEC 20 T2N R1E and SEC 28 T2N R1E

FULL LEGAL DESCRIPTION LOCATED ON: PAGE 1

ASSESSOR'S PROPERTY TAX PARCEL OR ACCOUNT NUMBER: 059115-010.0

REFERENCE NUMBERS OF RELATED DOCUMENTS: None

45 38' 17.6N

122 41' 4.12"W

RESTRICTIVE COVENANT

On the property known as the former Carborundum Ponds B and G
2101 West 16th Street, Vancouver, WA 98660

The Port of Vancouver is the fee owner of real property in the County of Clark, State of Washington (the "Site") which has been the subject of an independent remedial action under Chapter 70.105D RCW. The Site is legally described as follows:

That portion of the Charles Proulx and George Malick Donation Land Claims lying in the North half of Section 28 and the South half of Section 21, Township 2 North, Range 1 East, Willamette Meridian, City of Vancouver, Clark County, Washington, described as follows:

Beginning at a 2 inch iron pipe marking the Northwest corner of the Amos Short Donation Land Claim as shown in Book 39 of Surveys at Page 125, records of said county; thence along the West line of said Short Donation Land Claim South 02° 19' 42" West, 2181.82 feet; thence North 87° 40' 18" West, 776.51 feet to the South line of a 100.00 foot strip of land as conveyed to Clark County for purposes of a public highway and recorded in Volume 123 of Deeds at Pages 175 to 180, Records of said County; thence along said South line North 44° 38' 03" West, 1478.53 feet to the True Point of Beginning; thence South 43° 24' 10" West, 412.63 feet; thence North 11° 29' 57" West, 398.12 feet; thence North 43° 19' 34" West, 573.46 feet; thence North 42° 03' 26" East, 488.00 feet to the South right of way line of the Burlington Northern Railroad; thence along said South right of way line South 34° 22' 26" East 659.67 feet to the West right of way line of West 26th Street extension; thence along said West right of way line South 13° 20' 55" West, 221.74 feet to the South line of said 100.00 strip; thence along said South line South 44° 38' 03" East, 154.04 feet to the True Point of Beginning.

This Restrictive Covenant is required by Ecology as defined in WAC 173-340-440 because the remedial actions undertaken to clean the Site (the "Cleanup Action") resulted in residual concentrations of carcinogenic polycyclic aromatic hydrocarbons ("CPAHs") which exceed Model Toxics Control Act Method A cleanup levels for soil and groundwater established under WAC 173-340-720(2).

The Cleanup Actions are described in the following reports:

The Standard Oil Company Technical Service Response No. 5427, October 7, 1984.

The Standard Oil Company Technical Service Response No. 5554, Project 1196-02, Vancouver SIC Plant Baghouse Slurry Pond Evaluation, April 14, 1986.

Hart Crowser, Inc., Fill Site Removal Report, Port of Vancouver, Washington, December 24, 1992.

Hart Crowser, Inc., Soil Cover Construction Report, Former Carborundum Waste Disposal Ponds, Port of Vancouver, Washington, November 9, 1993.

CH2M Hill Port of Vancouver, Former Carborundum Facility, Vancouver, Washington, Groundwater Assessment, November 1994.

CH2M Hill Alternatives Assessment Report Remediation of Contaminated Soils, Port of Vancouver, Former Carborundum Facility Port of Vancouver, USA, March 1995.

CH2M Hill, Independent Remedial Action Close-out Report, Former Carborundum Site, December 1995.

CH2M Hill, December 1995 Groundwater Sampling Results, January 25, 1996.

CH2M Hill, Port of Vancouver Former Carborundum Facility Test Pit Results, November 8, 1996.

CH2M Hill, Port of Vancouver Former Carborundum Facility Railroad Soil Remediation Alternatives, February 4, 1997.

CH2M Hill, Port of Vancouver Former Carborundum Facility Quarterly Groundwater Sampling Results, June 11, 1997.

Restrictive Covenant (Carborundum Pond Site)
December 17, 1997
Page 3

CH2M Hill, Port of Vancouver Former Carborundum
Facility Groundwater Assessment Summary, June 17,
1997.

These documents are on file at the State of Washington,
Department of Ecology ("Ecology") Southwest Regional Office.

The Cleanup Action meets the Model Toxics Control Act Method C cleanup levels for industrial soil and groundwater established under WAC 173-340-700(3)(c) and 720(4) in conformity with the criteria established in WAC 173-340-745. Soil with CPAH concentrations greater than MTCA Industrial cleanup levels is not present on the Site. The soil with elevated concentrations of CPAHs is covered by 2 to 3 feet of engineered fill. Because the Site is located within the Port marine industrial area, access is limited. The Site is fenced and patrolled by Port security on a 24 hour basis. Groundwater has not been impacted by the presence of the elevated concentrations of CPAHs.

The Port of Vancouver makes the following declarations as to limitations, restrictions, and uses to which the Site may be put, and specifies that such declaration shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Site.

Section 1: The Site may be used only for industrial purposes.

Section 2: As of the date of this Restrictive Covenant, there are no structures on the Site. It is anticipated that some disturbances of the soil may be necessary for further use of the property consistent with the Port of Vancouver's industrial purposes. Any significant disturbance will be conducted in accordance with a Health and Safety Plan consistent with then current Ecology regulations. Any removal of contaminated soil will be reported to Ecology.

Section 3: The owner of the property must give written notice to Ecology, or a successor agency, of the owner's intent to convey any interest in the property.

Section 4: No conveyance of title, easement, lease or other interest in the property shall be consummated by the owner without adequate and complete provision for continued compliance with this Deed Restriction. The owner must notify and obtain approval from Ecology, or its successor agency, prior to any use of the property that is inconsistent with the terms of this Restrictive Covenant. Ecology or its successor agency may approve any inconsistent use only after appropriate public notice and comment.

Section 5: The owner shall provide authorized representatives of Ecology, or its successor agency, the right to enter the property at a reasonable time, after prior notice to owner, for the purpose of evaluating the Cleanup Action, taking samples, inspection remedial actions conducted at the property, and inspecting records that are related to the Cleanup Action.

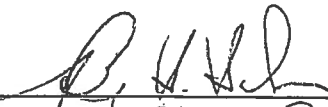
Section 6: No wells shall be hereafter installed on the subject property for the extraction of potable water for human ingestion.

Section 7: The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

Section 8: The owner of the Site and the owner's assigns and successors in interest reserve the right under WAC 173-340-440(7) to record an instrument which provides that this Restrictive Covenant shall no longer limit use of the property or be of any further force or effect. However, such an instrument may be recorded only with the consent of Ecology, or its successor agency. Ecology, or its successor agency, may consent to the recording of such an instrument only after appropriate public notice and comment.

PORT OF VANCOUVER

Date: February 20, 1998

By: 
Title: Exec. Dir.

12,387LD1
7/28/97
NB/ir

Mackay & Sposito Inc.

**M
& S**

ENGINEERS SURVEYORS PLANNERS

1703 MAIN STREET VANCOUVER, WASHINGTON 98660

WASHINGTON
(360) 695-3411

FAX
(360) 695-0833

OREGON
(503) 289-6726

EMAIL
msinc@e-z.net

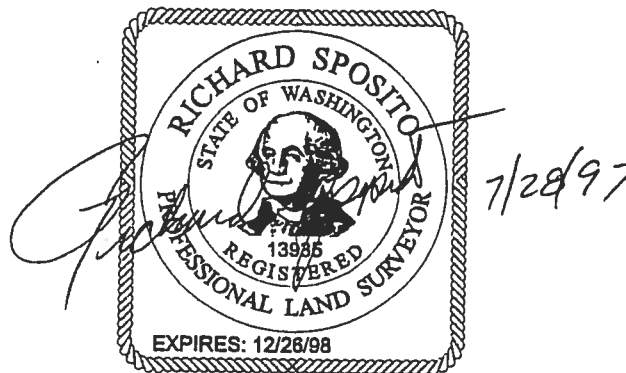
LEGAL DESCRIPTION
"PLANT" AREA - FORMER CARBORUNDUM SITE
PORT OF VANCOUVER
VANCOUVER, WASHINGTON

That portion of the Charles Proulx and George Malick Donation Land Claims lying in the North half of Section 28 and the South half of Section 21, Township 2 North, Range 1 East, Willamette Meridian, City of Vancouver, Clark County, Washington described as follows:

Beginning at a 2 inch iron pipe marking the Northwest corner of the Amos Short Donation Land Claim as shown in Book 39 of Surveys at Page 125, records of said county; thence along the West line of said Short Donation Land Claim South 02° 19' 42" West, 2181.82 feet; thence North 87° 40' 18" West, 776.51 feet to the South line of a 100.00 foot strip of land as conveyed to Clark County for purposes of a public highway and recorded in Volume 123 of Deeds at Pages 175 to 180, Records of said County and the True Point of Beginning; thence along said South line North 44° 38' 03" West, 1478.53 feet; thence South 43° 24' 10" West, 542.38 feet; thence South 46° 35' 50" East, 41.00 feet; thence South 43° 24' 10" West, 222.58 feet to the inner harborline as shown in Book 20 of Surveys at Page 67, Records of said County; thence along said inner harborline South 46° 35' 50" East, 1436.66 feet; thence leaving said inner harbor line North 43° 24' 10" East, 714.31 feet to the True Point of Beginning.

Containing 24.881 acres.

Subject to easements and restrictions of records.



12,387LD2
7-28-97
NB/ir

Mackay & Sposito Inc.



ENGINEERS SURVEYORS PLANNERS
1703 MAIN STREET VANCOUVER, WASHINGTON 98660

WASHINGTON
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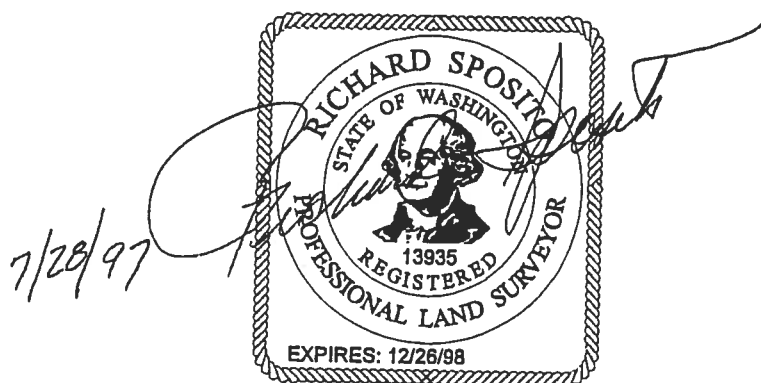
LEGAL DESCRIPTION
"POND" AREA - FORMER CARBORUNDUM SITE
PORT OF VANCOUVER
VANCOUVER, WASHINGTON

That portion of the Charles Proulx and George Malick Donation Land Claims lying in the North half of Section 28 and the South half of Section 21, Township 2 North, Range 1 East, Willamette Meridian, City of Vancouver, Clark County, Washington described as follows:

Beginning at a 2 inch iron pipe marking the Northwest corner of the Amos Short Donation Land Claim as shown in Book 39 of Surveys at Page 125, records of said county; thence along the West line of said Short Donation Land Claim South 02° 19' 42" West, 2181.82 feet; thence North 87° 40' 18" West, 776.51 feet to the South line of a 100.00 foot strip of land as conveyed to Clark County for purposes of a public highway and recorded in Volume 123 of Deeds at Pages 175 to 180, Records of said County; thence along said South line North 44° 38' 03" West, 1478.53 feet to the True Point of Beginning; thence South 43° 24' 10" West, 412.63 feet; thence North 11° 29' 57" West, 398.12 feet; thence North 43° 19' 34" West, 573.46 feet; thence North 42° 03' 26" East, 488.00 feet to the South right of way line of the Burlington Northern Railroad; thence along said South right of way line South 34° 22' 26" East 659.67 feet to the West right of way line of West 26th Street extension ; thence along said West right of way line South 13° 20' 55" West, 221.74 feet to the Southline of said 100.00 strip; thence along said South line South 44° 38' 03" East, 154.04 feet to the True Point of Beginning.

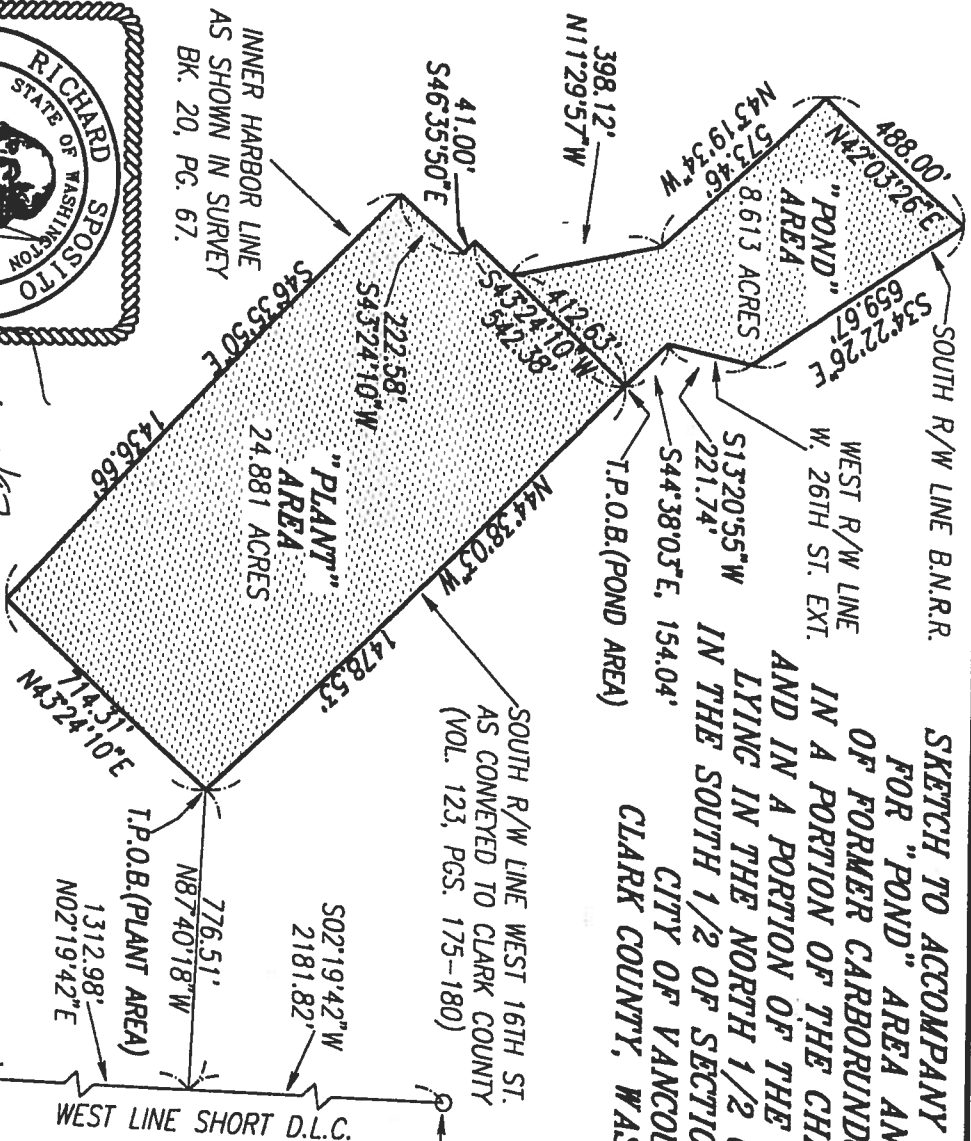
Containing 8.613 acres.

Subject to easements and restrictions of records.





INNER HARBOR LINE
AS SHOWN IN SURVEY
BK. 20, PG. 67.



SKETCH TO ACCOMPANY LEGAL DESCRIPTION
FOR "POND" AREA AND "PLANT" AREA
OF FORMER CARBORUNDUM COMPANY SITE
IN A PORTION OF THE CHARLES PROULX D.L.C.
AND IN A PORTION OF THE GEORGE MALICK D.L.C.
LYING IN THE NORTH 1/2 OF SECTION 28 AND
IN THE SOUTH 1/2 OF SECTION 21, T.2N., R.1E., W.M.-N
CITY OF VANCOUVER
CLARK COUNTY, WASHINGTON

SOUTH R/W LINE WEST 16TH ST.
AS CONVEYED TO CLARK COUNTY
(VOL. 123, PGS. 175-180)

SCALE: 1" = 500'
JULY 25, 1997

BEARINGS BASED ON
SURVEY BK.39, PG.125.

Mackay & Sposito Inc.
ENGINEERS SURVEYORS
PLANNERS
1703 MAIN STREET VANCOUVER, WA. 98660
(360)695-3411 FAX 695-0833 (503)289-6726

7/25/97

POSITION OF 2" IRON PIPE
AT THE NW CORNER OF THE
AMOS SHORT D.L.C. AS SHOWN
IN R.O.S. BK. 39, PG. 125.

DISTANCES SHOWN HEREON ARE FROM
SURVEY BK. 20, PG. 67 BY BICKFORD
ASSOCIATES FOR THE PORT OF VANCOUVER.

POSITION OF CITY BRASS CAP IN MONUMENT
CASE ON D.L.C. LINE AT THE ORIGIN(0,0)
OF THE 1940 CITY COORDINATE SYSTEM AS
SHOWN IN R.O.S. BK. 39, PG. 125.

POSITION OF THE SW CORNER
OF THE AMOS SHORT D.L.C. AS
SHOWN IN R.O.S. BK. 39, PG. 125.

12387551

12387.ld3
8-4-97
NJB/ed

Mackay & Sposito Inc.

ENGINEERS SURVEYORS PLANNERS

1703 MAIN STREET VANCOUVER, WASHINGTON 98660

WASHINGTON
(360) 695-3411

FAX
(360) 695-0833

OREGON
(503) 289-6728

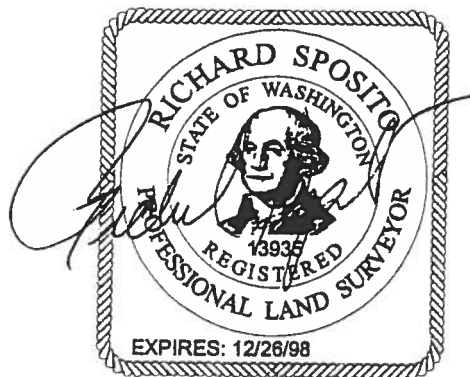
EMAIL
msinc@e-z.net

LEGAL DESCRIPTION
"FILL SITE" AREA OF FORMER CARBORUNDUM COMPANY
PORT OF VANCOUVER
VANCOUVER, WASHINGTON

That portion of the Henry Van Alman Donation Land Claim lying in the Northeast Quarter of Section 20, Township 2 North, Range 1 East, Willamette Meridian, City of Vancouver, Clark County, Washington, described as follows:

Beginning at a 2 inch iron pipe marking the Northwest corner of the Amos Short Donation Land Claim, as shown in Book 39 of Surveys at Page 125, records of said county; thence along the Northerly extension of the West line of said Short Donation Land Claim North 02° 19' 42" East, 2093.23 feet; thence North 87° 40' 18" West, 4062.04 feet to the intersection of the South right of way line of SR 501 (Lower River Road) with the West line of the Bonneville Power Administration right of way line as shown in Book 29 of Surveys at Page 161, records of said county; thence along said South right of way line South 64° 04' 18" East, 100.00 feet to the True Point of Beginning; thence continuing along said South right of way line South 64° 04' 18" East, 360.00 feet; thence leaving said South right of way line South 25° 55' 42" West, 210.00 feet; thence North 64° 04' 18" West, 360.00 feet; thence North 25° 55' 42" East, 210.00 feet to the True Point of Beginning.

Containing 1.74 acres or 75,600 sq ft.



8/5/97



STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

Southwest Region - Vancouver Field Office

2108 Grand Boulevard • Vancouver, Washington 98661-4624 • (360) 690-7171

July 16, 2009

Ms. Patty Boyden, Director of Environmental Services
Port of Vancouver USA
3103 NW Lower River Road
Vancouver, WA 98660

Re: Conditional approval of cap disturbances and contaminated soil removal in two areas of the Port of Vancouver subject to 1998 Restrictive Covenants. Anticipated impacts are related to the following 2009-2010 Port improvement projects:

- Stormwater System Improvement
- West Vancouver Freight Access (railroad track extensions)

Former Carborundum Lease Area - 2101 W 16th St - Vancouver, WA

Dear Ms. Boyden:

In accordance with the provisions two 1998 restrictive covenants (RC) applicable to areas that will be impacted by planned Port of Vancouver (Port) improvement projects, the Port notified the Washington State Department of Ecology (Ecology) of anticipated RC-area disturbances (Port letter of May 28, 2009). Ecology approves—with conditions—the Port's necessary breaches of the RCs anticipated to occur in 2009 and 2010. The conditions of approval, designed to minimize environmental and health risks, are outlined in this Ecology response.

Project Synopses (see attachments)

- *Stormwater System Improvement* – This project is entirely within the former Carborundum "Plant" area addressed by the 1998 covenant #9082230223. Within Terminal 2 near an existing bio-swale (*lat* 45°38.1'N, *long* 122°41.9'W), two new stormwater pipelines (diameter/length: 24"/50' and 34"/165') plus associated manholes will be installed and connected to existing lines. Excavations will be 10 ft or less below ground surface and approximately 6 ft wide.

Most of the approximately 500 cubic yards of excavated soil will be returned to the trenches; remaining soil will be waste-characterized and handled, hauled, and disposed in accordance with applicable regulations. The fill cap will be restored to a condition with impermeability and durability characteristics equal to or better than the original engineered cap. All work in this area will be conducted consistent with a site-specific health and safety plan which follows chapters 47.19 RCW and 296-62 WAC.

- *West Vancouver Freight Access* – The 2009-2010 construction activity subsets of this umbrella project will occur in both the "Pond"-area and "Plant"-area RCs (#s 9802230225 and 9802230223). The approximate longitudinal "end points" of the RC disturbance area are *lat*

45°38.4'N, long 122°42.1'W and lat 45°38.1'N, long 122°41.8'W. The first subset (*Kinder Morgan Bulk Unloading Facility*) is an extension of railroad tracks from an area "just south" of Port Building 3210 southeastwardly to the approximate midpoint of the former Carborundum Plant area. The second subset phase (*Grain Track Unit Train Improvements Phase A*) continues southeastwardly along the existing rail corridor from the midpoint of the former Carborundum Plant area. The total extension length is approximately 3200 feet.

The average excavation depth for the project work will be 5 feet. Approximately 1200 cubic yards of soil will be removed. A Port *Contaminated Media Management Plan* will be developed before the work commences, and will be followed. A Health and Safety Plan consistent with chapters 47.19 RCW and 296-62 WAC will be also be developed and followed.

Applicable Restrictive Covenants (see attached RCs for details—both executed on February 20, 1998)

- *Former Carborundum Ponds B and G (#9802230225)* – This RC was required because soil contaminated with polycyclic aromatic hydrocarbons (PAHs—including some which are carcinogenic (ie, cPAHs)—was deposited in two former pond areas (see attachments). The contaminated soil is covered with a 2- to 3-ft of engineered cap. No soil is present that has cPAH concentrations exceeding *then*-applicable MTCA *Method A* Industrial cleanup level (CUL) of 20 mg/kg or *Method C* Industrial CUL (18 mg/kg)—or the *now*-applicable *Method C* Industrial CUL (still 18 mg/kg). The *current Method A* industrial CUL is only 2 mg/kg. Data from 1994 indicated no detection of cPAHs and only 0 to 7 µg/l of non-cPAH compounds in groundwater.
- *Former Carborundum Silicon Carbide Plant Site (#9802230223)* – This RC was required because buried soil containing cPAHs (exceeding MTCA Industrial CULs in a limited area on the south portion of the RC zone). All contaminated soil is capped by approximately 3 ft of clean soil. In areas of low cPAH soil concentrations, clean crushed rock was used for partial cover. In a "small" area of the RC zone groundwater was found to contain cPAH above MTCA CULs and arsenic slightly above CULs.

The essential elements of *both* RCs follow:

- RC areas are restricted to industrial use only.
- Any significant disturbance will be conducted in accordance with a Health and Safety Plan consistent with then-current Ecology regulations. *Note: "then-current" was original language which implies regulations existing during any future disturbance.*
- Cap disturbance or removal of contaminated soil shall be reported to Ecology.
- Owner must give Ecology written notice of owner's intent to convey any interest in the property.
- Any change in ownership status must include continued compliance with the RC.
- Ecology personnel have the right to enter.
- No wells shall be installed on the subject Property for the extraction of potable water.
- Owner must restrict leases to uses and activities consistent with the RC and notify all lessees of the restrictions on the use of the Property.
- Provision to record an instrument which provides that the RC shall no longer limit the use of the property or be of any further force or effect.

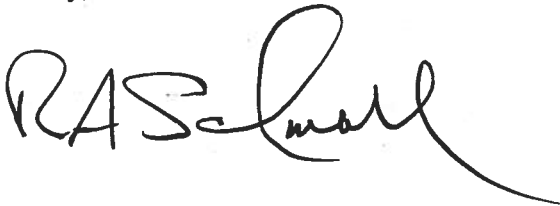
Conditions of Ecology Approval

1. The anticipated trail track extension project disturbance appears to include—or very nearly include—monitoring Well MW-30i, monitored by the Port of Vancouver. Care should be used to protect it. If the track installation footprint covers the well, the Port shall decommission the well and replace it at a location approved by Ecology.

2. Any soil excavated from the RC areas which is not reburied and capped shall be sampled and analyzed for hazardous/dangerous waste characteristics plus analyzed for PAH/cPAH and arsenic. It shall be handled, hauled, and disposed in accordance with applicable regulations.
3. Soil returned to the stormwater pipe trenches or rail track area shall be capped in a manner that provides groundwater protection consistent with Ecology's current requirements and equal or greater than the original cap. This capping requirement shall also apply to areas where the original cap was removed partially removed and not replaced in total, even if no underlying soil was removed or disturbed
4. The on-site project work shall follow the Port's *Contaminated Media Management Plan* and a health and safety plan that is consistent with the provisions of chapter 47.19 RCW and chapter 296-62 WAC.

Please contact me if you have questions, comments, or a desire to meet with Ecology.

Sincerely,



Rod Schmall, Environmental Engineer
Toxics Cleanup Program / Washington State Department of Ecology

cc: Scott Rose, L.Hg, TCP-SWRO Unit Supervisor
Lisa Pearson, P.E., TCP-SWRO Unit Supervisor
Rebecca Lawson, P.E., L.Hg., TCP-SWRO Section Manager
Craig Rankine, P.Hg., TCP-VFO
Iloba Odum, Director, VFO

Certified Mail / Return Receipt (# 7004 0750 0000 5671 1274)

Attachments: Pertinent information
Figures
Project Diagrams

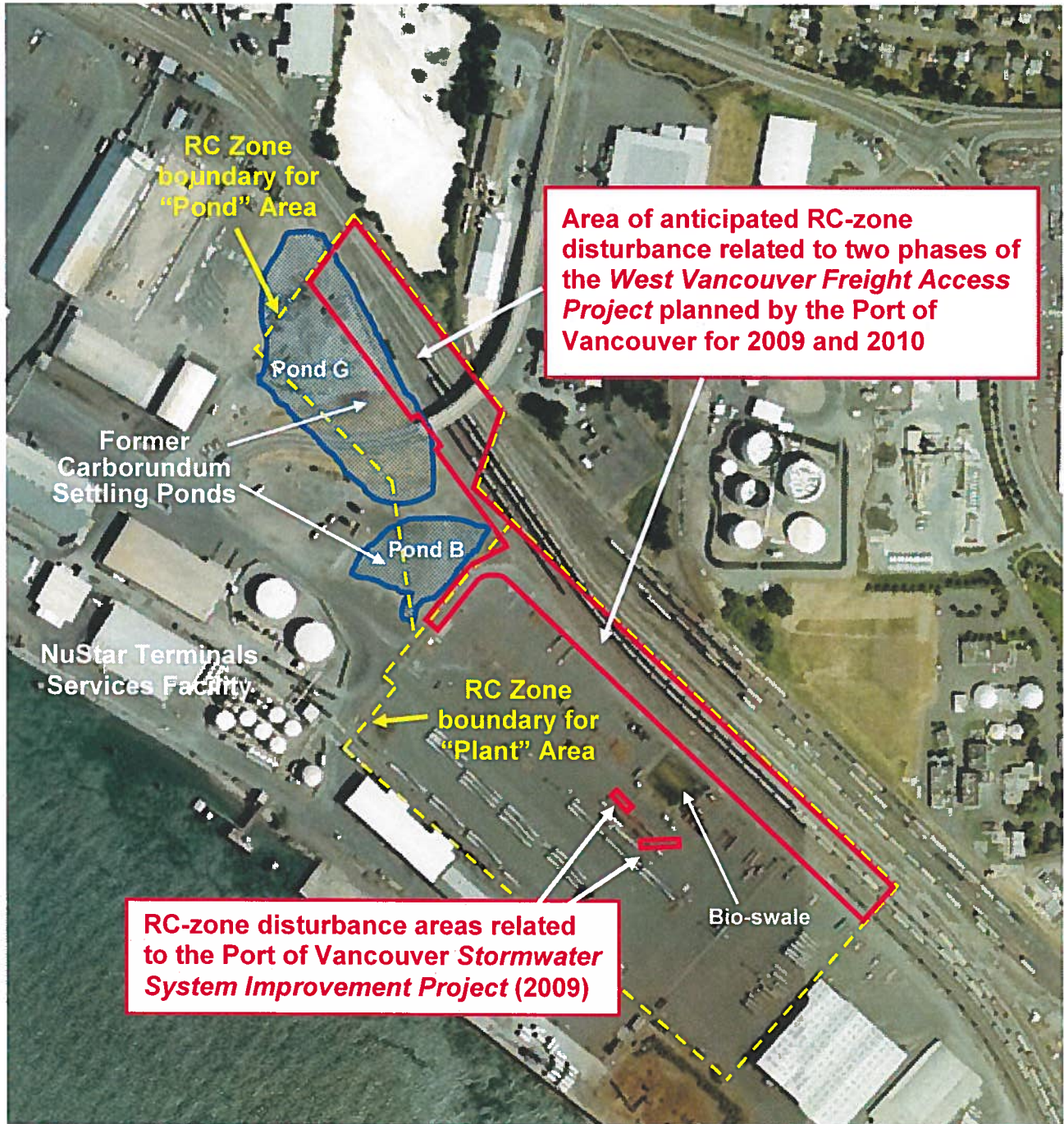
Attachment

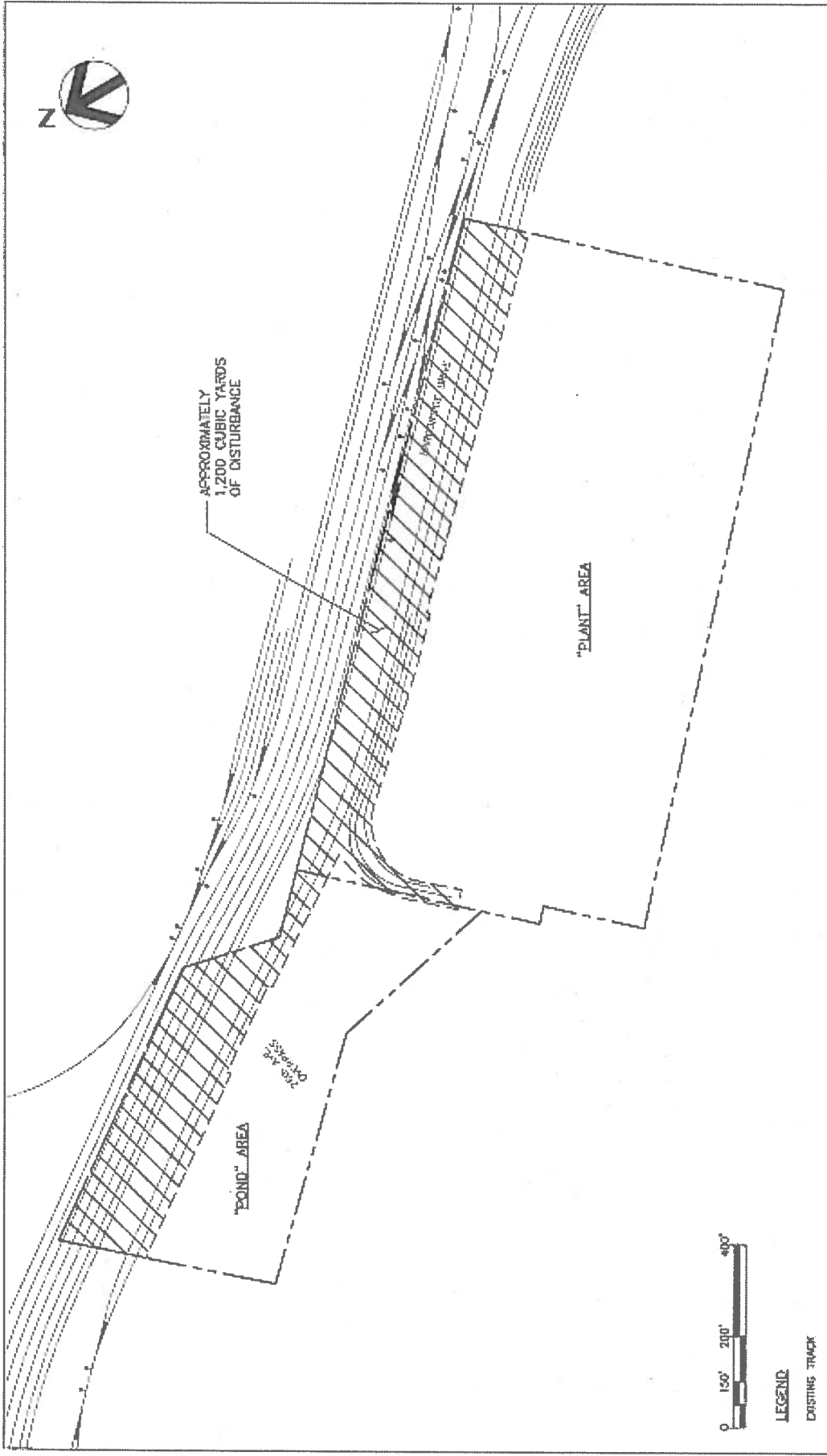
Pertinent Information concentration data are from 1980s and 1990s)

- 1998 MTCA Method A cleanup level (industrial) for cPAHs in soil was 20 mg/kg (ppm); it's presently 2.0 mg/kg. Method C industrial level (then *and* now) equals 18 mg/kg.
- The concentration of total PAHs in the baghouse dust *itself* ranged from 8 to 55 mg/kg; cPAH values were 3.5 to 21.
- The average cPAH concentration of seven pond-soil composite samples in 1984 was 12 mg/kg.
- 1994 data: No cPAHs have been detected in groundwater. *Non-carcinogenic* PAHs ranged from 0 to 7 µg/L (ppb).
- Metals of concern in 1994 *filtered* groundwater samples were all "non-detect." In 1986, *unfiltered* samples from MW-F (on the south edge of the proposed tank farm) had low concentrations of metals, which were nondetectable in *filtered* samples.
- Groundwater samples from the two monitoring wells located above (MW-G) and bordering (MW-F) the east-pond remnant were all "non detect for cPAH.
- In 1997, there was a drinking water well existed within ½ mile of the site. It may not be in use now, but its status has not been confirmed.
- CLARC values for groundwater and air:
 - Groundwater // Method A Industrial = 0.10 µg/L (given only for benzo[a]pyrene).
 - Groundwater // Method C Industrial = 0.12 µg/L (for seven major cPAHs).
 - Air // Method C = 0.014 mg/m³ (given only for benzo[a]pyrene).

MORE ATTACHMENTS FOLLOW

Locations of Port of Vancouver improvement projects relative to existing and former facilities and applicable restrictive covenants





DATE	05/21/2009
FIGURE	1

CARBORUNDUM ENVIRONMENTAL CAP



LEGEND

- DISTING TRACK
- - - PROPOSED TRACK
- - - APPROX. LIMITS OF CARBORUNDUM CAP
- ▨ AREA OF DISTURBANCE

T2 Bioswale Figure



- Legend**
- Catch Basins
 - Manholes
 - Storm Lines

NEW STORMLINE

NEW MANHOLES

X ERROR, THIS MANHOLE IS NOT LOCATED HERE.

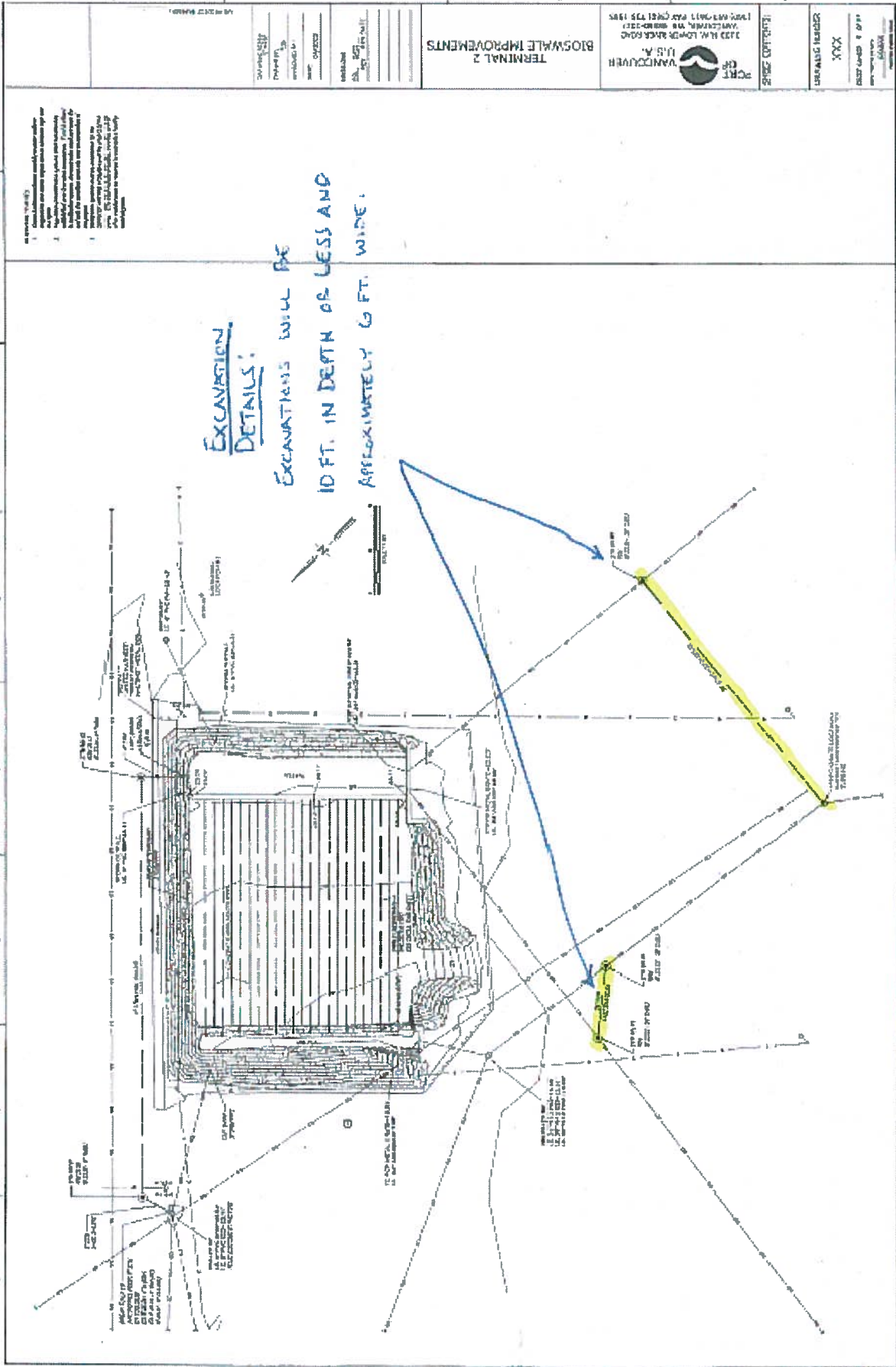


Scale: 1:1,578



Map center: 45° 38' 6.3" N, 122° 41' 53.9" W

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.



NEW STORMLINE CONNECTIONS/MANHOLES

Former Fort Vancouver Plywood Site

RESTRICTIVE COVENANT

Former Fort Vancouver Plywood Site
901 Port Way, Vancouver, Washington
The Port of Vancouver, USA, Owner

This Declaration of Restrictive Covenant is made pursuant to RCW 70.105D.030(l)(f) and (g) and WAC-173-340-440 by the Port of Vancouver, USA, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

Work to clean up the property (hereafter "Remedial Action") is described in the Agreed Order entered into between the Port of Vancouver and Ecology (Agreed Order No. DE 99TC-S 108), and the attachments to the Agreed Order and in documents referenced in the Agreed Order. These documents are on file at Ecology's Southwest Regional Office.

This Restrictive Covenant is required because the Remedial Action resulted in residual concentrations of metals, petroleum hydrocarbon compounds, and volatile organic compounds which exceed the Model Toxics Control Act Method A Residential Cleanup Level for soil established under WAC 173-340-740. This Restrictive Covenant is also required because a conditional point of compliance has been established for shallow groundwater discharging from the site to the Columbia River in accordance with WAC 173-340-720(6)(d).

The undersigned, The Port of Vancouver, USA, is the fee owner of real property (hereafter "Property") in the County of Clark, State of Washington, that is subject to this Restrictive Covenant. The Property is legally described in Attachment A of this Restrictive Covenant and made a part hereof by reference.

The Port of Vancouver makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them including all current and future owners of any portion of or interest in the Property (hereafter "Owner").

Section 1. The following restrictions apply to the property:

1. "The Property shall be used only for traditional industrial uses, as described in RCW 70.105D.020(23) and defined in and allowed under the City of Vancouver's zoning regulations codified in the City of Vancouver Municipal Code, Chapter 20 as of the date of this Restrictive Covenant."

2. "Shallow-zone groundwater from the property shall not be used e.g., domestic, agricultural, or any use as a potable water supply source."

3. "Any activity on the Property that results in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited. Some examples of activities that are prohibited in the capped areas include: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork."

**BICKFORD-
MURSELL
SURVEYING**

ATTACHMENT A

September 25, 1996
Job No. 1574



**PORT OF VANCOUVER
FT. VANCOUVER PLYWOOD SITE
PARCEL A
(EASTERLY PARCEL)**

CELL 1

BEGINNING at a point that is 434.09 feet South and 1267.72 feet East of the concrete monument in the West line of the Amos Short Donation Land Claim, said concrete monument being N00°44'45"E, 136.05 feet from the Southwest corner of said Claim, said monument being the point of origin for the Port of Vancouver and the City of Vancouver coordinate systems;

THENCE S41°39'06E, 164.00 feet;

THENCE S43°42'22"E, 203.54 feet to the East right-of-way line of Port Way;

THENCE Southerly, along the arc of a 1128.75 foot radius curve, concave Westerly, through a central angle of 14°16'16", an arc distance of 281.14 feet (chord bears S29°44'57", 280.42 feet);

THENCE S36°53'16"W, 470.44 feet to the Inner Harbor Line;

THENCE N48°34'36"W, along said line, 542.76 feet;

THENCE N47°30'27"E, 785.06 feet to the point of beginning;

Containing 8.16 acres.

NOTE: CELL 1 REVISED TO EXCLUDE
A 50' WIDE BY 785' LONG STRIP ON
THE WEST SIDE OF THE ABOVE AREA
TO COMPRISE 7.26 ACRES.

(360) 693-1361
1310 MAIN STREET
VANCOUVER, WASHINGTON 98660

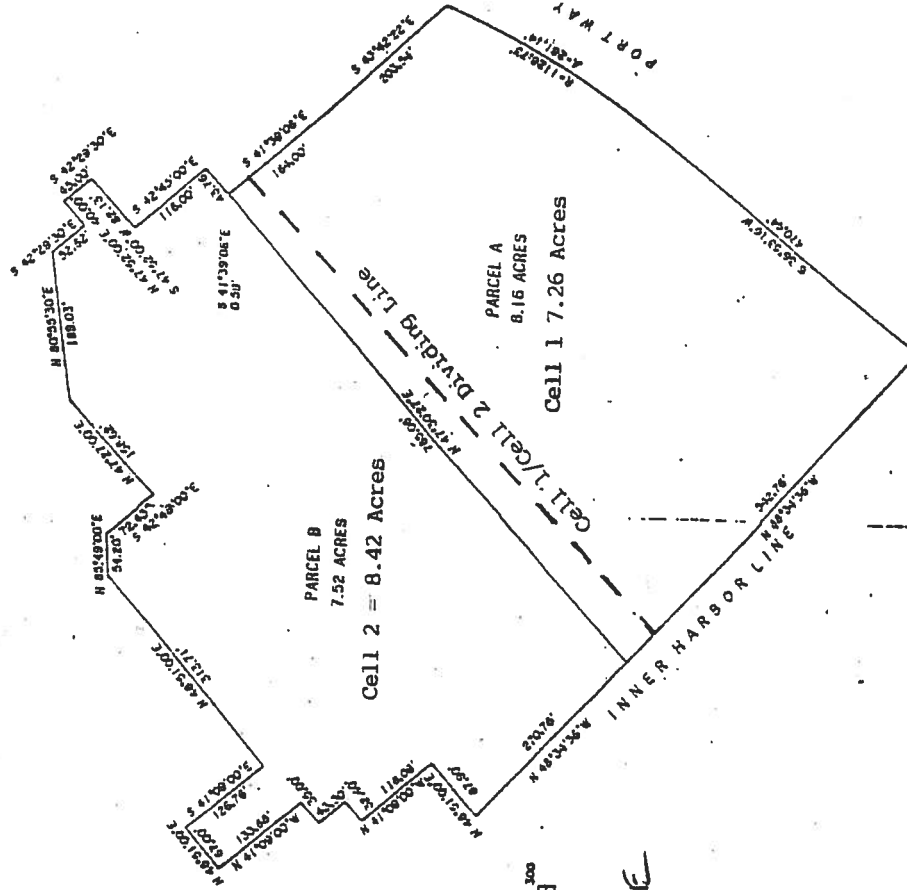
(503) 224-1407
29970 S.W. TOWNCENTER LOOP W.
SUITE B-423
WILSONVILLE, OREGON 97070

09/25/96 WED 13:19 [TX/RX NO 58191

Exhibit A - Page 1 of 2



PORT OF VANCOUVER - FORT VANCOUVER PLYWOOD SITE
SECTION 28, TOWNSHIP 2 NORTH, RANGE 1 EAST, W.M.
CLARK COUNTY, WASHINGTON



SEPTEMBER 30, 1998

NOT TO SCALE

BICKFORD-MURSELL SURVEYING
1310 MAIN STREET
VANCOUVER, WASHINGTON 98660
PHONE 360-693-1361
FAX 360-693-2041

Exhibit A. FIGURE 3 page 2 of 2

4155720 COV

RecFee - \$39.0000 Pages: 8 - PORT OF VANCOUVER
Clark County, WA 4/21/06 11:41 AM



RBcopy

7

AFTER RECORDING RETURN TO:

Patricia Boyden
Port of Vancouver, USA
3103 NW Lower River Rd.
Vancouver, WA 98660-1027

COPY

Cell 2

COVER SHEET

DOCUMENT TITLE: Restrictive Covenant

REFERENCE NUMBER(S):

NAME(S) OF GRANTOR(S): Port of Vancouver, USA

NAME(S) OF GRANTEE(S): Washington Department of Ecology

PAGE(S) WHERE ADDITIONAL NAMES CAN BE FOUND: N/A

ABBREVIATED LEGAL DESCRIPTION: #51, East half of Section 28, Township 2 North,
Range 1 East

ASSESSOR'S PROPERTY TAX PARCEL NUMBER: 058657-000

RESTRICTIVE COVENANT

Port of Vancouver, USA
Former Fort Vancouver Plywood Site—Cell 2

This Declaration of Restrictive Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by Port of Vancouver, U.S.A., its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

The undersigned, Port of Vancouver, U.S.A., is the fee owner of real property (hereafter "Property") in the County of Clark, State of Washington, that is subject to this Restrictive Covenant. The Property is legally described in Exhibit A of this restrictive covenant and made a part hereof by reference.

An independent remedial action (hereafter "Remedial Action") occurred at the property that is the subject of this Restrictive Covenant. The Remedial Action conducted at the property is described in the documents listed in Exhibit B. These documents are on file with Ecology.

This Restrictive Covenant is required because the Remedial Action resulted in residual concentrations in soil of petroleum hydrocarbons that exceed the applicable Model Toxics Control Act (hereafter "MTCA") cleanup levels. In addition, this Restrictive Covenant is required because halogenated volatile organic compounds and metals are present in groundwater at levels exceeding applicable cleanup standards.

The Port of Vancouver, U.S.A. makes the following declaration as to limitations, restrictions; and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners (hereafter "Owner") and tenants of any portion of or interest in the Property.

Section 1.

a. The Property shall be used only for traditional industrial uses, as described in RCW 70.105D.020(23) and defined in and allowed under the City of Vancouver's zoning regulations codified in Chapter 20.440 of the Vancouver Municipal Code as of the date of this Restrictive Covenant.

b. Groundwater contaminated with halogenated volatile organic compounds and metals remains beneath the property. No groundwater may be taken from the Property for domestic, agricultural, or any other use.

c. Soil contaminated with petroleum hydrocarbons, lead, and carcinogenic polycyclic aromatic hydrocarbons was removed from the Property during the Remedial Action but some contaminated soil remains at the property. To complete the Remedial Action, an asphalt cap was constructed over the entire Property to contain residual soil contamination. Any activity on the Property that may result in the release or exposure to the environment of the

contaminated soil that was contained as part of the Remedial Action, or creates a new exposure pathway, is prohibited. Some examples of activities that are prohibited in the capped areas include: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork.

Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or creates a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 4. The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

Section 5. The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the property, and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

Port of Vancouver, U.S.A.

By: 

Lawrence L. Paulson, Executive Director

Date: 4-12-06

Mackay & Sposito Inc.



ENGINEERS

SURVEYORS

PLANNERS

1703 MAIN STREET, VANCOUVER, WASHINGTON 98660

WASHINGTON
(360) 695-3411

FAX
(360) 695-0833

OREGON
(503) 289-6726

EMAIL
msinc@mackaysposito.com

PORT OF VANCOUVER

LEGAL DESCRIPTION

ADJUSTED FORMER FORT VANCOUVER PLYWOOD LEASEHOLD
VANCOUVER, WASHINGTON

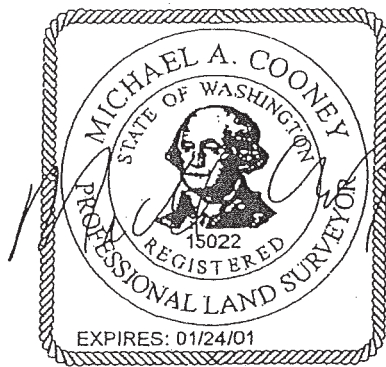
That portion of the Amos Short Donation Land Claim No. 51 lying in the East Half of Section 28, Township 2 North, Range 1 East, Willamette Meridian, City of Vancouver, Clark County, Washington, described as follows:

Beginning at a 2 inch iron pipe marking the Northwest corner of said Short Donation Land Claim as shown in Book 39 of Surveys at Page 125, records of said county; thence along the West line of said Short Donation Land Claim South 02° 19' 42" West 3631.16 feet to the Southwest corner thereof; thence continuing along the Southerly projection of said West line South 02° 19' 42" West 740.33 feet; thence South 87° 40' 18" East 617.91 feet to a point on the Inner Harbor Line as shown on the 1981 Supplemental Maps of Vancouver Harbor on file in the Office of the Commissioner of Public Lands at Olympia and also shown in unrecorded Survey Book "D" at Page 155-C, records of said county, said point being the True Point of Beginning; thence along said Inner Harbor Line North 45° 24' 01" West 319.81 feet; thence leaving said Inner Harbor Line North 50° 25' 57" East 93.59 feet; thence North 39° 34' 03" West 51.28 feet; thence North 49° 01' 57" East 652.27 feet; thence North 82° 30' 27" East 142.92 feet to a point on the arc of a 1600.00 foot radius curve; thence from a tangent bearing of North 56° 35' 27" East, along said curve to the left, through a central angle of 10° 47' 03", an arc distance of 301.15 feet; thence South 04° 01' 12" West 110.69 feet to a point of curvature with a 500.00 foot radius curve; thence along said curve to the left, through a central angle of 03° 55' 50", an arc distance of 34.30 feet to a point of tangency; thence South 00° 05' 22" West 114.99 feet to a point of curvature with a 275.00 foot radius curve; thence along said curve to the right, through a central angle of 36° 51' 40", an arc distance of 176.92 feet to a point on the Northwesterly line of the

130331d1
8-16-00
GOF/gof

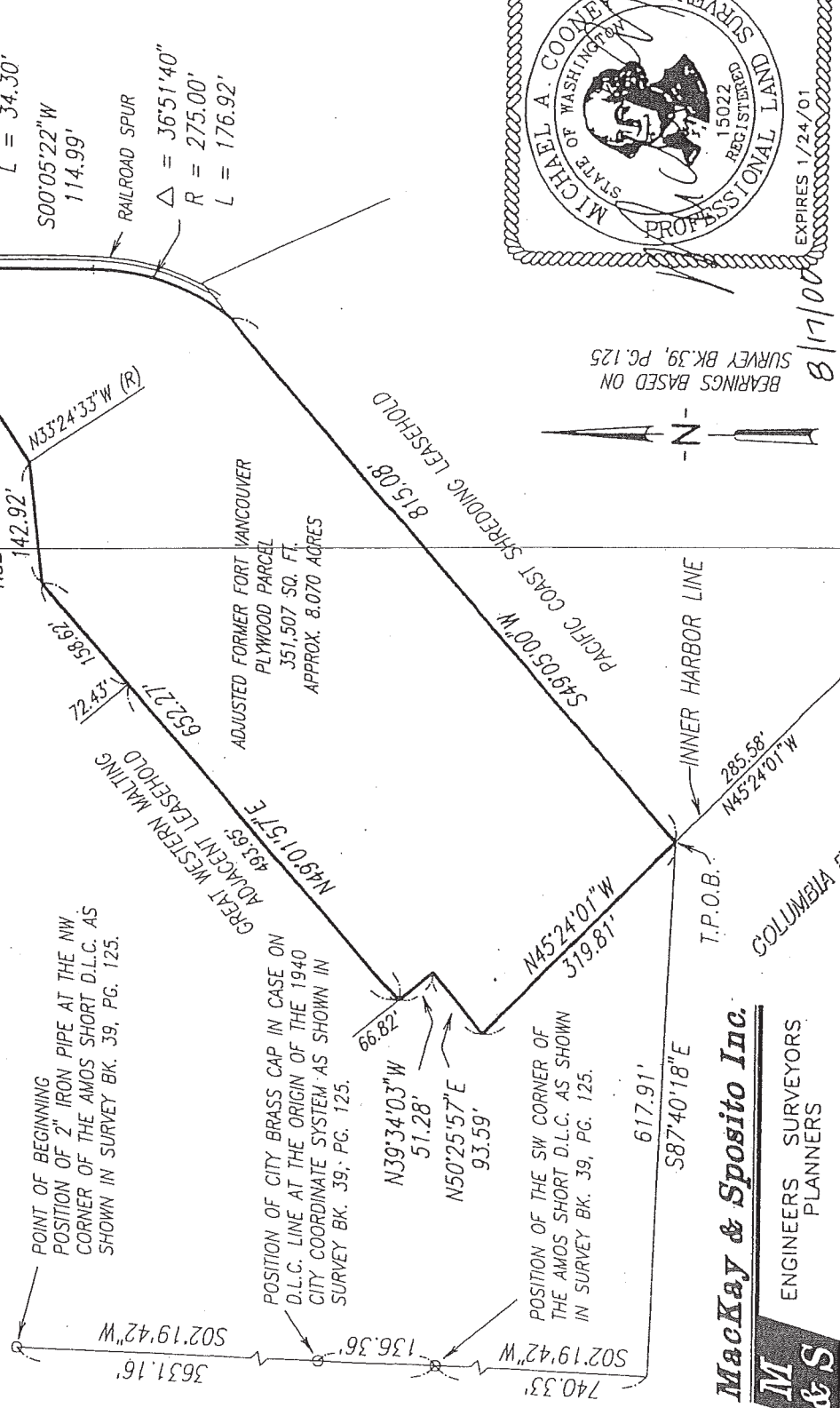
"Pacific Coast Shredding Leasehold" parcel; thence along said Northwesterly line South 49° 05' 00" West, 815.08 feet to the True Point of Beginning.

Containing approximately 8.070 acres.



8/17/00

SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR THE ADJUSTED FORMER FORT VANCOUVER LEASEHOLD IN A PORTION OF THE AMOS SHORT D.L.C., LYING IN THE EAST HALF OF SECTION 28, T.2N, R.1E, WM, CITY OF VANCOUVER, CLARK COUNTY, WASHINGTON

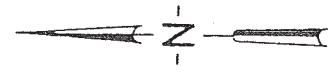


POINT OF BEGINNING
POSITION OF 2" IRON PIPE AT THE NW CORNER OF THE AMOS SHORT D.L.C. AS SHOWN IN SURVEY BK. 39, PG. 125.

POSITION OF CITY BRASS CAP IN CASE ON D.L.C. LINE AT THE ORIGIN OF THE 1940 CITY COORDINATE SYSTEM AS SHOWN IN SURVEY BK. 39, PG. 125.

POSITION OF THE SW CORNER OF THE AMOS SHORT D.L.C. AS SHOWN IN SURVEY BK. 39, PG. 125.

BEARINGS BASED ON SURVEY BK. 39, PG. 125



Mackay & Sposito Inc.
ENGINEERS SURVEYORS PLANNERS

1703 MAIN STREET VANCOUVER, WA. 98660
(360)695-3411 FAX 695-0833 (503)289-6726

SCALE: 1" = 200'
AUGUST-16, 2000

EXHIBIT B

1. Final Cell 2 Remedial Investigation and Feasibility Study, Former Fort Vancouver Plywood Site, Vancouver, Washington, prepared by Kennedy/Jenks Consultants, December, 1999.
2. Cell 2 Remedial Action Plan, Former Fort Vancouver Plywood Site, Vancouver, Washington, prepared by Kennedy/Jenks Consultants, July, 2000.
3. Cell 2 Remedial Action Report, Former Fort Vancouver Plywood Site, Port of Vancouver, Washington prepared by Kennedy/Jenks Consultants, July, 2001.
4. Final Engineering Design Document, Cell 2 Former Fort Vancouver Plywood Leasehold, Port of Vancouver, Washington, prepared by Kennedy/Jenks Consultants, August 2, 2002.
5. Cell 2 Groundwater Monitoring Report, January 2002 Monitoring Event, Former Fort Vancouver Plywood Leasehold, Port of Vancouver, U.S.A., Vancouver Washington, by Kennedy/Jenks Consultants, March 21, 2002.
6. Construction Documentation Report, Cell 2 of the Former Fort Vancouver Plywood Leasehold, Port of Vancouver, Washington, prepared by Kennedy/Jenks Consultants, March 2004.
7. Cell 2 Groundwater Monitoring Report, February 2004, Former Fort Vancouver Plywood Port of Vancouver, U.S.A., Vancouver, Washington, by Environmental Resources Management, July 12, 2004.
8. Cell 2 Groundwater Monitoring Report, June 2004, Former Fort Vancouver Plywood Port of Vancouver, U.S.A., Vancouver, Washington, by Environmental Resources Management, February 24, 2005.
9. Cell 2 Groundwater Monitoring Report, September 2004, Former Fort Vancouver Plywood Port of Vancouver, U.S.A., Vancouver, Washington, by Environmental Resources Management, May 2005.
10. Cell 2 Groundwater Monitoring Report, January 2005, Former Fort Vancouver Plywood Port of Vancouver, U.S.A., Vancouver, Washington, by Environmental Resources Management, August 24, 2005.
11. Cell 2 Groundwater Monitoring Report, May 2005, Former Fort Vancouver Plywood Plywood Port of Vancouver, U.S.A., Vancouver, Washington, by Environmental Resources Management, March 2006.

Former Automotive Services, Inc. Site

5015545 COV

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Clark County, WA 09/18/2013 03:11



RETURN ADDRESS
PORT OF VANCOUVER USA
3103 NW Lower River Rd
Vancouver, WA 98660

Please print neatly or type information
Document Title(s)

ENVIRONMENTAL COVENANT CORRECTION

Reference Numbers(s) of related documents:

4837692 COV

Additional Reference #'s on page ____

Grantor(s) (Last, First and Middle Initial)

Port of Vancouver USA

Additional grantors on page ____

Grantee(s) (Last, First and Middle Initial)

State of Washington Dept. of Ecology

Additional grantees on page ____

Legal Description (abbreviated form: i.e. lot, block plat or section, township, range, quarter/quarter)

Tax Parcel No. 059115-068 SW quarter Section 21, T2N, R1E

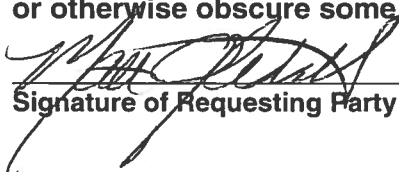
Additional legal is on page ____

Assessor's Property Tax Parcel/Account Number

Additional parcel #'s on page ____

The Auditor/Recorder will rely on the information provided on this form. The staff will not read the document to verify the accuracy or completeness of the indexing information provided herein.

I am requesting an emergency nonstandard recording for an additional fee as provided in RCW 36.18.010. I understand that the recording processing requirements may cover up or otherwise obscure some part of the text of the original document.


Signature of Requesting Party

RECEIVED

AUG 29 2013

WA State Department
of Ecology (SWRC)

ENVIRONMENTAL COVENANT CORRECTION

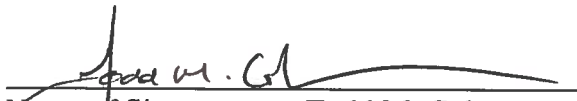
An ENVIRONMENTAL COVENANT dated February 9, 2012 was recorded under Auditor's File Number 4837692 COV on March 12, 2012. That document incorrectly stated that it was applicable to Parcel Numbers 059115-030 and 059115-020.

This ENVIRONMENTAL COVENANT CORRECTION corrects the scrivener's errors to the ENVIRONMENTAL COVENANT dated February 9, 2012 recorded under Auditor's File Number 4837692 COV on March 12, 2012, with added and deleted text as follows:

Page 1 – **Tax Parcel Nos.:** (Add) 059115-068; (Delete) 059115-030 and 059115-020.

No change to the substantive requirements of the ENVIRONMENTAL COVENANT is made by this CORRECTION document.

Port of Vancouver, USA


Name of Signatory Todd M. Coleman
Title CEO/Executive Director
Dated. 8.26.13

NOTARY AND ACKNOWLEDGEMENT BLOCKS
ON FOLLOWING PAGE

4837692 COV

RecFee - \$75.00 Pages: 14 - PORT OF VANCOUVER
Clark County, WA 03/12/2012 02:47



After Recording Return to:

Scott Rose

Department of Ecology

PO Box 47775

Olympia, WA 98504-7775

Environmental Covenant

Grantor: Port of Vancouver

Grantee: State of Washington, Department of Ecology

Legal: SW quarter Section 21, T2N, R1E

Tax Parcel Nos.: 059115-030, 059115-020

Cross Reference: 3407456

Grantor, Port of Vancouver, hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights under this environmental covenant (hereafter "Covenant") made this 9th day of February, 2012 in favor of the State of Washington Department of Ecology (Ecology). Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act, RCW 70.105D.030(1)(g), and the Uniform Environmental Covenants Act, 2007 Wash. Laws ch. 104, sec. 12.

This Declaration of Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by the Port of Vancouver, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

The Port of Vancouver is the fee owner of real property (hereafter "Property") in the County of Clark, State of Washington, that is subject to this Covenant. The Property is legally described in Attachment A of this covenant and made a part hereof by reference.

A remedial action (hereafter "Remedial Action") occurred at the Property that is the subject of this Covenant. The Remedial Action conducted at the property is described in the following document[s]:

- 1) *Report Relating to Removal of Four Underground Storage Tanks at Automotive Services, Inc. 2001 West Fourth Plain Vancouver, Washington, Enviro-Logic, Inc., (September 16, 1991).*

After Recording Return to:

Scott Rose
Department of Ecology
PO Box 47775
Olympia, WA 98504-7775

Environmental Covenant

Grantor: Port of Vancouver
Grantee: State of Washington, Department of Ecology
Legal: SW quarter Section 21, T2N, R1E
Tax Parcel Nos.: 059115-068
Cross Reference: 3407456

Grantor, Port of Vancouver, hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights under this environmental covenant (hereafter "Covenant") made this 1st day of February, 2012 in favor of the State of Washington Department of Ecology (Ecology). Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act, RCW 70.105D.030(1)(g), and the Uniform Environmental Covenants Act, 2007 Wash. Laws ch. 104, sec. 12.

This Declaration of Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by the Port of Vancouver, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

The Port of Vancouver is the fee owner of real property (hereafter "Property") in the County of Clark, State of Washington, that is subject to this Covenant. The Property is legally described in Attachment A of this covenant and made a part hereof by reference.

A remedial action (hereafter "Remedial Action") occurred at the Property that is the subject of this Covenant. The Remedial Action conducted at the property is described in the following document[s]:

- 1) *Report Relating to Removal of Four Underground Storage Tanks at Automotive Services, Inc. 2001 West Fourth Plain Vancouver, Washington, Enviro-Logic, Inc., (September 16, 1991).*

- 2) *Report on a Subsurface Investigation at the Automotive Services, Inc. Site, Port of Vancouver, Washington, CEC (November 4, 1996).*
- 3) *Seven figures, one table and an article received during March 11, 1999, meeting with Coles Environmental Consulting, Inc., and Port of Vancouver Representatives, CEC (March 11, 1999).*
- 4) *Work Plan for the Excavation and Treatment of Kerosene-impacted Soil Former ASI Car-Wash Facility, Port of Vancouver, Washington, CEC (June 21, 1999).*
- 5) *Five figures received during April 27, 2000, meeting with Coles Environmental Consulting, Inc., and Port of Vancouver Representatives, CEC (April 27, 2000).*
- 6) *Final Soil Sample Analysis Results for Remediation of Soil Contaminated with Kerosene at the Former ASI Car-Wash Operation (Narrative), CEC (September 5, 2000).*
- 7) *Final Soil Sample Analysis Results for Remediation of Soil Contaminated with Kerosene at the Former ASI Car-Wash Operation (Analytical Results), CEC (September 28, 2000).*
- 8) *Final Confirmatory Soil-Sample Analysis Results for Remediation of Soil Contaminated with Diesel from the West Side of the Former ASI Car-Wash Leasehold, Vancouver, Washington, CEC (May 30, 2001).*
- 9) *Final Report on the Investigation and Remediation of Kerosene-Contaminated Soil at the Former Location of Automotive Services, Inc.'s Car Wash, Port of Vancouver, Washington, CEC (July 17, 2001).*
- 10) *Final Report on the Investigation and Remediation of Diesel-Contaminated Soil at the Automotive Services, Inc.'s Former Leasehold, Port of Vancouver, Washington, CEC (August 30, 2001).*
- 11) *Final Report on the Post-Remediation Groundwater Investigation at the Automotive Services, Inc.'s Former Leasehold, Port of Vancouver, Washington, CEC (January 25, 2005)*
- 12) *Long Term Confirmational Groundwater Monitoring Plan for the ASI/Glacier Site, 2210 NW Mill Plain Blvd, Vancouver, Washington, CEC (March 9, 2007)*
- 13) *Revised Long Term Groundwater Monitoring Plan for ASI/Glacier Site, Kennedy Jenks (May 10, 2010)*

These documents are on file at Ecology's Southwest Regional Office.

This Covenant is required because the Remedial Action resulted in residual concentrations of diesel and kerosene in soil and groundwater that exceed the Model Toxics Control Act Method A Unrestricted Land Use Cleanup Level(s) established under WAC 173-340-740. These residual concentrations are being managed under a soil and asphalt cap with monitoring of conditional points of compliance wells (wells GL-3, GL-4, and GL-6) along the downgradient Property boundary, and source area wells (wells GL-1 and GL-2). Monitoring frequency is every 18 months in accordance with the Revised Long-Term Groundwater Monitoring Plan (attached as Exhibit B).

The undersigned, Port of Vancouver, is the fee owner of real property (hereafter "Property") in the County of Clark, State of Washington, that is subject to this Covenant. The Property and legal description is described in Exhibit A.

Port of Vancouver makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereafter "Owner").

Section 1. The following restrictions apply to the Property:

1. The Property shall be used only for traditional industrial uses, as described in RCW 70.105D.020(23) and defined in and allowed under the city of Vancouver's zoning regulations codified in the City of Vancouver Municipal Codes- Title 20-Zoning Ordinance as of the date of this Restrictive Covenant.
2. No groundwater may be taken for potable use from the Property.
3. Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited.

Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 4. The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

Section 5. The Owner must restrict leases to uses and activities consistent with this Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the property, to determine compliance with this Covenant, and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

Section 9. The Owner will conduct groundwater monitoring according to the Revised Long-Term Confirmational Groundwater Monitoring Plan (dated May 10, 2010) until such time Ecology approves termination of the monitoring plan. A copy of the Revised Long-Term Groundwater Monitoring Plan is attached as Exhibit B.

Exhibit A
Legal Description

12833ld3
7/21/99
MRN/ed
Rev'd 8-4-99

Mackay & Sposito Inc.

	ENGINEERS	SURVEYORS	PLANNERS
	1703 MAIN STREET VANCOUVER, WASHINGTON 98660		
	WASHINGTON (360) 695-3411	FAX (360) 695-9833	OREGON (503) 289-6726
			EMAIL msinc@e-z.net

LEGAL DESCRIPTION
PORT OF VANCOUVER
PARCEL OF LAND EAST OF TESORO
ADJACENT TO MILL PLAIN
VANCOUVER, WASHINGTON

Real property situated in the City of Vancouver, Clark County, Washington, being a portion of the George Malick Donation Land Claim, lying in the Southwest quarter of Section 21, Township 2 North, Range 1 East of the Willamette Meridian, more particularly described as follows:

Beginning at a 2 inch diameter iron pipe marking the Northwest corner of the Amos Short Donation Land Claim as shown in Survey Book 39, Page 125, records of said county; thence along the West line of said Donation Land Claim South 02° 19' 42" West 712.40 feet to the Southeast corner of the United States of America tract as Described in the Declaration of Taking, recorded under the Auditors File No. F0981, deed records of said county; thence North 88° 25' 03" West 529.26 feet to a point on the Westerly right of way line of Mill Plain Boulevard, as described in the Interlocal Agreement between the Port of Vancouver and the City of Vancouver, Washington for the "Mill Plain Extension Project", said point being 75.00 feet from centerline of said Boulevard when measured at right angles, said point also being the True Point of Beginning of the parcel to be described; thence along said Westerly right of way line, and the Northerly right of way line of the "B" line of said Mill Plain Extension Project the following courses:

South 00° 01' 59" East 82.60 feet to a point of curvature with a 715.00 foot radius curve; thence along said curve to the left, through a central angle of 26° 47' 42", an arc distance of 334.38 feet; thence South 10° 10' 05" East 46.73 feet; thence South 57° 17' 57" West 52.17 feet to a point of curvature with a 170.00 foot radius curve; thence along said curve to the right, through a central angle of 34° 17' 00", an arc distance of 101.72 feet;

12833ld3
7/21/99
MRN/ed
Rev'd 8-4-99

thence continuing along said Northerly right of way line, and the Westerly extension thereof, North 88° 25' 03" West 315.37 feet to a point on the East line of the adjusted Tesoro Lease Area; thence along said East line the following courses:

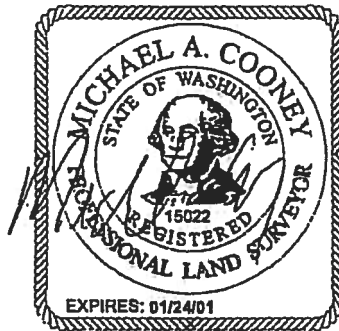
North 04° 03' 52" East 112.48 feet; thence North 16° 11' 21" East 118.66 feet; thence North 07° 06' 59" East 171.30 feet

to a point on the South line of the adjusted Olympic Pipeline Lease; thence along said South line South 88° 23' 11" East 97.44 feet to the Southeast corner of said lease; thence along the East line of said lease North 01° 59' 17" East 109.63 feet to the Northeast corner thereof, said point being on the South line of said United States of America Tract; thence along said South line South 88° 25' 03" East 207.04 feet to the True Point of Beginning.

Containing 172,095 square feet or approximately 3.951 acres.

Subject to easements and restrictions of record.

8/4/99



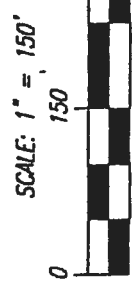
Mackay & Sposito Inc.



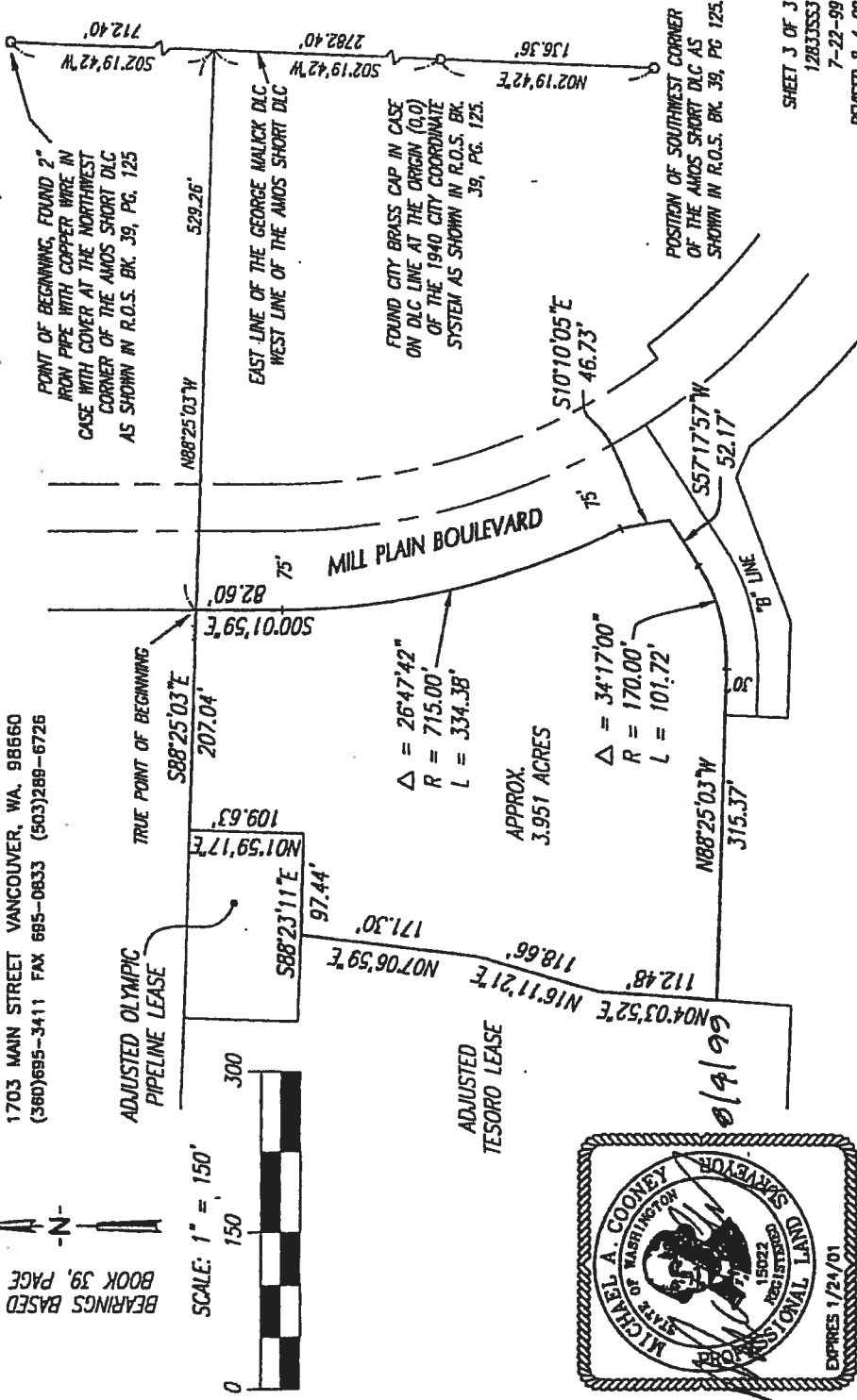
ENGINEERS SURVEYORS
PLANNERS

1703 MAIN STREET VANCOUVER, WA. 98660
(360)695-3411 FAX 695-0833 (503)289-6726

BEARINGS BASED ON
BOOK 39, PAGE 125



SKETCH TO ACCOMPANY LEGAL DESCRIPTION FOR THE PORT
OF VANCOUVER PARCEL OF LAND LYING EAST OF THE TESORO
LEASE SITE AND WEST OF THE MILL PLAIN EXTENSION IN THE
SOUTHWEST QUARTER OF SECTION 21, T. 2 N., R. 1 E., WM
CITY OF VANCOUVER, CLARK COUNTY, WASHINGTON



POINT OF BEGINNING, FOUND 2"
IRON PIPE WITH COPPER WIRE IN
CASE WITH COVER AT THE NORTHWEST
CORNER OF THE AMOS SHORT DLC
AS SHOWN IN R.O.S. BK. 39, PG. 125

EAST LINE OF THE GEORGE MALICK DLC
WEST LINE OF THE AMOS SHORT DLC

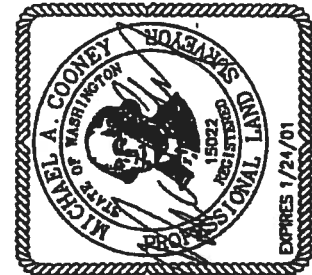
FOUND CITY BRASS CAP IN CASE
ON DLC LINE AT THE ORIGIN (O.O)
OF THE 1940 CITY COORDINATE
SYSTEM AS SHOWN IN R.O.S. BK.
39, PG. 125.

POSITION OF SOUTHWEST CORNER
OF THE AMOS SHORT DLC AS
SHOWN IN R.O.S. BK. 39, PG. 125.

$\Delta = 26'47.42"$
 $R = 715.00'$
 $L = 334.38'$

APPROX.
3.951 ACRES

$\Delta = 34'17.00"$
 $R = 170.00'$
 $L = 101.72'$



SHEET 3 OF 3
12833553
7-22-99
REVISED 8-4-99

Exhibit B
Revised Long-Term Groundwater Monitoring Plan

Kennedy/Jenks Consultants

Engineers & Scientists

200 S.W. Market Street, Suite 500
Portland, Oregon 97201
503-295-4911
FAX: 503-295-4901

10 May 2010

Mr. Scott Rose
Acting Unit Manager
Toxic Cleanup Program – Southwest Region Office
Washington State Department of Ecology
PO Box 47775
Olympia, WA 98504-7775

Subject: Automotive Services Inc. – REVISED Long Term Groundwater Monitoring Plan
K/J 0992001*00

Dear Mr. Rose:

On behalf of the Port of Vancouver (Port), this letter serves as an amendment to the 9 March 2007 "Revised Long-Term Confirmational Groundwater Monitoring Plan for the ASI/Glacier Site" prepared by Coles Environmental. For future monitoring events, this letter will serve as the guiding document for monitoring well network sampling frequency and analyses until the next 5-year review (set for 2013).

This plan is being revised to reduce the number of wells sampled during each event. Two monitoring wells, GL-5 and GL-7, will be permanently abandoned. Frequency will remain the same, with sampling occurring every 18 months.

Monitoring Well Network

The monitoring well network will consist of five wells: GL-1, GL-2, GL-3, GL-4, and GL-6. The location of these wells is included on Figure 1.

Field Parameters

Depth to groundwater will be measured in each well. Survey data from top of casing (TOC) will allow for calculation of groundwater elevation in feet above mean sea level (MSL). This data will be used to determine a groundwater gradient and flow direction at the time of sampling.

Field parameters will be measured as part of the field sampling operations. Monitoring well purging parameters include temperature, pH, dissolved oxygen, and specific conductivity.

Mr. Scott Rose
Washington State Department of Ecology
10 May 2010
Page 2

Sampling Method and Laboratory Analyses

Low-flow sampling techniques will continue to be used for sampling at this site. This change was approved by Ecology, received by email 26 March 2009.

Samples will be collected in pre-cleaned, laboratory supplied containers. Samples will be labeled, packed on ice, and delivered to the Port's analytical laboratory under chain-of-custody procedures. Samples will be submitted for analysis of volatile organic compounds (VOCs) using EPA Method 8260B, and diesel-range and oil-range organics using Method NWTPH-Dx.

Investigation Derived Wastes

Purge water, disposable tubing, and disposable bailers are the only investigation-derived wastes generated during the sampling activities. Disposable tubing and bailers will be disposed in the trash dumpster at the site. Purge water will be collected into a Port-provided container with lid (e.g. 55-gallon drum) for Port characterization and disposal.

Data Quality

One field duplicate will be collected from a randomly selected monitoring well. Chemical analyses will include VOCs and NWTPH-Dx.

A field blank and a trip blank will also be used during sampling events. Each sample will be analyzed for VOCs. There will be no equipment blank analyzed because all sampling equipment is disposable.

Results from laboratory Quality Control (QC) checks will also be reviewed. Laboratory QC results are included with the data package of analytical results. Anomalies in laboratory QC results will be summarized in the summary report of sampling events. If the QC results indicate challenges with data quality and the acceptability of the data for reporting purposes, the laboratory and the Port will be notified to discuss next steps (e.g. re-sampling).

Reporting

A summary letter report of the sampling events and results will be prepared and submitted to Ecology for the file. Analytical results will be compared to MTCA Method A cleanup levels and summarized in a table. Depth to groundwater and field parameters will also be summarized. Finally, a site figure illustrating well location and estimated groundwater flow direction will be included.

Upcoming Events

Future monitoring events are scheduled for October 2010 and April 2012.

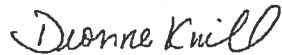
Kennedy/Jenks Consultants

Mr. Scott Rose
Washington State Department of Ecology
10 May 2010
Page 3

We believe the above changes in the sampling approach continue to be protective of human health and the environment, and are in compliance with WAC 173-340-410(b) performance monitoring. Should you have any questions or comments, please contact me at 503-423-4019 or Jessi Belston, Port of Vancouver, at 360-992-1138.

Very truly yours,

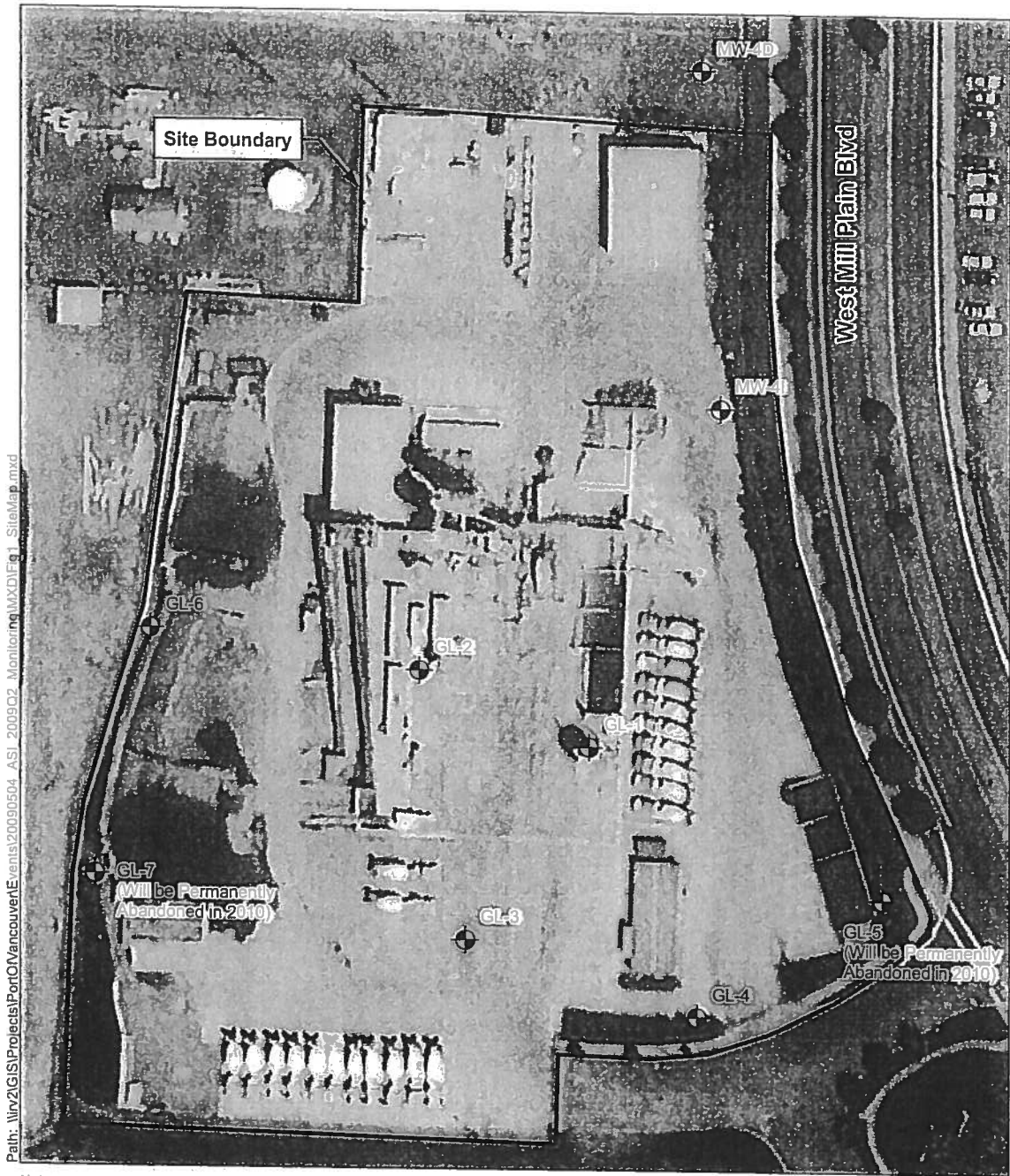
KENNEDY/JENKS CONSULTANTS



Deonne Knill
Project Manager

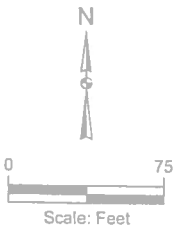
Enclosure

cc: Jessi Belston, Port of Vancouver



Path: \\rv2\GIS\Projects\PortOfVancouver\Events\20090504_ASI_200902_Monitoring\MXD\Fig_1_SiteMap.mxd

Notes:
 1 - (c)2009 Microsoft Corporation.
 2 - All locations are approximate.



Kennedy/Jenks Consultants

Port of Vancouver
 Automotive Services, Inc.
 Vancouver, Washington

Site Map

K/J 0992001'00

Figure 1

Port of Vancouver Terminal 5 Site

Return Address

Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600
Attention:

Document Title(s) (or transactions contained therein):

1. Restrictive Environmental Covenant

Reference Number(s) of Documents assigned or released:
(on page ___ of documents(s))

Grantor(s) (Last name first, then first name and initials):

1. Evergreen Aluminum LLC

Grantee(s) (Last name first, then first name and initials):

1. State of Washington, Department of Ecology

Legal description (abbreviated: i.e. lot, block, plat or section, township, range)

Sec. 18, Township 02 North, Range 01 East;
Sec. 19, Township 02 North, Range 01 East
Sec. 13, Township 02 North, Range 01 West

Full legal is on pages 7-12 of document.

Assessor's Property Tax Parcel/Account Number

152799-000, 152907-000, 152801-000, 152805-000, 152803-000

Restrictive Environmental Covenant

Evergreen Aluminum LLC (“Grantor”) hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights as are described in this environmental covenant (“Covenant”) made this day of December 31, 2008 in favor of the State of Washington Department of Ecology (“Ecology”). Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act, RCW 70.105D.030(1)(g), and the Uniform Environmental Covenants Act, 2007 Wash. Laws ch. 104, sec. 12.

This Declaration of Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by Grantor on behalf of itself and its successors and assigns, and Ecology on behalf of itself and its successors and assigns.

Grantor is the fee owner of certain real property (the “Property”) located in the County of Clark, State of Washington. The Property is legally described in **Exhibit A** and made a part hereof by reference. A remedial action (“**Remedial Action**”) occurred at the Property and is described in Enforcement Order No. 4931, August 7, 2007. This document is on file at Ecology’s Headquarters Office in Lacey, Washington.

This Covenant is required because the Remedial Action used Industrial Cleanup Standards and resulted in residual concentrations of polychlorinated biphenyls (“PCBs”) which exceed the Model Toxics Control Act Method A Cleanup Level(s) for soil established under WAC 173-340-740 on a portion of the Property described in this Covenant as the **Ingot Plant Capped Area**.

The Ingot Plant Capped Area is covered by an Ingot Plant Cap (the “Cap”) and is legally described in **Exhibit B** made a part hereof by reference. The Ingot Plant Capped Area is depicted for reference purposes only in **Exhibit C**.

Grantor makes the following declaration as to limitations, restrictions, and uses to which the Property and the Ingot Plant Capped Area may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property and the Ingot Plant Capped Area (“Owner”).

Section 1.

1. The Property described in Exhibit A shall be used only for traditional industrial uses, as described in RCW 70.105D.020(14) and defined in and allowed under Clark County's zoning regulations codified in the Clark County Washington Unified Development Code as of the date of this Covenant.

2. The Ingot Plant Capped Area contains soil contaminated with PCBs located under the Cap as described in Exhibit B. The Grantor shall not alter, modify, or remove the existing Cap in any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior written approval from Ecology.

Any activity on the Ingot Plant Capped Area that may (1) result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action or (2) create a new exposure pathway is prohibited. Some examples of activities that are prohibited on the Ingot Plant Capped Area include: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork.

Section 2. Any activity on the Ingot Plant Capped Area that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3. Any activity on the Ingot Plant Capped Area that may (1) result in the release or exposure to the environment of a hazardous substance that remains on the Ingot Plant Capped Area as part of the Remedial Action or (2) create a new exposure pathway is prohibited without prior written approval from Ecology.

Section 4. The Owner must give thirty (30) days advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

Section 5. The Owner must restrict leases to uses and activities consistent with the Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the Property, to determine compliance with this Covenant, and to inspect records that are related to the Remedial Action.

Section 8. The Owner reserves the right under WAC 173-340-440 to record an instrument that provides that this Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

EVERGREEN ALUMINUM LLC



Charles D. Reali
Its: Vice President and General Manager

Dated: December 31, 2008

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Carol Kraege
By: Carol Kraege
Its: Solid Waste Section Manager

Dated: 12.23.08

STATE OF MONTANA)

COUNTY OF Flathead) ss.

On this 31st day of December, 2008, before me, the undersigned, a Notary Public in and for the State of Montana, duly commissioned and sworn, personally appeared Charles D. Reali to me known to be the person who signed as Vice President and General Manager of Evergreen Aluminum LLC, the limited liability company that executed the within and foregoing instrument, and acknowledged said instrument to be the free and voluntary act and deed of said limited liability company for the uses and purposes therein mentioned, and on oath stated that he was duly elected, qualified and acting as said officer of the limited liability company and that he was authorized to execute said instrument.

IN WITNESS WHEREOF I have hereunto set my hand and official seal the day and year first above written.

Connie Y. Fisher
(Signature of Notary)

Connie Y. Fisher
(Print or stamp name of Notary)

NOTARY PUBLIC in and for the State
of Montana, residing at Coram
My appointment expires: 02/23/2012

Exhibit A
Legal Description of the Property

PARCEL I:

Those portions of the John H. Mathews Donation Land Claim and Patrick Markeys Donation Land Claim situated in Sections 18 and 19, Township 2 North, Range 1 East of the Willamette Meridian, in Clark County, Washington, the point of beginning being the Section corner common to Sections 17, 18, 19, and 20 in said Township 2 North, Range 1 East of the Willamette Meridian, that is monumented with a 1-1/2" iron pipe size projecting 5.6 feet above ground; said section corner being South 02°30'12" West 273.26 feet from a Donation Land Claim corner common to the Patrick Markeys and H. Van Alma Donation Land Claim that is monumented with a 1-1/2" iron pipe size projecting 10.6 feet above ground; said portions more particularly described as a single parcel as follows:

(The following courses are on a grid bearing Washington State Coordinate System, North American Datum 1983. A scale and elevation factor of 1.000049 has been applied to the measured field distances.)

BEGINNING at said Section Corner; thence North 65°35'57" West 2013.30 feet to a 5/8" iron rod with a plastic cap as the True Point of Beginning, said True Point of Beginning being South 41°24'54" West 439.18 feet from the Bonneville Power Administration Substation site most Northerly corner and Hendrickson Donation Land Claim corner; thence South 24°23'36" West 435.25 feet along the West side of a woven wire fence to a 5/8" iron rod with a plastic cap; thence South 65°27'02" East 109.72 feet along a woven wire fence to a 5/8" iron rod with a plastic cap; thence South 19°56'22" East 68.47 feet along a woven wire fence to a leaded brass screw set in concrete; thence North 65°32'35" West 29.68 feet to a leaded brass screw set in concrete; thence South 24°22'38" West 253.80 feet to a 5/8" iron rod with plastic cap; thence South 65°35'42" East 440.80 feet to a 5/8" iron rod with a plastic cap; thence South 24°22'01" West 40.01 feet to a 5/8" iron rod with a plastic cap; thence South 65°29'21" East 22.49 feet to a 5/8" iron rod with a plastic cap; thence South 24°22'50" West 214.71 feet to a 5/8" steel pin with bevel gear top; thence South 09°14'16" East 58.06 feet to steel pin with bevel gear top; thence South 65°35'49" East 483.24 feet to a 5/8" iron rod with plastic cap; thence South 23°38'23" West 602.58 feet to a 5/8" iron rod with a plastic cap; thence North 65°18'33" West 25.00 feet to a 5/8" iron rod with plastic cap; thence North 24°28'09" East 17.77 feet to a 5/8" iron rod with plastic cap; thence North 65°37'47" West 491.32 feet to a 5/8" iron rod with plastic cap; thence South 24°24'00" West 332.70 feet to a 5/8" iron rod with plastic cap; thence North 66°02'32" West 337.10 feet to a 5/8" iron rod with plastic cap; thence North 21°38'52" East 53.65 feet to a 5/8" iron rod with plastic cap; thence North 63°16'23" West 202.63 feet to a 5/8" iron rod with plastic cap; thence South 24°02'56" West 53.17 feet to a 5/8" iron rod with plastic cap; thence North 65°57'05" West 30.63 feet to a 5/8" iron rod with plastic cap; thence South 23°57'32" West 8.74 feet to a leaded brass screw; thence North 66°02'28" West 3.23 feet to a point inside Bldg. 36A opposite the Northwesterly corner of Bldg. 36; thence South 23°57'32" West 16.63 feet to a point Northwesterly of the Southeasterly corner of Bldg. 36A; thence North 65°18'59" West 75.21 feet to a leaded brass screw; thence South 24°35'26" West 190.46 feet to a 5/8" iron rod with plastic cap; thence North 66°33'49" West 139.52 feet to a 5/8" iron rod with plastic cap by the Northerly gatepost; thence North 25°43'26" East 8.01 feet to an inside

fence corner and a 5/8" iron rod with plastic cap; thence North 66°06'29" West 151.08 feet along a woven wire fence to a 5/8" iron rod with plastic cap; thence South 24°50'40" West 74.95 feet to a 5/8" iron rod with plastic cap; thence South 24°50'40" West 211.30 feet, more or less, to the point of intersection with the calculated John H. Mathews Donation Land Claim line which is North 65°03'32" West 1317.02 feet from the Southeast corner thereof; thence North 65°03'32" West 868.86 feet, more or less, along said Donation Land Claim to a point South 65°03'32" East 1251.08 feet from the Southwest corner thereof; thence North 10°35'57" East 254.68 feet, more or less, to a 5/8" iron rod with plastic cap; thence North 10°35'57" East 257.38 feet to a 5/8" iron rod with a plastic cap adjacent to a woven wire fence; thence North 10°34'25" East 526.92 feet along a woven wire fence to a leaded brass screw at a corner fence post and angle point of the woven wire fence; thence North 23°49'02" East 269.16 feet along a woven wire fence to a 5/8" iron rod with plastic cap at a woven wire fence corner; thence North 24°39'37" East 461.19 feet to a U.S.C.E. Monument marked "VI-8"; thence North 64°22'38" East 360.64 feet to a U.S.C.E. Monument marked "VI-7"; thence along a 1175.77 foot radius curve right 378.54 feet whose long chord bears North 75°46'37" East 376.91 feet to a U.S.C.E. Monument marked "VI-6"; thence North 29°14'26" East 135.35 feet to a 5/8" iron rod with plastic cap at a point on the curve of the right of way line of Crowley Maritime Corp. access road; thence on a 117.00 foot radius curve to the left along said right of way line 66.51 feet, whose long chord bears North 59°03'39" East 65.62 feet to a "PK" nail and shiner marking the point of reverse curve of a 50.00 foot radius curve to the right; thence on said 50.00 foot radius curve to the right along said right of way line 71.74 feet, whose long chord bears North 87°15'17" East 65.74 feet to a "PK" nail and shiner marking the beginning of curve along said right of way line; thence South 52°38'39" East 288.18 feet to a 5/8" iron rod with plastic cap to a point of tangency of a curve to the left on the access road to the herein described parcel; thence North 37°25'25" East 32.03 feet across said right of way to the point of tangency on the Northernly right of way line of said road to a 5/8" iron rod with a plastic cap; thence South 65°35'19" East 562.06 feet to the True Point of Beginning of the herein described parcel.

PARCEL II:

An undivided 55% interest in the following described property:

(The following courses are on a grid bearing Washington State Coordinate System, North American Datum 1983. A scale and elevation factor of 1.000049 has been applied to the measured field distances.)

A portion of the Patrick Markeys Donation Land Claim in Section 19, Township 2 North, Range 1 East of the Willamette Meridian, in Clark County, Washington;

Beginning at the Section corner common to Sections 17, 18, 19, and 20; thence South 33°41'06" West 1907.59 feet to the True Point of Beginning, said point also being the Northeastly corner of that tract conveyed to Vancouver Smelting and Ingot, Inc., described as a sanitary sewer treatment plant in Schedule B-6 in Auditor's File No. 8706250115, Clark County Records; thence South 24°08'30" West along the East line of said sewer plant parcel a distance of 125.67 feet to the South line thereof; thence North 65°57'05" West along the South line of said sewer plant parcel a distance of 137.25 feet to the West line thereof; thence North 24°04'55" East along the West line of said sewer plant parcel a distance of 125.66 feet to the North line thereof; thence South 65°57'19" East along the North line of said sewer plant parcel a distance of 137.38 feet to the True Point of Beginning.

PARCEL III:

A parcel of property in the John Mathews Donation Land Claim and the William Hendrickson Donation Land Claim in the Southeast quarter of Section 13, Township 2 North, Range 1 West and the Southwest quarter of Section 18, Township 2 North, Range 1 East of the Willamette Meridian in Clark County, Washington, described as follows:

(The following courses are on a grid bearing Washington State Coordinate System, North American Datum 1983. A scale and elevation factor of 1.000049 has been applied to the measured field distances.)

COMMENCING at the Northeast corner of the Southeast quarter of Section 12, Township 2 North, Range 1 West, Willamette Meridian, said Northeast corner also being the Northeast corner of the William Hatten Donation Land Claim, the North line of said Hatten Donation Land Claim bearing South 69°29'19" West; thence South 20°09'51" East 8616.90 feet to "A line" station 10 + 55.06, 75.00 feet right, as per WSDH plans for SR 501, Vancouver Lake to Pioneer Avenue in Ridgefield, approved May 17, 1988; thence South 36°57'49" West parallel with said "A line" and a Southwesterly extension thereof, 298.85 feet to the centerline of Lower River Road; thence South 36°57'49" West along the Southeasterly line of that tract conveyed to Tidewater Environmental Services, Inc. by deed recorded under Auditor's File No. 9104290287 of Clark County records 100.87 feet to a 225.00 foot radius curve to the right with a tangent bearing of South 81°48'57" West into said 225.00 foot radius curve at this point; thence along said Southeasterly line and around said 225.00 foot radius curve to the right 40.00 feet; thence along said Southeasterly line North 88°00'00" West 302.26 feet; thence along said Southeasterly line South 89°29'56" West 11.39 feet to a 285.00 foot radius curve to the left with a tangent bearing of South 89°20'25" West into said 285.00 foot radius curve at this point; thence along said Southeasterly line and around said 285.00 foot radius curve to the left 200.52 feet; thence South 49°01'27" West along said Southeasterly line 488.75 feet to an angle point in said Tidewater tract; thence North 85°25'56" West along the Southerly line of said Tidewater tract 645.61 feet; thence South 25°51'49" West leaving said Southerly line 598.92 feet to the True Point of Beginning; thence South 25°51'49" West 376.06 feet; thence North 64°08'11" West 96.65 feet; thence South 27°26'16" West 49.86 feet; thence South 40°49'54" West 30.39 feet; thence South 68°13'04" West 40.09 feet; thence South 84°48'28" West 28.92 feet; thence North 88°59'32" West 29.49 feet; thence North 78°41'19" West 29.76 feet; thence North 72°34'38" West 26.67 feet; thence South 23°44'48" West 93.21 feet; thence North 66°15'14" West 727.49 feet to the Southeasterly line of said Tidewater tract; thence North 23°14'58" East along said Southeasterly line 614.15 feet to a point which bears North 65°53'24" West from the True Point of Beginning; thence South 65°53'24" East 993.60 feet to the True Point of Beginning.

PARCEL IV:

A parcel of property 40.00 feet wide being 20.00 feet on each side of the following described centerline in the John Mathews Donation Land Claim and the William Hendrickson Donation Land Claim in the Southeast quarter of Section 13 and the Northeast quarter of Section 24, Township 2 North, Range 1 West and the South half of Section 18 and the Northwest quarter of Section 19, Township 2 North, Range 1 East of the Willamette Meridian in Clark County, Washington, described as follows:

(The following courses are on a grid bearing Washington State Coordinate System, North American Datum 1983. A scale and elevation factor of 1.000049 has been applied to the measured field distances.)

COMMENCING at the Northeast corner of the Southeast quarter of Section 12, Township 2 North, Range 1 West, Willamette Meridian, said Northeast corner also being the Northeast corner of the William Hatten Donation Land Claim, the North line of said Hatten Donation Land Claim bearing South 89°29'19" West; thence South 20°09'51" East 6616.90 feet to "A line" station 10 + 55.06, 75.00 feet right, as per WSDH plans for SR 501, Vancouver Lake to Pioneer Avenue in Ridgefield, approved May 17, 1966; thence South 36°57'49" West parallel with said "A line" and a Southwesterly extension thereof, 298.85 feet to the centerline of Lower River Road; thence South 36°57'49" West along the Southeasterly line of that tract conveyed to Tidewater Environmental Services, Inc. by deed recorded under Auditor's File No. 9104290287 of Clark County records 100.87 feet to a 225.00 foot radius curve to the right with a tangent bearing of South 81°48'57" West into said 225.00 foot radius curve at this point; thence along said Southeasterly line and around said 225.00 foot radius curve to the right 40.00 feet; thence along said Southeasterly line North 88°00'00" West 302.26 feet; thence along said Southeasterly line South 89°29'56" West 11.39 feet to a 285.00 foot radius curve to the left with a tangent bearing of South 89°20'25" West into said 285.00 foot radius curve at this point; thence along said Southeasterly line and around said 285.00 foot radius curve to the left 200.52 feet; thence South 49°01'27" West along said Southeasterly line 488.75 feet to an angle point in said Tidewater tract; thence North 65°25'56" West along the Southerly line of said Tidewater parcel 645.61 feet; thence leaving said Southerly line South 25°51'49" West 974.98 feet; thence North 64°08'11" West 96.65 feet; thence South 27°26'16" West 49.86 feet; thence South 40°49'54" West 30.39 feet; thence South 68°19'04" West 40.09 feet; thence South 84°48'28" West 28.92 feet; thence North 88°59'32" West 29.49 feet; thence North 78°41'19" West 29.76 feet; thence North 72°34'38" West 28.67 feet; thence South 23°44'46" West 93.21 feet; thence North 66°15'14" West 541.49 feet to a drainage pipe and the True Point of Beginning; thence South 23°35'14" West along said pipe 221.96 feet to the Northeast bank of the Columbia River and the end of the above described centerline.

PARCEL V:

A parcel of property in the John Mathews Donation Land Claim and the William Hendrickson Donation Land Claim in the Southeast quarter of Section 13, Township 2 North, Range 1 West and the Southwest quarter of Section 18, Township 2 North, Range 1 East and the Northwest quarter of Section 19, Township 2 North, Range 1 East of the Willamette Meridian in Clark County, Washington, described as follows:

(The following courses are on a grid bearing Washington State Coordinate System, North American Datum 1983. A scale and elevation factor of 1.000049 has been applied to the measured field distances.)

COMMENCING at the Northeast corner of the Southeast quarter of Section 12, Township 2 North, Range 1 West, Willamette Meridian, said Northeast corner also being the Northeast corner of the William Hatten Donation Land Claim, the North line of said Hatten Donation Land Claim bearing South 68°29'19" West; thence South 20°09'51" East 6616.90 feet to "A line" station 10 + 55.06, 75.00 feet right, as per WSDH plans for SR 501, Vancouver Lake to Pioneer Avenue in Ridgefield, approved May 17, 1966; thence South 36°57'49" West, parallel with said "A line" and a Southwesterly extension thereof, 298.85 feet to the centerline of Lower River Road; thence South 36°57'49" West along the Southeasterly line of that tract conveyed to Tidewater Environmental Services, Inc. by deed recorded under Auditor's File No. 9104290287 of Clark County records 100.87 feet to a 225.00 foot radius curve to the right with a tangent bearing of South 81°48'57" West into said 225.00 foot radius curve at this point; thence along said Southeasterly line and around said 225.00 foot radius curve to the right 40.00 feet; thence along said Southeasterly line North 88°00'00" West 302.28 feet; thence along said Southeasterly line South 89°29'56" West 11.39 feet to a 285.00 foot radius curve to the left with a tangent bearing of South 89°20'25" West into said 285.00 foot radius curve at this point; thence along said Southeasterly line and around said 285.00 foot radius curve to the left 200.52 feet; thence South 49°01'27" West along said Southeasterly line (line referred to as line "B" from hereon) 488.75 feet to an angle point in said Tidewater tract; thence North 65°25'56" West along the Southerly line of said Tidewater tract 645.61 feet; thence South 25°51'49" West leaving said Southerly line 834.08 feet; thence South 68°51'19" East 239.65 feet; thence South 64°16'05" East 52.04 feet to the Southwesterly extension of said Line "B" and the True Point of Beginning; thence South 64°16'05" East 112.23 feet; thence South 56°01'08" East 115.94 feet; thence South 51°08'50" East 320.70 feet; thence South 28°12'11" East 86.38 feet; thence South 79°25'35" East 24.82 feet to the Westerly line of that tract conveyed to Vancouver Smelting and Ingot, Inc. (as referred to in Schedule A) by deed recorded under Auditor's File No. 8706250115 of Clark County Records; thence South 10°34'25" West along said Westerly line 234.66 feet (Hill Record of Survey, Book 22, Page 154 South 09°00'40" West); thence South 10°35'57" West along said Westerly line 216.41 feet (Hill Record of Survey, Book 22, Page 154 South 09°00'40" West); thence North 26°15'16" West 72.91 feet; thence North 08°24'44" West 80.47 feet; thence North 14°30'34" East 218.85 feet; thence North 00°03'06" West 108.25 feet; thence North 28°12'11" West 61.91 feet; thence North 51°08'50" West 310.89 feet; thence North 56°01'08" West 111.36 feet; thence North 64°16'05" West 126.57 feet to the Southwesterly extension of said line "B"; thence North 49°01'27" East along said Southwesterly extension 43.55 feet to the True Point of Beginning.

Exhibit B

LEGAL DESCRIPTION FOR EVERGREEN ALUMINUM INGOT PLANT CAPPED AREA

September 25, 2008

A parcel of land located within the John H. Mathews Donation Land Claim in the Northwest quarter of Section 19, Township 2 North, Range 1 East of the Willamette Meridian, in Clark County, Washington, the point of commencement being the section corner common to Sections 17, 18, 19 and 20 in said Township 2 North, Range 1 East of the Willamette Meridian, that is monumented with a 1-1/2" iron pipe size projecting 5.6 feet above ground, said section corner being South 02° 30' 12" West 273.26 feet from a Donation Land Claim corner common to the Patrick Markey and H. Van Alhman Donation Land Claim that is monumented with a 1-1/2" iron pipe size projecting 10.6 feet above ground; said parcel being more particularly described as follows:

(The following courses are on a grid bearing Washington State Coordinate System, North American Datum 1983. A scale and elevation factor of 1.000049 has been applied to the measured field distances.)

COMMENCING at the Northeast corner of said Section 19;

THENCE South 78° 51' 45" West 3240.20 feet to a 1/2" iron rod with yellow plastic cap marked "OLSON ENG PLS 17686" and the TRUE POINT OF BEGINNING;

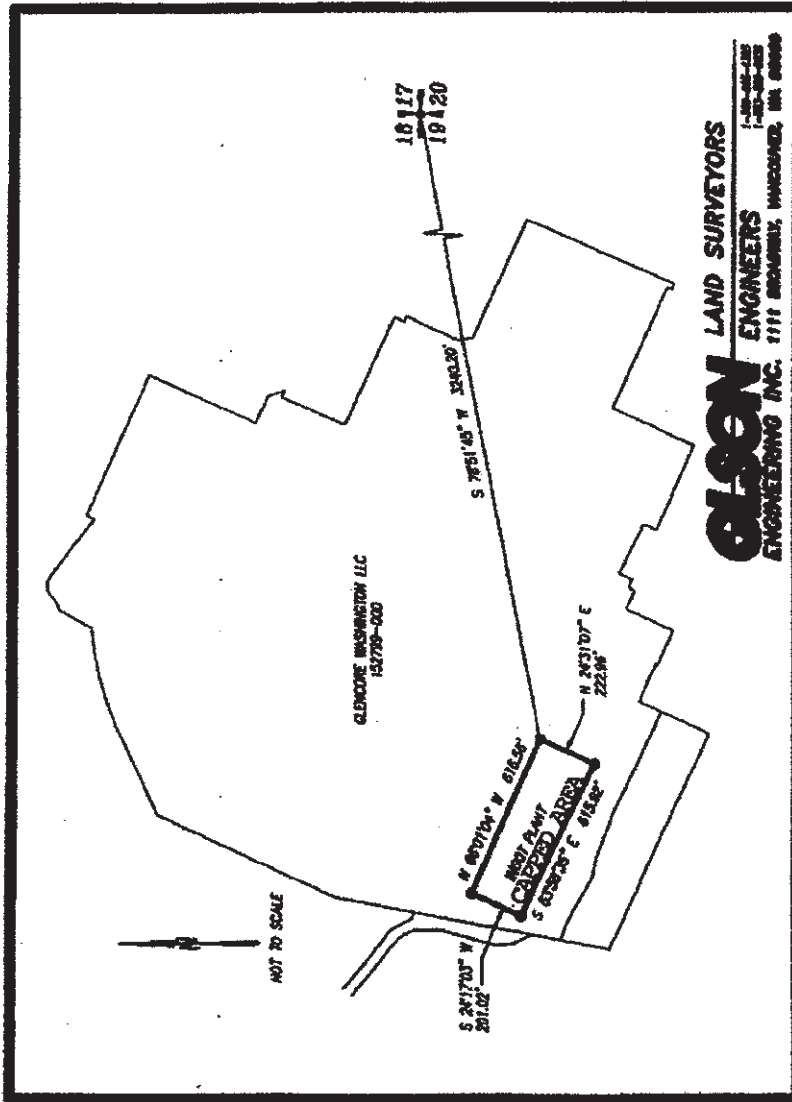
THENCE North 66° 01' 04" West a distance of 616.56 feet to a 1/2" iron rod with yellow plastic cap marked "OLSON ENG PLS 17686";

THENCE South 24° 17' 03" West a distance of 201.02 feet to 1/2" iron rod with yellow plastic cap marked "OLSON ENG PLS 17686";

THENCE South 63° 58' 35" East a distance of 615.92 feet to 1/2" iron rod with yellow plastic cap marked "OLSON ENG PLS 17686";

THENCE North 24° 31' 07" East a distance of 222.96 feet to the TRUE POINT OF BEGINNING.

Exhibit C
Diagram Depicting the Property and the Site



4545480 COV

RegFee - \$74.00 Pages: 33 - FIDELITY NATIONAL TITLE
Clark County, WA 03/31/2009 02:06

After Recording Return to:

Paul Skillingstad
Department of Ecology
Industrial Section
P.O. Box 47706
Olympia, Washington 98504-7706

ENVIRONMENTAL RESTRICTIVE COVENANT
Former Alcoa Vancouver Works

V64009

Grantor: Alcoa Inc.

Grantee: State of Washington, Department of Ecology

Legal: A tract of land located in Sections 17, 18, 19 and 20, Township 2 North, Range 1 East, Willamette Meridian, Clark County, Washington; another tract of land located in Sections 18 and 19, Township 2 North, Range 1 East and Section 13, Township 2 North, Range 1 West, Willamette Meridian, Clark County, Washington; and another tract of land located in Northeast one-quarter of Section 19, Township 2 North, Range 1 East, Willamette Meridian, Clark County, Washington. Additional legal description can be found attached as Exhibit A hereto.

Tax Parcel Nos.: 152166-000, 152798-000, 152800-000, 152903-000, 152905-000, 152907-000, and 153104-000.

RECITALS

A. Grantor, Alcoa Inc. ("Alcoa"), hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights under this environmental restrictive covenant (hereafter "Covenant") made this 26 day of March 2009 in favor of the State of Washington, Department of Ecology ("Ecology"). Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act ("MTCA"), RCW 70.105D.030(1)(g), and the Uniform Environmental Covenants Act, 2007 Wash. Laws ch. 104, sec. 12.

B. This Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by and between Alcoa and its successors and assigns, and Ecology and its successors and assigns.

C. The undersigned, Alcoa, is the fee owner of the real property in the County of Clark, State of Washington, that is subject to this Covenant (hereafter "Property"). The Property is legally described in Exhibit A attached to this Covenant and made a part hereof.

D. A remedial action occurred at the Property that is the subject of this Covenant (hereafter "Remedial Action"). The Remedial Action is described in the Consent Decree

entered in the *State of Washington Department of Ecology v. Alcoa Inc.*, Clark County Superior Court No. 09-2-00247-2, and in attachments to the Decree and in documents referenced in the Decree. These documents are on file at Ecology's Olympia Washington Office.

E. As described in detail in the Cleanup Action Plan attached to the Consent Decree, this Covenant is required because after the Remedial Action is complete, residual concentrations of fluoride, cyanide, vinyl chloride, polychlorinated biphenyls ("PCBs"), trichloroethylene ("TCE"), polycyclic aromatic hydrocarbons ("PAHs") and total petroleum hydrocarbons ("TPH") will remain at the Property which exceed Cleanup Levels for soil (fluoride, vinyl chloride, TCE, TPH, PCBs and PAHs) and/or groundwater (fluoride, cyanide, TPH, TCE and vinyl chloride) established in accordance with WAC 173-340-720 and 740.

F. Within the Property are located 3 separate and distinct areas where, as part of the Remedial Action, soils having residual concentrations of contaminants (fluoride, vinyl chloride, PCBs, TCE, and PAHs) above Unrestricted Use Cleanup Levels established in accordance with WAC 173-340-740 remain in place (the "Restricted Sites"). The Restricted Sites, known as the East Landfill (vinyl chloride, fluoride, TCE, PCBs and PAHs), the North and North 2 Landfill Area (PCBs and PAHs), and the Shoreline Area (PCBs and PAHs), are more particularly described in Exhibits B, C and D attached to this Covenant and made a part hereof.

G. This Restrictive Covenant is in addition to the prior Restrictive Covenants concerning the Property which were recorded at 9212160226 and 9603120195 by the Recording Division of the Clark County Auditor's Office.

DECLARATION OF RESTRICTIONS AND COVENANTS APPLICABLE TO ENTIRE PROPERTY

Alcoa makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including Alcoa and all future owners of any portion of or interest in the Property (hereafter "Owner").

Section 1. The Property shall be used solely for industrial purposes, as described in RCW 70.105D.020(23) and defined in and allowed under the City of Vancouver's zoning regulations codified at Title 20 of the Vancouver Municipal Code and/or Clark County's Unified Development Code codified at Title 40 of the Clark County Code.

Section 2: Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained within the Restricted Sites as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology. Some examples of activities that are prohibited in the Restricted Sites

include: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork.

Section 3. Owner is prohibited from extracting through wells or by other means or otherwise using the groundwater at the Property for consumption or other beneficial uses, as long as the hazardous substance concentrations exceed the acceptable risk level for such use, as determined by water quality at the wellhead. These prohibitions shall not apply to extraction of groundwater associated with groundwater treatment or monitoring activities approved by Ecology or to temporary dewatering activities related to construction, development, or the installation of utilities or other subsurface infrastructure at the Property. Owner shall conduct a waste determination on any groundwater that is extracted during such monitoring, treatment, or dewatering activities and handle, store and manage the water according to applicable laws and regulations. In addition to these restrictions and limitations concerning groundwater use at the Property generally, Owner is strictly prohibited from installing wells and/or extracting groundwater adjacent to or in the vicinity of the East Landfill as such could result in migration of trichloroethylene from that area.

Section 4. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 5. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 6. The Owner of the Property, or any portion thereof, must give thirty (30) days advance written notice to Ecology of the Owner's intent to convey any interest in the Property or said portion thereof. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action in accordance with the Consent Decree and Cleanup Action Plan.

Section 7. The Owner must restrict leases to uses and activities consistent with the Covenant and notify all lessees of the restrictions on the use of the Property. The Owner must include in any instrument conveying any interest in any portion of the property, notice of this restrictive covenant.

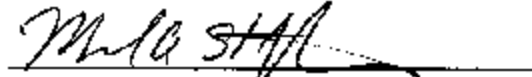
Section 8. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant. Ecology may approve any inconsistent use only after public notice and comment. If Ecology approves of an inconsistent use, this Restrictive Covenant must be amended to reflect the change.

Section 9. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take

samples, to inspect remedial actions conducted at the Property, to determine compliance with this Covenant, and to inspect records that are related to the Remedial Action.

Section 10. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

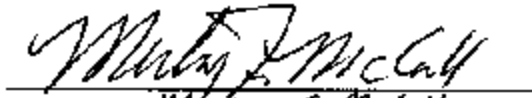
ALCOA INC.



Mark A. Stiffler

Director Asset Planning and Management

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

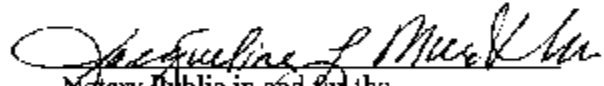


[Name] Merley F. McCall

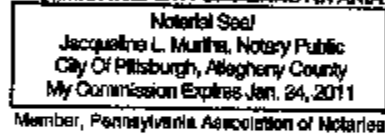
[Title] Industrial Section Manager

Commonwealth Of Pennsylvania)
) ss:
County of Allegheny)

On this 19th day of March, 2009, I certify that Mark A. Stiffler personally appeared before me, acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to execute this instrument, and acknowledged it as the Director of Asset Planning and Management of Alcoa Inc. to be the free and voluntary act and deed of such party for the uses and purposes mentioned in the instrument.

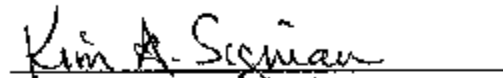

Notary Public in and for the
Commonwealth of Pennsylvania

My appointment expires: ~~COMMONWEALTH OF PENNSYLVANIA~~



State of Washington)
) ss:
County of Thurston)

On this 23rd day of March, 2009, I certify that Mertley McCall personally appeared before me, acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to execute this instrument, and acknowledged it as the Industrial Section Manager of State of Washington Department of Ecology to be the free and voluntary act and deed of such party for the uses and purposes mentioned in the instrument.


Notary Public in and for the
State of Washington

My appointment expires: 9-10-11



EXHIBIT A

**Legal Description of Property
(See Next Page)**

EXHIBIT 'A'

LEGAL DESCRIPTION:

Parcel I

A TRACT OF LAND LOCATED IN SECTIONS 17, 18, 19 AND 20, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591"

THENCE ALONG THE SOUTHERN LINES OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9206090248 THE FOLLOWING COURSES:

SOUTH 65°59'34" EAST, 861.82 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 62°05'21" EAST, 78.63 FEET A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°53'48" EAST, 278.45 FEET TO THE SOUTHWESTERN LINE OF THAT PROPERTY CONVEYED TO THE UNITED STATES OF AMERICA AS DESCRIBED IN AUDITOR'S FILE E36885;

THENCE ALONG SAID SOUTHWESTERN SOUTH 40°06'49" EAST, 9.21 FEET THE EASTERN LINE OF THAT PROPERTY CONVEYED TO ALCOA, INC. AS DESCRIBED IN AUDITOR'S FILE 3451521;

THENCE ALONG SAID EASTERN LINE SOUTH 23°47'45" WEST, 526.31 FEET;

THENCE ALONG THE SOUTHERN AND EASTERN LINES OF THOSE PROPERTIES DESCRIBED IN AUDITOR'S FILES 9609250325 AND 9506230321 THE FOLLOWING COURSES:

SOUTH 66°56'33" EAST, 61.43 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 22°18'35" WEST, 26.79 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 66°01'38" EAST, 546.86 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 25°14'59" WEST, 5.80 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 69°29'52" EAST, 1.06 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°56'09" WEST, 152.66 FEET TO A POINT OF NON-TANGENT CURVATURE WITH A 220.00 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS NORTH 07°47'59" EAST;

THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 19°29'02" (THE CHORD BEARS NORTH 88°03'28" EAST, 74.45 FEET) AN ARC DISTANCE OF 74.81 FEET;

THENCE NORTH 78°18'57" EAST, 61.62 FEET TO A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 220.00 FEET RADIUS CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 54°14'23" (THE CHORD BEARS NORTH 51°11'45" EAST, 200.58 FEET) AN ARC DISTANCE OF 208.27 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°04'34" EAST, 471.83 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591" AT A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 270.00 FEET RADIUS CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 38°56'34" (THE CHORD BEARS NORTH 04°36'17" EAST, 180.00 FEET) AN ARC DISTANCE OF 183.51 FEET TO A POINT OF REVERSE CURVATURE;

THENCE ALONG THE ARC OF A 330.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 22°54'37" (THE CHORD BEARS NORTH 03°24'42" WEST, 131.08 FEET) AN ARC DISTANCE OF 131.95 FEET;

THENCE NORTH 08°05'38" EAST, 30.56 FEET TO THE SOUTHERN RIGHT-OF-WAY LINE OF LOWER RIVER ROAD AT A POINT OF NON-TANGENT CURVATURE WITH A 497.00 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS SOUTH 02°19'17" EAST;

THENCE ALONG SAID RIGHT-OF-WAY CURVE THROUGH A CENTRAL ANGLE OF 06°58'17" (THE CHORD BEARS SOUTH 88°50'08" EAST, 60.44 FEET) AN ARC DISTANCE OF 60.47 FEET;

THENCE ALONG THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1A THE FOLLOWING COURSES:

SOUTH 08°05'03" WEST, 37.80 FEET TO A POINT OF NON-TANGENT CURVATURE WITH A 270.00 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS SOUTH 81°57'23" EAST;

THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 22°54'37" (THE CHORD BEARS SOUTH 03°24'41" EAST, 107.24 FEET) AN ARC DISTANCE OF 107.96 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT A POINT OF REVERSE CURVATURE;

THENCE ALONG THE ARC OF A 330.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 38°56'34" (THE CHORD BEARS SOUTH 04°36'17" WEST, 220.00 FEET) AN ARC DISTANCE OF 224.29 FEET;

THENCE SOUTH 24°04'34" WEST, 471.83 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 280.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 36°12'35" (THE CHORD BEARS SOUTH 42°10'52" WEST, 174.02 FEET) AN ARC DISTANCE OF 176.95 FEET TO THE NORTHERN RIGHT-OF-WAY OF THE SPOKANE, PORTLAND AND SEATTLE RAILROAD AS DESCRIBED IN AUDITOR'S FILE E24906;

THENCE ALONG SAID RIGHT-OF-WAY LINE SOUTH 73°39'14" WEST, 507.82 FEET TO THE WESTERN LINE OF THE VAN ALMAN DONATION LAND CLAIM;

THENCE THEN ALONG SAID WESTERN LINE SOUTH 09°54'57" WEST, 497.01 FEET TO THE SOUTHERN RIGHT-OF-WAY LINE THE SPOKANE, PORTLAND AND SEATTLE RAILROAD;

THENCE ALONG SAID SOUTHERN RIGHT-OF-WAY NORTH 39°07'39" EAST, 468.36 FEET TO A POINT OF CURVATURE;

THENCE CONTINUING ALONG SAID RIGHT-OF-WAY ALONG THE ARC OF A 739.50 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 33°02'42" (THE CHORD BEARS NORTH 55°39'00" EAST, 420.62 FEET) AN ARC DISTANCE OF 426.50 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT ITS INTERSECTION WITH THE WESTERN LINE OF THAT PROPERTY CONVEYED TO CLARK COUNTY AS DESCRIBED IN AUDITOR'S FILE 9804030486;

THENCE ALONG THE WESTERN AND SOUTHERN LINES OF SAID CLARK COUNTY PROPERTY THE FOLLOWING COURSES:

SOUTH 04°23'45" WEST, 79.82 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT A POINT OF NON-TANGENT CURVATURE WITH A 691.97 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS SOUTH 21°15'02" EAST;

THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 29°41'58" (THE CHORD BEARS SOUTH 53°53'59" WEST, 354.68 FEET) AN ARC DISTANCE OF 358.68 FEET;

THENCE SOUTH 39°03'00" WEST, 741.81 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE SOUTH 24°08'35" WEST, 28.79 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE SOUTH 89°38'19" EAST, 352.44 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE NORTH 82°45'01" EAST, 712.86 FEET TO THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1B;

THENCE ALONG SAID WESTERN LINE SOUTH 35°02'02" WEST, 44.85 FEET;

THENCE CONTINUING ALONG SAID WESTERN LINE SOUTH 35°00'15" WEST, 749.59 FEET;

THENCE CONTINUING ALONG SAID WESTERN LINE SOUTH 35°00'15" WEST 1.05 FEET TO THE ORDINARY HIGH WATER LINE OF THE COLUMBIA RIVER;

THENCE ALONG THE ORDINARY HIGH WATER LINE THE FOLLOWING COURSES:

NORTH 89°29'12" WEST, 9.52 FEET;

THENCE NORTH 77°40'26" WEST, 16.60 FEET;

THENCE SOUTH 86°36'31" WEST, 77.49 FEET;

THENCE NORTH 78°50'38" WEST, 173.64 FEET;

THENCE NORTH 84°19'36" WEST, 254.87 FEET;

THENCE NORTH 76°30'55" WEST, 20.14 FEET;

THENCE NORTH 69°05'45" WEST, 310.36 FEET;

THENCE NORTH 73°25'50" WEST, 31.58 FEET;

THENCE NORTH 78°01'48" WEST, 41.07 FEET;

THENCE NORTH 75°14'34" WEST, 70.64 FEET;

THENCE NORTH 67°13'09" WEST, 106.03 FEET;

THENCE NORTH 85°08'56" WEST, 14.42 FEET;
THENCE NORTH 69°41'50" WEST, 102.24 FEET;
THENCE NORTH 62°47'21" WEST, 22.10 FEET;
THENCE NORTH 85°06'24" WEST, 12.19 FEET;
THENCE NORTH 78°40'23" WEST, 23.96 FEET;
THENCE NORTH 68°36'38" WEST, 11.78 FEET;
THENCE NORTH 54°35'29" WEST, 28.64 FEET;
THENCE NORTH 61°34'46" WEST, 105.07 FEET;
THENCE NORTH 70°03'25" WEST, 111.12 FEET;
THENCE NORTH 61°56'51" WEST, 18.49 FEET;
THENCE NORTH 66°35'10" WEST, 27.88 FEET;
THENCE NORTH 71°57'33" WEST, 28.64 FEET;
THENCE NORTH 61°44'43" WEST, 36.12 FEET;
THENCE NORTH 70°11'57" WEST, 27.01 FEET;
THENCE NORTH 75°26'06" WEST, 88.93 FEET;
THENCE NORTH 69°07'46" WEST, 82.68 FEET;
THENCE NORTH 85°00'29" WEST, 9.41 FEET;
THENCE NORTH 79°39'38" WEST, 24.20 FEET;
THENCE NORTH 71°31'12" WEST, 49.99 FEET;
THENCE NORTH 76°56'35" WEST, 34.63 FEET;
THENCE NORTH 79°53'56" WEST, 6.78 FEET;
THENCE NORTH 74°55'38" WEST, 53.64 FEET;
THENCE NORTH 73°16'30" WEST, 41.35 FEET;
THENCE NORTH 69°24'34" WEST, 52.13 FEET;
THENCE NORTH 62°17'46" WEST, 32.15 FEET;

THENCE NORTH 65°47'53" WEST, 33.52 FEET;
THENCE NORTH 63°32'11" WEST, 25.50 FEET;
THENCE NORTH 55°03'48" WEST, 52.98 FEET;
THENCE NORTH 34°13'21" WEST, 10.50 FEET;
THENCE NORTH 48°48'47" WEST, 8.46 FEET;
THENCE NORTH 67°23'10" WEST, 34.95 FEET;
THENCE NORTH 62°28'18" WEST, 21.35 FEET;
THENCE NORTH 60°53'29" WEST, 42.70 FEET;
THENCE NORTH 62°43'59" WEST, 61.76 FEET;
THENCE NORTH 47°54'15" WEST, 13.10 FEET;
THENCE NORTH 57°42'47" WEST, 34.21 FEET;
THENCE NORTH 45°30'34" WEST, 26.68 FEET;
THENCE NORTH 63°11'33" WEST, 91.74 FEET;
THENCE NORTH 63°52'03" WEST, 43.89 FEET;
THENCE NORTH 68°40'24" WEST, 45.31 FEET;
THENCE NORTH 63°18'56" WEST, 41.82 FEET;
THENCE NORTH 55°08'42" WEST, 40.63 FEET;
THENCE NORTH 65°23'25" WEST, 39.33 FEET;
THENCE NORTH 68°13'41" WEST, 36.75 FEET;
THENCE NORTH 59°46'47" WEST, 20.47 FEET;
THENCE NORTH 56°29'02" WEST, 23.33 FEET;
THENCE NORTH 73°15'43" WEST, 30.91 FEET;
THENCE NORTH 65°05'42" WEST, 34.79 FEET TO THE EASTERN LINE OF THAT
PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC AS
DESCRIBED IN AUDITOR'S FILE 8706250115;

THENCE ALONG THE EASTERN LINE OF SAID PROPERTY THE FOLLOWING COURSES:

NORTH 24°51'44" EAST, 19.90 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°51'44" EAST, 75.00 FEET;

THENCE SOUTH 67°02'30" EAST, 150.95 FEET;

THENCE SOUTH 24°24'13" WEST, 8.03 FEET;

THENCE SOUTH 65°32'25" EAST, 139.46 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°25'27" EAST, 190.47 FEET TO A BRASS SCREW IN LEAD;

THENCE SOUTH 65°26'27" EAST, 75.44 FEET;

THENCE NORTH 24°33'33" EAST, 16.47 FEET;

THENCE SOUTH 65°26'27" EAST, 3.23 FEET TO A BRASS SCREW IN LEAD;

THENCE NORTH 24°02'00" EAST, 8.74 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°37'38" EAST, 30.69 FEET;

THENCE NORTH 24°22'22" EAST, 43.42 FEET;

THENCE SOUTH 66°03'36" EAST, 202.10 FEET;

THENCE SOUTH 21°35'33" WEST, 53.64 FEET;

THENCE SOUTH 66°03'43" EAST, 337.03 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°23'48" EAST, 332.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°37'48" EAST, 491.35 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°34'33" WEST, 17.72 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°13'05" EAST, 25.00 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 23°39'31" EAST, 602.51 FEET;

THENCE NORTH 65°35'48" WEST, 483.30 FEET TO A SPINDLE;

THENCE NORTH 09°15'46" WEST, 56.18 FEET TO A SPINDLE;

THENCE NORTH 24°23'13" EAST, 214.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°27'24" WEST, 22.46 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°16'52" EAST, 40.03 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°35'26" WEST, 440.76 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°23'35" EAST, 253.74 FEET TO A BRASS SCREW IN LEAD;

THENCE SOUTH 65°35'08" EAST, 29.66 FEET TO A BRASS SCREW IN LEAD;

THENCE NORTH 19°44'44" WEST, 68.68 FEET;

THENCE NORTH 65°36'36" WEST, 109.69 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°23'37" EAST, 435.28 FEET TO THE POINT OF BEGINNING.

EXCEPTING THERE FROM:

COMMENCING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON, SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°22'35" EAST, 2,450.69 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591" AND THE TRUE POINT OF BEGINNING;

THENCE SOUTH 65°57'51" EAST, 137.31 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°06'06" WEST, 125.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°57'29" WEST, 137.25 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°04'31" EAST, 125.66 FEET TO THE POINT OF BEGINNING.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.

Parcel II

A TRACT OF LAND LOCATED IN SECTIONS 18 AND 19, TOWNSHIP 2 NORTH, RANGE 1 EAST AND SECTION 13, TOWNSHIP 2 NORTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 83°36'37" WEST, 2,411.16 FEET TO A POINT ON THE SOUTHERN LINE OF THE TIDEWATER TRACT BEING THE MOST NORTHERN NORTHWEST CORNER OF THAT PROPERTY CONVEYED TO RUSSELL TOWBOAT AND MOORAGE CO. AS DESCRIBED IN AUDITOR'S FILE 9501260058 AND THE TRUE POINT OF BEGINNING;

THENCE ALONG THE WESTERN LINE OF SAID RUSSELL PROPERTY THE FOLLOWING COURSES:

SOUTH 25°51'55" WEST, 511.44 FEET;

THENCE SOUTH 65°53'18" EAST, 426.16 FEET;

THENCE SOUTH 49°01'37" WEST, 182.34 FEET;

THENCE SOUTH 49°01'33" WEST, 782.97 FEET;

THENCE NORTH 65°32'10" WEST, 53.72 FEET;

THENCE NORTH 08°41'22" WEST, 212.96 FEET;

THENCE NORTH 66°14'51" WEST, 109.99 FEET TO THE SOUTHERN MOST CORNER OF THAT PROPERTY CONVEYED TO VANALCO INC AS DESCRIBED AS PARCEL 1 AUDITOR'S FILE 9501260083;

THENCE ALONG THE EASTERN AND NORTHERN BOUNDARY OF SAID VANALCO PROPERTY THE FOLLOWING COURSES:

NORTH 23°44'52" EAST, 93.21 FEET;
THENCE SOUTH 72°34'32" EAST, 28.67 FEET;
THENCE SOUTH 78°41'13" EAST, 29.76 FEET;
THENCE SOUTH 88°59'26" EAST, 29.49 FEET;
THENCE NORTH 84°48'34" EAST, 28.92 FEET;
THENCE NORTH 68°13'10" EAST, 40.09 FEET;
THENCE NORTH 40°50'00" EAST, 30.39 FEET;
THENCE NORTH 27°26'22" EAST, 49.86 FEET;
THENCE SOUTH 64°08'05" EAST, 96.65 FEET;
THENCE NORTH 25°51'55" EAST, 376.04 FEET;

THENCE NORTH 65°53'18" WEST, 993.55 FEET TO THE SOUTHEASTERN LINE OF THAT PROPERTY CONVEYED TO TIDEWATER ENVIRONMENTAL SERVICES, INC AS DESCRIBED IN AUDITOR'S FILE 9104290287;

THENCE ALONG SAID SOUTHEASTERN LINE NORTH 23°15'04" EAST, 606.83 FEET TO A FOUND 1/2" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE ALONG THE SOUTHERN LINE OF SAID TIDEWATER TRACT SOUTH 65°25'50" EAST, 1,021.02 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS 19.87 ACRES MORE OR LESS.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.

Parcel III

A TRACT OF LAND LOCATED IN NORTHEAST ONE-QUARTER OF SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°22'35" EAST, 2,450.69 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591" AND THE TRUE POINT OF BEGINNING;

THENCE SOUTH 65°57'51" EAST, 137.31 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°06'06" WEST, 125.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°57'29" WEST, 137.25 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°04'31" EAST, 125.66 FEET TO THE POINT OF BEGINNING.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.

EXHIBIT B

**Legal Description of the East Landfill
(See Next Page)**

EXHIBIT 'B'
EAST LANDFILL DESCRIPTION

A TRACT OF LAND LOCATED IN SECTIONS 19 AND 20, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8796250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE ALONG THE SOUTHERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9208090248 SOUTH 85°59'34" EAST, 881.82 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°54'21" EAST, 2,655.23 FEET TO TRUE POINT OF BEGINNING AT THE INTERSECTION OF THE ORDINARY HIGH WATER LINE OF THE COLUMBIA RIVER WITH THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1B;

THENCE ALONG THE ORDINARY HIGH WATER LINE THE FOLLOWING COURSES:

THENCE NORTH 89°29'12" WEST, 8.52 FEET;

THENCE NORTH 77°40'28" WEST, 16.60 FEET;

THENCE SOUTH 86°36'31" WEST, 77.49 FEET;

THENCE NORTH 78°50'38" WEST, 173.64 FEET;

THENCE NORTH 84°19'38" WEST, 254.87 FEET;

THENCE NORTH 76°30'55" WEST, 20.14 FEET;

THENCE NORTH 69°05'45" WEST, 266.22 FEET;

THENCE LEAVING THE ORDINARY HIGH WATER LINE NORTH 25°18'16" EAST, 419.46 FEET TO A 1/2" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE SOUTH 89°38'19" EAST, 352.44 FEET TO A 1/2" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE NORTH 82°45'01" EAST, 712.86 FEET TO THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1B;

THENCE ALONG SAID WESTERN LINE SOUTH 35°02'02" WEST, 44.85 FEET;

THENCE CONTINUING ALONG SAID WESTERN LINE SOUTH 35°00'15" WEST, 750.65 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS 505,061 SQUARE FEET / 11.59 ACRES, MORE OR LESS.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.



EXHIBIT 'B'
EAST LANDFILL DESCRIPTION
 PAGE 3 OF 3

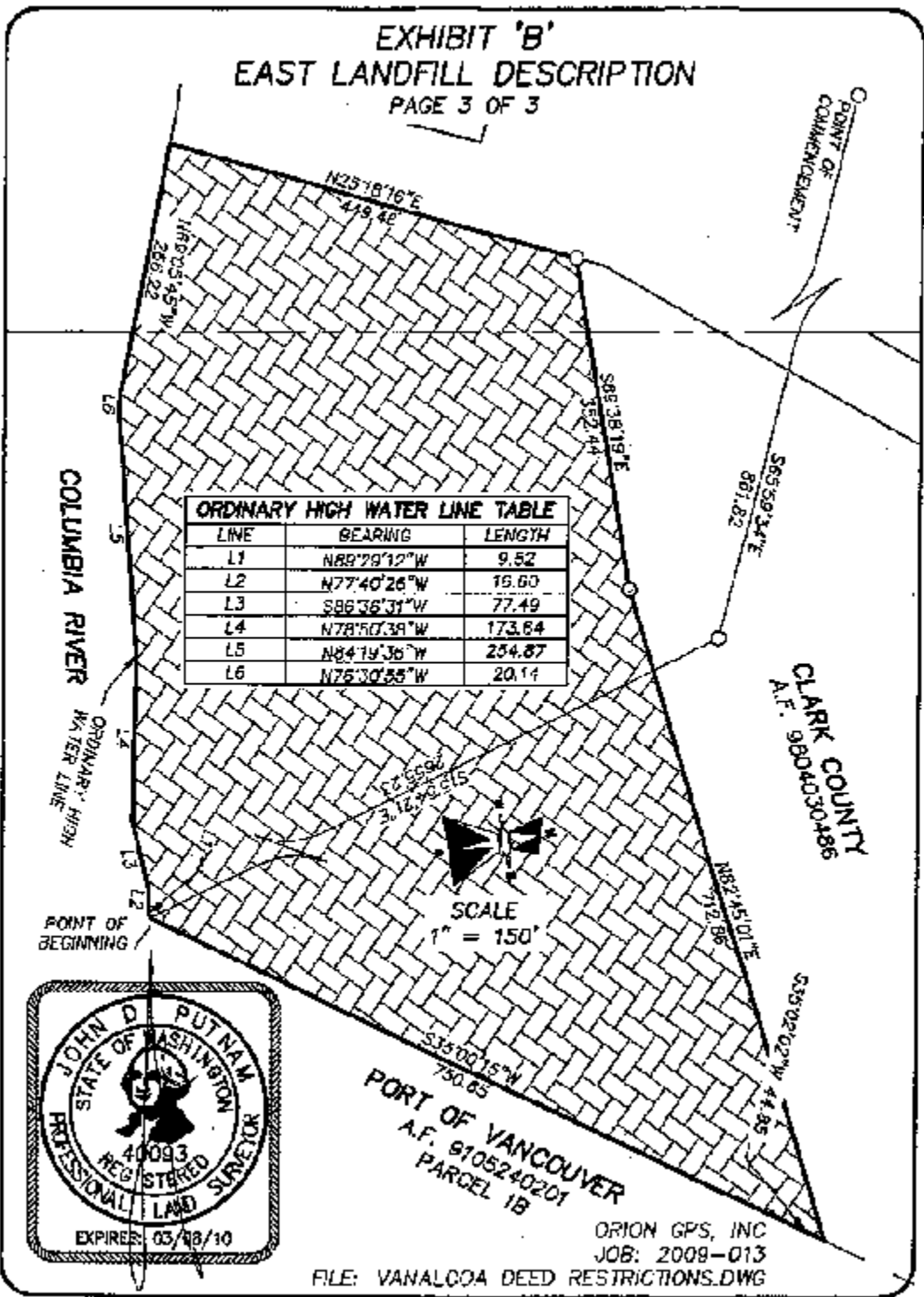


EXHIBIT C

**Legal Description of the North and North 2 Landfills
(See Next Page)**

EXHIBIT 'C'
NORTH AND NORTH 2 LANDFILL DESCRIPTION

A TRACT OF LAND LOCATED IN SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE ALONG THE SOUTHERN LINES OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9206090248 SOUTH 65°59'34" EAST, 861.82 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°39'29" EAST, 1,256.50 FEET TO THE POINT OF INTERSECTION OF THE NORTHERN RIGHT-OF-WAY OF THE SPOKANE, PORTLAND AND SEATTLE RAILROAD AS DESCRIBED IN AUDITOR'S FILE E24906 WITH THE WESTERN LINE OF THE VAN ALMAN DONATION LAND CLAIM BEING THE TRUE POINT OF BEGINNING;

THENCE ALONG SAID WESTERN LINE SOUTH 09°54'57" WEST, 421.20 FEET;

THENCE SOUTH 39°01'25" WEST, 210.18 FEET TO A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 450.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 20°00'08" (THE CHORD BEARS SOUTH 49°01'29" WEST, 156.30 FEET) AN ARC DISTANCE OF 157.10 FEET;

THENCE SOUTH 59°01'33" WEST, 49.26 FEET;

THENCE NORTH 15°47'45" WEST, 110.37 FEET;

THENCE NORTH 76°13'17" WEST, 32.27 FEET;

THENCE NORTH 80°08'54" WEST, 105.81 FEET;

THENCE NORTH 16°55'31" EAST, 819.47 FEET;

THENCE NORTH 88°14'48" EAST, 47.29 FEET;

THENCE SOUTH 75°52'42" EAST, 535.80 FEET TO THE NORTHERN RIGHT-OF-WAY OF THE SPOKANE, PORTLAND AND SEATTLE RAILROAD AS DESCRIBED IN AUDITOR'S FILE E24906;

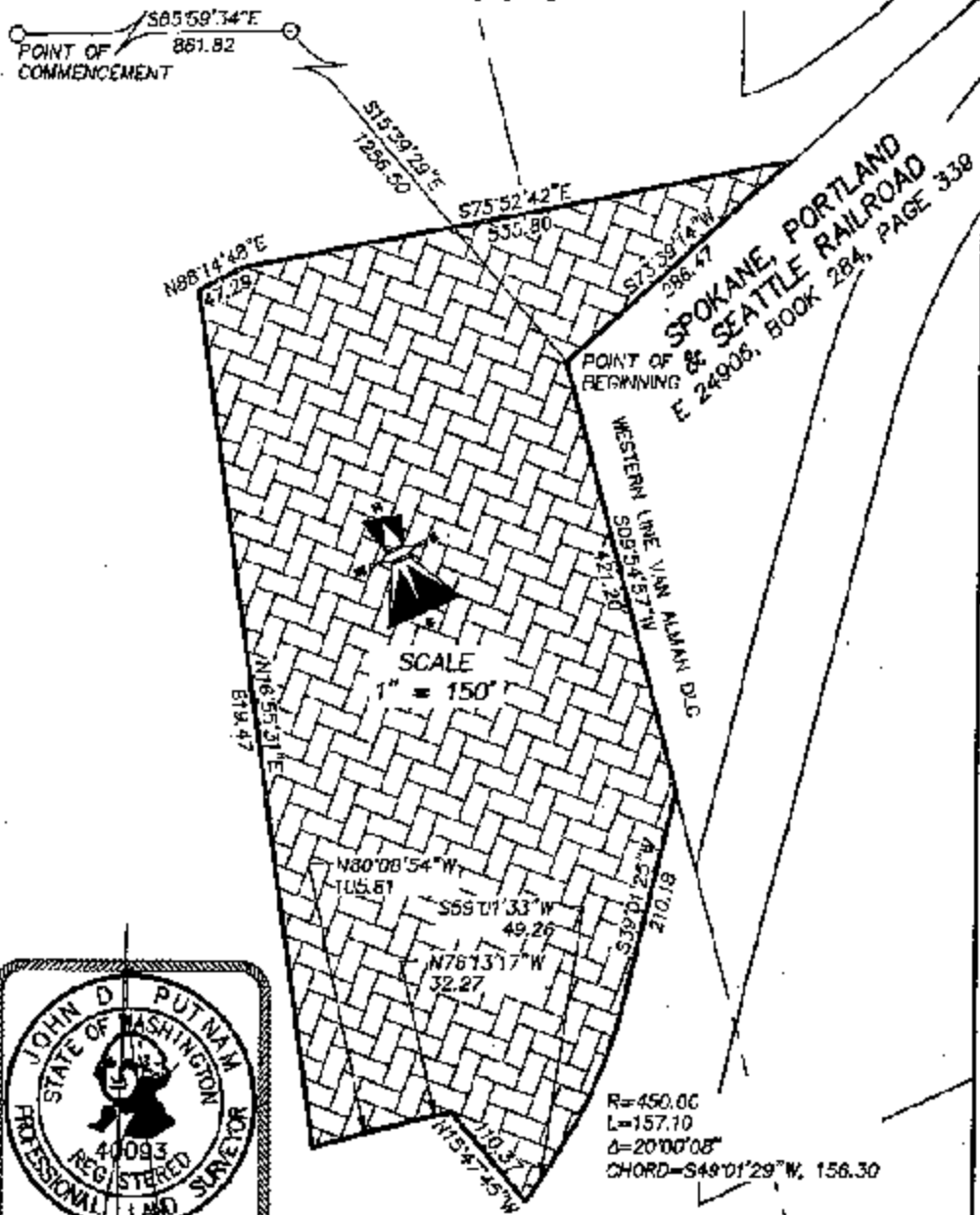
THENCE ALONG SAID RIGHT-OF-WAY SOUTH 73°39'14" WEST, 288.47 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS 315,292 SQUARE FEET / 7.24 ACRES, MORE OR LESS.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.



EXHIBIT 'C'
NORTH & NORTH 2 LANDFILL DESCRIPTION
 PAGE 3 OF 3



R=450.00
 L=157.10
 Δ=20°00'08"
 CHORD=S49°01'29"W, 156.30

ORION GPS, INC
 JOB: 2009-013

FILE: VANALCOA DEED RESTRICTIONS.DWG

EXHIBIT D

**Legal Description of the Shoreline Area
(See Next Page)**

EXHIBIT 'D'
SHORELINE AREA DESCRIPTION

A TRACT OF LAND LOCATED IN SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8708250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE ALONG THE SOUTHERN LINES OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9208090248 SOUTH 85°59'34" EAST, 861.82 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°54'21" EAST, 2,855.23 FEET TO **TRUE POINT OF BEGINNING** AT THE INTERSECTION OF THE ORDINARY HIGH WATER LINE OF THE COLUMBIA RIVER WITH THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 5105240201 PARCEL 1B;

THENCE ALONG THE ORDINARY HIGH WATER LINE THE FOLLOWING COURSES:

NORTH 89°29'12" WEST, 9.52 FEET;

THENCE NORTH 77°40'26" WEST, 16.60 FEET;

THENCE SOUTH 86°36'31" WEST, 77.49 FEET;

THENCE NORTH 78°50'38" WEST, 173.64 FEET;

THENCE NORTH 84°19'38" WEST, 254.87 FEET;

THENCE NORTH 76°30'55" WEST, 20.14 FEET;

THENCE NORTH 69°05'45" WEST, 286.22 FEET TO THE TRUE POINT OF BEGINNING;

THENCE CONTINUE ALONG THE ORDINARY HIGH WATER LINE NORTH 69°05'45" WEST, 44.14 FEET;

THENCE NORTH 73°25'50" WEST, 31.58 FEET;

THENCE NORTH 78°01'48" WEST, 41.07 FEET;

THENCE NORTH 75°14'34" WEST, 70.64 FEET;

THENCE NORTH 67°13'09" WEST, 106.03 FEET;

THENCE NORTH 85°08'56" WEST, 14.42 FEET;

THENCE NORTH 69°41'50" WEST, 102.24 FEET;
THENCE NORTH 62°47'21" WEST, 22.10 FEET;
THENCE NORTH 65°06'24" WEST, 12.19 FEET;
THENCE NORTH 78°40'23" WEST, 23.96 FEET;
THENCE NORTH 68°36'38" WEST, 11.78 FEET;
THENCE NORTH 54°35'29" WEST, 28.64 FEET;
THENCE NORTH 61°34'46" WEST, 105.07 FEET;
THENCE NORTH 70°03'25" WEST, 111.12 FEET;
THENCE NORTH 61°56'51" WEST, 10.49 FEET;
THENCE NORTH 66°35'10" WEST, 27.88 FEET;
THENCE NORTH 71°57'33" WEST, 28.64 FEET;
THENCE NORTH 61°44'43" WEST, 36.12 FEET;
THENCE NORTH 70°11'57" WEST, 27.01 FEET;
THENCE NORTH 75°26'06" WEST, 88.93 FEET;
THENCE NORTH 69°07'46" WEST, 82.68 FEET;
THENCE NORTH 85°00'29" WEST, 9.41 FEET;
THENCE NORTH 79°39'38" WEST, 24.20 FEET;
THENCE NORTH 71°31'12" WEST, 49.99 FEET;
THENCE NORTH 76°58'35" WEST, 34.63 FEET;
THENCE NORTH 79°53'56" WEST, 6.78 FEET;
THENCE NORTH 74°55'38" WEST, 53.64 FEET;
THENCE NORTH 73°16'30" WEST, 41.35 FEET;
THENCE NORTH 69°24'34" WEST, 52.13 FEET;
THENCE NORTH 62°17'48" WEST, 32.15 FEET;

THENCE NORTH 65°47'53" WEST, 33.52 FEET;

THENCE NORTH 63°32'11" WEST, 25.50 FEET;

THENCE NORTH 55°03'48" WEST, 52.98 FEET;

THENCE NORTH 34°13'21" WEST, 10.50 FEET;

THENCE NORTH 48°48'47" WEST, 8.46 FEET;

THENCE NORTH 87°23'10" WEST, 34.95 FEET;

THENCE NORTH 62°28'18" WEST, 21.35 FEET;

THENCE NORTH 60°53'29" WEST, 42.70 FEET;

THENCE NORTH 62°43'59" WEST, 61.76 FEET;

THENCE NORTH 47°54'15" WEST, 13.10 FEET;

THENCE NORTH 57°42'47" WEST, 34.21 FEET;

THENCE NORTH 45°30'34" WEST, 28.68 FEET;

THENCE NORTH 63°11'33" WEST, 91.74 FEET;

THENCE NORTH 63°52'03" WEST, 43.89 FEET;

THENCE NORTH 68°40'24" WEST, 45.31 FEET;

THENCE NORTH 83°18'56" WEST, 41.82 FEET;

THENCE NORTH 55°08'42" WEST, 40.63 FEET;

THENCE NORTH 65°23'25" WEST, 39.33 FEET;

THENCE NORTH 68°13'41" WEST, 36.75 FEET;

THENCE NORTH 59°48'47" WEST, 20.47 FEET;

THENCE NORTH 56°29'02" WEST, 23.33 FEET;

THENCE NORTH 73°15'43" WEST, 30.91 FEET;

THENCE NORTH 65°05'42" WEST, 34.79 FEET TO THE EASTERN LINE OF THAT
PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC AS DESCRIBED IN
AUDITOR'S FILE 8706250115;

THENCE ALONG THE EASTERN LINE OF SAID PROPERTY NORTH 24°51'44" EAST, 77.61 FEET;

THENCE SOUTH 65°49'16" EAST, 150.32 FEET;

THENCE SOUTH 22°26'15" WEST, 19.56 FEET;

THENCE SOUTH 65°18'35" EAST, 749.17 FEET;

THENCE SOUTH 66°11'01" EAST, 73.82 FEET;

THENCE SOUTH 69°43'12" EAST, 53.83 FEET;

THENCE SOUTH 75°14'17" EAST, 47.47 FEET;

THENCE SOUTH 81°49'10" EAST, 35.53 FEET;

THENCE SOUTH 77°37'51" EAST, 49.50 FEET;

THENCE SOUTH 68°58'58" EAST, 87.05 FEET;

THENCE SOUTH 65°30'32" EAST, 124.87 FEET;

THENCE SOUTH 64°19'30" EAST, 168.53 FEET;

THENCE SOUTH 67°05'55" EAST, 373.27 FEET;

THENCE SOUTH 67°02'30" EAST, 224.87 FEET;

THENCE SOUTH 25°18'16" WEST, 51.22 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS 177,584 SQUARE FEET OR 4.08 ACRES, MORE OR LESS.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.



EXHIBIT 'D'
SHORELINE AREA DESCRIPTION
PAGE 5 OF 7

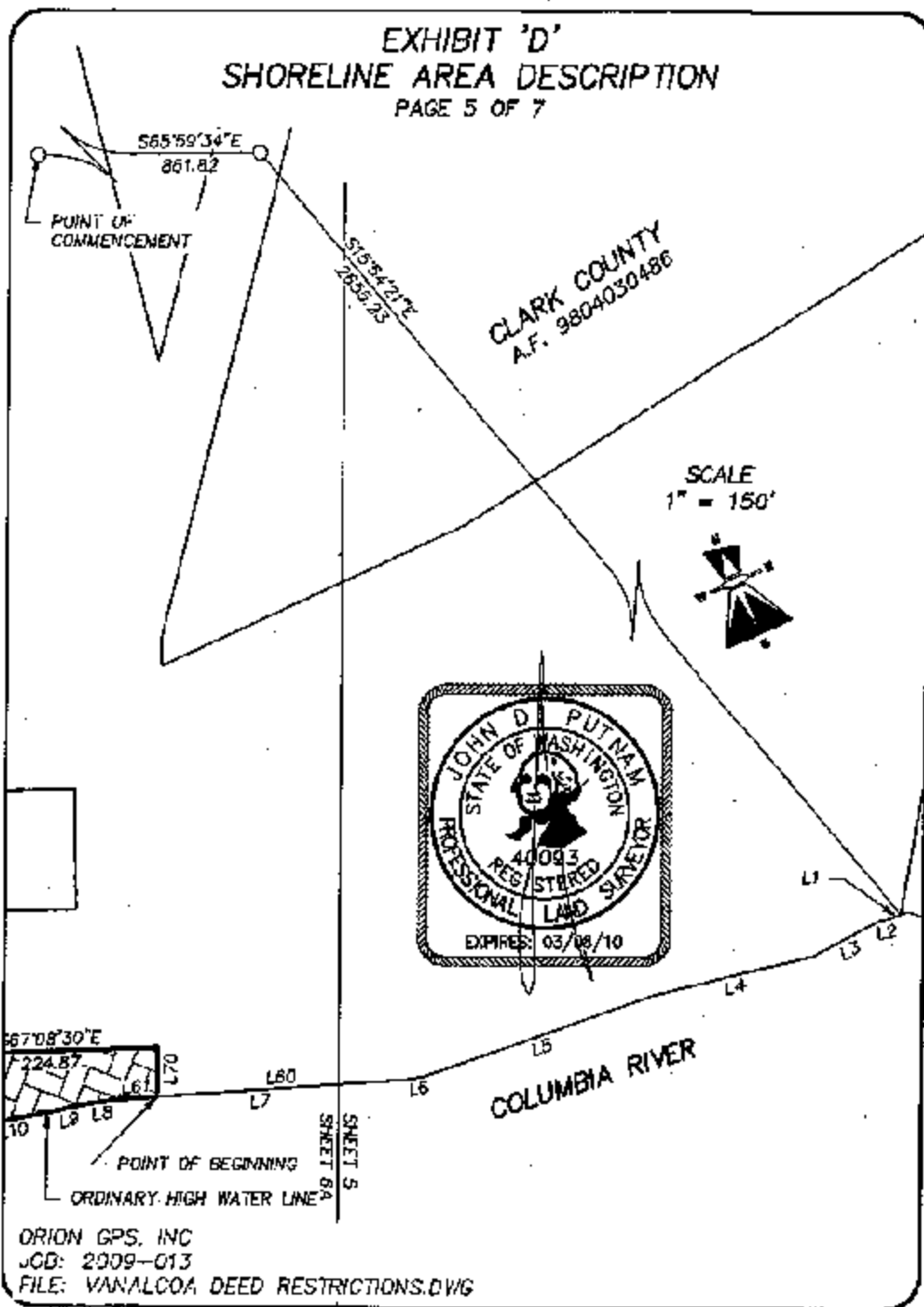


EXHIBIT 'D'
SHORELINE AREA DESCRIPTION
PAGE 6 OF 7

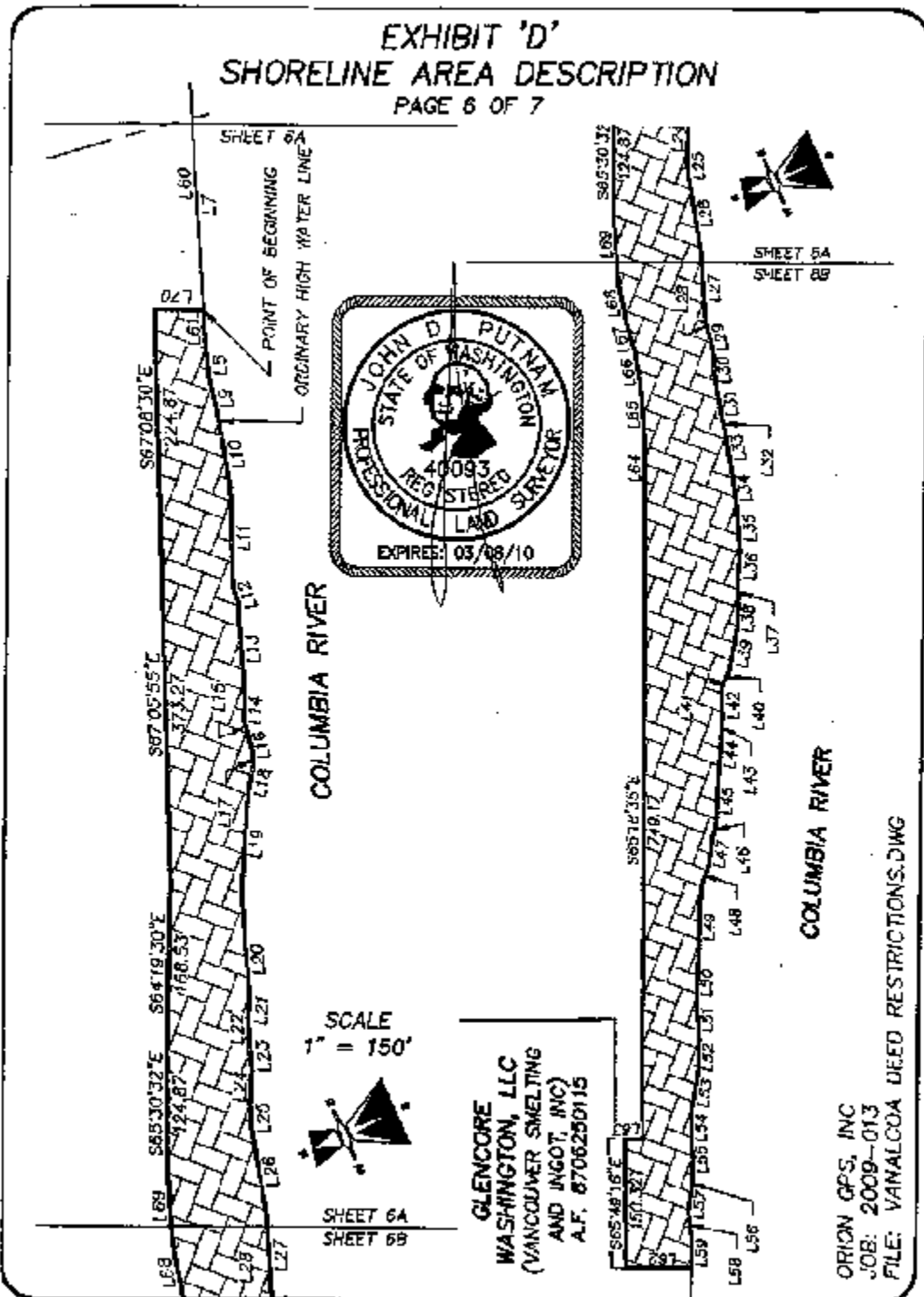


EXHIBIT 'D'
SHORELINE AREA DESCRIPTION
 PAGE 7 OF 7

LINE TABLE					
LINE	BEARING	LENGTH	LINE	BEARING	LENGTH
L1	N89°28'12"W	5.52	L46	N47°54'15"W	13.10
L2	N77°40'29"W	16.50	L47	N57°42'47"W	34.21
L3	S86°36'31"W	77.49	L48	N45°30'34"W	26.68
L4	N78°50'38"W	173.64	L49	N63°11'33"W	91.74
L5	N84°19'38"W	204.87	L50	N65°52'03"W	43.89
L6	N76°30'55"W	20.14	L51	N68°40'24"W	45.31
L7	N69°05'45"W	310.36	L52	N63°18'56"W	41.82
L8	N73°25'52"W	31.58	L53	N55°08'42"W	40.63
L9	N76°01'48"W	41.07	L54	N65°23'25"W	39.33
L10	N75°14'34"W	70.84	L55	N68°13'41"W	36.75
L11	N67°15'09"W	105.03	L56	N69°46'47"W	20.47
L12	N85°08'56"W	14.42	L57	N66°29'02"W	23.33
L13	N69°41'50"W	102.24	L58	N73°15'43"W	30.91
L14	N62°47'21"W	22.10	L59	N65°05'42"W	34.74
L15	N85°06'24"W	12.19	L60	N69°05'45"W	266.22
L16	N78°40'23"W	23.96	L61	N69°05'45"W	44.14
L17	N68°36'38"W	11.78	L62	N24°51'44"E	77.61
L18	N54°35'29"W	28.64	L63	S22°25'15"W	19.56
L19	N61°34'16"W	105.07	L64	S66°11'01"E	73.82
L20	N70°23'25"W	111.12	L65	S69°43'12"E	53.83
L21	N61°56'51"W	15.48	L66	S75°14'17"E	47.47
L22	N65°35'10"W	27.88	L67	S81°49'10"E	35.53
L23	N71°57'33"W	26.64	L68	S77°37'51"E	49.50
L24	N61°44'43"W	36.12	L69	S68°59'58"E	87.03
L25	N70°11'57"W	27.01	L70	S25°18'16"W	51.22
L26	N75°25'06"W	88.93			
L27	N89°07'46"W	82.69			
L28	N85°00'29"W	9.41			
L29	N79°39'38"W	24.20			
L30	N71°31'12"W	48.99			
L31	N76°58'36"W	34.63			
L32	N79°53'56"W	5.78			
L33	N74°55'58"W	53.64			
L34	N73°16'30"W	41.35			
L35	N68°24'34"W	52.13			
L36	N62°17'46"W	32.15			
L37	N65°17'53"W	33.52			
L38	N53°32'11"W	25.50			
L39	N55°03'48"W	52.95			
L40	N34°13'21"W	10.50			
L41	N48°48'47"W	8.45			
L42	N67°23'10"W	34.95			
L43	N62°28'18"W	21.35			
L44	N60°53'29"W	42.70			
L45	N62°43'59"W	61.76			



ORION GPS, INC
 JOB: 2009-013
 FILE: VANALCOA DEED RESTRICTIONS.DWG

*1992 order
to remove SPL
and conduct piles
mountain
Amenable (cyanide
cleanup goal
200 PPb!
4 mg/l fluoride*

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IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON
IN AND FOR THE COUNTY OF CLARK

STATE OF WASHINGTON,)
DEPARTMENT OF ECOLOGY,)
)
Plaintiff,)
)
v.)
)
ALUMINUM COMPANY OF AMERICA,)
a Pennsylvania corporation,)
)
Defendant,)

NO.
92-2-00783-9
CONSENT DECREE

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Exhibits

- Exhibit A - Site Diagram
- Exhibit B - Cleanup Action Plan
- Exhibit C - Monitoring Wells
- Exhibit D - Public Participation Plan
- Exhibit E - Restrictive Covenant
- Exhibit F - Data Submittal Requirements

INTRODUCTION

1
2 A. In entering into this Consent Decree (Decree), the
3 mutual objective of the Washington State Department of Ecology
4 (Ecology) and the Aluminum Company of America (hereafter
5 Alcoa) is to provide for remedial action at a Site where
6 hazardous substances have been released. The Site was listed
7 by the U.S. Environmental Protection Agency on the "National
8 Priorities List" at 40 CFR Part 300 Appendix B.

9 This Decree requires Alcoa to undertake the following
10 remedial action:

- 11 1. Remove approximately 47,500 cubic yards of spent
12 potlining and reclaimed alumina insulation
13 materials, most of which are stored in three piles
14 located in the southeast corner of Vancouver
15 operations at the old Alcoa complex at 5509 N.W.
16 Lower River Road, Vancouver, Washington;
- 17 2. Transport removed spent potlining and reclaimed
18 alumina insulation material to a RCRA-permitted
19 hazardous waste landfill for permanent disposal;
- 20 3. Perform soil sampling and analyses after the spent
21 potlining and reclaimed alumina insulation materials
22 are removed;
- 23 4. Cap the area of the surface of the Site where three
24 piles are located;
- 25 5. Grade the Site and surrounding area;

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- 6. Vegetate graded area and fence the site;
- 7. Perform ongoing groundwater and surface water monitoring.

B. 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.

C. In signing this Decree, Alcoa agrees to its entry and agrees to be bound by its terms.

D. By entering into this Decree, the parties do not intend to discharge nonsettling parties from any liability they may have with respect to matters alleged in the Complaint.

E. The Court is fully advised of the reasons for entry of this Decree, and good cause having been shown, it is hereby

ORDERED, ADJUDGED AND DECREED AS FOLLOWS:

I. JURISDICTION

A. This Court has jurisdiction over the subject matter and over the parties pursuant to Chapter 90.48 RCW and the Model Toxics Control Act (MTCA) which was passed by initiative

1 (Initiative 97) and which took effect on March 1, 1989. The
2 MTCA has been codified as Chapter 70.105D RCW.

3 B. Authority is conferred upon the Washington State
4 Attorney General by RCW 70.105D.040(4)(a) to agree to a
5 settlement with any potentially liable person if, after public
6 notice and hearing, Ecology finds the proposed settlement
7 would lead to a more expeditious cleanup of hazardous
8 substances in compliance with cleanup standards under RCW
9 70.105D.030(2)(d). RCW 70.105D.040(4)(b) requires that such a
10 settlement be entered as a consent decree issued by a court of
11 competent jurisdiction.

12 C. Ecology has given notice to Alcoa, as set forth in
13 RCW 70.105D.020(8), of Ecology's determination that it is a
14 potentially liable person for the Site. Alcoa has been given
15 notice of the release of hazardous substances at the Site.

16 D. Ecology has determined that past practices at the
17 Site have given rise to a release of hazardous substances,
18 causing contamination of ground waters, surface waters and
19 soils, and will continue to cause contamination unless the
20 release is abated or mitigated.

21 E. The actions to be taken pursuant to this Decree will
22 protect the public health, welfare and the environment.

23 F. The U.S. Environmental Protection Agency (hereafter
24 EPA) listed the Site on the "National Priorities List" at 40
25 CFR Part 300 Appendix B. EPA and Ecology, through a written

1 Memorandum of Agreement, have agreed that Ecology shall be the
2 lead agency to work with Alcoa in conducting and evaluating
3 Alcoa's Remedial Investigation/Feasibility Study (or RI/FS),
4 selecting a remedial alternative, preparing a Cleanup Action
5 Plan (or CAP), implementing the selected remedial action and
6 conducting post-action compliance monitoring. In carrying out
7 this work, Ecology has informed EPA, and obtained EPA's
8 comments on a draft version of this Decree. This Decree will
9 expedite remedial action which in Ecology's view is not
10 inconsistent with the National Contingency Plan and is
11 consistent with applicable laws.

12 G. By entering into this Decree, Alcoa agrees and shall
13 not challenge the jurisdiction of Ecology in any proceeding to
14 enforce this Decree.

15 II. PARTIES BOUND

16 This entire Decree shall apply to and be binding upon
17 Alcoa and Ecology, their successors and assigns. The
18 undersigned representative of each party hereby certifies that
19 he or she is fully authorized to enter into this Decree and to
20 execute and legally bind such party to comply with the Decree.
21 Alcoa agrees to undertake all actions required of it by the
22 terms and conditions of this Decree and agrees not to contest
23 state jurisdiction regarding this Decree. No change in
24 ownership or corporate status shall alter the responsibility
25 of Alcoa under this Decree. Alcoa shall provide a copy of

1 this Decree to all contractors and subcontractors retained to
2 perform work required by this Decree and shall institute its
3 best efforts to assure that all work undertaken by such
4 contractors and subcontractors will be in compliance with this
5 Decree.

6 III. DEFINITIONS

7 A. Site: Refers to the three piles of spent potlining
8 and reclaimed alumina insulation materials in the southeast
9 corner of the old Alcoa complex at 5509 N.W. Lower River Road,
10 Vancouver, Washington. Also refers to subsurface areas
11 impacted by cyanide and fluoride, as documented through ground
12 water, subsurface sediment, and soil sampling performed by
13 Alcoa, within the shallow zone, intermediate zone, deep zone
14 and aquifer zone. The Site is more particularly described in
15 Exhibit A to this Decree which is a two-page, detailed Site
16 diagram. Alcoa shall supplement Exhibit A with a legal
17 description of the Site to be prepared during remedial action.

18 The Site shall not include the wastewater treatment
19 facility located at the old Alcoa complex, nor shall the Site
20 include any subsurface conveyances or utilities connected to
21 or relating to the use of the wastewater treatment facility.
22 Ownership, operation and maintenance of the wastewater
23 treatment facility and the related subsurface conveyances and
24 utilities shall not be affected by the terms of this Consent
25

1 Decree or any of the exhibits and attachments to this Consent
2 Decree.

3 B. Remedial Action: See definition of same at RCW
4 70.105D.020(11).

5 C. Model Toxics Control Act: Refers to Chapter 70.105D
6 RCW which took effect on March 1, 1989.

7 D. Days: Refers to calendar days unless specified
8 otherwise.

9 E. Parties: Refers to the State of Washington through
10 its Department of Ecology and Alcoa.

11 F. Consent Decree: Refers to this Consent Decree and
12 each of the exhibits to the Decree. All exhibits are integral
13 and enforceable parts of this Consent Decree.

14 IV. LIABILITY AND RESERVATION OF RIGHTS

15 Subject to Section XXVI of this Consent Decree, nothing
16 in this Consent Decree shall constitute a release or waiver of
17 any claim, cause of action or demand in law or equity which
18 Alcoa may have against any person or entity for any liability
19 arising out of or relating in any way to any hazardous
20 substance found at, taken to or taken from the Site. Alcoa
21 expressly reserves any and all rights of contribution and
22 indemnity it has or may accrue against any person or entity.

23 Alcoa does not admit liability under any and all
24 applicable law for any costs or damages caused by or arising
25 out of conditions at or arising from the Site. However, Alcoa

1 agrees to comply with this Consent Decree. Further, by
2 agreeing to comply with this Decree, Alcoa does not admit any
3 allegations contained herein, nor does it admit liability for
4 any purpose or admit any issues of law or fact or any
5 responsibility for the alleged release or threat of release of
6 any hazardous substance into the environment.

7 V. STATEMENT OF FACTS

8 Ecology makes the following finding of facts without any
9 express or implied admissions by Alcoa.

10 A. The spent potliner and reclaimed alumina insulation
11 material is stored in three waste piles at Vancouver
12 operations in the southeast corner in the old Alcoa complex.
13 In addition, some spent potliner and reclaimed alumina
14 insulation materials have been spilled on the south side of
15 the largest waste pile, and along the south side of the
16 railroad track. The Vancouver operations are located on the
17 Columbia River in unincorporated Clark County, northwest of
18 the city of Vancouver, Washington.

19 B. The Site is situated on flood plains and terraces
20 laid down by the nearby Columbia River during recent and
21 Pleistocene times. The hydrogeology of the area has been
22 characterized by numerous borings in the vicinity of the three
23 waste piles. The groundwater system in the area can be
24 divided into four general hydrologic units: the shallow zone,
25 the intermediate zone, the deep zone, and the aquifer zone.

1 The predominant groundwater flow direction beneath the waste
2 piles is toward the Columbia River. The shallow zone consists
3 of 10 feet of dredged sand placed on the Site during the late
4 1940s and early 1950s. A perched water table is located in
5 the shallow zone during the wetter months of the year. The
6 movement of ground water in the saturated portions of the
7 shallow zone is to the northwest. The materials directly
8 below the dredged sand are the intermediate zone silty clays
9 and clayey silts that were deposited in relatively low energy
10 flood plain environments. This zone is of relatively low
11 permeability materials and is saturated. The movement of
12 ground water in the intermediate zone is predominantly
13 downward due to high vertical hydraulic gradient. The
14 intermediate zone silts and clays, which are approximately 30
15 to 40 feet thick, are underlain by a deposit of medium to fine
16 sand that is 40 to 50 feet thick. This sand deposit is the
17 deep zone. The groundwater flow in the deep zone is
18 predominantly toward the Columbia River. The zone is
19 recharged from the overlying intermediate zone. Beneath the
20 deep zone sand deposit is the aquifer zone, which is tapped by
21 Alcoa production wells. The aquifer zone is known in the
22 region as the Troutdale Formation and is composed of coarse
23 sands and gravel. The relative response of the aquifer and
24 the deep zones to well pumping indicates that the zones are
25 hydraulically separated. Three domestic wells are present

1 within one mile of the Site but only one of these wells is in
2 use currently. The wells are located either upgradient or
3 crossgradient from the three waste piles, and the potential
4 for these piles to contaminate the aquifer is extremely low.
5 The nearest municipal supply wells are located approximately
6 three miles to the northeast and upgradient of the waste
7 piles.

8 C. The Aluminum Company of America is a Pennsylvania
9 corporation which started aluminum smelting operations in
10 Vancouver during the late 1940s. Byproducts of the smelting
11 process included spent potlining materials and reclaimed
12 alumina insulation materials. These materials were stored
13 on-site during the early years of operations. During the
14 early 1950s through 1973, waste materials were shipped
15 off-site for disposal. Between 1973 and 1981, these waste
16 materials were stored on-site in three waste piles. Some
17 waste materials also were spilled near the waste piles.

18 D. The largest waste pile contains primarily spent
19 potlining. The second largest waste pile contains primarily
20 reclaimed alumina insulation. The smallest pile contains a
21 mixture of the two materials. No detailed chemical analysis
22 of the spent potlining or reclaimed alumina insulation has
23 been completed, but the approximate composition of the waste
24 piles can be estimated based on knowledge of the composition
25 of fresh potlining and reclaimed alumina insulation. Fresh

1 potlining consists primarily of carbon, fluoride, oxides and
2 nitrides, aluminum, and sodium, with minor amounts of calcium,
3 silica, iron, and cyanide. Reclaimed alumina insulation
4 consists primarily of aluminum oxide. Bioassay and EP TOX
5 tests have been conducted on the waste.

6 E. The two large piles were covered with a synthetic
7 membrane and clean sand in 1978. The smaller pile was covered
8 in 1981.

9 F. Since 1982, Alcoa has been conducting an ongoing
10 groundwater monitoring program to assess the impact of the
11 piles on ground water at Vancouver. This study, and a
12 remedial investigation/feasibility study prepared by Alcoa
13 indicates groundwater and soil contamination exist at the Site
14 and have been caused by the leaching of chemicals from the
15 waste piles.

16 G. The spent potlining is a listed hazardous waste
17 (K088) under RCRA and bioassay results indicate that all three
18 piles contain Dangerous Waste under Ecology regulations.

19 H. A remedial investigation/feasibility study prepared
20 by Alcoa was submitted to Ecology on July 31, 1987. In the
21 feasibility study, Alcoa reviewed seven alternatives for
22 remedying any threat to human health and the environment
23 caused by Alcoa's spent potlining and alumina insulation waste
24 materials at the Site. The alternatives reviewed included:

- 25 1. Continued groundwater monitoring;

- 1 2. Earth cover with Site grading;
- 2 3. Earth cover with Site grading and paving;
- 3 4. Earth cover with Site grading and pumping and
- 4 treating ground water;
- 5 5. Waste disposal in landfill and grade Site;
- 6 6. Waste disposal in landfill with Site grading and
- 7 paving;
- 8 7. Waste disposal in landfill with Site grading, and
- 9 pumping and treating ground water.

10 See Hart Crowser, "Feasibility Study, Potlining Waste Piles,
11 Aluminum Company of America, Vancouver Operation, Vancouver,
12 Washington", July 27, 1987, pp. 35-42. Alcoa estimated the
13 cost for this range of alternatives to be from approximately
14 \$300,000 to \$14,700,000. In September 1990, Ecology informed
15 Alcoa that another alternative was available. This
16 alternative was to remove the three waste piles to an approved
17 storage building, and to begin treating or recycling the
18 material when an approved method was developed.

19 I. On February 7, 1992, Ecology published a draft
20 Cleanup Action Plan (CAP) for the Alcoa Vancouver Site. In
21 this document, Ecology selected the cleanup remedy to be
22 implemented at the Site. The CAP is attached as Exhibit B to
23 this Consent Decree. The selected remedy consists of:

- 24 1. Removal of approximately 47,500 cubic yards of spent
25 potlining and reclaimed alumina insulation

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materials, most of which are stored in three waste piles at Vancouver and removal of spent potlining and reclaimed alumina insulation materials spilled on the south side of the largest waste pile and along the south side of the railroad track;

2. Transport of these materials to a RCRA-permitted hazardous waste disposal site for permanent disposal;
3. Determine levels of fluoride and total cyanide in soils beneath the waste piles;
4. Cap only the area of the surface of the Site where the three waste piles were located with either a 40 mil PVC liner or a 50 mil HDPE liner and cover liner with two feet of clean fill including 4 to 6 inches of top soil. (No other area of the Site need be capped to comply with this Consent Decree.);
5. Grade the Site and surrounding area insuring that 4 to 6 inches of top soil remain on-Site;
6. Vegetate graded area and fence the area of the surface of the Site where the three waste piles were located; and
7. Continued monitoring of ground water and surface water quality.

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VI. WORK TO BE PERFORMED

The program of work to be performed by Alcoa at the Site is provided below. This program implements Ecology's CAP and, with the remainder of this Consent Decree and appendices, implements the Model Toxics Control Act.

A. Cleanup Action Plan. Ecology's CAP constitutes an integral part of this Decree and is attached as Exhibit B.

B. Scope of Work. The scope of work for the Site consists of the following. Alcoa, through its contractor and subcontractors as necessary, shall accomplish the following work:

1. Obtain any and all state, federal or local permits required by applicable law before work on-Site can begin;
2. Prepare Site health and safety plan in accord with most recent OSHA, WISHA, Department of Ecology and EPA guidance as well as applicable regulations. Specific elements to be included in the Site safety plan are decontamination areas for personnel and equipment, measures to limit generation of dust and airborne transport of contaminated soil or waste, and measures to ensure that trucks transporting removed waste from the Site are lined and covered before leaving the contaminated area. Alcoa's health and safety plan shall be submitted to Ecology

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for review and comment within 30 days of the effective date of this Decree.

3. Prepare a compliance monitoring plan that meets the requirements of WAC 173-340-410 and 173-340-720 through -750. The compliance monitoring plan shall contain a sampling and analysis plan that meets the requirements of WAC 173-340-820, and shall provide that all analyses of soil and water performed pursuant to this Decree be conducted by a laboratory accredited under chapter 173-50 WAC. The compliance monitoring plan shall be submitted to Ecology for approval within 60 days of the effective date of this Decree. Upon approval, the compliance monitoring plan shall become an integral and enforceable part of this Decree;

4. Provide security at the Site to discourage entry by unauthorized persons. Site security shall include installation of barrier tape and signing.

5. Remove three waste piles and spillage containing spent potlining and alumina insulation materials and synthetic membrane covers over those piles. The amount of waste to be removed is about 47,500 cubic yards. The removed waste shall be transported to a RCRA-permitted hazardous waste landfill and placed there for final disposal. Sand placed as cover over

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the waste pile's PVC liners shall be stockpiled on-Site for use as final cover. Sand placed under the PVC liners shall be stockpiled separately on-Site for use under the synthetic liner or clay cap.

6. After the waste piles have been removed, soil located under the piles will be characterized as follows. The area beneath each pile will be divided into equal quarters. One random sample location will be chosen in each quarter. A systematic grid of nine equal areas in each quarter will be used to select the sample point. At each sample location, the soil will be sampled down to a depth of ten feet or one foot into the intermediate zone, whichever is deeper. Two composite samples, one from the zero to five-foot depth and one from the five-foot to ten-foot or lowest point drilled will be collected from each sample location. A total of 24 composite samples will be collected at the Site. Samples shall be analyzed for fluoride using EPA 340.1, 340.2 or 340.3 with a preliminary distillation step (Standard Methods of the Examination of Water and Wastewater, 17th edition, 4500-F B) distilling up to 10 grams of soil in place of liquid sample (4.b). Two duplicate analyses must be conducted and reported. Samples shall be analyzed for total

1 cyanide using EPA Method 335.2 or 335.3 with a
2 preliminary distillation step (Standard Methods for
3 the Examination of Water and Wastewater, 17th
4 edition, 4500-CN C) modified to use a 250 mL flask.
5 Distill 2 gm of soil in 50 Ml distilled water with
6 2 mL 1+1 H₂SO₄ and 2 mL of MgCl₂, reagent. Two
7 duplicate analyses must be conducted and reported.

8 7. Alcoa shall cap the entire area where the waste
9 piles were located. Alcoa may cap this area with
10 either a synthetic liner (50 mil HDPE or 40 mil PVC)
11 covered with two feet of clean sand and topsoil
12 including vegetation, or with two feet of
13 recompact clay or other material with a
14 permeability of no more than 1×10^{-6} cm/sec. that is
15 covered by six inches of topsoil and is revegetated.
16 The area shall then be graded for proper surface
17 water drainage. Install fencing that completely
18 surrounds the liner, and post signs warning persons
19 not to enter the fenced area.

20 8. Waste removal shall be accomplished in compliance
21 with all state, federal and local requirements,
22 including the provision of manifests for waste
23 shipment, permits and reports and other
24 record-keeping as appropriate.

- 1 9. Prepare project completion report documenting all
2 phases of the waste removal program, soil
3 replacement and revegetation, cap installation, and
4 grading and sampling elements of this scope of work.
5 This report shall be certified by a professional
6 engineer and submitted to Ecology with appendices
7 made up of original documentation for the work.
- 8 10. After the three waste piles and the spillage has
9 been removed and/or the cap has been installed Alcoa
10 shall perform groundwater monitoring for five years.
11 At the end of the five-year period, Ecology and
12 Alcoa shall exchange proposals to amend this Consent
13 Decree (pursuant to Section XV. AMENDMENT OF
14 CONSENT DECREE) with regard to whether continued
15 groundwater monitoring is necessary to protect
16 public health or the environment and, if so, what
17 would constitute an appropriate monitoring regime.
18 Ecology and Alcoa shall exchange proposals to amend,
19 in the manner just described, at five-year intervals
20 thereafter until the levels of free cyanide
21 (Standard Method 4500-CN G, or Standard Method 4500-
22 CN I, if promulgated by EPA as the method for
23 determining the drinking water MCL) and total
24 fluoride (EPA 340.2) in the intermediate, deep and
25 aquifer zones drop to or below 0.2 parts per million

1 and 4 parts per million, respectively. Groundwater
2 monitoring of the following wells shall be performed
3 quarterly during years one through five:

4 Shallow zone: MW6S, MW8S, MW30S, MW38S.
5 Intermediate zone: MW8I, MW11I, MW19I, MW16I,
6 MW20I, MW28I, MW36I, MW38I.
7 Deep zone: MW8D, MW10D, MW19D, MW20D,
8 MW21D.
9 Aquifer zone: MW8A, MW18A, MW21A, MW22A,
10 MW23A.

11 MW20D shall be monitored in accordance with this
12 schedule after it is repaired or replaced. Alcoa
13 shall construct a new deep zone monitoring well,
14 MW41D, between MW11 and MW20, and after constructing
15 it shall monitor MW41D in accordance with this
16 schedule. In the first year of monitoring and in
17 the fifth year of monitoring all monitoring wells
18 shown on Exhibit C at the Vancouver Operations of
19 the old Alcoa complex shall be sampled. Water wells
20 14, 15, 18, 19, and 22 will not be sampled unless
21 they are in production. Parameters to be analyzed
22 include Ph, conductivity, temperature, fluoride
23 (through EPA method 340.2), and total cyanide
24 (through EPA method 9012), and free cyanide by
25 Standard Method 4500-CN G, or Standard Method 4500-

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CN I, if promulgated by EPA as the method for determining the drinking water MCL.

Monitoring well sampling shall conform to QA/QC standards established in the compliance monitoring plan. Monitoring wells shall be flushed at least one pore volume for low-yield formations and at least three pore volumes for high-yield formations prior to sampling. The monitoring well shall be allowed to recover for up to 24 hours prior to sampling. If the well contains less than one-half a pore volume after the 24-hour recovery period then it need not be sampled.

11. Perform surface water sampling of the Columbia River. Samples shall be collected from two locations: the first, no more than fifteen feet from the shoreline at a point approximately one thousand feet southeast of Alcoa's property boundary; and the second, no more than fifteen feet from the shoreline at a point due south of MW19. At each location Alcoa shall collect a grab sample as close as possible to the river bed. Samples shall be collected during the first hour of flood tide and, if possible, during low river stages. Samples shall be analyzed for fluoride using EPA method 340.2 and weak acid dissociable cyanide using

1 Standard Method 4500-CN I. Alcoa shall collect and
2 analyze such samples once each quarter for two years
3 and then annually if cyanide and fluoride are below
4 0.01 mg/L and 4 mg/L for a total period of five
5 years. At the end of the five-year period, Ecology
6 shall reevaluate the surface water monitoring
7 program. If required by Ecology, Alcoa shall
8 perform additional surface water monitoring.

9 12. Perform maintenance on final cap quarterly during
10 regularly scheduled groundwater monitoring
11 activities. The frequency of final cap inspections
12 shall be modified, as required by Ecology, to
13 reflect changes in post-remediation Site conditions
14 and uses. Alcoa shall notify Ecology prior to
15 changing cap inspection schedules. Maintenance
16 requirements for the final cap shall include grading
17 to maintain proper Site drainage, repair of any
18 erosion or areas of distressed vegetation, and
19 repair of Site perimeter fencing and warning signs.

20 C. Schedule. The schedule for performance of the work
21 identified above is as follows:

- 22 1. Permits: Apply within 30 days of effective date of
23 Decree.
24 2. Health and safety plan: Submit within 30 days of
25 effective date of Decree.

- 1 3. Waste removal/soil sampling: Complete within 180
- 2 days of effective date of Decree.
- 3 4. Cap installation: Complete within 270 days of
- 4 effective date of Decree.
- 5 5. Project completion report: Submit within 366 days
- 6 of effective date of Decree.
- 7 6. Groundwater monitoring: Quarterly for years one
- 8 through five starting with the installation of the
- 9 cap, and thereafter as determined pursuant to this
- 10 Decree.
- 11 7. Surface water monitoring: Quarterly for the first
- 12 two years and then annually if weak acid dissociable
- 13 cyanide and total fluoride are below 0.01 mg/L and
- 14 4.0 mg/L, and thereafter as deemed necessary by
- 15 Ecology.

16 VII. DESIGNATED PROJECT COORDINATORS

17 On or before the entry of this Decree, Ecology and Alcoa
18 shall each designate a project coordinator. Each project
19 coordinator shall be responsible for overseeing the
20 implementation of this Decree. The Ecology project
21 coordinator will be Ecology's designated representative at the
22 Site. To the maximum extent possible, communications between
23 Ecology and Alcoa, and all documents, including reports,
24 approvals and other correspondence concerning the activities
25 performed pursuant to the terms and conditions of this Decree,

1 shall be directed through the project coordinators. The
2 project coordinators may designate, in writing, working level
3 staff contacts for all or portions of the implementation of
4 the remedial work required by this Decree.

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

8 The initial project coordinator for Ecology is:

9 Mr. Paul Skyllingstad
10 Industrial Section
11 Department of Ecology
12 P.O. Box 47706
13 Olympia, Washington 98504-7706

14 Ph: (206) 586-0583
15 Fax: (206) 586-1469

16 The initial project coordinator for Alcoa is:

17 Mr. S.H. Myers
18 Aluminum Company of America
19 P.O. Box 970
20 Vancouver, Washington 98666

21 Ph: (206) 699-5842
22 Fax: (206) 696-4798

23 VIII. PERFORMANCE

24 All work performed pursuant to this Decree shall be under
25 the direction and supervision, as necessary, of a professional
26 engineer registered in the State of Washington or
hydrogeologist, or equivalent. Alcoa shall notify Ecology in
writing as to the identity of such engineer(s) or
hydrogeologist(s) or others and of any contractors and

1 subcontractors to be used in carrying out the terms of this
2 Decree in advance of their involvement at the Site.

3 IX. ACCESS

4 Alcoa agrees that Ecology or any Ecology authorized
5 representatives shall have the authority to enter and freely
6 move about all property at the Site at all reasonable times
7 for the purposes of, inter alia: inspecting records,
8 operation logs and contracts related to the work being
9 performed pursuant to this Decree; reviewing the progress in
10 carrying out the terms of this Decree; conducting such tests
11 or collecting samples as Ecology may deem necessary; using a
12 camera, sound recording, or other recording equipment to
13 record work done pursuant to this Decree; and verifying the
14 data submitted to Ecology by Alcoa. Upon request, Ecology
15 shall split any samples taken during an inspection unless
16 Alcoa fails to make available a representative for the purpose
17 of splitting samples. All parties with access to the Site
18 pursuant to this paragraph shall comply with approved health
19 and safety plans. Except in emergency situations, Ecology
20 personnel and authorized representatives shall give Alcoa
21 reasonable notice prior to entering the Site.

22 X. SAMPLING, DATA REPORTING AND AVAILABILITY

23 With respect to the implementation of this Decree, Alcoa
24 shall make the results of all sampling, laboratory reports
25 and/or test results generated by it or on its behalf available

1 to Ecology. Alcoa shall submit these results in quarterly
2 progress reports submitted in accordance with Section XI of
3 this Decree.

4 If requested by Ecology, Alcoa shall allow split or
5 duplicate samples to be taken by Ecology and/or its authorized
6 representatives of any samples collected by it pursuant to the
7 implementation of this Decree. Alcoa shall notify Ecology
8 five (5) working days in advance of any sample collection or
9 work activity at the Site.

10 Ecology shall, upon request, allow split or duplicate
11 samples to be taken by Alcoa or their authorized
12 representatives of any samples collected by Ecology pursuant
13 to the implementation of this Decree. Without limitation on
14 Ecology's authority to enter the Site without notice, as set
15 forth in Section IX of this Consent Decree, Ecology shall
16 endeavor to give five (5) days' notice prior to taking samples
17 at the Site.

18 The requirements of this Section do not include reports,
19 test results and data which must be submitted to Ecology under
20 Alcoa's NPDES permit.

21 XI. PROGRESS REPORTS

22 Alcoa shall submit to Ecology written progress reports
23 every three months, beginning on the date three months after
24 the effective date of this Decree. The reports shall describe
25 the actions taken during the previous three months to

1 implement the requirements of this Decree. The progress
2 reports shall include the following:

3 A. A list of on-Site activities that have taken place
4 during the prior three months;

5 B. Detailed description of any deviations from required
6 tasks not otherwise documented in project plans or amendment
7 requests;

8 C. Description of all deviations from the schedule
9 (Section VI.C.) during the previous three months and any
10 planned deviations in the upcoming three months;

11 D. For any deviations in schedule, a plan for
12 recovering lost time and maintaining compliance with the
13 schedule;

14 E. All raw data (including laboratory analysis)
15 received by Alcoa during the past three months and an
16 identification of the source of the sample; and

17 F. A list of deliverables for the upcoming three months
18 if different from the schedule.

19 All progress reports shall be submitted by the tenth day
20 of the month in which they are due after the effective date of
21 this Decree. Unless otherwise specified, progress reports and
22 any other documents submitted pursuant to this Decree shall be
23 sent to Ecology's project coordinator. Progress reports shall
24 be submitted every three months until all construction
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1 activity required by this Decree is completed. Thereafter,
2 Alcoa shall agree to a modified progress report interval.

3 XII. RETENTION OF RECORDS

4 Alcoa shall preserve, during the pendency of this Decree
5 and for ten (10) years from the date of completion of
6 compliance monitoring, all records, reports, documents and
7 underlying data in its possession relevant to the
8 implementation of this Decree, and shall insert in contracts
9 with project contractors a similar record retention
10 requirement. Upon request of Ecology, Alcoa shall make all
11 non-archived records available to Ecology and allow access for
12 review. All archived records shall be made available to
13 Ecology within a reasonable period of time.

14 XIII. TRANSFER OF INTEREST IN PROPERTY

15 Alcoa shall not convey or relinquish title, any easement,
16 any leasehold or any other interest in any portion of the Site
17 unless, prior to said transfer, it has provided for continued
18 performance of all of Alcoa's obligations under this Decree.
19 This requirement shall not apply to the conveyance or
20 relinquishment of any interest in any portion of the Site
21 which is "involuntary". "Involuntary", for the purposes of
22 this section, includes, but is not limited to, taking of
23 property by condemnation or inverse condemnation, appointment
24 of a receiver or an involuntary petition under the bankruptcy
25 code.

1 While this Decree remains in effect (see XXV. DURATION
2 OF DECREE), Alcoa shall serve a copy of this Decree on any
3 prospective purchaser, lessee, transferee, assignee or other
4 successor in interest to the Site or portion of the Site.
5 Alcoa shall serve a copy of this Decree as provided herein at
6 least ten (10) days prior to any transfer and it shall notify
7 Ecology of any contemplated transfer at least ten (10) days
8 prior to any transfer.

9 XIV. RESOLUTION OF DISPUTES

10 A. In the event Alcoa disputes an approval,
11 disapproval, proposed modification or other decision or action
12 by Ecology's project coordinator, Alcoa shall utilize the
13 dispute resolution procedure set forth below.

- 14 1. Upon receipt of the Ecology project coordinator's
15 decision, Alcoa has fourteen (14) days within which
16 to notify Ecology's project coordinator of its
17 objection to the decision.
- 18 2. The parties' project coordinators shall then confer
19 in an effort to resolve the dispute. If the project
20 coordinators cannot resolve the dispute within
21 fourteen (14) days, Ecology's project coordinator
22 shall issue a written decision.
- 23 3. Alcoa may then request Ecology management review of
24 the decision. This request shall be submitted in
25 writing to Ecology's Toxics Cleanup Program Manager

1 or her or his designee within seven (7) days of
2 receipt of Ecology's project coordinator's decision.

3 4. Ecology's Toxics Cleanup Program Manager or her or
4 his designee shall conduct a review of the dispute
5 and shall issue a written decision regarding the
6 dispute within thirty (30) days of Alcoa's request
7 for review.

8 B. If Ecology's final written decision is unacceptable
9 to Alcoa, Alcoa has the right to submit the dispute to the
10 Court for resolution. Alcoa and Ecology agree that one judge
11 should retain jurisdiction over this case and shall, as
12 necessary, resolve any dispute arising under this Decree. In
13 the event Alcoa presents an issue to the Court for review, the
14 Court shall review the action or decision of Ecology on the
15 basis of whether such action or decision was arbitrary and
16 capricious or contrary to law and render a decision based on
17 such standard of review.

18 C. Ecology and Alcoa agree to only utilize the dispute
19 resolution process in good faith and agree to expedite, to the
20 extent possible, the dispute resolution process whenever it is
21 used. Where any party utilizes the dispute resolution process
22 in bad faith or for purposes of delay, the other party may
23 seek sanctions.

1 Implementation of these dispute resolution procedures may
2 provide a basis for delay of any activities required in this
3 Decree.

4 XV. AMENDMENT OF CONSENT DECREE

5 This Decree may be amended by a written stipulation among
6 the parties to this Decree that is entered by the Court. Such
7 amendment shall become effective upon entry by the Court.
8 Agreement to amend shall not be unreasonably withheld by any
9 party to the Decree.

10 Alcoa shall submit any request for an amendment to
11 Ecology for approval. Ecology shall indicate its approval or
12 disapproval in a timely manner after the request for amendment
13 is received. If Ecology disapproves, reasons for disapproval
14 shall be stated in writing. If Ecology disapproves, then the
15 parties' project managers shall confer in an effort to resolve
16 the dispute. If the project managers cannot resolve the
17 dispute within 14 working days of Alcoa's receipt of Ecology's
18 disapproval, then Alcoa may petition the Court for relief.

19 Ecology shall submit any request for an amendment to
20 Alcoa for approval. Alcoa shall indicate its approval or
21 disapproval in a timely manner after the request for amendment
22 is received. If Alcoa disapproves, reasons for disapproval
23 shall be stated in writing. If Alcoa disapproves, then the
24 parties' project managers shall confer in an effort to resolve
25 the dispute. If the project managers cannot resolve the

1 dispute within 14 working days of Ecology's receipt of Alcoa's
2 disapproval, then Ecology may petition the Court for relief.

3 No guidance, suggestions or comments by Ecology will be
4 construed as relieving Alcoa of its obligation to obtain
5 formal approval as may be required by this Decree. No verbal
6 communication by Ecology shall relieve Alcoa of the obligation
7 specified herein.

8 XVI. EXTENSION OF SCHEDULE

9 A. An extension of schedule shall be granted only when
10 a request for an extension is submitted in a timely fashion
11 and good cause exists for granting the extension. All
12 extensions shall be requested in writing. The request shall
13 specify the reason(s) the extension is needed.

14 An extension shall only be granted for such period of
15 time as Ecology determines is reasonable under the
16 circumstances. A requested extension shall not be effective
17 until approved by Ecology. Ecology shall act upon any written
18 request for extension in a timely fashion not to exceed ten
19 (10) working days after receipt of Alcoa's written request for
20 an extension. It shall not be necessary to formally amend
21 this Decree pursuant to Section XV when a schedule extension
22 is granted.

23 B. The burden shall be on Alcoa to demonstrate to the
24 satisfaction of Ecology that the request for such extension
25 has been submitted in a timely fashion and that good cause

1 exists for granting the extension. Good cause includes, but
2 is not limited to, the following:

- 3 1. Circumstances beyond the reasonable control and
4 despite the due diligence of Alcoa, including but
5 not limited to delays caused by unrelated third
6 parties or Ecology, such as delays by Ecology in
7 reviewing, approving or modifying documents
8 submitted by Alcoa or the unavailability of the
9 Chemical Waste Management of the Northwest Site in
10 Arlington, Oregon; or
- 11 2. Delays directly attributable to any agency permit
12 application review period or public comment period
13 or other cause related to any permit(s) or to any
14 changes in or need to comply with permit terms or
15 conditions or to appeals on or lack of a permit,
16 concurrence, or approval needed to implement this
17 Decree, if Alcoa filed a timely application for such
18 permit, concurrence, or approval.
- 19 3. Acts of God, including fire, flood, blizzard,
20 extreme temperatures, storm, wave or water
21 conditions, or other unavoidable casualty; or
- 22 4. Endangerment as described in Section XVII.

23 However, neither increased costs of performance of the
24 terms of the Decree nor changed economic circumstances shall
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1 be considered circumstances beyond the reasonable control of
2 Alcoa.

3 C. Ecology may extend the schedule for a period not to
4 exceed ninety (90) days, except where an extension is needed
5 as a result of:

- 6 1. Delays in the issuance of a necessary permit which
7 was timely applied for; or
- 8 2. Other circumstances deemed exceptional or
9 extraordinary by Ecology; or
- 10 3. Endangerment as described in Section XVII.

11 In any of the three situations described above, Ecology
12 may extend the schedule for a period Ecology determines is
13 reasonable under the circumstances. Extensions of more than
14 90 days may not be granted unless the public is given an
15 opportunity to comment on the proposed extension. Ecology
16 shall give Alcoa written notice in a timely fashion of any
17 extensions granted pursuant to the Decree.

18 XVII. ENDANGERMENT

19 In the event Ecology determines that activities
20 implementing or in compliance with this Decree, or any other
21 circumstances or activities, are creating or have the
22 potential to create a danger to the health or welfare of the
23 people on the Site or in the surrounding area or to the
24 environment, Ecology may order Alcoa to stop further
25 implementation of this Decree for such period of time as

1 needed to abate the danger or may petition the Court for an
2 order as appropriate. During any stoppage of work under this
3 section, the obligations of Alcoa with respect to the work
4 under this Decree which is ordered to be stopped shall be
5 suspended and the time periods for performance of that work,
6 as well as the time period for any other work dependent upon
7 the work which is stopped, shall be extended, pursuant to
8 Section XVI of this Decree, for such period of time as Ecology
9 determines is reasonable under the circumstances.

10 In the event Alcoa determines that activities undertaken
11 in furtherance of this Decree or any other circumstances or
12 activities are creating an endangerment to the people on the
13 Site or in the surrounding area or to the environment, Alcoa
14 may stop implementation of this Decree for such periods of
15 time necessary for Ecology to evaluate the situation and
16 determine whether Alcoa should proceed with implementation of
17 the Decree or whether the work stoppage should be continued
18 until the danger is abated. Alcoa shall notify Ecology's
19 project coordinator as soon as is possible, but no later than
20 twenty-four (24) hours after such stoppage of work, and
21 thereafter provide Ecology with documentation of the basis for
22 the work stoppage. If Ecology disagrees with Alcoa's
23 determination, it may order Alcoa to resume implementation of
24 this Decree. If Ecology concurs in the work stoppage, Alcoa's
25 obligations shall be suspended and the time period for

1 performance of that work, as well as the time period for any
2 other work dependent upon the work which was stopped, shall be
3 extended, pursuant to Section XVI of this Decree, for such
4 period of time as Ecology determines is reasonable under the
5 circumstances. Any disagreements pursuant to this clause
6 shall be resolved through the dispute resolution procedures in
7 Section XIV.

8 XVIII. INDEMNIFICATION

9 A. Alcoa agrees to indemnify and save and hold the
10 State of Washington, its employees and agents harmless from
11 any and all claims or causes of action for death or injuries
12 to persons or for loss or damage to property arising solely
13 from or on account of the negligent acts or omissions of
14 Alcoa, its officers, employees, agents or contractors in
15 entering into and implementing this Decree. However, Alcoa
16 shall not indemnify the State of Washington nor save nor hold
17 its employees and agents harmless from any claims or causes of
18 action arising solely out of the negligent acts or omissions
19 of the State of Washington, or the employees or agents of the
20 State, in implementing the activities pursuant to this Decree.

21 B. As Washington has a comparative fault statute
22 (Ch. 4.22 RCW) which provides a right of contribution between
23 tortfeasors (RCW 4.22.040), Alcoa and Ecology agree to the
24 following provision concerning Alcoa's obligation to indemnify
25 the State of Washington with regard to a loss which is not

1 caused solely by the negligence of Alcoa, its officers,
2 employees, agents or contractors, or by the sole negligence of
3 the State or any agent or employee of the State. In the event
4 that a claim or cause of action for death or injuries to
5 persons or for loss or damage to property is asserted against
6 the State of Washington, or any of its employees or agents,
7 and the basis of the claim or cause of action includes an
8 allegation that the negligence of Alcoa, its officers,
9 employees, agents, or contractors and the negligence of any
10 other party caused the death or injury to persons or loss or
11 damage to property, then Alcoa shall not be obliged to
12 indemnify and save and hold the State of Washington harmless,
13 but in the event that costs or fees are incurred by the State
14 of Washington in defending against the claim or cause of
15 action, or in the event that a judgment is entered against the
16 State of Washington and satisfied by the State of Washington,
17 Alcoa agrees to reimburse the State for the share of the
18 State's costs, fees and the judgment as satisfied by the State
19 in an amount representing that percentage of the loss adjudged
20 to have been caused by the negligence of Alcoa, its officers,
21 employees, agents or contractors.

22 XIX. COMPLIANCE WITH APPLICABLE LAWS

23 All actions carried out by Alcoa pursuant to this Decree
24 shall be done in accordance with all applicable federal, state
25 and local requirements.

1 All facilities used by Alcoa for the off-Site treatment,
2 storage or disposal of hazardous waste removed from the Site
3 must be in compliance with the applicable requirements of the
4 Resource Conservation and Recovery Act, as amended, 42 U.S.C.
5 §9601, et seq. and Chapter 70.105 RCW. Alcoa proposes to use
6 Chemical Waste Management of the Northwest's RCRA-permitted
7 landfill at Arlington, Oregon for disposal of hazardous waste.

8 XX. LIABILITY INSURANCE

9 Within thirty (30) days of the entry of this Decree and
10 for the duration of the remedial action required by this
11 Decree, Alcoa shall provide Ecology with Alcoa's contractor's
12 current certificates of insurance certifying coverage for
13 general liability which may arise in carrying out this Decree
14 with minimum limits of One Million Dollars (\$1,000,000.00) per
15 occurrence and an annual aggregate of at least Five Million
16 Dollars (\$5,000,000.00), exclusive of legal defense costs, for
17 bodily injury and property damage liability combined. Alcoa
18 shall provide thirty (30) days written notice prior to
19 canceling such insurance.

20 These insurance limits are not to be construed as maximum
21 limits. Alcoa is solely responsible for determining the
22 appropriate amount of insurance it should carry for injuries
23 or damages that may result from the implementation of this
24 Decree.

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XXI. IMPLEMENTATION OF REMEDIAL ACTION

If Ecology determines that Alcoa has failed, without good cause, to implement the remedial action, Ecology may, after notice to Alcoa and, except in emergency situations, an opportunity to adequately implement the remedial action required by this Decree, perform any or all portions of the remedial action that remain incomplete. If Ecology performs all or portions of the remedial action because of Alcoa's failure to comply with its obligations under this Decree, Alcoa shall reimburse Ecology for the costs of doing such work within thirty (30) days of receipt of demand for payment of such costs, provided that Alcoa is not obligated under this section to reimburse Ecology for costs incurred for work inconsistent with or beyond the scope of the Cleanup Action Plan (Exhibit B).

XXII. OVERSIGHT COSTS

A. Alcoa agrees to reimburse the State Toxics Control Account for the following oversight costs associated with Ecology activities at the Site. Ecology agrees to submit its time keeping records and accounting and bookkeeping procedures to Alcoa for review.

1. The sum of \$36,013.14 for costs incurred by Ecology from 1989 up through September 30, 1991.
2. For costs incurred by Ecology after September 30, 1991, Alcoa shall reimburse the State Toxics Control

1 Account for Ecology's cost of direct activities,
2 including but not limited to employee salaries,
3 laboratory costs, travel costs, contractor fees, and
4 employee benefits; indirect costs of direct
5 activities; and interest charges at 12 percent per
6 annum for delayed payments.

7 B. Alcoa shall pay the amount set forth in
8 Paragraph A(1), above, within 90 days of the effective date of
9 this Decree. With regard to future oversight costs, Ecology
10 shall, within 90 days of the end of each fiscal quarter,
11 submit to Alcoa an itemized statement documenting Ecology's
12 expenses for the quarter. Within 90 days of receiving this
13 statement, Alcoa shall pay into the State Toxics Control
14 Account the required sum.

15 XXIII. PUBLIC PARTICIPATION

16 Ecology has developed a Public Participation Plan that is
17 attached to this Decree as Exhibit D. Ecology shall maintain
18 the responsibility for public participation at the Site.
19 Ecology shall notify Alcoa's project coordinator prior to the
20 issuance of all press releases and fact sheets, and before
21 major meetings with the interested public and local
22 governments. However, Alcoa shall:

23 A. Provide assistance as requested when Ecology
24 prepares drafts of public notices and fact sheets at important
25 stages of the remedial action, such as the issuance of the CAP

1 and the start of remedial action. Ecology will finalize
2 (including editing if necessary) and distribute such fact
3 sheets and prepare and distribute public notices of Ecology's
4 presentations and meetings;

5 B. Notify Ecology's project coordinator prior to the
6 issuance of all press releases and fact sheets, and before
7 major meetings with the interested public and local
8 governments.

9 C. Participate in public presentations on the progress
10 of remedial action at the Site. Participation may be through
11 attendance at public meetings to assist in answering
12 questions; and

13 D. In cooperation with Ecology, arrange and/or continue
14 information repositories to be located at the main branch of
15 the Vancouver Library, 1007 East Mill Plain Boulevard,
16 Vancouver, Washington 98663 and Ecology's Industrial Section
17 in Olympia. At a minimum, copies of all public notices, fact
18 sheets and press releases, all quality assured ground water,
19 surface water, soil sediment and air monitoring data, remedial
20 action plans, supplemental remedial planning documents and all
21 other similar documents relating to performance of the
22 remedial action required by this Decree shall be promptly
23 placed in these repositories.

1 XXIV. COVENANT NOT TO SUE

2 In consideration of Alcoa's compliance with the terms and
3 conditions of this Decree, the State of Washington covenants
4 not to institute legal, equitable or administrative actions
5 against Alcoa regarding matters within the scope of this
6 Decree.

7 This covenant is strictly limited in its application to
8 the Site specifically defined in Exhibit A and to those
9 hazardous substances which Ecology knows to be located at the
10 Site as of the entry of this Decree. This covenant is not
11 applicable to any other hazardous substance or area and the
12 state retains all of its authority relative to such substances
13 and areas.

14 A. Reopeners: In the following circumstances, the
15 State of Washington may exercise its full legal authority to
16 address releases and/or threatened releases of hazardous
17 substances at the Site notwithstanding the Covenant Not to Sue
18 set forth above:

- 19 1. In the event Alcoa fails to comply with the terms
20 and conditions of this Consent Decree, including all
21 exhibits, and Alcoa, after written notice of
22 noncompliance, fails to come into compliance;
- 23 2. In the event new information becomes available
24 regarding factors previously unknown to Ecology,
25 including the nature or quantity of hazardous

1 substances at the Site, and Ecology determines that
2 these factors present a previously unknown threat to
3 human health or the environment. For purposes of
4 this paragraph, and this is not necessarily an
5 exhaustive list, information which is contained in
6 the documents listed below is known to Ecology and
7 cannot constitute new information: Remedial
8 Investigation and Feasibility Study, with
9 appendices, for Alcoa's waste potlining piles at
10 Vancouver operations; Hart Crowser, Inc., "Interim
11 Report, Remedial Investigation/Feasibility Study,
12 Vancouver Operation, Vancouver, WA," February 1987;
13 Robinson and Noble, Inc., Investigation for
14 Contamination at Vancouver Plant, Phase I, September
15 1984; Robinson and Noble, Inc., Cyanide
16 Contamination Study of Aluminum Company of America
17 at Vancouver, Washington, December 1982; Robinson
18 and Noble, Inc., Investigation of Possible
19 Groundwater Contamination for Alcoa, Vancouver,
20 September 1979; Robinson, Noble & Carr, Inc.,
21 Interim Report on Potential Contamination of Shallow
22 Groundwater at Aluminum Company of America, April
23 1981; documents reporting results of groundwater
24 sampling and analyses that have been received by
25 Ecology prior to the effective date of this Decree;

1 Ecology's Order DE 86-419 and all documents
2 submitted to and actually received by Ecology under
3 the terms of that Order, or created by Ecology in
4 the course of working on that Order; all files and
5 records that have been received by the Department of
6 Ecology's Industrial Section prior to the effective
7 date of this Decree and that pertain to Alcoa's
8 Vancouver operations; and Waste Pile Character-
9 ization, Vancouver, Washington Site, Alcoa Report
10 70-90-11, 1990 May 15;

11 3. In the event the results of groundwater monitoring
12 (see Section VI.B.9.) at monitoring wells 18D, 19D,
13 20D or 21D indicate that concentrations of free
14 cyanide or total fluoride in ground water as
15 measured under this Decree have increased one order
16 of magnitude over average levels found in those
17 wells from 1986 through 1990;

18 4. In the event conditions at the Site cause an
19 endangerment to human health or the environment.

20 B. Applicability: The Covenant Not to Sue set forth
21 above shall have no applicability whatsoever to:

- 22 1. Criminal liability;
- 23 2. Any Ecology action against potentially liable
24 persons not a party to this Decree.
- 25 3. Liability for damages to natural resources.

1 XXV. DURATION OF DECREE

2 The remedial action required by this Decree can be
3 divided into two phases -- the construction phase and the
4 operation and maintenance (O&M) phase. The construction phase
5 includes removal of waste piles, installation of a cap, and
6 soil sampling. The O&M phase includes groundwater monitoring
7 and maintenance of the final cap.

8 When the construction phase of the remedial action has
9 been completed to Ecology's satisfaction, Ecology shall issue
10 a written notification that the construction requirements of
11 this Decree have been met. Upon issuance of this
12 notification, Ecology shall not require further construction
13 activity at the Site except consistent with the Covenant Not
14 to Sue in this Decree, Section XXIV. Issuance of the
15 notification of completion of construction shall represent
16 Ecology's concurrence in any EPA-issued notice proposing that
17 the Site be deleted from the NPL. The Site shall be
18 considered cleaned up for the purposes of EPA review of
19 documents which precedes a decision by EPA to delist the Site
20 from the NPL and the State shall certify that Alcoa has
21 completed all appropriate response action at the Site.
22 However, this Decree shall remain in effect and Alcoa's
23 obligations to comply with the O&M requirements of this Decree
24 shall continue until Ecology issues a written notification
25

1 stating that all requirements of this Consent Decree have been
2 completed.

3 XXVI. CLAIMS AGAINST THE STATE

4 Alcoa hereby agrees that it will not seek to recover any
5 costs accrued in implementing the remedial action required by
6 this Decree from the State of Washington or any of its
7 agencies; and, further, that Alcoa will make no claim against
8 the State Toxics Control Account or any local toxics control
9 account for any costs incurred in implementing this Decree.
10 Except as provided above, however, Alcoa expressly reserves
11 its rights to seek to recover any costs incurred in
12 implementing this Decree from any other potentially liable
13 person.

14 XXVII. LAND USE RESTRICTIONS

15 Alcoa shall, within 180 days of the effective date of
16 this Decree, record with the Office of the Clark County
17 Auditor the restrictive covenant attached to this Decree as
18 Exhibit E. (The Site legal description shall be appended to
19 Exhibit E as soon as the description is available.) This
20 covenant is executed in compliance with WAC 173-340-440, and
21 restricts future uses of the Site. With Ecology's approval,
22 after completion of the remedial actions required under this
23 Decree, and consistent with WAC 173-340-720 and applicable
24 cleanup standards for soils, Alcoa may record an instrument
25 providing that the restrictive covenant attached to this

1 Decree as Exhibit E shall no longer limit uses of the Site or
2 be of any further force or effect. Ecology shall not grant
3 approval until all ground water samples taken from monitoring
4 wells in the intermediate, deep and aquifer zones during one
5 sampling period are found to contain levels of total fluoride
6 (EPA 340.2) lower than 4 parts per million, and of free
7 cyanide (Standard Method 4500-CN G or Standard Method 4500-CN
8 I, if promulgated by EPA as the method for determining the
9 drinking water MCL) lower than 0.2 parts per million.

10 Monitoring well sampling shall conform to QA/QC standards
11 established in the compliance monitoring plan. Monitoring
12 wells shall be flushed at least one pore volume for low-yield
13 formations and at least three pore volumes for high-yield
14 formations prior to sampling. The monitoring well shall be
15 allowed to recover for up to 24 hours prior to sampling. If
16 the well contains less than one-half a pore volume after the
17 24-hour recovery period then it need not be sampled.

18 XXVIII. OTHER REMEDIAL ACTIONS

19 Alcoa shall not perform any remedial actions at the Site,
20 other than those required under this Decree, without providing
21 prior notice to, and receiving the concurrence of, Ecology.

22 XXIX. HAZARDOUS WASTE REDUCTION PLAN

23 Alcoa shall be excused from any requirement to prepare
24 and submit a hazardous waste reduction plan for Alcoa's
25 Vancouver Operations under Ch. 70.105E RCW and Ch. 173-307 WAC

1 due to Alcoa's performing work under this Consent Decree
2 because performance of the work at the Site is due to unique
3 circumstances not likely to be repeated and as Alcoa is
4 unlikely to generate sufficient waste at the old Vancouver
5 complex to require a plan within the next five (5) years. The
6 parties stipulate that Alcoa shall be deemed to have
7 petitioned to be excused from the waste reduction plan
8 requirement under WAC 173-307-120.

9 XXX. PRIOR AGREEMENTS OR UNDERSTANDINGS

10 The terms of this Consent Decree, unless modified by the
11 Court, shall control and shall supersede any prior agreement
12 or understanding between the parties if any prior agreement or
13 understanding has any effect at variance with this Consent
14 Decree.

15 XXXI. EFFECTIVE DATE

16 This Decree is effective upon the date it is entered by
17 the Court.

18 XXXII. PUBLIC NOTICE AND WITHDRAWAL OF CONSENT

19 This Decree has been the subject of public notice and
20 comment under RCW 70.105D.040(4)(a). As a result of this
21 process, Ecology has found that this Decree will lead to a
22 more expeditious cleanup of hazardous substances at the Site
23 in compliance with applicable cleanup standards.

24 If the Court withholds or withdraws its consent to this
25 Decree, it shall be null and void at the option of any party

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and the accompanying Complaint shall be dismissed without costs and without prejudice. In such an event, no party shall be bound by the requirements of this Decree.

STATE OF WASHINGTON,
DEPARTMENT OF ECOLOGY

STATE OF WASHINGTON,
ATTORNEY GENERAL'S OFFICE

By: Carol L. Fleskes
CAROL FLESKES
Program Manager
Hazardous Waste
Investigation and Cleanup

By: Tanya Barnett
TANYA BARNETT
Assistant Attorney General

Date: March 25, 1992

Date: March 25, 1992

ALUMINUM COMPANY OF AMERICA

By: Richard C. Rowe

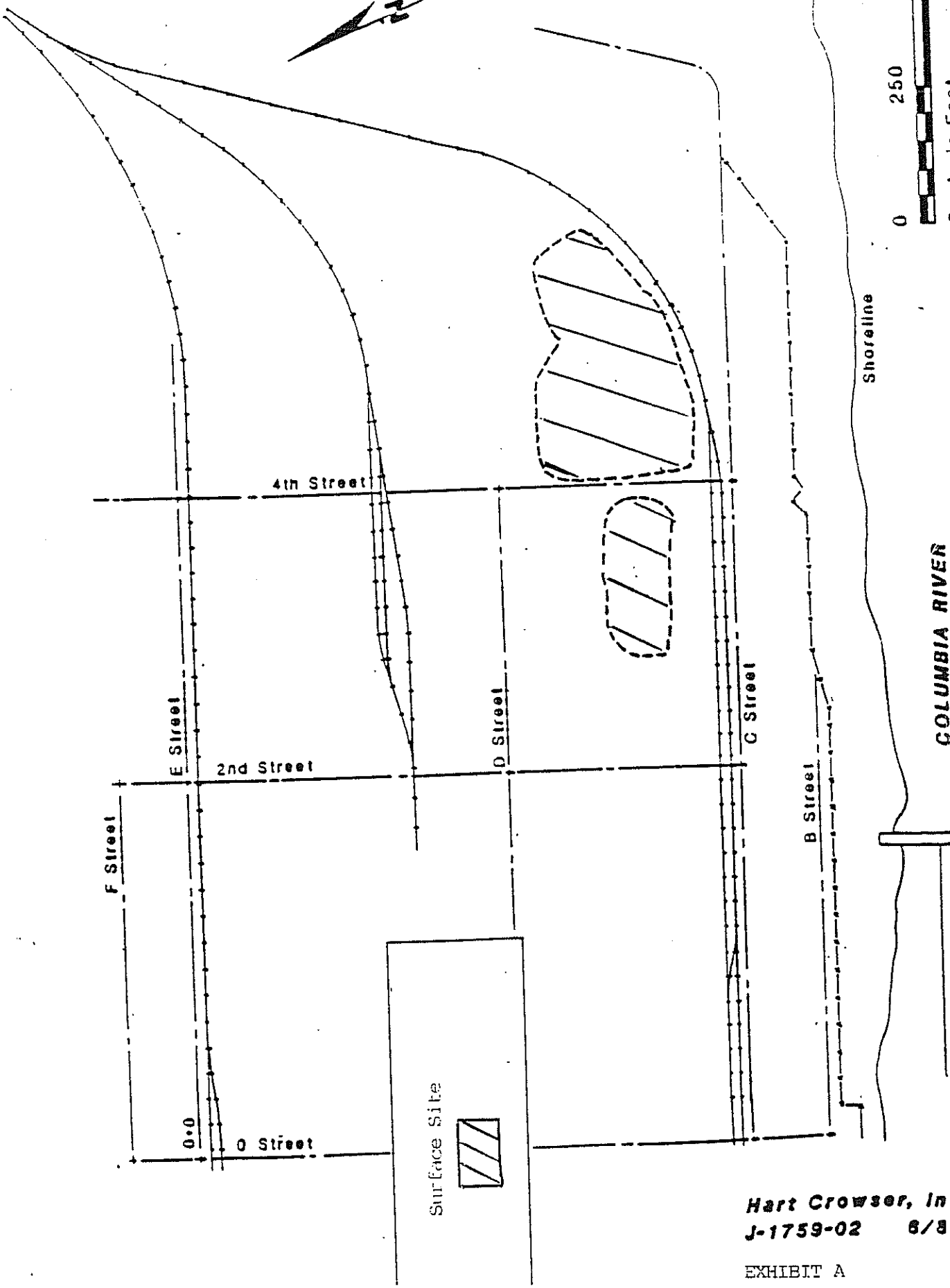
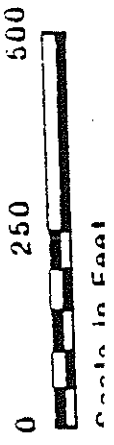
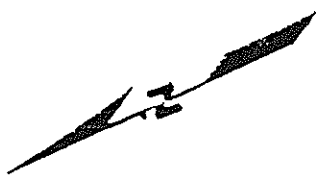
Date: Mar 23, 1992

DATED this 27 day of March, 1992.

[Signature]
JUDGE
Clark County Superior Court

1992 SPL ORDER

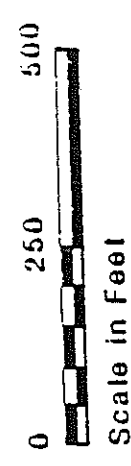
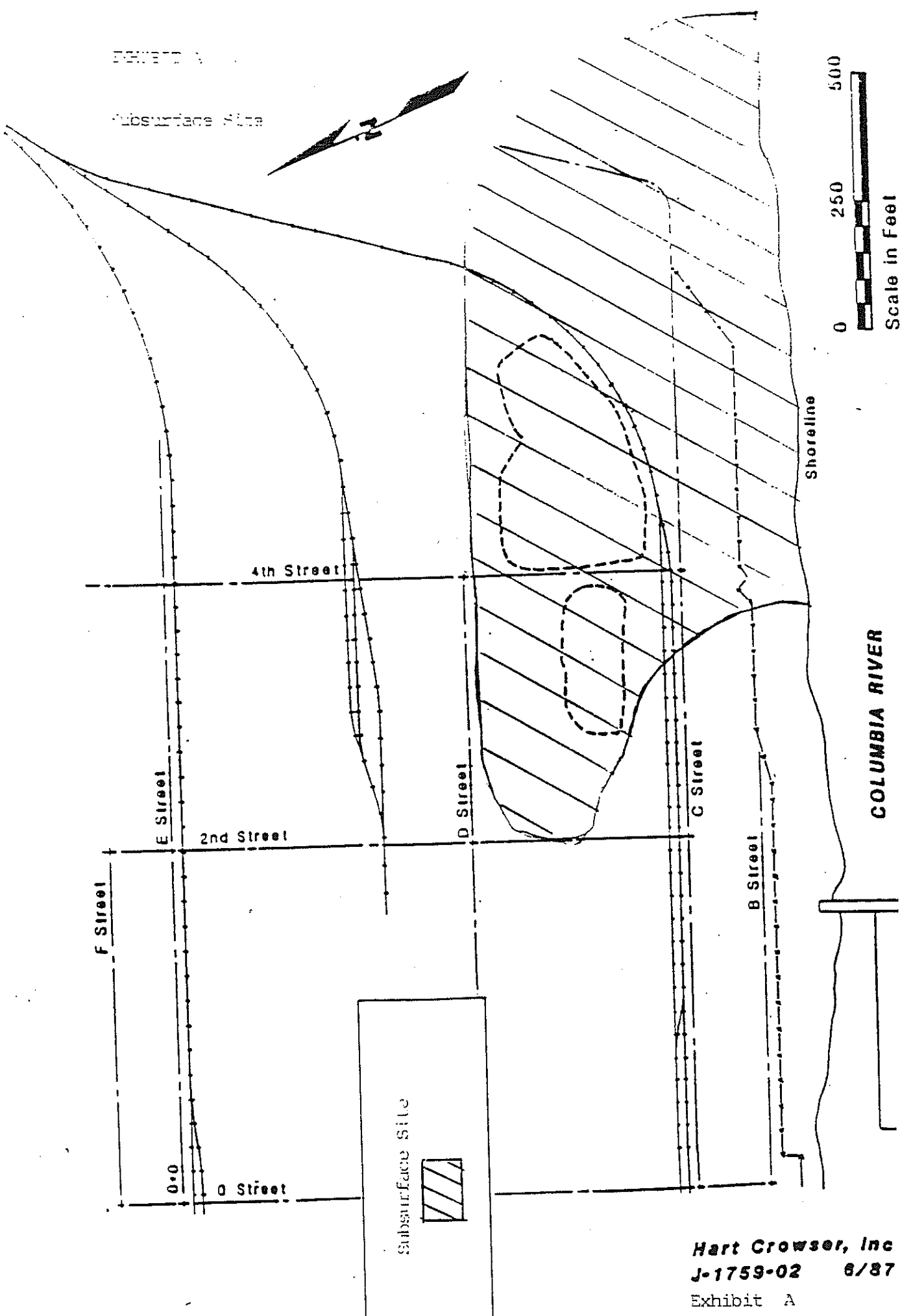
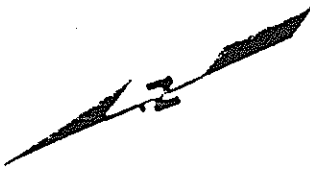
Exhibit A
Surface Site



Hart Crowser, Inc
J-1759-02 6/8

EXHIBIT A

DEVELOP
Subsurface Site



COLUMBIA RIVER

Shoreline

Hart Crowser, Inc
J-1759-02 6/87
Exhibit A

EXHIBIT B

Cleanup Action Plan

CLEANUP ACTION PLAN

Alcoa Vancouver Potliner NPL Site
Vancouver, Washington

by

Washington Department of Ecology

February 7, 1992

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DRAFT CLEANUP ACTION PLAN
ALCOA VANCOUVER POTLINER NPL SITE, VANCOUVER, WASHINGTON
February 7, 1992

INTRODUCTION

1.1 PURPOSE

This decision document presents the Cleanup Action Plan for the Aluminum Company of America (Alcoa) - Vancouver Potliner NPL site located approximately 3 miles northwest of downtown Vancouver near the VANALCO aluminum smelter. The site is located near the southeast corner of the smelter property, approximately 300 to 500 feet north of the Columbia River. The site consists of three waste piles, contaminated soil under the waste piles and subsurface contaminated strata and groundwater. The area is both industrial and agricultural. The cleanup decisions in this Cleanup Action Plan are based on data presented in remedial investigation and feasibility studies conducted by Hart Crowser for Alcoa, data from Ecology files and information presented independently by Alcoa. The Cleanup Action Plan (CAP) documents the site - specific factors and analysis that led to the selection of the cleanup remedy for the site.

The purpose of the Draft Cleanup Action Plan is to:

- Summarize the alternative cleanup actions that were investigated in Alcoa's Remedial Investigation and Feasibility Study.
- Describe the proposed cleanup action and rationale used to select the plan.
- Provide an opportunity for the public to comment on the proposed cleanup action.

1.2 APPLICABILITY

This Cleanup Action Plan is applicable only to the Alcoa - Vancouver Potliner National Priorities List (NPL) Site. The cleanup levels and cleanup actions presented in this document have been developed as a result of a remediation process conducted with Department of Ecology oversight. The cleanup levels and cleanup actions are site specific. The cleanup actions should not be considered as setting precedents for other similiar sites.

Potentiality Liable Persons (PLP's) cleaning up sites independently, without Ecology oversight, may not cite numerical values of cleanup levels specified in this draft document as justification for cleanup levels in other unrelated sites. PLP's that are cleaning up sites under Ecology oversight must base cleanup levels on site specific regulatory considerations and not on the numerical values contained in this CAP.

1.3 DECLARATION

The selected remedy will be protective of human health and the environment. Ecology gives preference to permanent solutions to the maximum extent where practical. In this cleanup, treatment and recycle alternatives were examined but not used due to the nature of the material present on the site. Source control measures consist of removal of potliner to an approved hazardous waste landfill and construction of a geomembrane cover. Permanent treatment of the contaminated soils and strata was judged not practicable at this site because no practicable treatment technologies exist for treating the large volumes of cyanide and fluoride contaminated materials. Ground water pump and treat technologies were not considered appropriate for the site because contaminant loading of the Columbia River from the cyanide/fluoride treatment system would be greater than the present groundwater loading from the site. Also, the effectiveness of a pump and treat system in the most contaminated ground water zone, the semi-permeable intermediate zone, is very low. Institutional controls along with containment of contaminated soils and strata are the remedial technologies chosen for the remediation. A summary of all cleanup alternatives which were examined during the investigative phase of the feasibility study is given in the cleanup alternative section of this document.

1.4 ADMINISTRATIVE RECORD

The documents used to make the cleanup decisions discussed in this cleanup action plan constitute the administrative record for the Alcoa site. These documents are listed in Appendix A of the this document. Additional documents located in Department of Ecology Industrial Section Files in Olympia, Washington are also considered a part of the administrative record for the site.

SITE DESCRIPTION AND HISTORY

2.1 SITE LOCATION

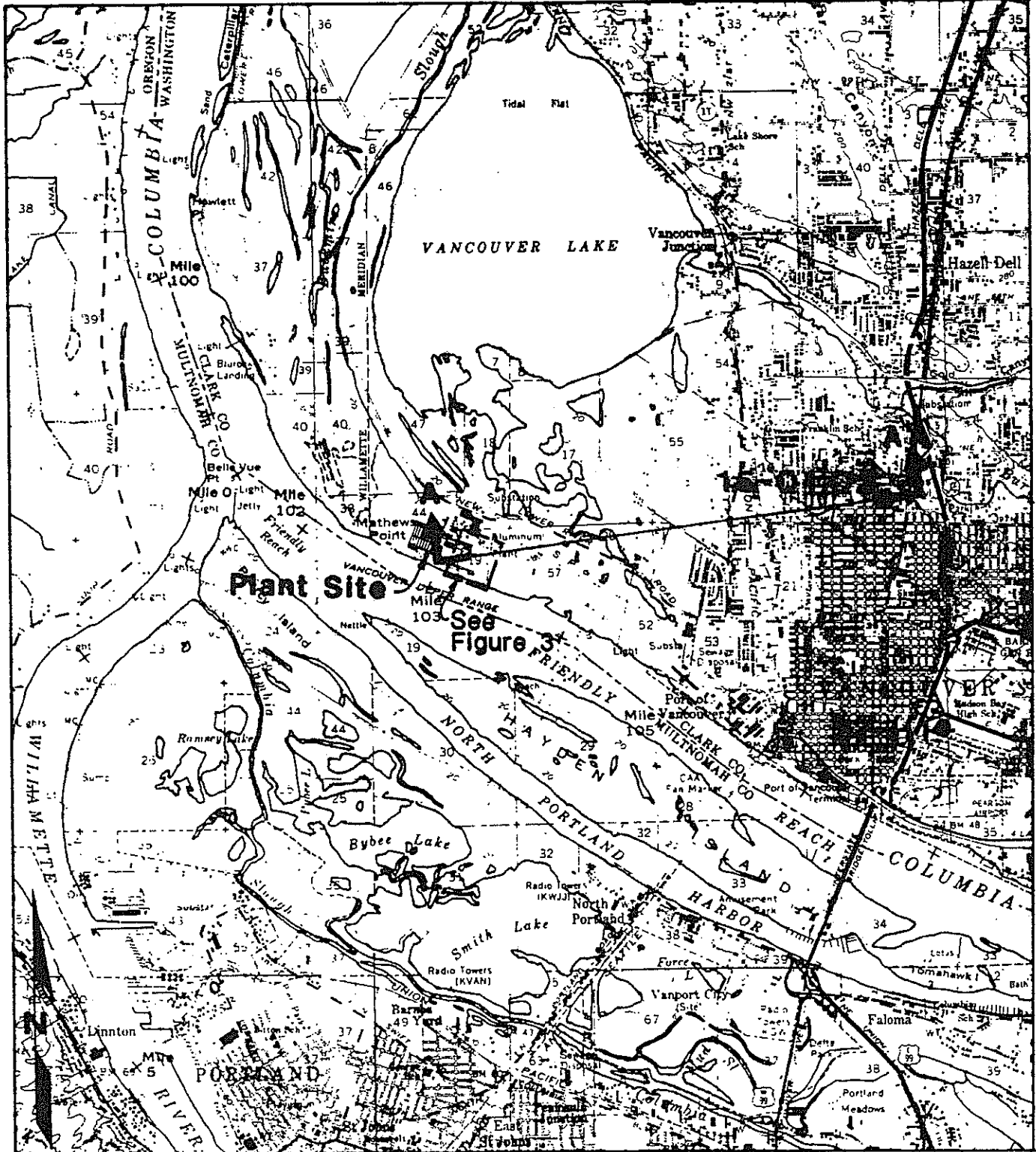
The Alcoa Vancouver NPL Site is located approximately three miles northwest of downtown Vancouver, Washington and approximately 300 to 500 feet north of the Columbia River. The Site is found at the southeastern corner of the VANALCO smelter complex located at 5701 NW Lower River Road, Vancouver. The area is both industrial and agricultural. Figure 1 shows the site location.

2.2 SITE HISTORY

The Alcoa Vancouver facility was initially constructed in 1939 and 1940. It started production of aluminum in 1940. The smelter produces approximately 325 tons of aluminum per day. It is presently owned by Vanalco, Inc.

The facility produces aluminum using the Hall-Heroult electrolytic cell process. The aluminum production process is an electrochemical reduction reaction. Aluminum oxide (alumina ore) is dissolved in a bath of molten salts (cryolite) at an operating temperature of approximately 1760 degrees F. Electric current is passed through the cell causing the reduction of the alumina to aluminum.

Vicinity Map



Note: Base map prepared from USGS 15-minute series Hillsboro and Portland, Wash.-Oreg. Quadrangles.



Cross Section Location and Designation (See Figure 8)

● 27-H1

City of Vancouver Municipal Well Location

0 1 2

Scale in Miles

J-1759-02 June 1987

HART-CROWSER & associates inc.

Figure 1

The entire process occurs in a rectangular steel shell or pot that is lined with insulation materials and carbon, known as potlining. Uncontaminated alumina ore is used for a portion of the insulation. The cathode of the aluminum reduction cell is the carbon on which the pool of molten cryolite/aluminum mixture rests. The anode, in the case of the Vancouver plant, is a block of carbon suspended in the molten cryolite/aluminum bath. Alumina is periodically added to the mixture to maintain the concentration of dissolved alumina within the desired range. The aluminum is intermittently drawn off from the bottom of the molten cryolite/aluminum bath. The molten aluminum is collected in large ladles and then cast as the final products at a casthouse facility.

In order to retain purity of the aluminum product and structural integrity of the cell, molten aluminum must be kept isolated from the iron shell of the pot. Over the life of the cathode, the carbon lining materials become impregnated with the cryolite electrolytic solution. As the cryolite solution is absorbed into the cathode, the integrity of the lining can be reduced and cracks or heaving of the carbon lining can occur. A pot is used until the integrity of the lining is deteriorated by the corrosive bath and aluminum mixture. At this time the pot is drained, the carbon lining and insulation is removed and then replaced. The carbon potlining that is removed from failed pots is known as spent potlining (SPL). The SPL is a listed (K088) dangerous waste. At Vancouver smelter, the pots are not removed from the aluminum smelting building during the carbon removal and relining process. The carbon and insulation are removed in place and the steel shell is then removed for repair by an overhead crane.

The spent potlining (SPL) and reclaimed alumina insulation (RAI) materials from failed pots were temporarily stored on-site during the early years of the Vancouver smelting operation. The spent potlining was stored in the same general area now occupied by the existing waste piles. Starting in the early 1950's, the potlining was hauled off site to the Reynolds recycling facility at Longview, Washington. The potlining was loaded onto railway cars using tracks that are located next to the existing piles. The shipping of potlining for recycling purposes continued until 1973.

Recycling of potliner stopped in 1973 and between 1973 and 1981, the current waste piles were formed on the site. There are three waste piles on the site. The largest pile contains spent potlining materials that were produced between 1973 and 1978. The next largest pile contains RAI material and minor amounts of potliner that were generated between 1977 and 1978. The two piles were covered in 1978 with a 12 mil plastic liner and up to two feet of clean sand. RAI and SPL materials that were generated between 1978 and 1981 were combined into a third pile that was covered in 1981. In 1977 Alcoa installed nine shallow monitoring wells in the vicinity of the three waste piles. Sampling of these wells subsequently identified the presence of cyanide in the ground water. From 1981 until 1983 that spent potliner was shipped to the Wenatchee smelter and disposed of in a storage pile. Starting in 1983 the wastes were shipped to the hazardous waste landfill at Arlington, Oregon. The Wenatchee storage pile was clean closed in 1989 and the potlining from the Vancouver smelter was disposed of in the dangerous waste landfill in Arlington, Oregon.

The Department of Ecology became aware of the site in 1981. With Ecology involvement, Alcoa installed additional monitoring wells bringing the total

number of wells at the site to 30. A public meeting was held during the winter of 1982 to inform the public of the cyanide contamination at the site. In 1982, the Department felt that no further action was warranted at the site because of the mitigating actions undertaken by Alcoa. It was felt that the cover was sufficient to prevent further leaching of cyanide into the groundwater. Work and analysis of the groundwater problem completed in 1982 indicated that cyanide levels should diminish due to the covering of the waste piles.

Statistical analysis of ground water data in 1986 using chemical analyses from the period of 1981 through 1985 indicated that cyanide levels in several monitoring wells were not decreasing but instead increasing. As a result of the groundwater contamination, Ecology, through a water quality order (DE86-419), directed Alcoa to conduct a Final Assessment Report and Remedial Action Plan for the site. In August of 1986 Alcoa finished preliminary assessment of groundwater conditions at the Vancouver site. The report documented the cyanide and fluoride contamination of soils and ground water at the site. Alcoa submitted to Ecology the final Remedial Investigation and Feasibility Study (RI/FS) concerning the site in July of 1987. In 1988, Ecology reviewed the proposed remedial actions presented in the feasibility study and indicated to Alcoa that the three potliner piles could not remain in place on site, since under Washington Dangerous Waste regulations, the material was presumed to be extremely hazardous waste. As of 1988, the potliner waste in the piles had not been characterized but the approximate composition of the piles could be estimated from fresh potliner that originated from the Vancouver smelter. This potliner was classified as extremely hazardous waste due to fish bioassay failure. In 1989, Alcoa sampled and analyzed potliner from the three waste piles. The potliner was characterized as dangerous waste due to failure of the rat bioassay test. The material passed the EP Tox leach test for metals and one sample out of 24 samples failed the fish bioassay test. In 1990, Alcoa agreed to move the three waste piles to a secure hazardous waste facility and remediate the site. In January of 1991 Alcoa delivered to Ecology a proposed consent decree for the cleanup of the site.

In 1985 EPA completed a Preliminary Assessment and ranked the site. The site scored (57.87) high enough to be nominated to the NPL. EPA began the process to place the site on the NPL in 1985. The site was listed on the NPL in February of 1990.

Staff from the Agency for Toxic Substances and Disease Registry (ATSDR) conducted a site visit in March of 1989. The Agency reviewed data from Ecology files and the site RI/FS submitted by Alcoa. Based on the reviewed information, ATSDR concluded the site is of potential public health concern because humans may be exposed to hazardous substances at concentrations that may result in adverse health effects. The Agency recommended that the following items be included in any cleanup actions at the site to lower the exposure potential to the public. The remedial action should be designed to prevent infiltrations of water into the piles and if the piles were moved ambient air sampling should be done to protect on site workers from a potential release of ammonia. Ground water monitoring should be continued and the Columbia River should be sampled to determine contaminant concentrations entering the river. The Agency in its evaluation did not find any extant documentation or indication in the information and data reviewed for the health assessment that human exposure to contaminants at levels of public health concern has occurred or is occurring. The ATSDR does

not plan to conduct follow up health studies because no significant public health concerns have been documented on the site. If data become available suggesting that human exposure to significant levels of hazardous substances is currently or has occurred in the past, ATSDR will reevaluate the site. The cleanup alternative selected for the site addresses all of the concerns of the ATSDR.

2.3 CURRENT STATUS

The site is currently surrounded on the northern and western boundaries by an active aluminum smelter. The smelter domestic waste water treatment plant is located on the southeastern side of the site. The site is located within the flood control dike system that surrounds the smelter. Storm water is drained from the site by a series of storm drains and catch basins. The storm water system is connected to the plant waste water treatment system and is regularly monitored under the NPDES Permit issued to Alcoa for the smelter operation.

2.4 FUTURE USE

The Alcoa site has been used for industrial purposes since World War Two, and is currently zoned for heavy industry. Future use of the site is unknown at this time. The existing aluminum smelter located west of the site continues to operate. The property east of the site is being purchased by the Port of Vancouver. Development plans for this property are unknown. The area is changing from a mixture of agriculture and heavy industry to commercial and heavy industry.

RESULTS OF ENVIRONMENTAL STUDIES

3.1 SITE CHARACTERIZATION

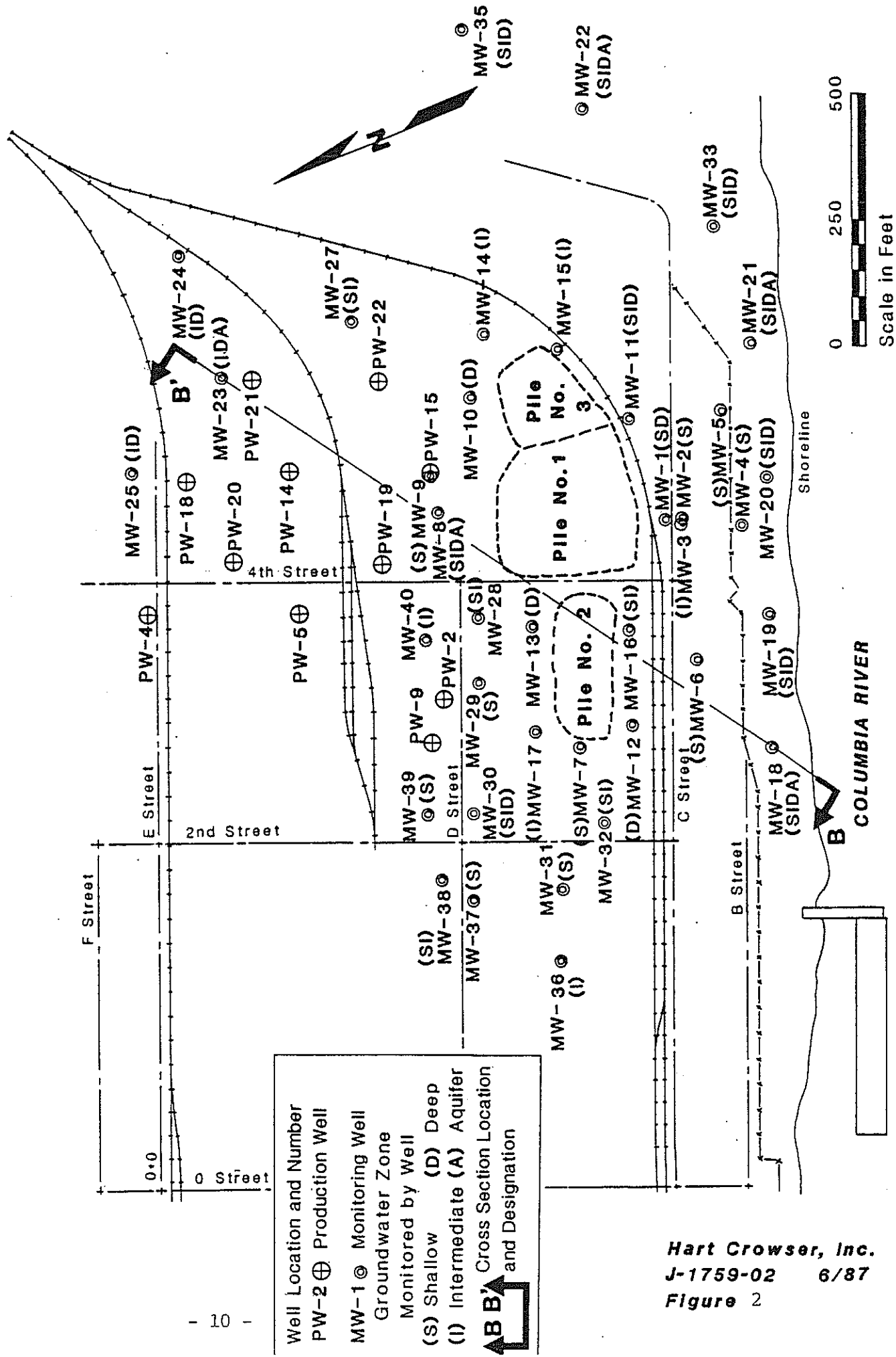
3.1.1 Surface Soil and Water Characterization.

The waste piles are located on the Columbia River lowland (Figure 2). The ground surface in the vicinity of the site is relatively flat with elevations increasing from approximately 20 feet in the south along the river to 30 to 40 feet in the northern and eastern portions of the plant. The major topographic features of the plant site are the covered waste piles and flood control dikes. Surface water occurs on site as a result of precipitation. Surface drainage in the immediate vicinity of the waste piles is generally to the south toward a low area that contains a perforated pipe drainage system. The water flow from the perforated pipes discharges into a sump which is connected to the aluminum plant water treatment system. The flood control dikes that surround the plant generally keep all surface water drainage on the plant site and directed to the plant water treatment system.

Analysis of standing surface water around the piles range from < .005 mg/l to .031 mg/l. cyanide. All surface water drainage around the site is directed into

Site and Exploration Plan

300 Feet
 (ID) MW-26



Hart Crowser, Inc.
 J-1759-02 6/87
 Figure 2

the plant water treatment system. Analysis of the Columbia River in the vicinity of the piles is <.005 mg/l cyanide both down and up stream of the site. Fluoride measurements in the Columbia River up stream of the site are higher (.16 mg/l) than those measurements down stream of the site (.15 mg/l). U.S.G.S. data of the Columbia River at The Dalles, Oregon ranges from .10 to .70 mg/l fluoride. U.S.G.S. water quality data from the Columbia River at Bradwood, Oregon below both the Reynolds smelter at Longview, WA and the Vanalco smelter at Vancouver ranges from 0.1 to 0.7 mg/l fluoride.

Data collected during the preliminary assessment indicates that small amounts of potlining may be present in the soils east and west of the waste piles. Detailed sampling for cyanide and fluoride was conducted southeast of the waste piles. In this area total cyanide values in soil range from < 0.10 mg/kg to 0.44 mg/kg and fluoride values range from < 2.0 mg/kg to 43.0 mg/kg. There has been no surface soil sampling under the waste piles. Soil sampling under the three piles will be completed during the remediation.

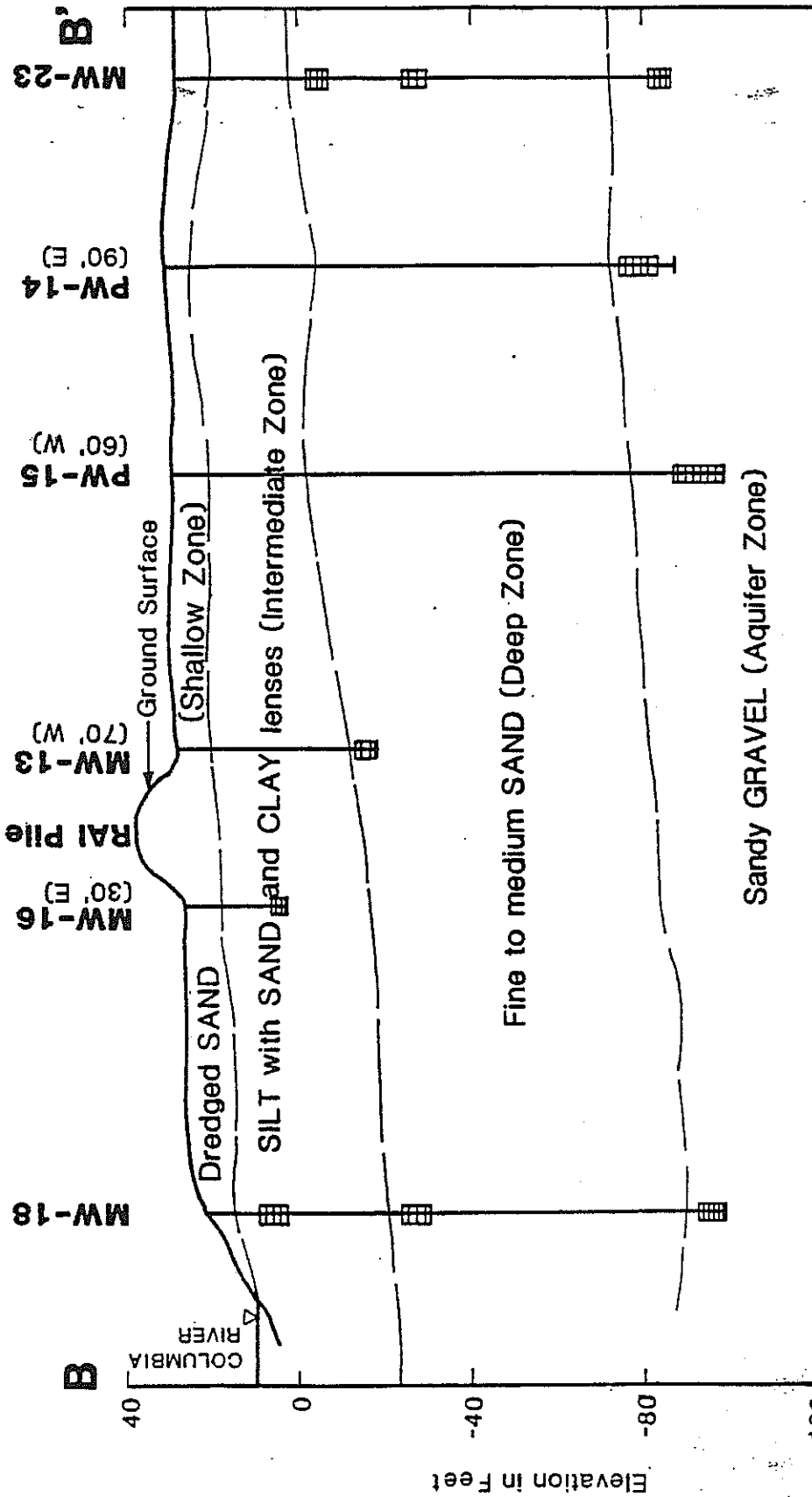
Sampling of soils from the shallow zone borings shows contamination in the vicinity of the piles generally southward to the Columbia River. The shallow zone consists of material from the surface to a depth of 10 feet. Average soil sample values in the shallow zone range from non detection to 3.17 mg/kg cyanide and from 5.00 mg/kg to 1300 mg/kg fluoride. Spot high values are near 1500 mg/kg fluoride and 55.9 mg/kg cyanide. One outlier sample contains 6900 mg/kg fluoride. The area of shallow zone fluoride contamination spreads from the piles southward to the Columbia River and northwestward toward the plant. The outlier sample (6900 mg/kg fluoride) is thought to be a result of surface contamination of the sample with potliner material. The shallow zone cyanide contamination spreads southeastward to the Columbia River but does not appear to follow the fluoride soil contamination northward to the plant.

3.1.2 Hydrogeologic and Subsurface Sediment Characterization.

The groundwater system at the site can be divided into four general zones: the shallow zone, the intermediate zone, the deep zone and the aquifer zone (Figure 3). The shallow zone consists of approximately 10 feet of dredged sand. The intermediate zone consists of 30 to 40 feet of silt with lenses of clay and fine sand. The top of the intermediate zone was the original ground surface before the dredged sands were placed over the site. The deep zone consists of fine to medium sand approximately 40 feet thick. The aquifer zone is comprised of coarse sand and gravel between 100 and 140 feet below the surface. Figure Two shows monitoring well locations on the site. Detailed sampling information for soil and water is given in Appendix B.

During the wetter months of the year ground water becomes perched in the dredged sands of the shallow zone. This perched ground water initially drains to low spots in the original site topography. After the low spots become filled with water, the ground water flows are toward the Columbia River. The flow directions in the material change due to amount of water in the unit. The horizontal hydraulic conductivity of the dredged sands is in the range of 10^{-3} to 10^{-4} cm/sec. Good aquifers generally have hydraulic conductivities of 10^{-3} to 1. Sediments in the shallow zone are contaminated by fluoride and cyanide. Levels

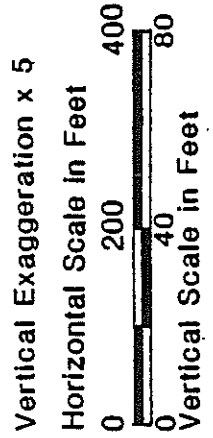
Generalized Hydrogeologic Units



Note: Stratum lines are based upon interpolation between explorations and represent our interpretation of subsurface conditions based on currently available data.

MW-18 Monitoring Well Number
PW-15 Production Well Number
 (60' W) Offset Distance and Direction

Well Location
 Screen Section



of contamination in sediment of the zone range from average concentrations of 14.5 to 3450 mg/kg fluoride and .005 to 282 mg/kg total cyanide. Total cyanide and fluoride concentrations from one soil and two water sampling events (1986 and 1907) are given in Appendix B.

The flow through the intermediate zone silts is primarily vertical. The presence of contamination in this unit is due to downward flow from the shallow zone sands and the potliner piles rather than horizontal flow. The horizontal hydraulic conductivity of the intermediate zone silt is 10^{-4} to 10^{-6} cm/sec. Poor aquifers generally have hydraulic conductivities of 10^{-3} to 10^{-6} . Laboratory tests of the intermediate zone indicate that vertical conductivities of 10^{-7} to 10^{-8} . The ability of the small individual sand and silt units in the zone to produce water is highly variable. The two pump tests well were completed in the zone show this variability. The pump test wells were placed approximately 220 feet apart. The first test well did not produce water after bailing (< 0.07 gpm) while the second test recovered quickly after bailing and produced greater than five gallons per minute during the test. Hydraulic conductivity was calculated to range from 1.11×10^{-2} to 1.8×10^{-2} in the second well. Hydraulic conductivities of good aquifers range from 10^{-3} to 1 cm/sec. Sediments in the zone are contaminated by cyanide and fluoride. Levels of cyanide in sediments average from non detection to 91.9 mg/kg and levels of fluoride in sediments average from 3.9 to 1270 mg/kg. Detailed sampling data for two sampling events is given in Appendix B.

Ground water flow directions in the deep sand zone are south toward the Columbia River. Chemical dispersion data also indicates a flow direction to the south. Continuous water level measurements taken in the deep zone indicate that Columbia River tidal influence is present in the hydrologic unit. The hydraulic conductivity of the deep zone sand unit is 10^{-2} to 10^{-4} cm/sec. This represents values commonly found in good aquifers. The deep zone shows low concentrations of cyanide and fluoride in sediments. Cyanide averages in sediments range from non detection to 1.48 mg/kg and fluoride averages in sediments range from 2.3 to 22.6 mg/kg. Detailed sampling data for cyanide and fluoride in the deep zone is given in Appendix B.

Ground water flow directions in the aquifer zone are to the southwest, similar to flow directions in the deep zone. There are two external influences on flow directions in the aquifer zone, the Columbia River and the Alcoa water supply wells. The production wells are located 100 to 140 feet north of the potliner piles. Data from pumping tests in 1954 indicate that the transmissivity of the aquifer zone ranges from two to four million gallons per day per foot. This is a very high value. Calculations of drawdown in the aquifer below the waste piles using the pumping data predict a 1.5 foot change due to pumping. The flat cone of depression predicted with the Theis analysis of drawdown indicates that the pumping activity will not significantly effect the flow directions of water deposits overlying the site. The pumping analysis also shows that the aquifer and deep zones behave independently as separate hydrologic units. The Columbia River has more influence on the hydrologic unit than the production wells. Continuous water level measurements of the aquifer zone show diurnal tidal fluctuations. The hydraulic conductivity of the aquifer zone is 10^{-2} to 10^{-3} cm/sec. Sediments from the aquifer zone have very low concentrations of cyanide and fluoride. The average concentrations of cyanide in sediments from the aquifer zone range from non detection to .075 mg/kg. The average concentrations

of fluoride in sediments in the zone range from 1.7 to 4.65 mg/kg. Detailed sampling data from water and soils in the aquifer zone is given in Appendix B.

3.1.3 Waste Pile Characterization.

Approximately 66,000 tons of waste materials are reported by Alcoa to remain on site in three waste piles. Of the 66,000 tons of material, approximately 10,000 tons of the material is present in a reclaimed alumina pile, approximately 48,000 tons of the material is found in the large potlining pile and approximately 8,000 tons is found in the second potlining pile. No detailed chemical analysis of spent potlining or reclaimed alumina insulation from the waste piles has been completed to date. Only selected chemicals of concern have been analyzed. The approximate composition of the material can be estimated based on the knowledge of the composition of fresh potlining from the Vancouver smelter. Fresh potlining consists primarily of carbon, fluoride, oxides and nitrides, aluminum and sodium with minor amounts of calcium, silica, iron and cyanide. Reclaimed alumina insulation consists primarily of aluminum oxide. Selected analysis for cyanide of SPL from the three piles indicated that the potliner contains between 60 and 3500 mg/kg total cyanide. RAI material contains between 170 to 3400 mg/kg total cyanide.

At the time of the remedial investigation and feasibility study, no detailed sampling or dangerous waste testing of the materials in the piles had been completed. The piles were thought to contain material that was designated extremely hazardous waste based on tests conducted on freshly generated material in 1982 and 1983. Several years after the completion of the remedial investigation, Alcoa set up a sampling program to drill each pile and an analytical program to collect samples for dangerous waste characterization. Alcoa tested the material using EP Tox leach procedure, fish bioassay, and acute oral rat toxicity testing. Table One shows the results of this testing program. Alcoa collected 24 large composite rotary drill samples for testing. All but one sample out of twenty four passed both levels of the fish bioassay procedure. One sample failed the 1000 mg/L fish bioassay but passed the 100 mg/L bioassay. All samples passed the EP Tox test and passed the 500 mg/kg oral rat toxicity test. All seven of seven samples failed the 5 gm/kg oral rat toxicity test. The data is summarized in Table Two. Due to the failure of the oral rat toxicity test, the material is classified DW by Washington State Dangerous Waste Regulations.

3.2 CHEMICALS OF CONCERN AND RISKS TO HUMAN HEALTH AND THE ENVIRONMENT

During the RI/FS, Alcoa performed chemical analysis on the waste pile material, soil near the piles, surface water, and ground water. Analysis of the spent potliner and site soils for selected chemicals and the site ground water for priority pollutant chemicals revealed three major chemicals of concern, trichlorethene, fluoride and cyanide. Cyanide and fluoride were found in potliner, soils and ground water while trichlorethene was only found in ground water. Priority pollutant analyses of ground water indicated low concentrations of several other organic chemicals and metals. The ground water analyses were divided into five groups by test method: volatile organics, semi-volatile organics, pesticides and PCB's, cyanide, and metals analysis.

TABLE 1
Vancouver Spent Potlining Analytical Results

SAMPLE IDENTIFICATION	Total CN Solid phase (mg/Kg)	D.I. LEACH		FISH BIOASSAY		FISH BIOASSAY		FISH BIOASSAY		ORAL TOXICITY		REACTIVE CYANIDE		EP TOX LEACHATE CONCENTRATIONS									
		TOTAL CYANIDE (mg/L)	FREE CYANIDE (mg/L)	100mg/L DEATHS	1000mg/L DEATHS	100mg/L DEATHS	1000mg/L DEATHS	500mg/kg DEATHS	5g/kg DEATHS	REACTIVE CYANIDE (mg/Kg)	REACTIVE SULFIDE (mg/Kg)	As (mg/L)	Ba (mg/L)	Cd (mg/L)	Cr (mg/L)	Pb (mg/L)	Hg (mg/L)	Se (mg/L)	Ag (mg/L)				
SPL-1-SW Upper	960	38	1.2	** 0	0	NP	NP	NP	NP	NP	NP	4	< 10	< .008	< .008	< .07	< .0002	< .004	< .008				
SPL-1-NW Lower	990	43	1.6	0	1	NP	NP	NP	NP	NP	NP	< .5	< 10	0.026	0.111	0.028	< .07	< .0002	< .008				
SPL-1-NE Upper	690	13	0.95	0	0	NP	NP	NP	NP	NP	NP	14	< 10	< .003	0.022	0.037	< .07	< .0003	< .008				
SPL-1-SE Lower	960	44	2.2	0	1	NP	NP	NP	NP	NP	NP	3.6	140	0.024	< .008	0.014	< .07	0.0007	< .008				
SPL-3-SW Upper	80	0.44	0.39	0	0	NP	NP	NP	NP	NP	NP	4.3	14	< .003	0.403	0.011	< .07	< .0002	< .008				
SPL-3-NW Lower	250	2	1.5	1	1	NP	NP	NP	NP	NP	NP	12	19	< .003	0.418	0.027	< .07	< .0002	< .008				
SPL-3-NE Upper (dup)	250	4.9	1.5	--	--	NP	NP	NP	NP	NP	NP	12	40	< .003	0.577	0.02	< .07	< .0002	< .008				
SPL-3-SW Upper	800	35	4.9	0	0	NP	NP	NP	NP	NP	NP	9.4	15	0.054	0.028	0.014	< .07	< .0002	< .008				
SPL-3-SE Upper	140	1.8	1.8	0	0	NP	NP	NP	NP	NP	NP	14	< 10	< .003	0.898	< .007	< .07	< .0002	< .008				
RAI-2-SW Upper	380	5.5	4.2	* 1	2	NP	NP	NP	NP	NP	NP	20	20	0.004	0.042	< .007	< .07	0.0003	< .008				
RAI-2-NW Lower	2700	71	16	0	13	NP	NP	NP	NP	NP	NP	19	< 10	0.015	0.098	0.009	< .07	0.0004	0.03				
RAI-2-NW Lower (dup)	2300	71	18	--	--	NP	NP	NP	NP	NP	NP	--	--	--	--	--	--	--	--				
RAI-2-NE Lower	230	4.6	1.9	0	1	NP	NP	NP	NP	NP	NP	6.1	< 10	0.004	0.387	0.008	0.012	< .07	0.0004	0.011			
RAI-2-SE Lower	170	8.6	2.7	1	0	NP	NP	NP	NP	NP	NP	7.6	< 10	0.03	0.05	< .004	< .07	< .0002	< .003				
Background Upper	18	< .01	< .01	* 1	0	NP	NP	NP	NP	NP	NP	< .5	15	< .003	0.437	0.004	< .07	< .0002	< .003				
RETRA THRESHOLD												250	500	5	100	1	5	0.2	1	5			
SPL-1-SW Lower	1800	72	0.04	NP	0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
SPL-1-NW Upper	620	13	< .01	NP	1	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
SPL-1-NE Lower	2600	74	1.6	NP	2	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
SPL-1-SE Upper	3500	26	4.7	NP	5	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
SPL-3-SW Lower	100	1.8	0.7	NP	1	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
SPL-3-NW Upper	60	0.19	0.39	NP	0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
SPL-3-NE Lower	2600	65	2.5	NP	0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
SPL-3-SE Lower	130	0.77	0.22	NP	1	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
RAI-2-SW Lower	770	16	5.5	NP	4	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
RAI-2-NW Upper	2900	67	12	NP	0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
RAI-2-NW Upper (dup)	3400	83	11	NP	--	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
RAI-2-NE Upper	340	22	2.2	NP	1	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
RAI-2-SE Lower	1800	38	6	NP	0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
Background Lower	2	< .01	< .01	NP	0	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP			
STATE THRESHOLD					21	11	11	11	3	3	3	3	3	3	3	3	3	3	3	3			

Analytical notes:
 @ cyanide by microdiffusion
 * 1 additional by jumping out of tank
 ** 5 additional by jumping out of tank
 NP; Not Performed

There are six media of concern which may pose risks to human health or the environment at the Alcoa site. These are contaminant wastes (potliner), soil, ground water, sediment (soils found beneath the surface of water bodies), surface water, and air. The interim action of covering the potliner piles with a 12 mil plastic cover and two feet of sand has reduced the immediate environmental risk of the cyanide and fluoride from the potliner wastes and the generation of hydrogen cyanide from the breakdown of cyanide complexes in the potliner. The soil, ground water, sediment and surface water media have not been addressed to date.

3.2.1 Potliner Analysis.

Fresh potliner from the Vancouver smelter has been characterized using the EP Toxicity technique, chemical testing, rat bioassay, and fish bioassay. The chemical testing of potliner indicates that there are two chemicals of concern: fluoride and cyanide. Results from the potliner chemical testing are given in Table One. Rat bioassays indicate that the potliner is dangerous waste.

3.2.2 Soil Analysis.

Subsurface soil samples were collected during the installation of ground water monitoring wells on the site. Laboratory analyses were performed on 99 soil samples. The soils were analyzed for cyanide and fluoride. Additional near surface soil samples and catch basin samples were also collected from the site and analyzed for cyanide and fluoride. Soil samples from the shallow and intermediate zones show significant cyanide and fluoride contamination. Samples from surface soil samples show some cyanide and fluoride contamination. The surface soil sampling program is incomplete. Soil samples from under the waste piles will be collected after the waste piles are removed during the remediation.

3.2.3 Surface Water Analysis.

Standing surface water in the vicinity of the waste piles was analyzed for total cyanide. Values range from less than 5 ppb to 37 ppb total cyanide. Samples of the Columbia River at the site and up stream from the site were also collected. The Columbia River analysis was less than 5 ppb total cyanide.

3.2.4 Ground Water Analysis.

Ground water is collected from 19 monitoring wells and four production wells quarterly and analyzed for total cyanide, free cyanide, and fluoride. Eleven monitoring wells were analyzed for priority pollutants during the RI/FS. Samples were analyzed for priority pollutants in accordance with Test Methods of Evaluating Solid Waste (SW-846). A complete list of the analytes that were tested is given in the RI/FS. The specific chemicals detected in the priority pollutant chemical scan above trace amounts are given below in Table Two.

TABLE TWO
Ground Water Priority Pollutant Analysis

Hydrologic Zone	Contamination Range		Number of Wells Detected	Number of Wells Sampled
	Low ug/L	High ug/L		
<u>Shallow Zone</u>				
Organics				
Acetone	L/1	17	1	2
Bis (2-ethylhexl)	L/1	2	1	2
Phthalate				
Endrin acetone	L/0.04	0.04	1	2
Metals				
Arsenic	L20.0	40.0	1	2
Cadmium	L 1.	1.	1	2
Chromium	L 1.	4.	1	2
Copper	25.	43.	2	2
Nickel	L 2.	23.	1	2
Zinc	13.	32.	2	2
Total Phenol	L 5.	--	0	2
<u>Intermediate Zone</u>				
Organics				
Methylene Chloride	Trace	140.	4	4
Acetone	6.	28.	4	4
Naphthalene	L 1.	3.	1	4
2-methylphenol	L 1.	19.	1	4
Metals				
Arsenic	L20.	350.	3	4
Cadmium	L 1.	L10.	0	4
Chromium	L 1.	48.	3	4
Copper	10.	240.	4	4
Nickel	L 2.	52.	2	4
Zinc	26.	65.	4	4
Total phenol	L 5.	100.	3	4

Deep Zone

Organics

Methylene chloride	53.	73.	2	2
Acetone	8.	9.	2	2
Bis (2 methylhexyl) phthalate	6.	13.	2	2

Metals

Arsenic	L20.	L20.	0	2
Cadmium	L 1.	L 1.	0	2
Chromium	L 1.	L 1.	0	2
Copper	2.	3.	2	2
Nickel	L 2.	L 2.	0	2
Zinc	15.	36.	2	2
Total phenol	L 5.	L 5.	0	2

Aquifer Zone

Organics

Trichloroethylene	L 1.	20.	1	2
Endrin Ketone	L 0.04	0.13	1	2

Metals

Arsenic	L20.	L20.	0	2
Cadmium	L 1.	L 1.	0	2
Chromium	L 1.	L 1.	0	2
Copper	3.	3.	2	2
Nickel	L 2.	L 2.	0	2
Zinc	17.	54.	2	2
Total phenol	L 5.	L 5.	0	2

Alcoa is examining the ground water contamination of trichloroethylene (TCE) as a separate Model Toxics Control Act clean up. An RI/FS is currently being conducted on the site. The source of the TCE contamination appears to be a separate site adjacent to the NPL site.

3.2.5 Cyanide and Fluoride Contaminant Sources.

There are three possible fluoride and cyanide contaminant sources at the site. These include 1) the waste piles 2) waste materials mixed with soil in the vicinity of the waste piles and 3) contaminants previously absorbed onto soil that are now being released.

One contamination source is the potliner pile itself. Significant amounts of precipitation may infiltrate into potlining and RAI materials under the present conditions. Run off collects along the base of the piles and likely infiltrates

into the waste piles. The top liner is torn and separated in several places on the piles. Water can infiltrate along these leaks in the liner.

A second source of contamination is a small amount of potliner that is mixed with soil near the piles. Data indicates that small amounts of potliner and RAI materials are located in the soils east and west of the waste piles.

A third source of the contamination are soils beneath and down gradient of the piles that many have absorbed contaminants from the ground water before the piles were covered.

It is likely that all three sources of contamination contribute to the ground water degradation at the site. The largest source, by several orders of magnitude, is the result of rain water infiltration into the waste piles.

3.3 MEDIA CLEANUP LEVELS

3.3.1 Selection of Method for Establishing Cleanup Levels

The Model Toxics Control Act Cleanup Regulation provides three methods for determining cleanup levels at a contaminated site. The methods are known as Method A, Method B, and Method C. Method A applies to relatively straight forward sites that involve only a few hazardous substances. The method defines cleanup levels for 25 of the most common hazardous substances. The method also requires that the cleanup meet promulgated federal and state regulations such as maximum contaminant levels established by the clean water act. Method B is a standard method that can be used at all sites. The clean up levels are set using a site risk assessment which focuses on site characteristics or concentrations of individual hazardous substances established under applicable state and federal laws. Method C is similiar to Method B. The main difference is that the life time cancer risk is set at a lower number. The method can be only used when either Method A or Method B are technically impossible, the site is defined as an industrial site, or where the attainment of Method A or B cleanup levels has the potential for creating a significantly greater overall threat to human health and the environment. In addition, Method C also requires that the person undertaking the action comply with all applicable state and federal laws.

The Alcoa site is not considered a routine site where Method A can be used. The two contaminants of concern, fluoride and cyanide are not found in the Method A table. Method C can not be used on the site because the site is not defined as a MTCA industrial site, Method B levels are not technically impossible to achieve at the site, and achieving Method B levels will not cause greater environmental harm than not achieving them. Only Method B can be used at the site. The contaminants of concern at the site are cyanide and fluoride. Method B levels for the cleanup are discussed below.

3.3.2 Ground-Water Cleanup Levels

The groundwater cleanup levels at the Alcoa site were set according to WAC 173-

340-720, "Ground Water Cleanup Standards". The ground water at the site is regulated as a source of drinking water. Method B, WAC 173-340-720 (3) (a) (i) establishes levels using concentrations established under applicable state and federal laws, including the requirements in subsection 2 (a) (ii). Subsections 2 (a) (ii) requires cleanup standards as stringent as concentrations established in applicable state and federal laws including the Safe Drinking Water Act maximum contaminant levels (MCL), the Safe Drinking Water Act maximum contaminant level goals for noncarcinogens, and the maximum contaminant levels established by the state board of health. There is no promulgated federal maximum contaminant level (MCL) for cyanide. The Safe Drinking Water Act maximum contaminant level for cyanide is proposed as 0.20 mg/l (55 Fed. Reg. 30370 (1990)). The analytical method used in the July proposed rule was total cyanide. In November of 1991 the method of measuring cyanide in the proposed rule was changed from total cyanide to cyanide amenable to chlorination. The analytical method to be used for the determination of cyanide is SM 4500-CN-G or cyanide amenable to chlorination. The Method B level of 0.2 mg/l cyanide amenable to chlorination as established by the proposed MCL for cyanide is the regulatory limit that shall be used as the cleanup standard in the Alcoa cleanup. The Safe Drinking Water Act maximum contaminant level for fluoride has been established at 4.0 mg/l. The level of 4.0 mg/l fluoride shall be used as the cleanup standard at the Alcoa site for fluoride. The ground water point of compliance for the Alcoa Vancouver site is the entire site.

3.3.3 Surface Water

All surface water from the Alcoa site is collected within the site and discharged via pipes and ditches into the nearby aluminum smelter storm water drainage system. The smelter site, including the waste piles, is surrounded by a dikes. The storm water drainage system moves water that originates in the smelter out of the dike system and into the Columbia River. The drainage system is regulated through the aluminum smelter NPDES permit. The current permit limit for cyanide is .15 lbs/day monthly average with a daily maximum of 0.4 lbs./day. The flow rate entering the Columbia River from the smelter is 2.2 to 4.5 million gallons per day (mgd). This will result in monthly average cyanide concentrations in the waste water outfall of 0.0081 mg/l at 2.2 mgd and 0.004 mg/l at 4.5 mgd; and daily maximum cyanide concentrations of 0.0218 mg/l at 2.2 mgd and 0.0107 mg/l at 4.5 mgd. The current permit limit for fluoride is 100 lbs/day monthly average with a daily maximum limit of 200 lbs/day. This will result in monthly average fluoride concentrations in the waste water outfall of 5.45 mg/l at 2.2 mgd and 2.66 mg/l at 4.5 mgd; and daily maximum fluoride concentrations of 10.9 mg/l at 2.2 mgd and 5.33 mg/l at 4.5 mgd.

The smelter November 1987 to March 1989 fluoride average was 35.7 lbs./day with a monthly range of 21.1 to 85.3 lbs/day. The flow rate during this period averaged 3.3 mgd with a monthly range of 2.2 mgd to 4.0 mgd. This will result in a monthly average fluoride concentration of 1.297 mg/l with range of 1.150 mg/l to 2.557 mg/l. These numbers do not consider any individual daily maximum loadings, only monthly averages.

It is not expected that storm water originating from the remediated site will cause permit violations. For the purposes of the cleanup, the surface water from the site will be regulated via the NPDES Permit.

3.3.4 Soil Cleanup Levels.

There are no soil cleanup standards established for the site. Contaminated soils presently exist under the potliner piles. These contaminated soils will be contained using a 40 mil PVC liner covered by clean soil and vegetation. There will be no direct contact exposure routes to contaminated soils on the site when the remediation is complete. The ground water exposure route for vadose soils under the piles will be limited by the cover system. The MTCA Regulation requires that where containment is selected, a compliance monitoring plan must be designed to ensure the long-term integrity of the containment system. Long-term monitoring and institutional controls (deed restrictions) will be implemented to assure the integrity of the cover system. Deed restrictions will not be removed from the site until applicable cleanup standards for soils are met.

SUMMARY OF ALTERNATIVE CLEANUP ACTIONS

4.1 INTRODUCTION

This section of the CAP summarizes the cleanup actions considered by Alcoa in the Feasibility Study. The Feasibility Study was completed in 1987 prior to the enactment of the Model Toxics Control Act. The Feasibility Study follows guidelines established by the Environmental Protection Agency (EPA) for Superfund Cleanup activities. The method used in the Feasibility Study is compatible and consistent with the Model Toxics Control Act. Hence, actions selected in the Feasibility Study will comply with both Chapter 173-340 WAC, Model Toxics Control Act Cleanup Regulation and the Federal cleanup regulations.

The approach used to develop and evaluate remedial action alternatives included:

- Identifying and evaluating general response actions and possible remedial action technologies;
- Selecting the applicable technologies;
- Developing and evaluating remedial action alternatives from the different technologies.

Each individual component of a remedial action alternative was evaluated as to its individual components:

- Technical feasibility;
- Public and Environmental Health Impacts;
- Institutional Feasibility;

- Cost; and
- Effectiveness

The primary objective of the remedial actions is to minimize the generation of leachate, control the migration of contamination to the water table and reduce contamination migration to the Columbia River.

4.2 GENERAL RESPONSE ACTIONS

General Response Actions can be grouped into those actions which address either source control or manage contaminant migration via groundwater flow. Source control actions include:

- Preventing contact and infiltration of incident precipitation through waste materials and contaminated soil; and
- Controlling surface water run-on.

Management of contamination migration actions include:

- Groundwater diversion; and
- Pumping and treating.

4.3 REMEDIAL ACTION TECHNOLOGIES

Alcoa's detailed analysis of possible remedial action technologies is given in Chapter 3 and Chapter 4 of the site Feasibility Study. The rationale for inclusion or exclusion was based on implementation difficulty, contaminant characteristics, reliability of technology, health/safety factors and economics. Removal of contaminated soils below the waste piles was not considered a practicable remedial action technology because the cost removing the contaminated soils below the piles and within the water table was substantially disproportionate to the degree of protection that would be achieved by the action. Based on the screening of possible technologies, the following were considered to be applicable to the site conditions.

- o Capping (synthetic membrane, clay/soil admixtures, and asphalt) This would minimize the generation of leachate and subsequent contaminant migration to the water table by preventing incident precipitation from contacting the waste.
- o Waste Removal (landfilling, incineration, or treating in a fluid bed) This would eliminate the primary source of cyanide and fluoride from the site.
- o Grading, Vegetation, and Site Paving This would divert run-off and minimize infiltration into contaminated soils.

- o Ditching and Culverting This would minimize water infiltration into contaminated soil by diverting run-off out of the area.
- o Groundwater Diversion (slurry wall) This would slow down but not eliminate contaminant migration to the Columbia River.
- o Groundwater Pumping and Treatment This would reduce contaminant migration but would not reduce contaminant loading to the Columbia River because the treatment effluent has a higher concentration of contaminants than the groundwater that is presently flowing into the river from the site.

The following remedial action technologies were examined and excluded from further investigation.

- o Temporary Storage.
- o Ground water diversion using steel sheet piling and chemical or grout injections.
- o Physical treatment of waste and contaminated soils below the piles using solidification, gravity thickening, vitrification, bulk encapsulation or isolation, organic polymerization, dewatering, or thermoplastics.

4.4 REMEDIAL ACTION ALTERNATIVES

In Chapter 4 of the Feasibility Study, each of the technologies components are examined with respect to technical feasibility, public and environmental health, institutional issues, cost and effectiveness. One component alone would not be sufficient to provide the level of performance required to clean up the site. The preferred components were combined in various ways such that a range of levels of environmental protection as well as a range of associated costs are presented. Seven remedial action alternatives were developed based on the evaluation of the remedial action technological components. The alternatives are no action, on site containment, and waste removal. The alternatives with the estimated 1987 costs are summarized below:

<u>Description</u>	<u>Estimated Cost</u>
<u>No Action</u>	
o Continued groundwater monitoring	\$ 308,000
<u>On Site Containment</u>	
o Earth cover with site grading	\$ 1,360,000

- o Earth cover with site grading and paving \$ 1,680,000
- o Earth cover with site grading, paving, and groundwater pumping and treatment. \$ 3,610,000
- o RCRA designed composite earth cover consisting of composite clay/geomembrane system and groundwater pumping and treatment. Not estimated

Waste Removal

- o Waste disposal in landfill and site grading \$ 12,500,000
- o Waste disposal in landfill and site grading/paving \$ 13,000,000
- o Waste disposal in landfill and site grading /paving, and groundwater pumping and treating. \$ 14,700,000

4.5 COMPARATIVE ANALYSIS OF CLEANUP ALTERNATIVES

The cleanup alternatives presented for the Alcoa site fall into three broad categories: 1) continued monitoring - no action, 2) on-site containment, and 3) source removal. Alcoa did not include waste reduction, minimization, or recycling criterion in the feasibility study because the criterion were not required until after the study was complete. The Department of Ecology requested that Alcoa consider storage and recycle of the potliner as a component of the cleanup alternative and construction of a RCRA cover as a component of the cleanup alternative in 1990 after the Feasibility Study was complete. Alcoa rejected the recycle component because of the current lack of a proven recycle cleanup technology and the potential of a land ban on the landfilling of potliner dangerous waste. The RCRA cover component was considered in one cleanup alternative scenario.

In addition to the criteria listed below, Alcoa examined the following cleanup alternative components: off-site incineration, fluid bed incineration, shallow slurry wall containment and deep slurry wall containment. Alcoa did not consider the two incineration treatment technologies because the processes are still in the experimental stages and require operational permits that are not in place. The costs of both technologies are significantly higher than the alternatives considered below. The deep and shallow slurry wall containment options were not considered as cleanup components because both technologies are marginal in cleanup effectiveness due to site specific characteristics and very costly. Each of the different cleanup alternatives considered for the site is discussed below with respect to its advantages and disadvantages. The Alcoa preferred alternative is source containment with earth cover, site grading and continued ground water monitoring. The Ecology preferred alternatives are (1) removal of

potliner to a storage building and recycle, containment or removal to a dangerous waste landfill of contaminated soils, continued ground water monitoring and institutional controls on land and water usage or (2) waste disposal in a dangerous waste landfill, site grading, cover with geomembrane/soil containment system, institutional controls on land and ground water usage, and monitoring. During negotiations Ecology added a third source containment alternative consisting of construction of a RCRA composite clay/geomembrane cover over the waste piles, site grading, shallow slurry wall barrier, and a pump and treat ground water removal system.

4.5.1

No Action

Continued groundwater monitoring. This alternative involves no action other than continued monitoring and testing of existing monitoring wells. This alternative does not meet the goal of overall protection of human health and the environment or compliance with federal and state laws. No action - continued groundwater monitoring is not an acceptable cleanup alternative.

4.5.2

Source Containment on Site

Earth Cover with Site Grading. This alternative consists of covering the piles with an earth cap of clay and sand, grading and diverting surface water via lined ditches, culverts, and below-ground drains that flow to the aluminum plant water treatment system and Columbia River outfall. A portion of the existing rail road track will be moved south 30 feet and ground water monitoring would continue. This alternative prevents some infiltration through the waste piles and reduces infiltration around the waste piles. Water ponding around the site would be eliminated. The alternative is equivalent in risk to removal but at lower cost. The major disadvantage to the alternative is that the source of the contamination will always remain in place next to the Columbia River. The waste pile cover is not a composite cover and will have some leakage into the groundwater. No treatment of groundwater contamination is considered. The contaminated soils above the water table are not contained. This is the Alcoa preferred alternative.

Earth Cover with Site Grading and Paving. This remedial action alternative consists of constructing all of the items of the Earth Cover and Site Grading alternative with the addition of asphalt paving the area around the site. This alternative would greatly lower infiltration into the soils surrounding the piles. This would further reduce the loading into the Columbia River. The area could be used for storage of moderately heavy loads. Once again the source of the contamination would remain in place next to the Columbia River and ground water would not be treated.

Earth Cover with Site Grading, and Pumping and Treating Groundwater. In this alternative the waste piles would be covered with a clay/soil earth cover and the surrounding site would be graded to drain off-site via lined ditches, culverts, and below-ground pipes that flow into the aluminum plant water treatment system. Contaminated ground water would be withdrawn from the deep zone and treated. Sludges generated by treatment would be disposed of in a landfill. Treated water would be disposed of into the Columbia River.

Groundwater monitoring would continue. The major advantage of this alternative is that the loading of cyanide and fluoride from surface sources would decline due to reduced infiltration into the contaminated soils beneath the waste piles. The loading of fluoride and cyanide to the Columbia River from the treatment system would be greater than the current loading from the site because the treatment effluent has a greater concentration of cyanide and fluoride than the current groundwater flow from the site. The effectiveness of the pump and treat system is very limited since it does not pull contaminants from the highly contaminated intermediate zone. Residuals from the pump and treat system would have to be disposed of in a dangerous waste landfill. The costs for the operation of the pump and treat system are relatively high. The source of the contamination remains on site.

RCRA Composite Clay/Geomembrane Cover, Site Grading, Shallow Slurry Wall Barrier, and Pump and Treat. This remedial action alternative was considered by Alcoa after the Feasibility Study was complete. The alternative consists of a composite clay/geomembrane cover with site grading and surface water diversion via lined ditches, culverts, and below-ground pipes. The contaminated shallow zone beneath the waste piles would be contained using a slurry wall. Contaminated ground water would be pumped from the deep zone and treated. Treated water would be disposed in the Columbia River. Groundwater monitoring would continue. The advantages of this alternative are similar to the earth cover alternative advantages. The RCRA cover technology assures that precipitation will not enter the waste piles. The addition of a shallow slurry wall will prevent groundwater accumulation in the contaminated dredged sands beneath the piles and reduce the amount of leachate generated by infiltration through the silt layer. The major disadvantage of this alternative is that the source of the contamination remains on site and dangerous wastes are generated by the pump and treat facility. The loading of cyanide and fluoride in the Columbia River would increase over the short term. Costs to implement this remedial action are high.

4.5.3

Source Removal

Waste Disposal in Landfill and Grade Site. Waste piles would be excavated and taken to a dangerous waste landfill. The site would be graded and surface water would be removed from the site via lined ditches, culverts, and below ground drains. Surface water would be diverted to the plant treatment system and the Columbia River outfall. The removal of the source material lowers the risk of additional leachate being generated. Ground water monitoring would continue. There is still potential of leachate generation from the vadose zone soils found beneath the piles. The cost of removal is significantly higher than the cover options.

Waste Disposal in Landfill with Site Grading and Paving. Waste piles would be excavated and taken to a dangerous waste landfill. The site and adjacent roads would be graded and paved with asphalt. Drainage on site would be diverted to

the plant Columbia River outfall. Ground water monitoring would continue. The source of the contamination would be removed. The threat of further contamination of the ground water would be limited by reducing infiltration of precipitation through the site. The major disadvantage is high costs.

Waste Disposal in Landfill with Site Grading and Pumping and Treating Groundwater. The waste material would be excavated and removed to a dangerous waste landfill. The site would be graded and surface water would be diverted off-site via lined ditches, culverts, and below ground drains into the aluminum plant waste water treatment system. Contaminated groundwater would be pumped from wells installed to 80 feet, the top of the deep zone, and treated to remove cyanide and fluoride. Sludge from the treatment system would be disposed in a regulated landfill. Treated water would be disposed into the Columbia River. Groundwater monitoring would continue. The major advantage of the cleanup scenario is that the source material would be removed from the site and the movement of contaminants into the Columbia River would decrease from the site but increase from the treatment plant. The major disadvantages are cost and effectiveness. The treatment plant effluent loading of the Columbia River would be greater than the current groundwater loadings from the site. The site would be cleaned up faster, but the river would have higher contaminant loadings unless the treated water was diluted prior to entering the river.

SELECTION OF CLEANUP ALTERNATIVE

5.1 INTRODUCTION

The cleanup strategy proposed by Ecology is to combine source removal, institutional controls, and containment of contamination to provide for the protection of human health and the environment. This strategy assumes that the area around the site will be used for industrial or commercial purposes for the foreseeable future. Ecology combined portions of several of the cleanup alternatives to propose three preferred cleanup alternatives for the site. These alternatives are: 1) removal of the potliner to a storage building and recycle, containment or removal of contaminated soils below the waste piles, and institutional controls on site land and groundwater usage, 2) potliner waste disposal in a dangerous waste landfill, site grading, construction of a geomembrane/soil containment system, institutional controls on land and groundwater usage, and monitoring, and 3) covering of potliner piles with a RCRA composite clay/geomembrane cover, site grading, shallow slurry wall barrier, and a pump and treat groundwater removal system. The proposed cleanup alternative that was selected is described in more detail below.

5.2 SELECTED CLEANUP ACTION

The proposed cleanup action consists of waste disposal in a landfill, site grading and covering with an HDPE or PVC liner, and continued groundwater monitoring. Specifically:

-- Removal of approximately 66,000 tons (47,500 cubic yards) of spent

potlining and reclaimed alumina insulation.

- Characterization of soils below existing potlining piles.
- Capping with a 50 mil HDPE or 40 mil PVC liner and covering with two feet of clean sand with top soil. Revegetating area.
- Fence and grade site to drain.
- Institutional controls to prevent the disruption of the liner or withdrawal of groundwater from the contaminated plume.
- Continued groundwater and Columbia River surface water monitoring.

In addition to the major cleanup action tasks the following actions will be taken at the site during and after cleanup:

- Air monitoring for dust, cyanide and ammonia will occur during the remediation.
- Site access will be limited. Worker health and safety programs will protect cleanup workers from potliner and ammonia.
- Ground water remediation will be required if fluoride and cyanide concentrations increase near the Columbia River. The concentration of cyanide and fluoride will have to increase to levels that are treatable.

A detailed description of each of the components of the cleanup action is given below.

5.3 SOURCE CONTROL

Source control would consist of removal of the potliner material to a permitted hazardous waste facility. At the present time the hazardous waste facility at Arlington, Oregon is being considered for the project. The removal of the 66,000 tons of material is to be accomplished using conventional excavation equipment.

Front end loader and backhoe will be used to remove and stockpile the existing clean sand cover. The clean sand will be stockpiled and used as the sand cover above the geomembrane cover. The existing 12 mil plastic cover will be removed and disposed of at the dangerous waste facility. Due to the large quantity of waste, approximately 20 to 30 trucks a day will be required to move the waste to the Arlington, Oregon facility. This phase of the project will take approximately three to five months to complete.

The contaminated soils beneath the piles will be characterized for cyanide and fluoride once the potliner is removed. No chemical data is currently available from directly beneath the potliner piles. Each pile will be divided into

quarters and one drill hole will be randomly selected in each quarter. The drill hole will be completed through the shallow zone into the intermediate zone. Two composited samples will be taken from each drill hole. The top five feet and bottom 5 to 8 feet. The samples will be analyzed for cyanide and fluoride.

Alcoa will present to Ecology for approval, prior to the start of the source removal, a site health and safety plan in accordance with most recent OSHA, WISHA, Department of Ecology, and EPA guidance and applicable regulations.

5.4 CONTAINMENT

After the potliner is removed from the site, the pile areas will be covered with either HDPE or PVC liner and clean fill; or a recompacted two foot clay liner and clean fill. Alcoa has indicated it would prefer a geomembrane liner. The geomembrane will prevent the possibility of uncontrolled contact with the contaminated soil and water infiltration into the contaminated soil column. Conventional equipment will be used to place the liner and soil cover. A portion of the sand for the cover will come from the stockpiled cover material. After placement of the geomembrane, soils and top soil; the area will be hydroseeded.

Alcoa will inspect and perform maintenance on the final cap quarterly during the regularly scheduled ground water monitoring activities. Maintenance requirements for the final cap shall include grading to maintain proper site drainage, repair of any erosion or areas of distressed vegetation, and repair of site perimeter fencing and warning signs.

5.5 GROUNDWATER AND SURFACE WATER MONITORING

Since contaminated soils will remain on site, a conformational monitoring program for cyanide and fluoride will be implemented as part of the cleanup. The proposed groundwater monitoring plan consists quarterly monitoring for five years with analysis of cyanide and fluoride. Twenty three monitoring wells will be analyzed. At the end of the five year period Ecology and Alcoa will exchange proposals to amend the consent decree with regard to whether continue groundwater monitoring is necessary and, if so, what constitutes an appropriate schedule. The proposed monitoring program will be evaluated and the end of each five year period until the site is no longer a danger to human health and the environment.

Alcoa will also perform surface water analysis of the Columbia River at the site and up stream of the site. This analysis will collect samples quarterly for two years and then annually if cyanide and fluoride are below the cleanup standards. The surface water program is proposed to run for five years.

5.6 INSTITUTIONAL CONTROLS

Alcoa will record a restrictive land use covenant in the property deed of the site to ensure that no ground water is removed for domestic purposes from the contained plume and that there is no interference with the cleanup action. This

covenant will be specified in the Consent Decree. Alcoa, may use the site for industrial purposes consistent with the cleanup action and the covenant. When levels of fluoride in ground water reach 4 mg/l and free cyanide in ground water reach 0.2 mg/l Alcoa or an owner of the site after Alcoa, may request that the restrictive covenant be removed. Ecology, or a successor agency, may consent to the request only after public notice and comment and only insofar as the request is consistent with applicable law, including cleanup standards for soils.

5.7 SCHEDULE

The proposed cleanup is scheduled to occur in 1992. If approved, the initial potliner removal and installation of the soil/geomembrane cap will occur in the spring and summer of 1992. It is anticipated that the construction portion of the project will be complete by the fall of 1992. Final as built construction diagrams, project completion report, and monitoring plans will be delivered to Ecology after the 1992 construction season. Surface water, groundwater and maintenance monitoring will begin in 1993 and continue for five years. At the end of the five year period Ecology and Alcoa will exchange proposals for continued monitoring.

APPENDIX A

Administrative Record

The contamination at the site was brought to the attention of Ecology in 1981. Prior to this Alcoa began ground water and soil investigations to determine the extent of contamination. The following studies document activities that were conducted from 1977 to the present to determine the extent and magnitude of contamination at the present potliner NPL site. This list of documents represents the Administrative Record for the Alcoa Vancouver NPL Site.

1. Department of Ecology, Industrial Section, Aluminum Company of America Vancouver Operations Files 1978 through 1992.
2. Robinson and Noble, Inc., 1979, Investigation of Possible Groundwater Contamination for Alcoa, Vancouver.
3. Robinson Noble and Carr, Inc., 1981, Interim Report on Potential Contamination of Shallow Groundwater at Aluminum Company of America.
4. Robinson and Noble, Inc., 1982, Cyanide Contamination Study of Aluminum Company of America at Vancouver, Washington.
5. Nord, T. L. and Potter, R., 1982, The Generation of Spent Potlings by the Primary Aluminum Industry December 1982, Department of Ecology Files , Olympia, WA.
6. Nord, T. L., 1983, The Designation of Spent Potlinings, Chapter 173-303 WAC, December 1983, Department of Ecology Files, Olympia, WA.
7. Nord, T. L., 1984, The Designation of Spent Potlinings, Chapter 173-303 WAC, February 1984, Department of Ecology Files, Olympia, WA.
8. Robinson and Noble, Inc., 1984, Investigation of Contamination at Vancouver Plant, Phase 1, September 1984.
9. Environmental Protection Agency, 1985, HRS Hazard Ranking System Score Sheet and Documentation for the Aluminum Company of America Vancouver Operations, B. Morson, P. O'Flaherty, L. Stralin.
10. Hart Crowser, Inc., 1986, Preliminary Assessment of Groundwater Quality Conditions, Aluminum Company of America, Report J-1759, Vancouver Operations, Washington.
11. Department of Ecology, Industrial Section, 1986, Order DE 86-419 issued to Aluminum Company of America Vancouver Operations.
12. Hart Crowser, Inc., 1987, Remedial Investigation, Aluminum Company of America, Report J-1759-02, Vancouver Operations, Vancouver, WA.

13. Hart Crowser, Inc., 1987, Feasibility Study, Aluminum Company of America, Report J-1759-02 Vancouver Operations, Vancouver, WA.
14. Hart Crowser, Inc., 1987, Interim Report, Remedial Investigation/Feasibility Study, Report J-1759-01, Vancouver Operation, Vancouver, WA
15. National Oceanic and Atmospheric Administration, 1988, Preliminary Natural Resource Survey, Aluminum Company of America (ALCOA) Vancouver, WA
16. Hart Crowser, Inc., 1989, Waste Pile Sampling at Alcoa's Vancouver, Washington Site.
17. Ecology and Environment, Inc., 1989, Field Operations Report for Alcoa (Vancouver Smelter) Vancouver, WA.
18. E. V. S. Consultants, 1989, Acute Toxicity Tests on Spent Potlining Samples, November, December Test Results, Seattle, WA.
19. Millett, John A., 1989, Remediation Plan PCB Contaminated Yard Area Alcoa, Vancouver Works, Vancouver, WA.
20. Sweet-Edwards/EMCON, Inc. 1989, Alcoa Soil and Ground Water Investigation Status Report, Vancouver, WA.
21. Pierre Gy and Francis Pitard Sampling Consultants, 1989, Sampling Plan for the Analysis of Certain Metals, Compounds, and Other Properties of Spent Potlining and Reclaimed Alumina Insulation at the Alcoa Vancouver, Washington Site.
22. Hart Crowser, Inc., 1990, Remedial Investigation Plan, Former Alcoa Facility, Report J-2250-03, Vancouver, Washington.
23. Schmidt, K. D., 1990, Vancouver Spent Potlining Results, Report Number 70-90-05, Environmental Control Laboratory, Aluminum Company of America, Alcoa Technical Center, Alcoa Center, PA.
24. E. V. S. Consultants, 1990, Acute Toxicity Tests on Spent Potlining Samples, January Test Results, Seattle, WA.
25. Blayden, L. C., 1990, Waste Pile Characterization, Vancouver, Washington Site, Alcoa Environmental Laboratory Report No. 70-90-11, Aluminum Company of America, Alcoa Center, PA.
26. Agency for Toxic Substances and Disease Registry, U. S. Public Health Service, 1990, Health Assessment for Alcoa (Vancouver Smelter), Vancouver, Clark County, Washington.

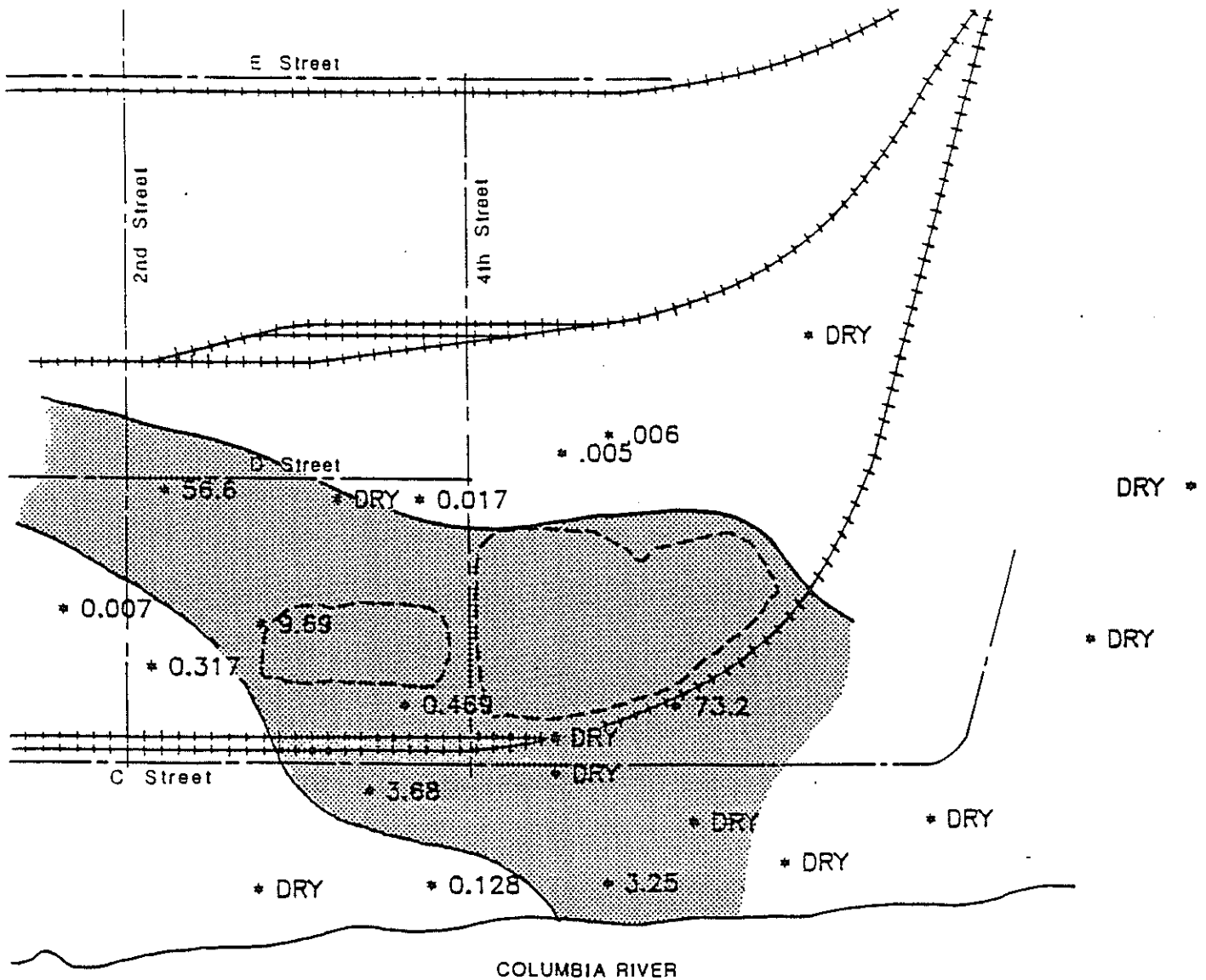
The contaminants of concern at the Alcoa-Vancouver site are cyanide and fluoride. The above investigations document the extent and concentration of the cyanide and fluoride contamination found at the site.

APPENDIX B.

Ground Water and Soil Geochemical Data

Total Cyanide Concentration Map

Concentrations in Groundwater from Shallow Zone



* 14.7 Spot Total Cyanide Location and Concentrations in mg/L

 Inferred Extent of Total Cyanide Contamination greater than 2 mg/L

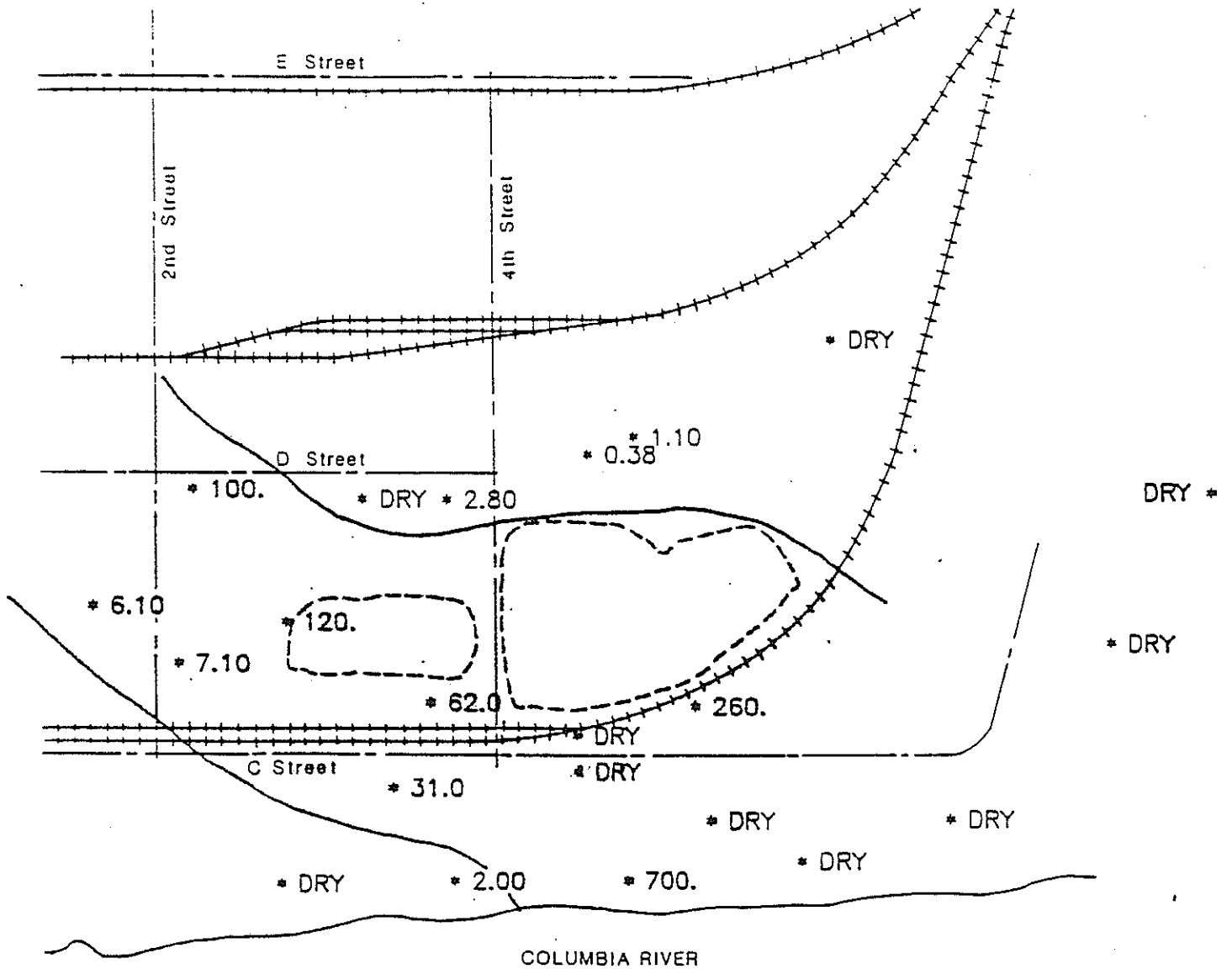
Samples collected in November, 1986.



0 250 500
Scale in Feet

Fluoride Concentration Map

Concentrations in Groundwater from Shallow Zone



* 7.52 Spot Fluoride Location and Concentrations in mg/L

———— Inferred Extent of Fluoride Contamination greater than 5 mg/L

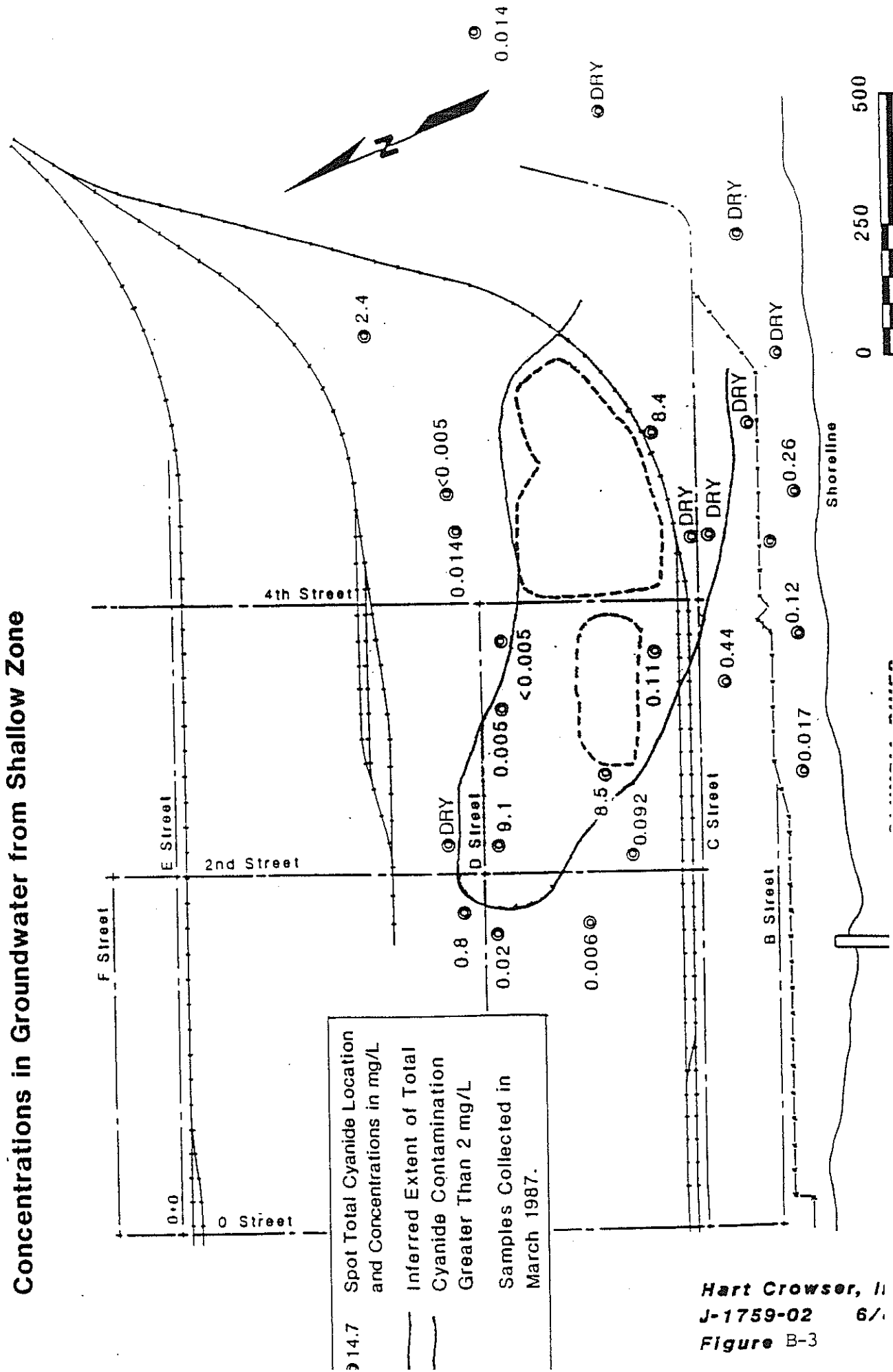
Samples collected in November, 1986.



0 250 500
Scale in Feet

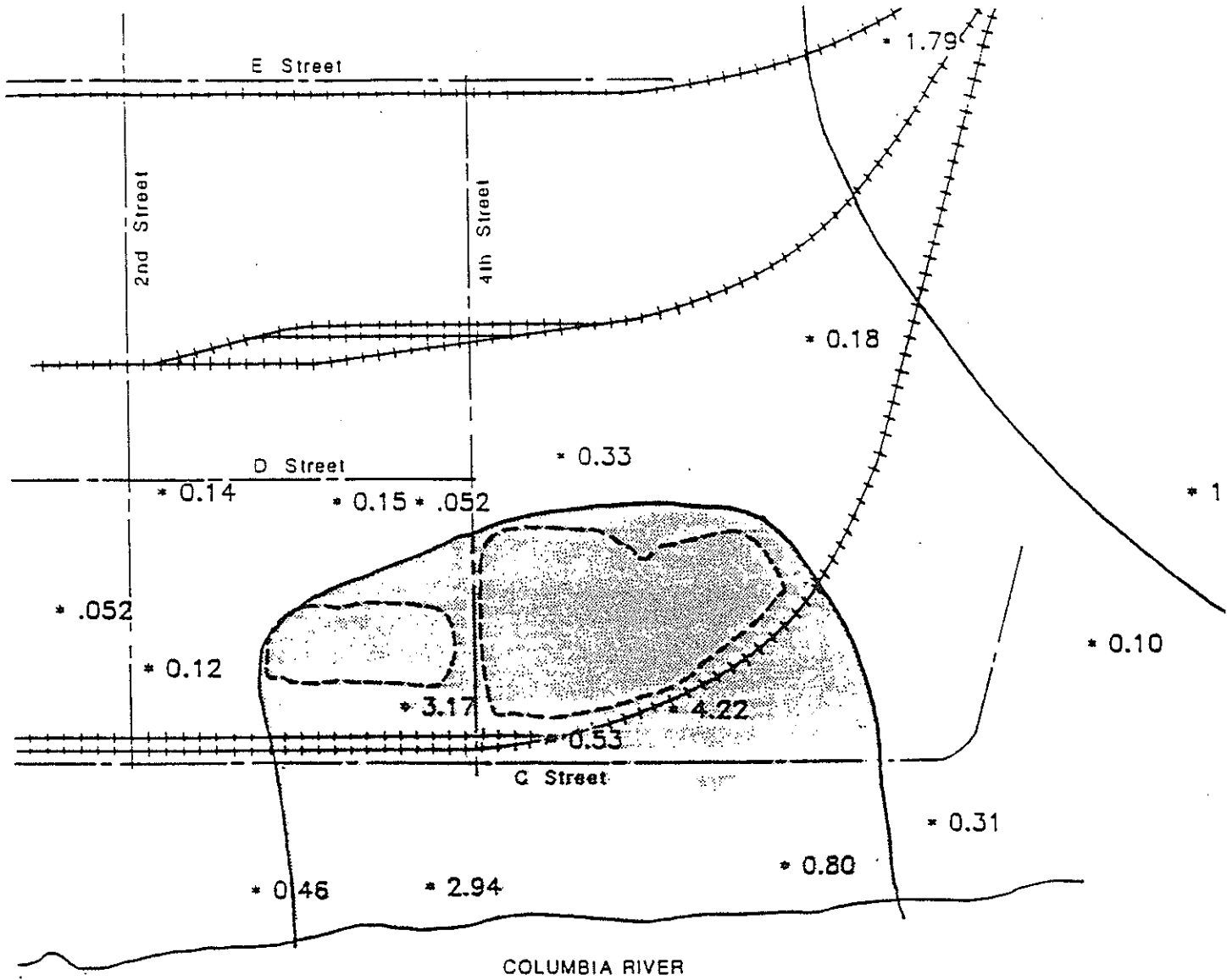
Total Cyanide Concentration Map

Concentrations in Groundwater from Shallow Zone



Total Cyanide Concentration Map

Average Concentrations in Soil Samples from Shallow Zone



* 7.0 Spot Average Total Cyanide
Location and Concentrations in mg/kg

— Inferred Extent of Total Cyanide
Contamination greater than .5 mg/kg

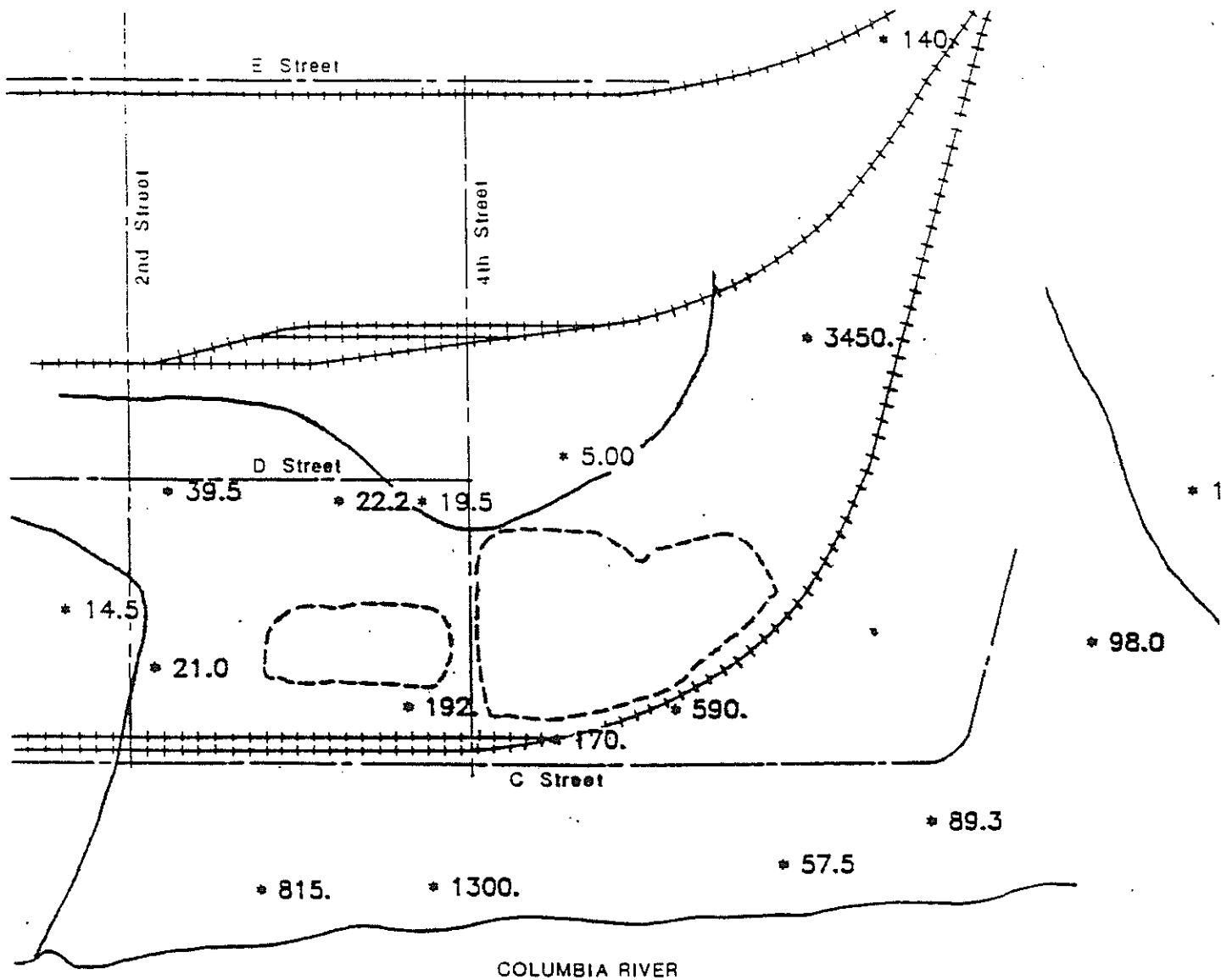
Samples collected in August
and September, 1986.



0 250 500
Scale in Feet

Fluoride Concentration Map

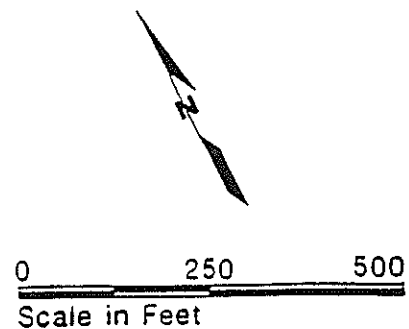
Average Concentrations in Soil Samples from Shallow Zone



* 8.43 Spot Average Fluoride Location and Concentrations in mg/kg

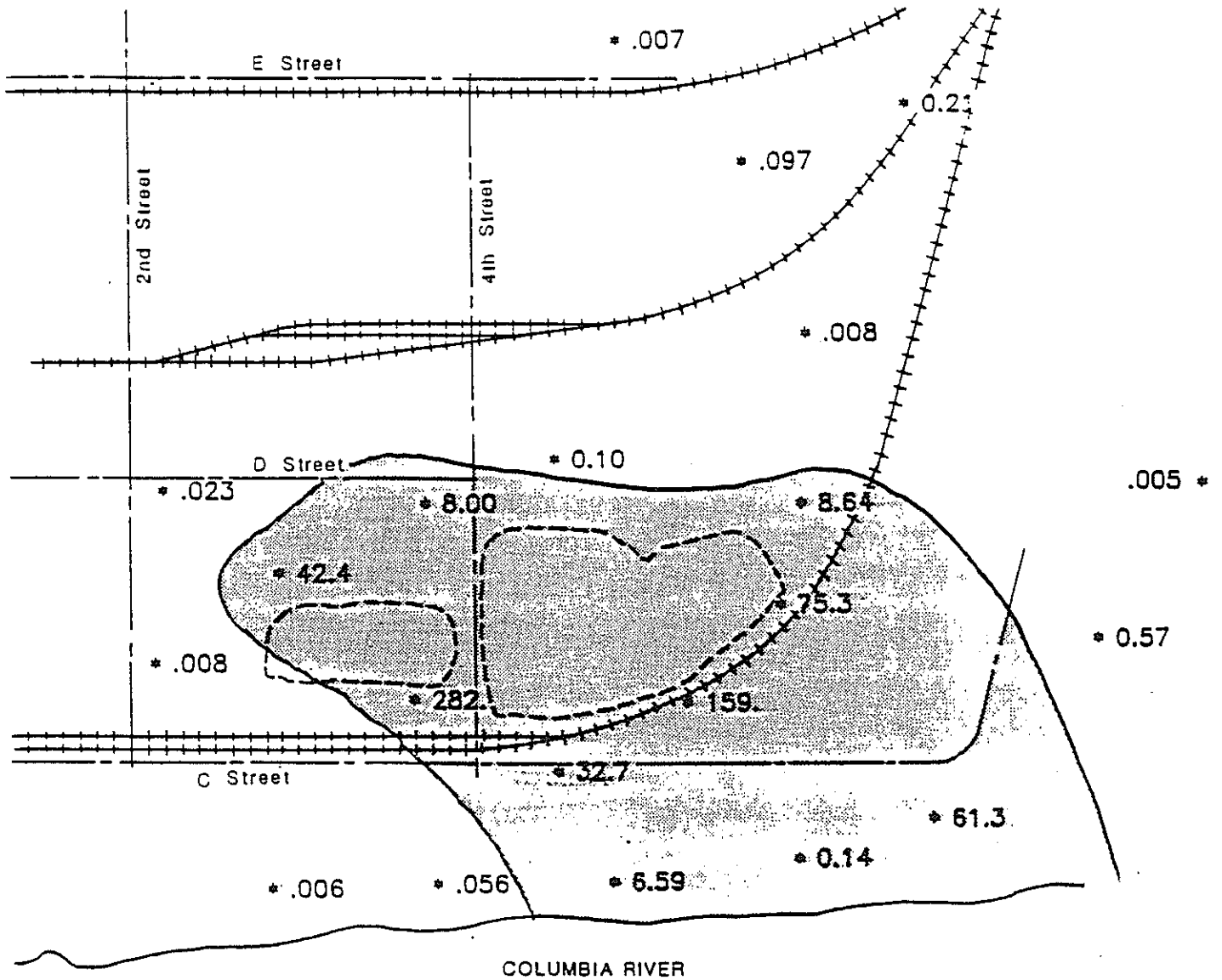
— Inferred Extent of Fluoride Contamination greater than 20 mg/kg


Samples collected in August and September, 1986.



Total Cyanide Concentration Map

Concentrations in Groundwater from Intermediate Zone



- ◆ 14.7 Spot Total Cyanide Location and Concentrations in mg/L
-  Inferred Extent of Total Cyanide Contamination greater than 2 mg/L

Samples collected in November, 1986.

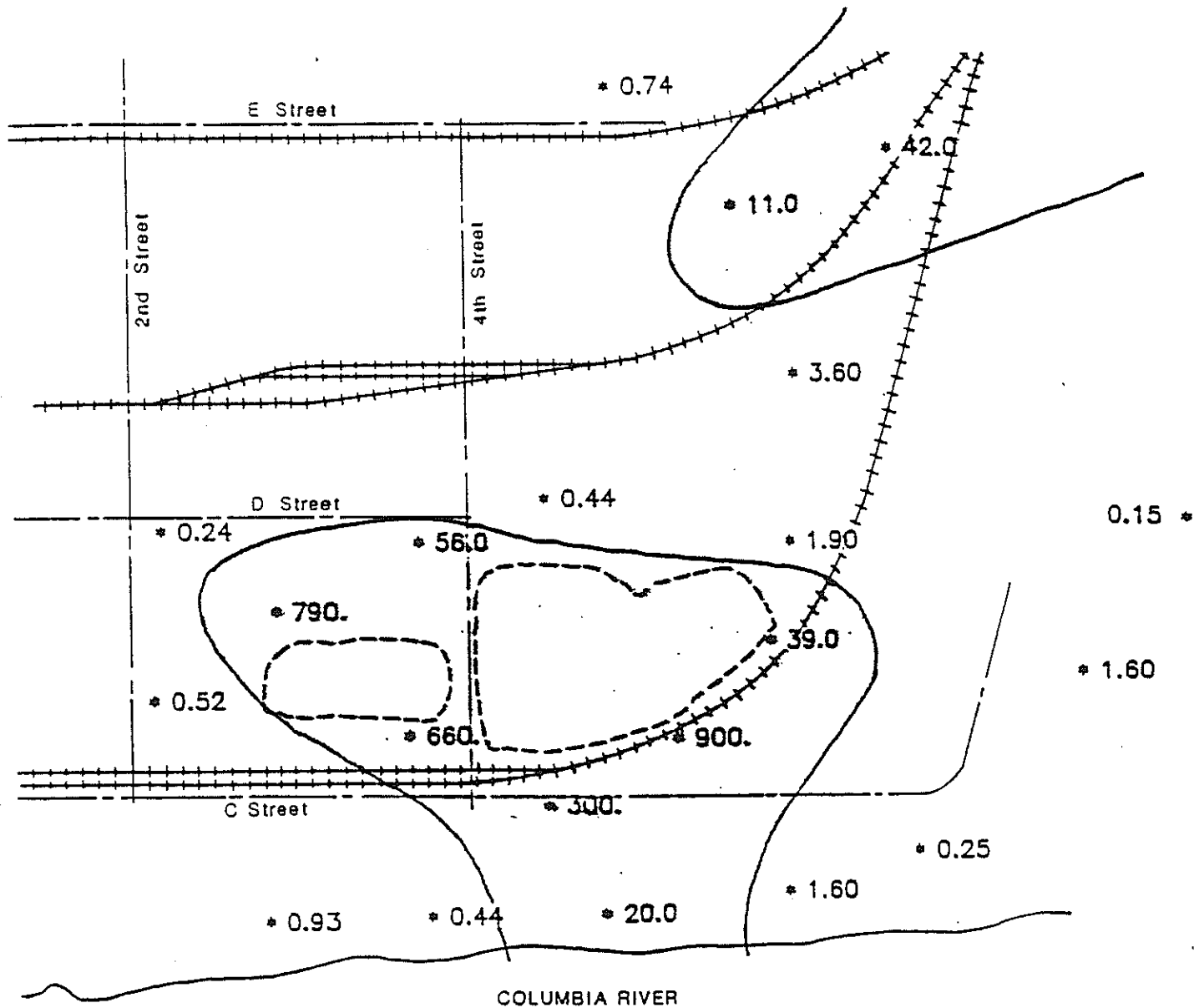


0 250 500
Scale in Feet

J-1759-02 June 198
HART-CROWSER & associates in
Figure B-7

Fluoride Concentration Map

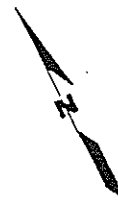
Concentrations in Groundwater from Intermediate Zone



• 7.52 Spot Fluoride Location and Concentrations in mg/L

— Inferred Extent of Fluoride Contamination greater than 5 mg/L

Samples collected in November, 1986.



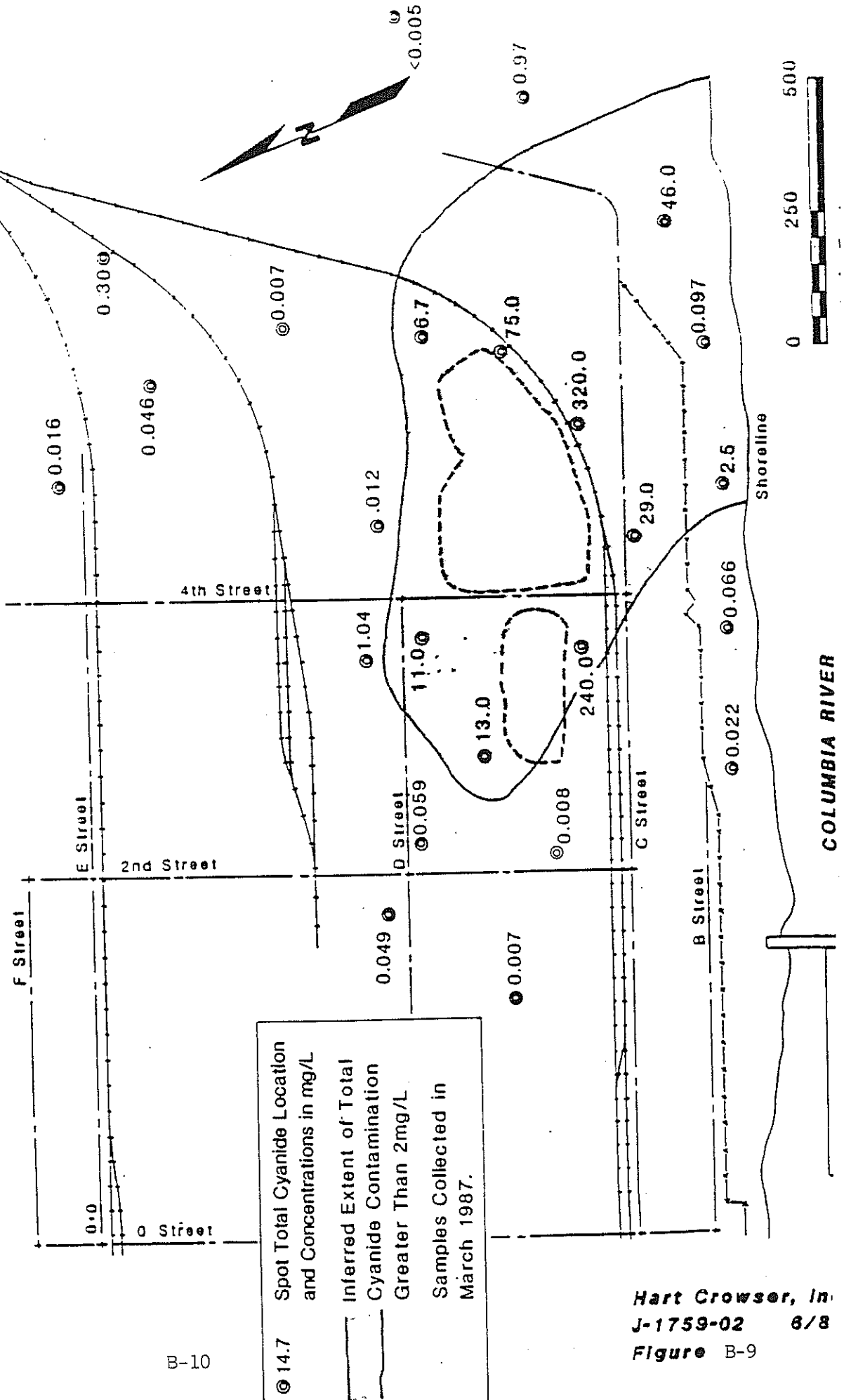
0 250 500
Scale in Feet

J-1759-02 June 198
HART-CROWSER & associates in
Figure B-8

Total Cyanide Concentration Map

Concentrations in Groundwater from Intermediate Zone

300 feet



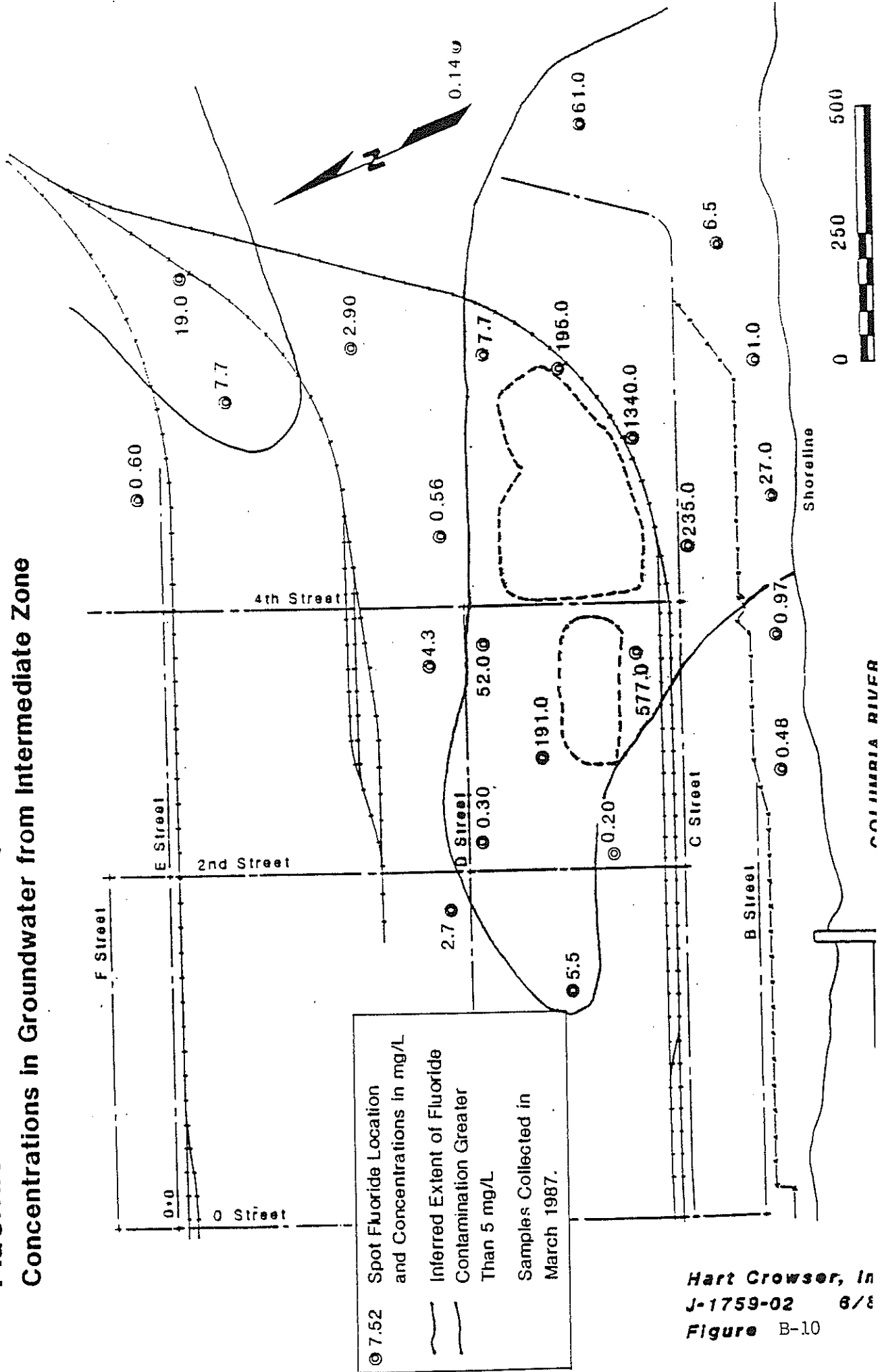
B-10

Hart Crowser, Inc.
 J-1759-02 6/8
 Figure B-9

Fluoride Concentration Map

Concentrations in Groundwater from Intermediate Zone

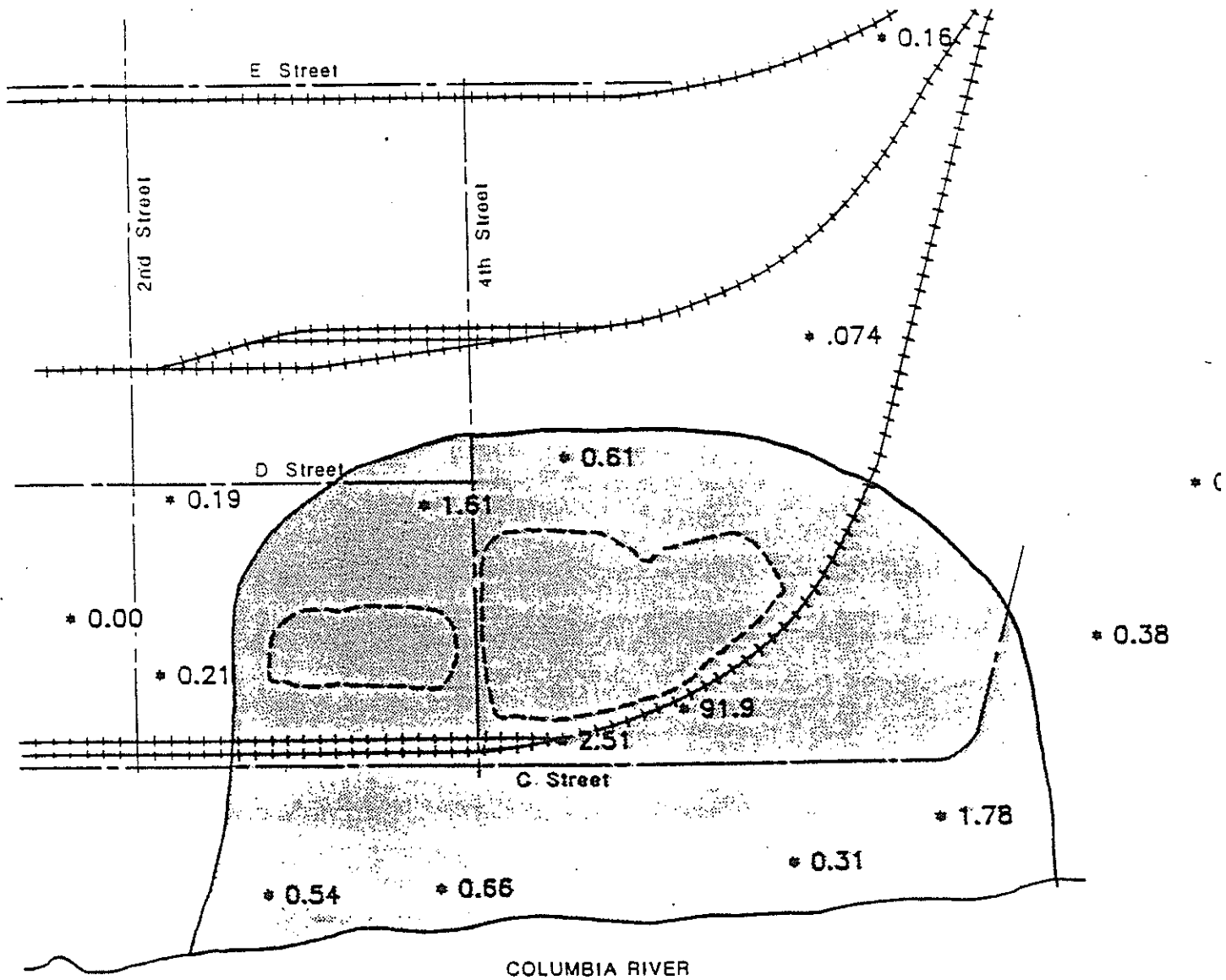
300 Feet



Hart Crowser, Inc
 J-1759-02 6/8
 Figure B-10

Total Cyanide Concentration Map

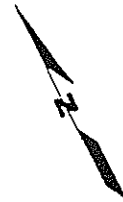
Average Concentrations in Soil Samples from Intermediate Zone



* .07 Spot Average Total Cyanide Location and Concentrations in mg/kg

— Inferred Extent of Total Cyanide Contamination greater than 0.5 mg/kg

Samples collected in August and September, 1986.

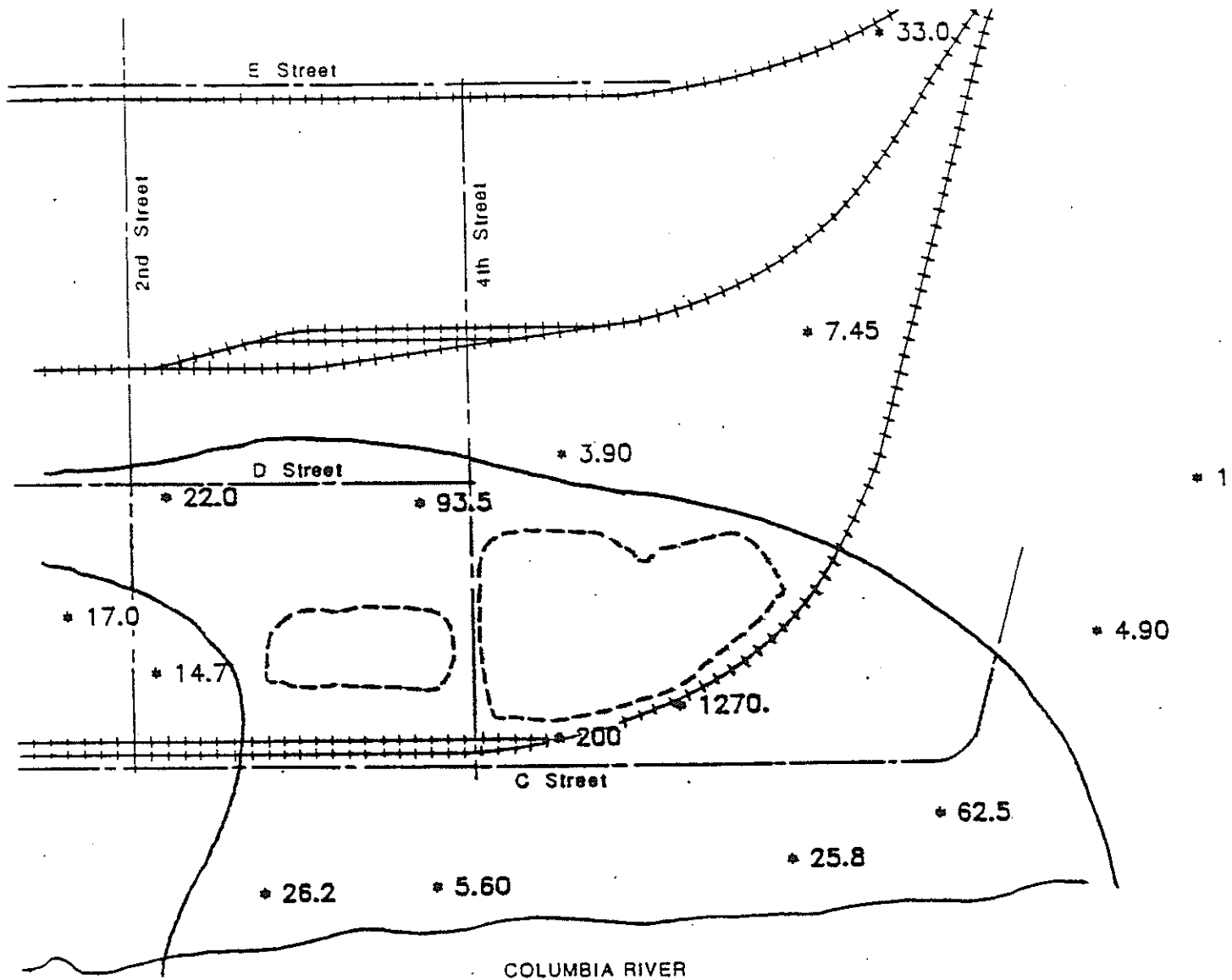


0 250 500
Scale in Feet

J-1759-02 June 19
HART-CROWSER & associates
Figure B-11

Fluoride Concentration Map

Average Concentrations in Soil Samples from Intermediate Zone



* 8.43 Spot Average Fluoride Location and Concentrations in mg/kg

==== Inferred Extent of Fluoride Contamination greater than 20 mg/kg

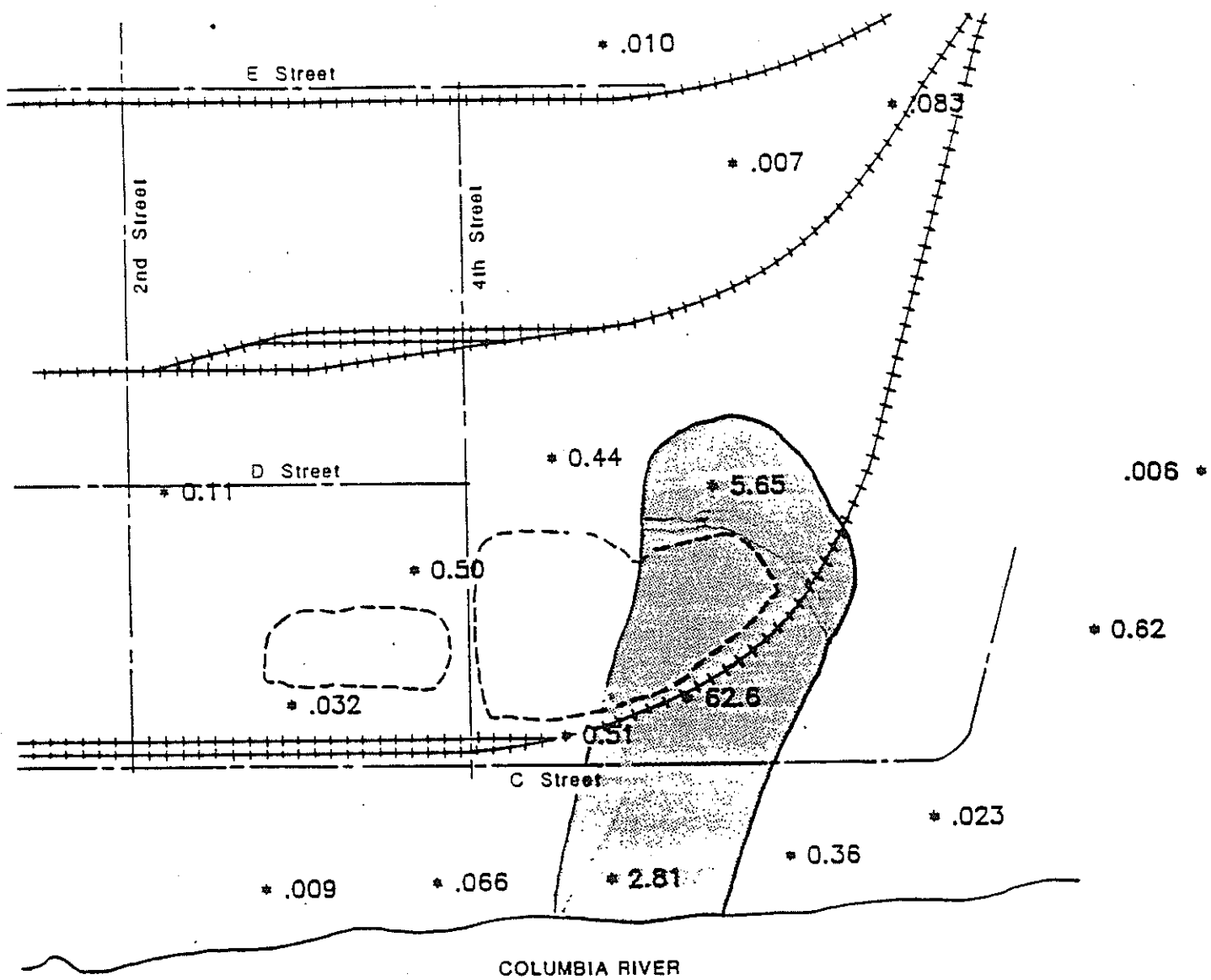
Samples collected in August and September, 1986.




0 250 500
Scale in Feet

Total Cyanide Concentration Map

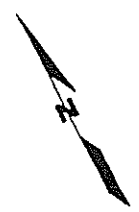
Concentrations in Groundwater from Deep Zone



• 4.7 Spot Total Cyanide Location and Concentrations in mg/L

 Inferred Extent of Total Cyanide Contamination greater than 2 mg/L

Samples collected in November, 1986.

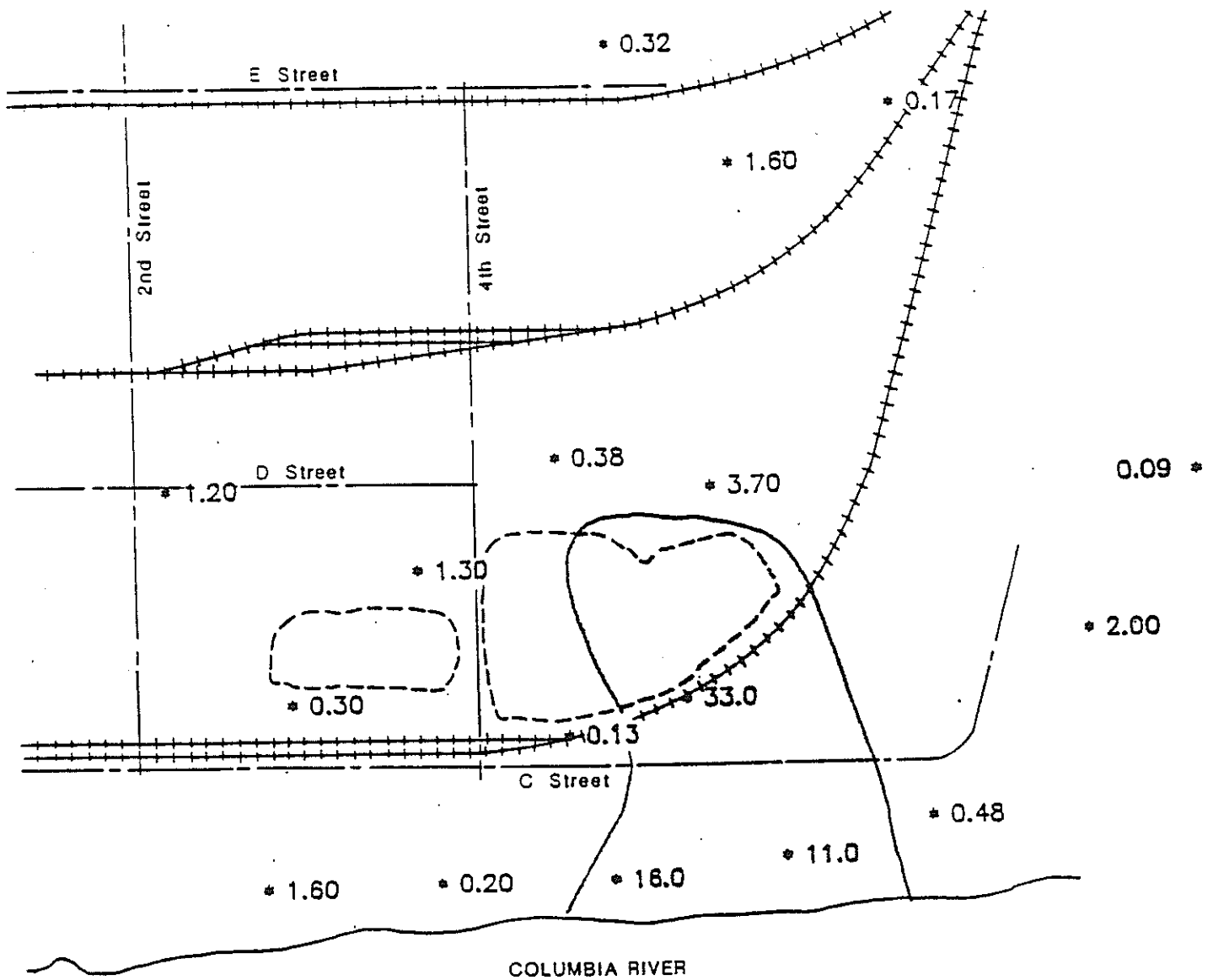


0 250 500
Scale in Feet

J-1759-02 June 19
HART-CROWSER & associates i
Figure B-13

Fluoride Concentration Map

Concentrations in Groundwater from Deep Zone



* 7.52 Spot Fluoride Location and Concentrations in mg/L

— Inferred Extent of Fluoride Contamination greater than 5 mg/L

Samples collected in November, 1986.

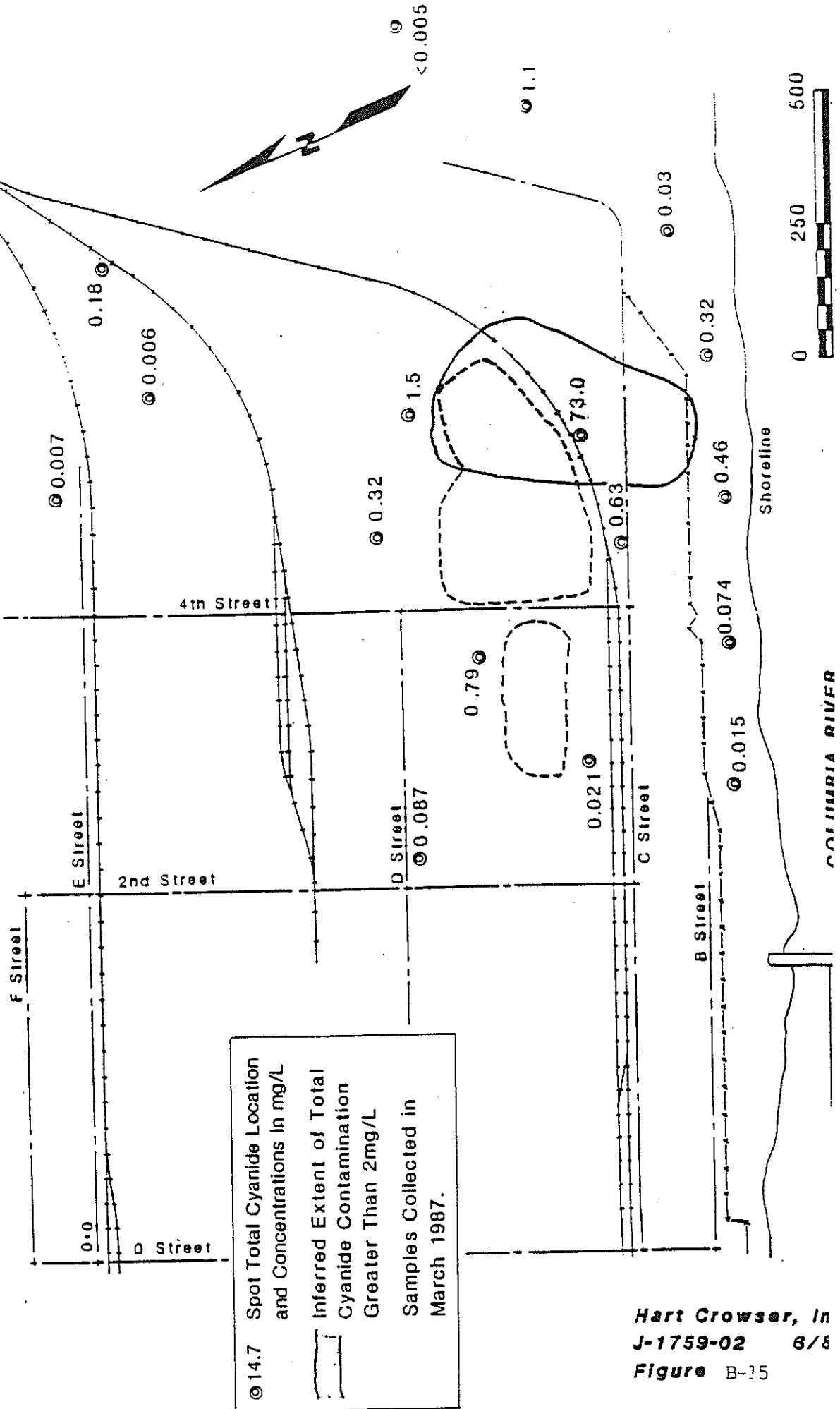


0 250 500
Scale in Feet

J-1759-02 June 19
HART-CROWSER & associates

Total Cyanide Concentration Map Concentrations in Groundwater from Deep Zone

300 Feet

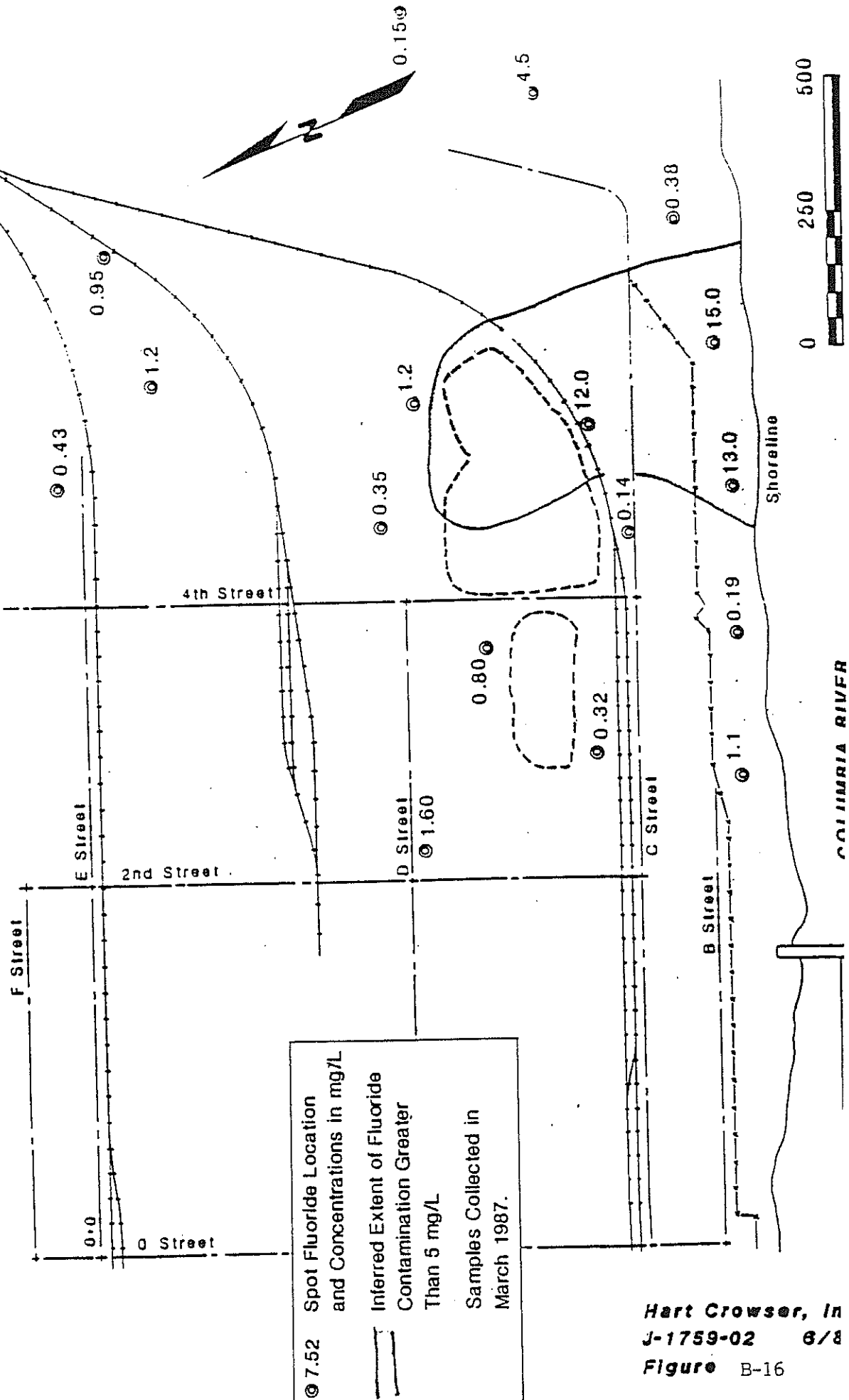


© 14.7 Spot Total Cyanide Location
 and Concentrations in mg/L
 Inferred Extent of Total
 Cyanide Contamination
 Greater Than 2mg/L
 Samples Collected in
 March 1987.

Fluoride Concentration Map

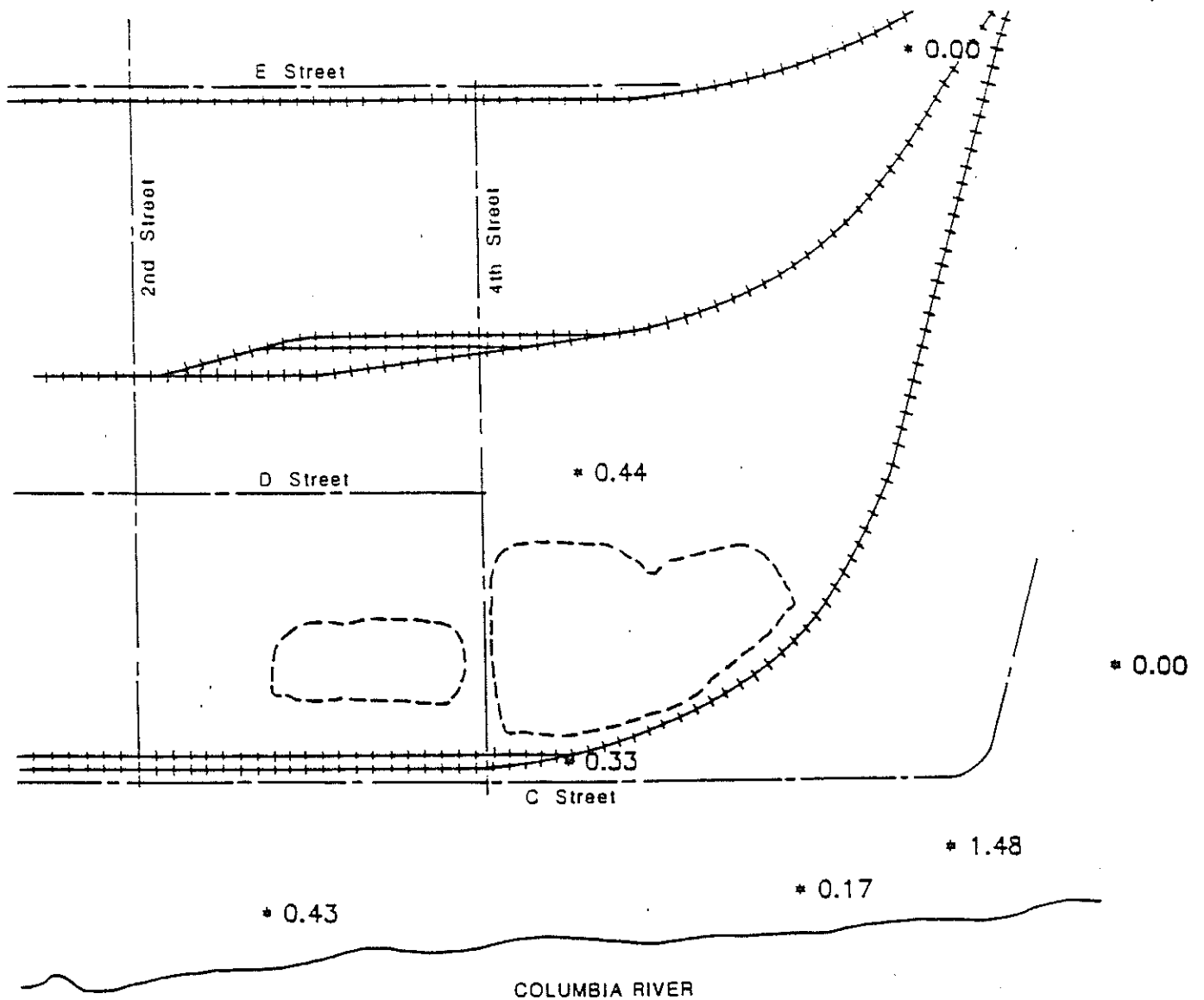
Concentrations in Groundwater from Deep Zone

300 feet



Total Cyanide Concentration Map

Average Concentrations in Soil Samples from Deep Zone



* .07 Spot Average Total Cyanide
Location and Concentrations in mg/kg

Samples collected in August
and September, 1986.

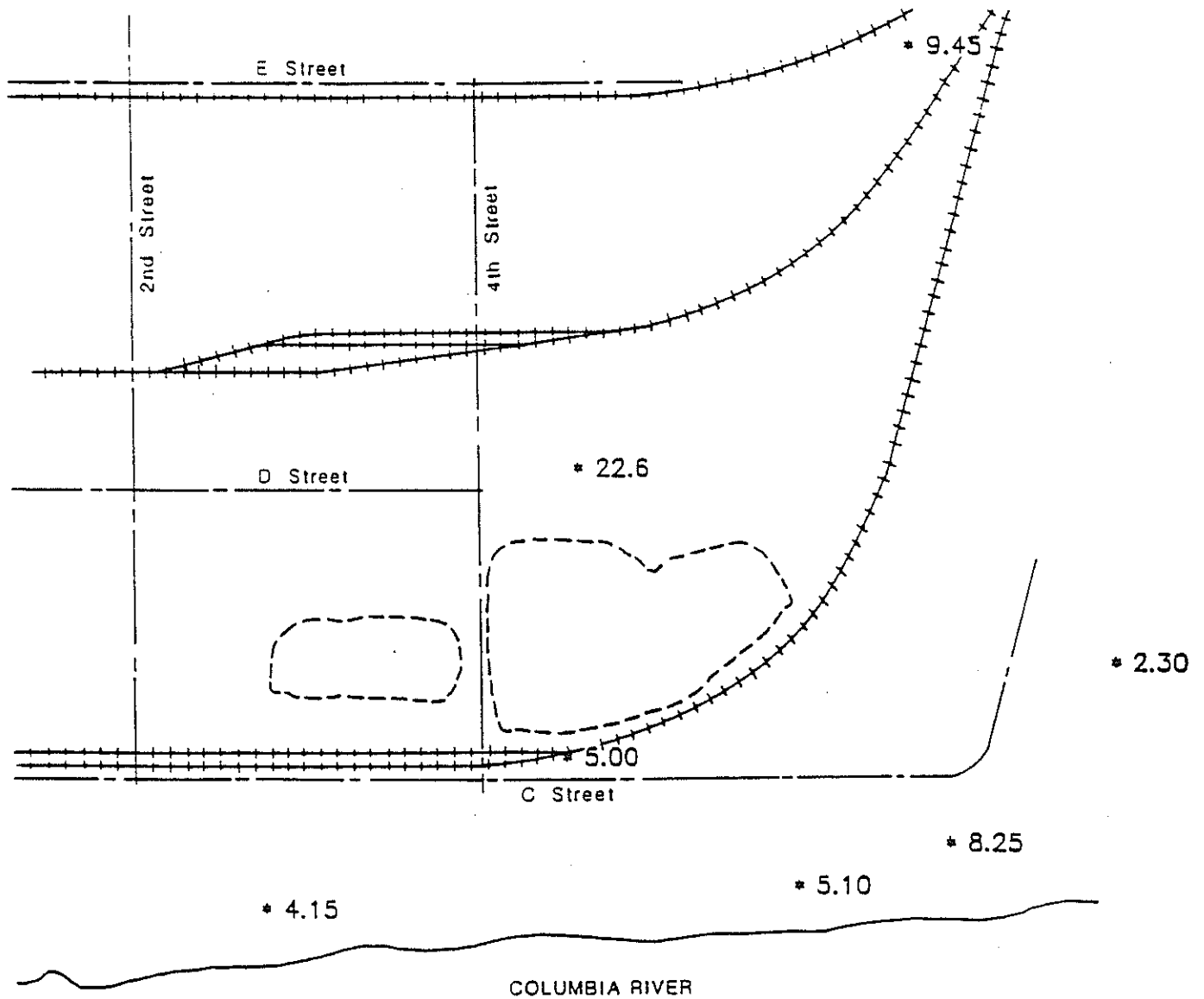


0 250 500
Scale in Feet

J-1759-02 June 19
HART-CROWSER & associates i

Fluoride Concentration Map

Average Concentrations in Soil Samples from Deep Zone



- * 8.43 Spot Average Fluoride Location and Concentrations in mg/kg
Samples collected in August and September, 1986.

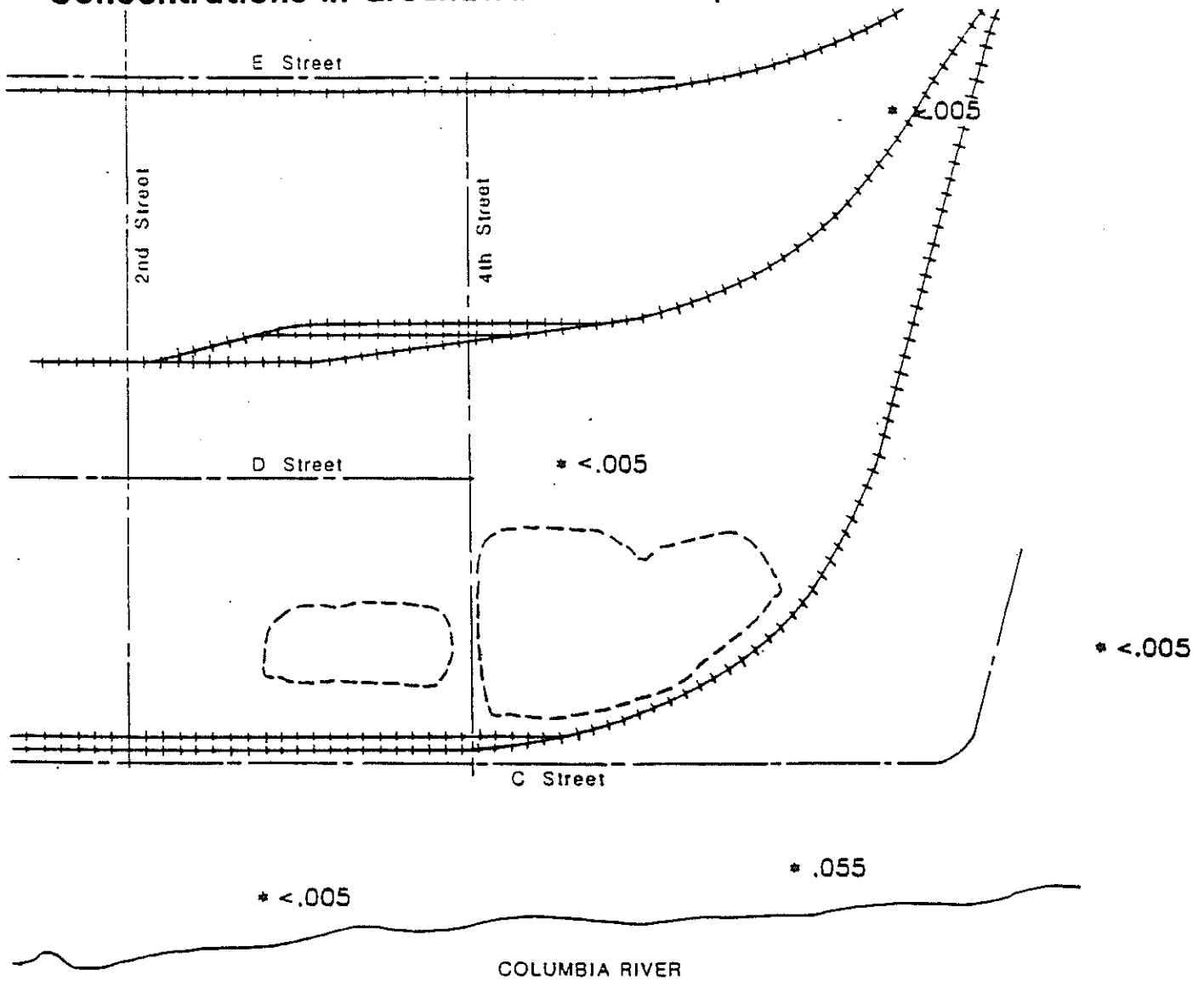


0 250 500
Scale in Feet

J-1759-02 June 19
HART-CROWSER & associates i

Total Cyanide Concentration Map

Concentrations in Groundwater from Aquifer Zone



* .055 Spot Total Cyanide Location and Concentrations in mg/L

Samples collected in November, 1986.



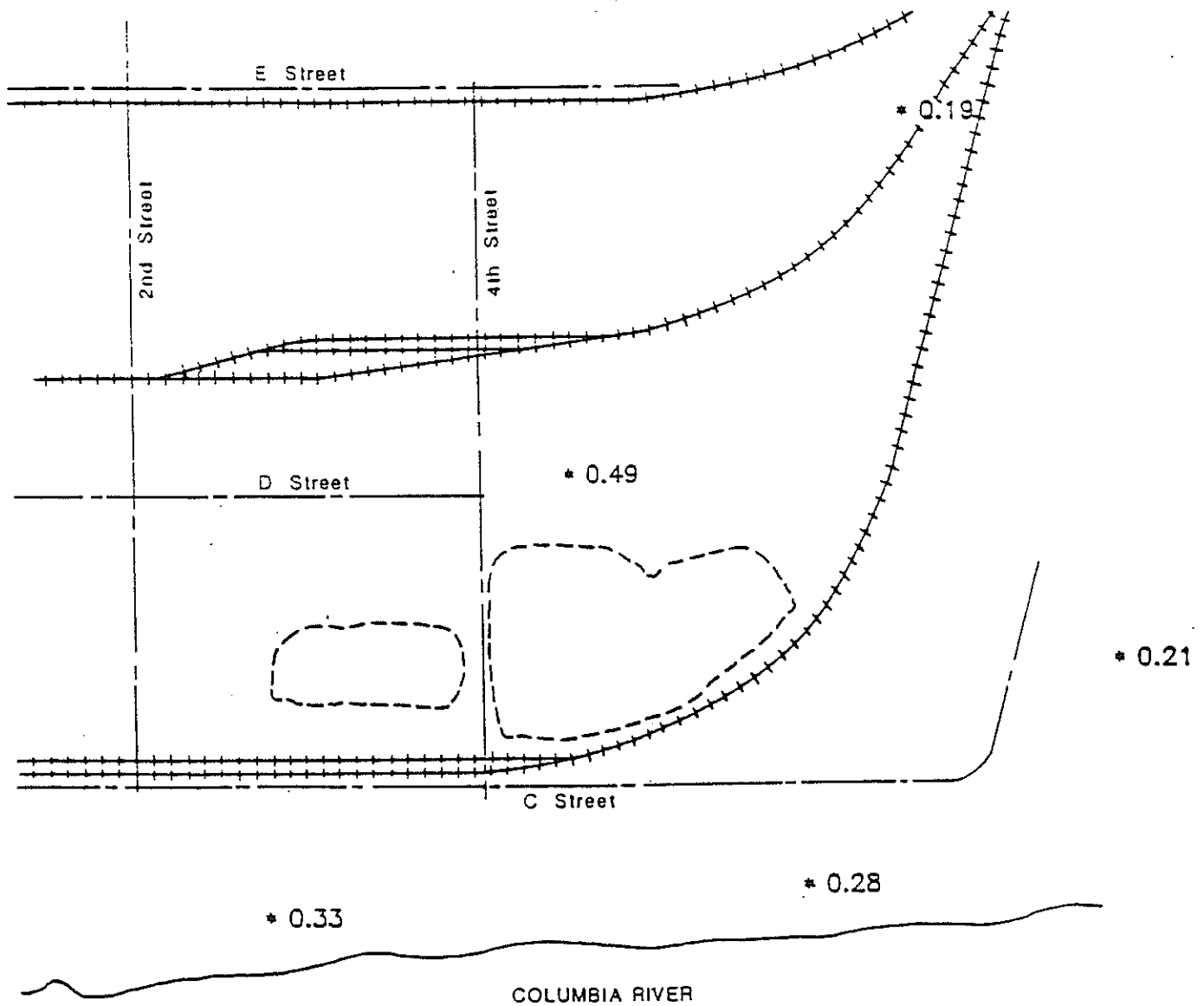
0 250 500
Scale in Feet

J-1759-02 June 1986
HART-CROWSER & associates inc.

Figure B-19

Fluoride Concentration Map

Concentrations in Groundwater from Aquifer Zone



* 0.52 Spot Fluoride Location and Concentrations in mg/L

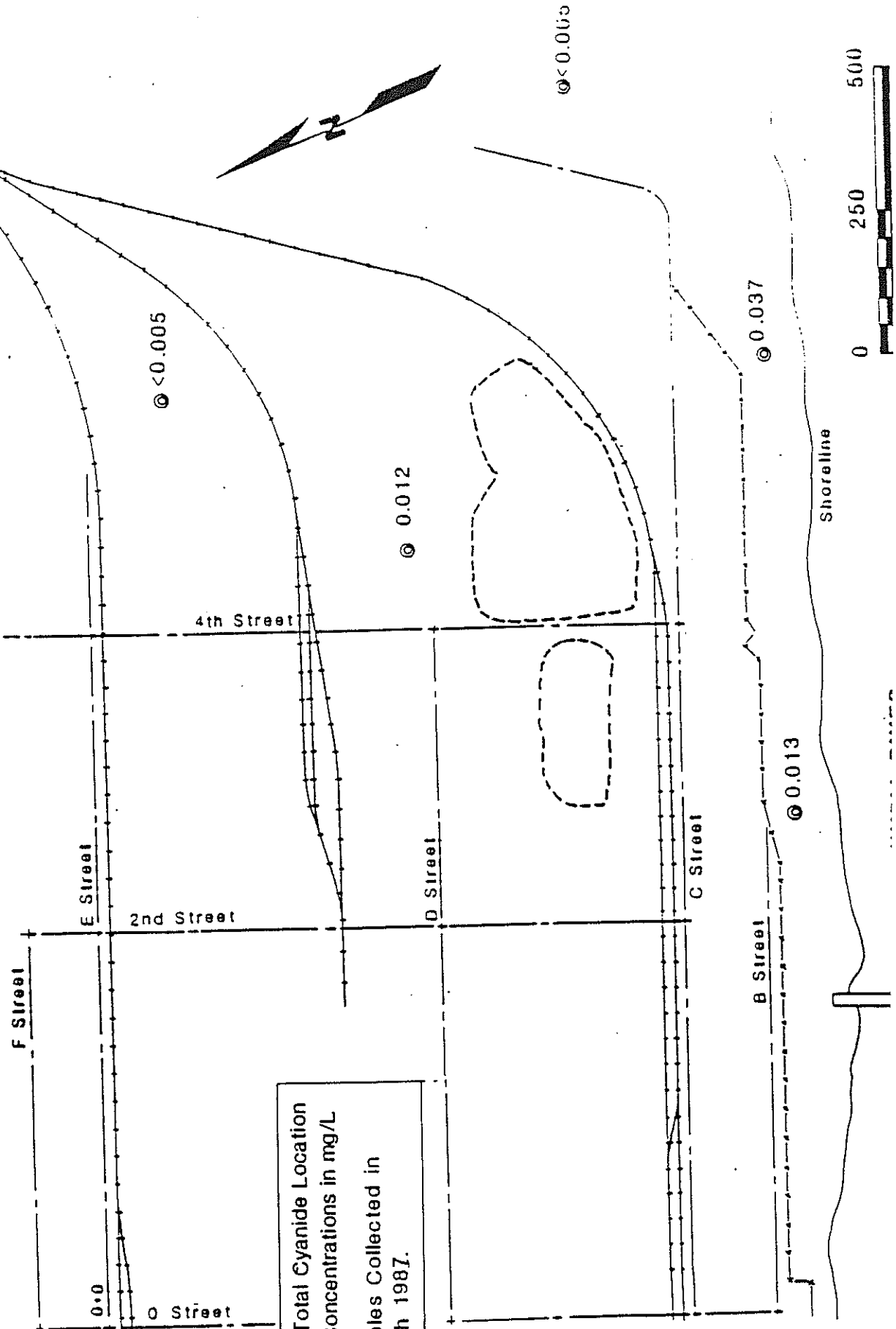
Samples collected in November, 1986.



0 250 500
Scale in Feet

J-1759-02 June 1986
HART-CROWSER & associates inc

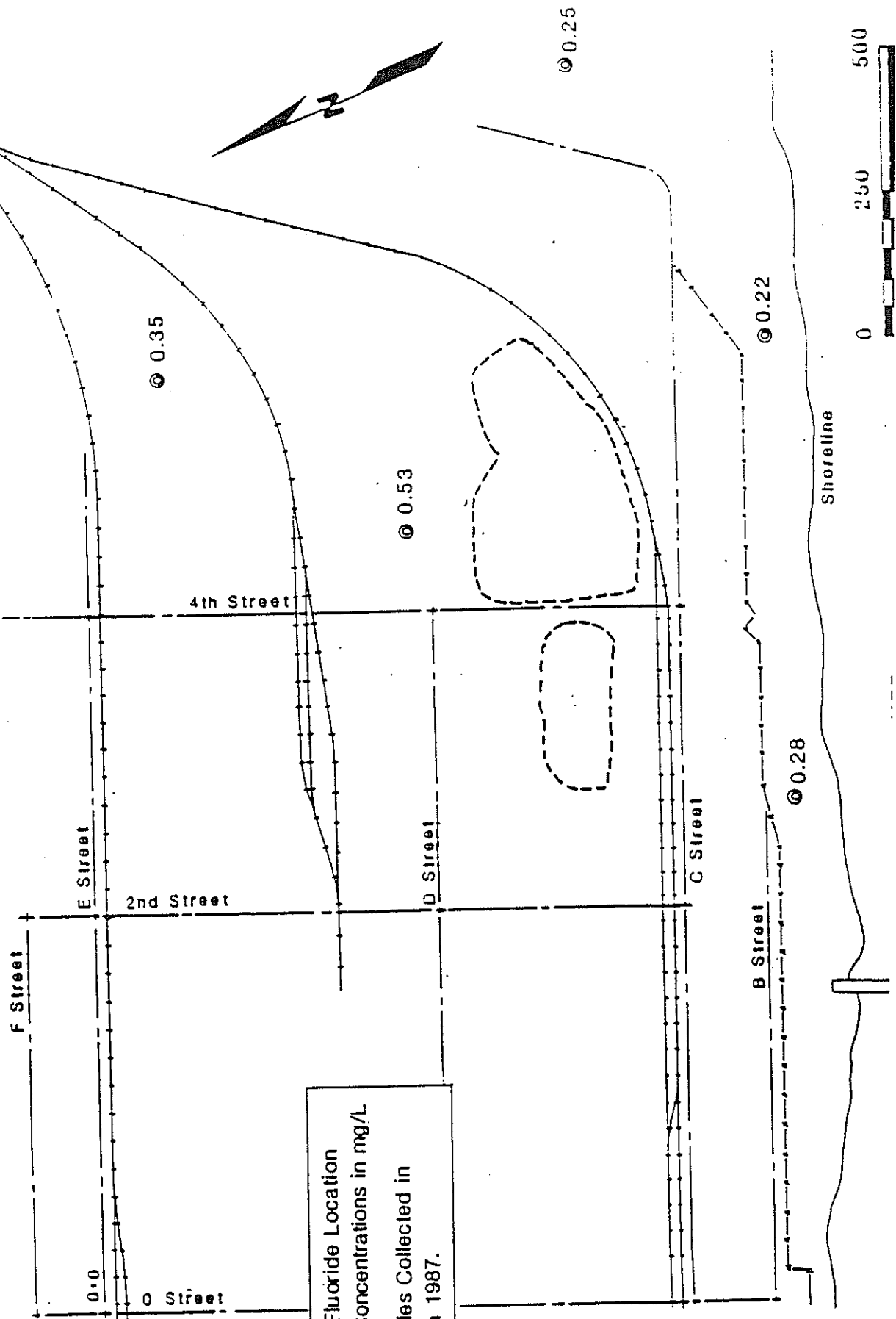
Total Cyanide Concentration Map Concentrations in Groundwater from Aquifer Zone



14.7 Spot Total Cyanide Location
and Concentrations in mg/L
Samples Collected in
March 1987.

Fluoride Concentration Map

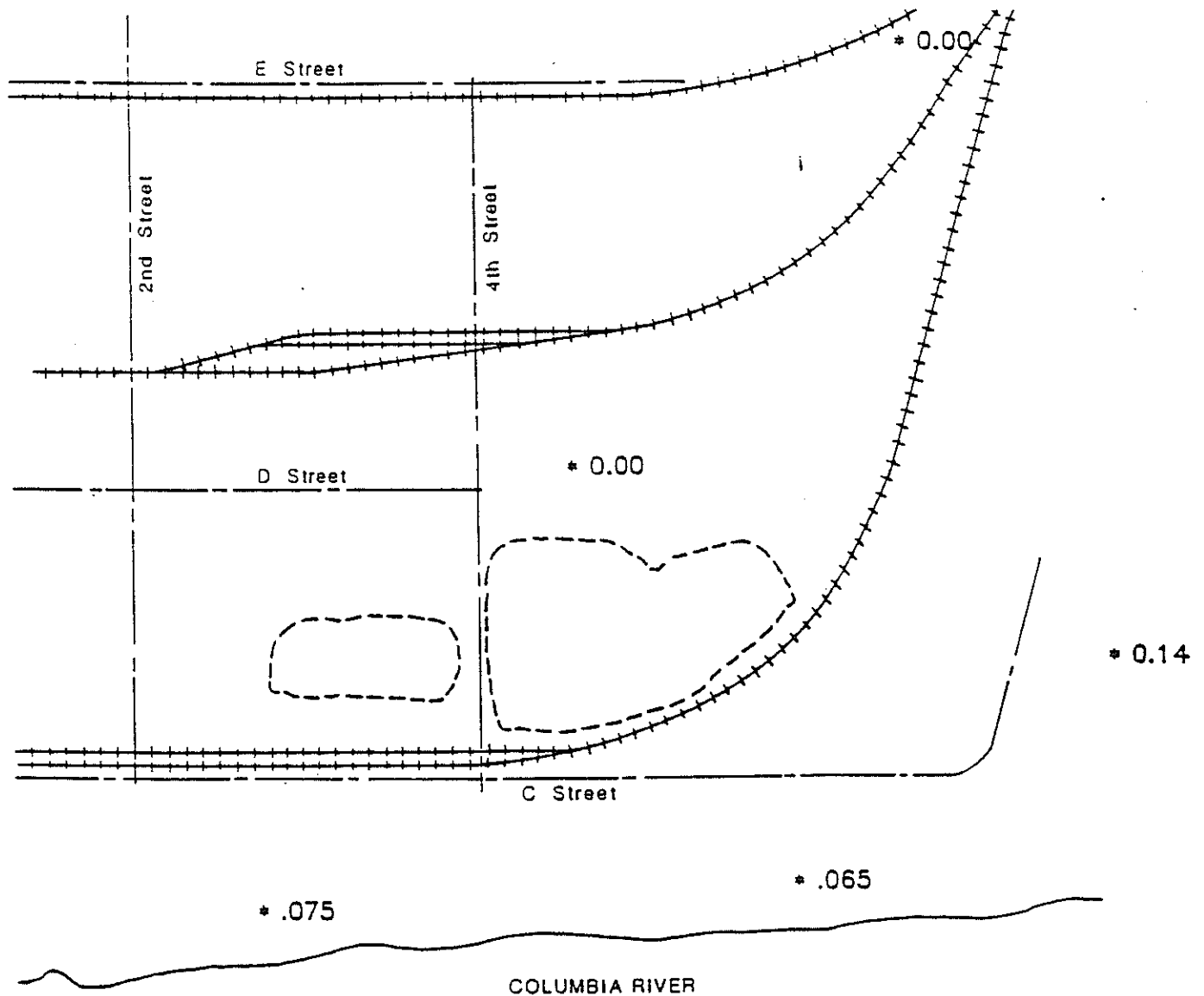
Concentrations in Groundwater from Aquifer Zone



.52 Spot Fluoride Location
and Concentrations in mg/L
Samples Collected in
March 1987.

Total Cyanide Concentration Map

Concentrations in Soil Samples from Aquifer Zone



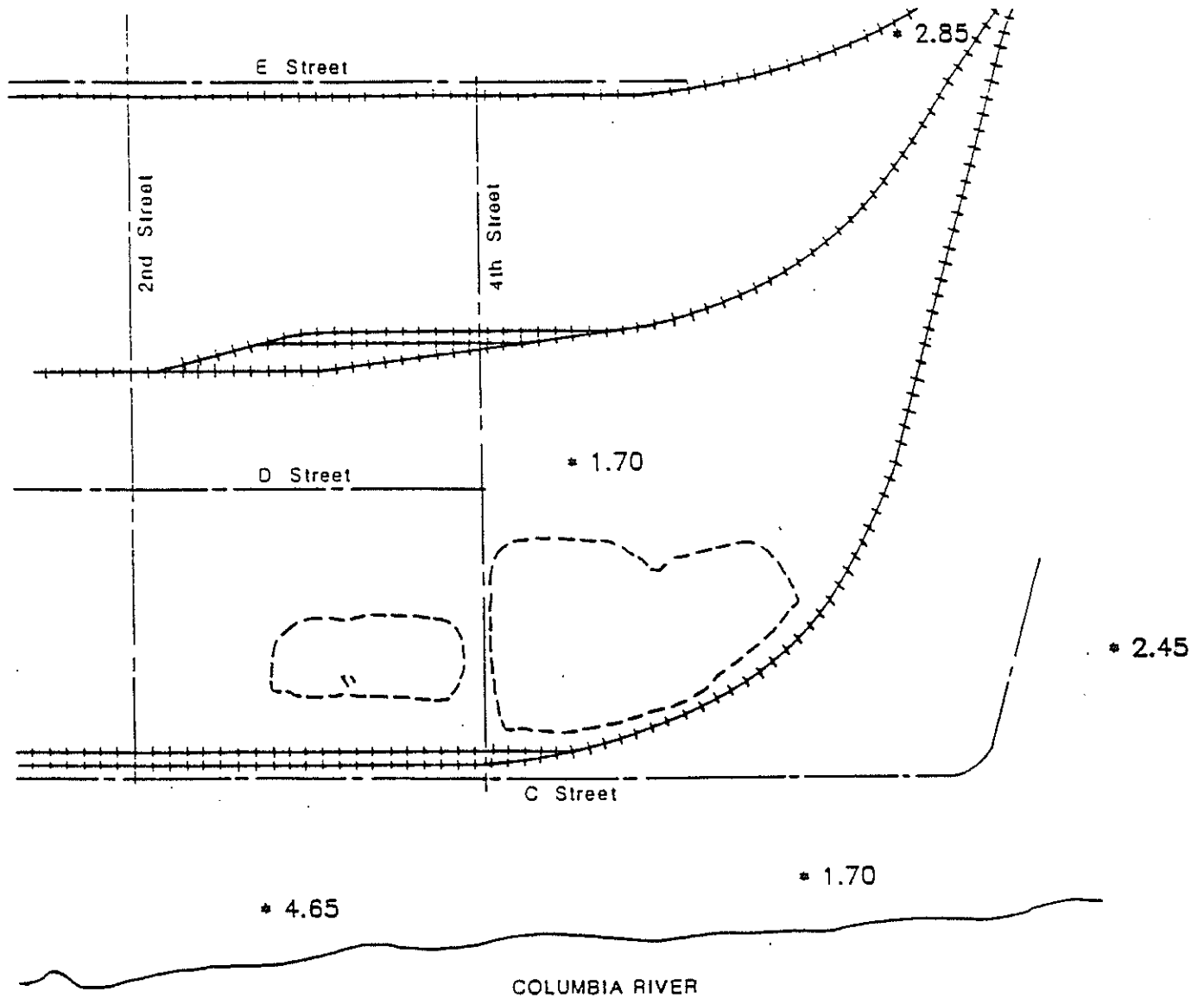
* .07 Spot Total Cyanide Location and Concentrations in mg/kg

Samples collected in August and September, 1986.

0 250 500
Scale in Feet

Fluoride Concentration Map

Concentrations in Soil Samples from Aquifer Zone



* 8.43 Spot Fluoride Location
and Concentrations
in mg/kg

Samples collected in August
and September, 1986.



0 250 500
Scale in Feet

APPENDIX C.

SEPA Documents and Shoreline Permit

1-10-91

MPL Site
Shoreline Permit - [unclear]
PNS

FILE COPY

AIR
WATER/SOLID
HAZ. WASTE

MEMORANDUM TO: **HWCU**

Alcoa - Vancouver

TO: Washington State Department of Ecology
Shoreline Management Section
Attorney General's Office DEC 17 1991

FROM: Clark County Department of Public Services

DATE: January 9, 1991.

SUBJECT: Shoreline Permit #CC-241-90

Applicant: Aluminum Company of America (ALCOA)
Purpose: Removal of potlinings

Please find attached the following:

- X Copy of the Shoreline Management Permit
- X Copy of the Application
- X Site Plan & Vicinity Map
- X Copy of Affidavit of Publication
- X SEPA Documents
- X Other relevant material, including Conditional Use and Variance evaluation (if applicable).

Enclosure(s)

cc: Department of Public Works
Parks and Recreation
 Applicant
File

NOTE-THIS PAGE FOR
LOCAL GOVERNMENT USE
ONLY

SHORELINE MANAGEMENT ACT OF 1971
PERMIT FOR SHORELINE MANAGEMENT SUBSTANTIAL DEVELOPMENT,
CONDITIONAL USE, OR VARIANCE

Substantial Development Permit
 Conditional Use
 Variance

Application No: CC-241-90

Administering Agency: Clark County

Date Received: September 21, 1990

Approved: January 9, 1991

Date of Issuance: January 9, 1991

Date of Expiration: January 9, 1996

Pursuant to RCW 90.58, a permit is hereby granted to Aluminum Company of America (ALCOA) to undertake the following development: Remove spent aluminum potlinings from an industrial plant site located within the NW 1/4 of Section 19, Township 2 North, Range 1 East of the W.M., in Clark County, Washington. Said development is adjacent to the floodplain of the Columbia River. The project will be within shorelines of statewide significance (RCW 90.58.030). The project will be located within the Urban Shoreline designation. The following master program provisions are applicable to this development; Ports and Water-related Industry, page 69.

Development pursuant to this permit shall be undertaken pursuant to the following terms and conditions:

1. The applicant shall obtain and comply with all other necessary Federal, State and local permits necessary to continue with the project.
2. The applicant shall confine operations to that area within the flood control dike, therefore, beyond the 100-year flood plain.

This permit is granted pursuant to the Shoreline Management Act of 1971 and nothing in this permit shall excuse the applicant from compliance with any other federal, state, or local statutes, ordinances or regulations applicable to this project, but not inconsistent with the Shoreline Management Act (Chapter 90.58 RCW).

This permit may be rescinded pursuant to RCW 90.68.140 (7) in the event the permittee fails to

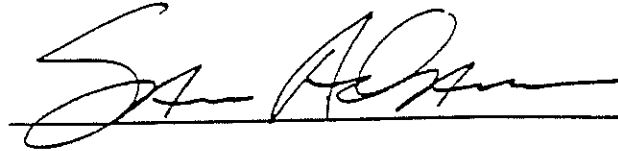
comply with the terms of conditions hereof.

CONSTRUCTION PURSUANT TO THIS PERMIT WILL NOT BEGIN OR IS NOT AUTHORIZED UNTIL THIRTY DAYS FROM THE DATE OF FILING AS DEFINED IN RCW 90.58.14(6) AND WAC 173-14-090. OR UNTIL ALL REVIEW PROCEEDINGS INITIATED WITHIN THIRTY DAYS FROM THE DATE OF SUCH FILING HAVE TERMINATED; EXCEPT AS PROVIDED IN RCW 90.58.140(5)(a)(b)(c).

Sam Adams

1/9/91

(Date)

A handwritten signature in cursive script, appearing to read "Sam Adams", written over a horizontal line.

(Signature of Authorized Local Government Official)

STAFF REPORT

Shoreline Application #CC-241-90 Aluminum Company of America (ALCOA)

Aluminum Company of America (ALCOA) has submitted an application for a Shoreline Substantial Development Permit for the removal of three waste piles of spent pot linings. Removal is proposed in order to mitigate the potential environmental degradation associated with the material, listed as a "dangerous waste" by the Department of Ecology.

The site is located in the NW 1/4 of Section 19, T.3N, R.1E, Willamette Meridian, within the Heavy Industrial Zone (MH-E). The site is accessible via Lower River Road and a private entrance road used by Vanexco and ACPC, Inc., shown on the site plans. A consent decree is pending from the Department of Ecology, who are negotiating conditions of off-site transportation and disposal with ALCOA. The site lies within the plant flood control dike, thus protected from the 100 year flood plain of the Columbia River.

FINDINGS:

1. A Determination of Nonsignificance (DNS) was issued on December 13, 1990.
2. The work will not take place within the floodway and is located beyond the 100-year floodplain of the Columbia River.
3. The project is located within the "urban" shoreline environment. Industrial projects are identified as a permitted use within the urban environment.
5. The applicant proposes spraying water around the construction area, to control impacts from dust during removal of the piles.
6. Flood plain regulations will be enforced through the Shoreline Permit process, therefore, a separate flood plain permit is not required.

RECOMMENDATIONS:

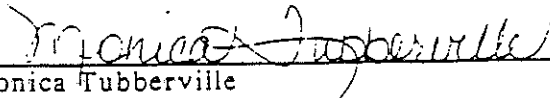
Staff recommends APPROVAL of Shoreline Substantial Development Permit #CC-241-90 subject to the following conditions:

1. The applicant shall obtain all other necessary State and local permits prior to commencing the project and shall comply with the standards of those permits.
2. The applicant shall confine operations to that area within the flood control dike, therefore beyond the 100-year flood plain.
3. The applicant should actively reduce dust on the site during removal of the piles by spraying them with water.

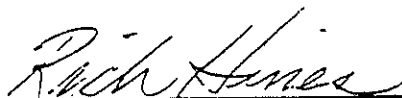
APPROVED by the Shoreline Management Review Committee on ...



Sam Adams, Chairman
Public Works



Monica Tubberville
Parks and Recreation



Rich Hines
Planning

DW:
Attachments

AFFIDAVIT OF PUBLICATION

STATE OF WASHINGTON)
)
County of Clark) ss:

Joanne Cox being first duly sworn on oath; deposes and says: That she is the Principal Clerk of THE COLUMBIAN, a newspaper published in Clark County, Washington and approved by the Superior Court of Clark County, Washington. That the annexed is a true copy of a

Notice of Application

as it was published on:

the 03 day of October, 1990

the 10 day of October, 1990

That the fee charge for the publication is the sum of \$36.00.

Joanne Cox

Subscribed and sworn to before me October 15, 1990.

Richard K. Trumble

NOTARY PUBLIC in and for the State of Washington. Residing in Vancouver.

NOTICE OF APPLICATION FOR A SHORELINE MANAGEMENT SUBSTANTIAL DEVELOPMENT/PROJECT SDC-691-89
Notice is hereby given that the Aluminum Company of America, owner of the below described property, has filed an application for a shoreline management substantial development permit to remove and dispose off-site three spent petting waste piles, located within the NW 1/4 of Section 18, Township 2 North, Range 1 East of the Willamette Meridian in Clark County, Washington. Said activity is proposed to be within the shoreline management jurisdictional area of the Columbia River. Any person desiring to express his views or to be notified of the action taken on this application should notify the Planning Director, Clark County Department of Public Services in writing of his interest within thirty (30) days of the final date of publication of this notice, which is October 16, 1990. Written comments must be received by November 6, 1990. Oct. 3, 1990

DETERMINATION OF NONSIGNIFICANCE

Description of proposal: Shoreline Permit to remove 3 waste piles of spent potlinings within the former ALCOA industrial plant site.

Proponent: ALCOA (Aluminum Company of America, Inc.)

Location of proposal, including street address, if any: 550 Lower River Road.

Lead agency: Clark County, Washington

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

There is no comment period for this DNS.

This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 15 days from the date below. Comments must be submitted by December 27, 1990. Please refer to the Clark County file name and number when submitting comments.

Responsible Official: Glenn W. Gross, Clark County Department of Public Services
Position/title: Planning and Development Review Manager Phone: 699-2375
Address: 1408 Franklin Street, P.O. Box 5000, Vancouver, WA 98668
Date: December 13, 1990

Signature: _____

NOTE: In making a threshold determination, the SEPA Rules require the lead agency to consider mitigation measures which an agency or the applicant will implement as part of the proposal (Chapter 197-11-330(1)(c) WAC). This DNS is based on the conclusion that the requirements of Clark County building and land development codes, and applicable State and Federal regulations, will serve to mitigate adverse impacts of this proposal.

Attached to the environmental checklist are evaluation comments prepared by lead agency staff after reviewing the applicant's response to each checklist question. The staff contact person/telephone number for any questions on this review is Dave Wechner, 699-2375.

ENVIRONMENTAL CHECKLIST REVIEW BY LEAD AGENCY
CLARK COUNTY PUBLIC SERVICES DEPARTMENT - PLANNING STAFF

Name of Proposal: SHORELINE MANAGEMENT PERMIT #CC-241-90

Name of Applicant: Aluminum Company of America (ALCOA)

Section A. BACKGROUND

The Aluminum Company of America (ALCOA) has applied for a Shoreline Management permit to allow the removal of three waste piles of spent potlinings. The waste piles are located in a yard that was formerly Alcoa's Vancouver Operations. The yard adjoins property owned by Vanexco, Inc., at 550 NW Lower River Rd., Vancouver.

The area is currently being used as a dumping spot for industrial plant waste piles. A groundwater monitoring program is ongoing with several monitoring wells located around the waste piles. ALCOA is awaiting an order from the Washington Department of Ecology (DOE) for removal of these piles, as spent potlinings are listed as "dangerous wastes" by the DOE. The area is outlined on attachments accompanying the Environmental Checklist prepared by ALCOA. The site is located within the Heavy Industrial Zoning District (MH-E) of Clark County, in the NW 1/4 of Section 19, T.3N., R.1E., W.M.

The site is within the plant flood control dike, thus protected from the 100-year flood plain of the Columbia River.

Section B. ENVIRONMENTAL ELEMENTS

1. Earth

According to the SCS manual, the site is a combination of fill materials, with no clearly defined soil characteristics. Nearby soil is Pilchuck fine sand.

2. Air

There is a potential for exposure to dust by personnel removing the piles. The applicant proposes spraying water on the piles during removal to minimize this impact. The actual exposure potential is dependent upon factors such as particle size, wind speed and direction, and the number of people on site during removal.

3a. Surface Water

The applicant indicates the site is approximately 200 feet from the mean high water level of the Columbia River. The site is not within the 100-year flood plain, as it is protected by a dike surrounding the ALCOA facility. No surface water exists on the site.

3b. Groundwater

No concerns noted.

3c. Water Runoff

Site runoff is contained by the railroad embankments surrounding the site.

3d. Mitigation for Water Impacts

The handling of waste water from cleaning equipment and spraying the piles to prevent dust dispersal was not addressed by the applicant; however, the surrounding dike should contain surface runoff, and no impact to groundwater is foreseen.

4. Plants

The waste piles have a sparse cover of vegetation (grass, weeds), no landscaping OR re-vegetation of the area is proposed or needed.

5. Animals

Birds have been sighted in the area. Their exposure to windborne contaminants should be reduced by spraying the site with water to minimize dust.

6. Energy and Natural Resources

No concerns noted.

7a. Health Hazards

The proposed remediation plan will remove these contaminants from the site and transport them to a hazardous waste landfill. The immediate concern regarding health centers on those who will be actually removing the waste piles. By minimizing dust and exposure to the waste, this hazard may be mitigated.

7b. Noise

No concerns noted as the site is an existing industrial area.

8. Land and Shoreline Use

The site is currently zoned Heavy Industrial (MH) as designated on the Comprehensive Plan, and is within the Environmental Combining District. The site is surrounded by the 100-year flood plain of the Columbia River, and within an "Urban " Shoreline Master Program designation.

9. Housing

No concerns noted.

10. Aesthetics

No concerns noted.

11. Light and Glare

No concerns noted.

12. Recreation

No concerns noted, as public recreation is not permitted on the industrial site.

13. Historic and Cultural Preservation

No concerns noted.

14. Transportation

The site is served by Lower River Road and accessed by the private entrance road used by Vanexco and ACPC, Inc. Twenty trucks per day will be using this road during removal. The trucks are to be covered and cleaned prior to leaving the site. This quantity of additional trucks for the limited duration of the project will have a negligible effect on traffic in the area. All vehicles used in the removal must comply with all federal and state standards.

15. Public Services

No concerns noted.

16. Utilities

No concerns noted.

CLARK COUNTY
APPLICATION FOR SHORELINE MANAGEMENT

- () Substantial Development Permit
- () Conditional Use Permit
- () Variance Permit

Application No. 241-90

Filing Date 9-21-90

TO THE APPLICANT: This is an application for a substantial development, conditional use, or variance permit as authority by the Shoreline Management Act of 1971. It is suggested that you check with appropriate local, state or federal officials to determine whether your project falls within any other permit systems.

1. Name of applicant Aluminum Company of America
2. Mailing address P. O. Box 970, Vancouver, WA 98666
3. Relation of applicant to property: Owner
Owner Aluminum Company of America
Purchaser _____
Lessee _____
Other _____
4. Name and address of owner, if other than applicant
Aluminum Company of America
1501 Alcoa Building
Pittsburgh, PA 15219
5. General location of proposed project NW 1/4 Section 19
(section, to the nearest quarter
Township 2 north range 1 east
section, township and range)
6. Name of water area and/or wetlands within which development is proposed
Approximately 200 feet from Columbia River mean high water shoreline
7. Current use of the property with existing improvements Yard area of
industrial plant waste piles within the plant flood control dike
8. Proposed use of property (describe proposal) Removal of three spent potting
waste piles
9. (To be completed by local official.) Nature of the existing shoreline. (Describe type of shoreline, such as marine, stream, lake, lagoon, marsh, bog, swamp, flood plain, floodwa delta; type of beach, such as accretion, erosion, high bank, low bank, or dike; material such as sand, gravel, mud, clay rock, riprap; and extent and type of bulkheading, if any):

10. (To be completed by local official.) In the event that any of the proposed buildings or structures will exceed a height of thirty-five feet above the average grade level, indicate the approximate location of and number of residential units, existing a potential, that will have an obstructed view.

11. (To be completed by local official) If the application involves a conditional use or variance, set forth in full that portion of the master program which provides that the proposed use may be a conditional use, or, in the case of a variance, from which the variance is being sought.

PROJECT DIAGRAMS: Draw all site plans and maps to scale, clearly indicating scale on lower right-hand corner and attach them to the application.

a. SITE PLAN Include on plan:

1. Site boundary
2. Property dimensions in vicinity of project.
3. Ordinary high-water mark (O.H.W.M.).
4. Typical cross section or sections showing:
 - (i) Existing ground elevations.
 - (ii) Proposed ground elevation.
 - (iii) Height of existing structures.
 - (iv) Height of proposed structures.
5. Where appropriate, proposed land contours using five-foot intervals in water area and ten-foot intervals on areas landward of ordinary high-water mark, if development involves grading, cutting, filling, or other alteration of land contours.
6. Show dimensions and locations of existing structures which will be maintained, modified or removed.
7. Show dimensions and locations of proposed structures.
8. Identify source, composition, and volume of fill material.
9. Identify composition and volume of any extracted materials, and identify proposed disposal area.
10. Location of proposed utilities, such as sewer, septic tanks and drainfields, water, gas, electricity.
11. If the development proposes septic tank, does proposed development comply with local health and state regulations? _____
12. Shoreline designation according to master program. _____
13. Show which areas are shorelines and which are shorelines of statewide significance.

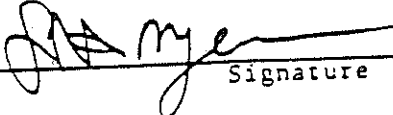
b. VICINITY MAP.

1. Indicate site location using natural points of reference (roads, state highways, prominent land marks, etc.)
2. If the development involves the removal of any spoils by dredging or otherwise, please identify the proposed disposal site on the map. If the disposal site is beyond the confines of the vicinity map, provide another vicinity map showing the precise location of the site and its distance to the nearest city or town.
3. Give brief narrative description of the general nature of the improvements and land use within one thousand feet in all directions from development site. (i.e., residential to the north, commercial to the south, etc.)

12. Additional material or comments (include other sheets if necessary).

I, STEVEN H. MYERS (ALCOA) am the above named applicant for a permit to construct a development pursuant to the Shoreline Management Act of 1971, and hereby state that the foregoing statements, answers and information are true and correct to the best of my knowledge and belief.

Date


Signature

ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

TO BE COMPLETED BY APPLICANT

A. BACKGROUND

1. Name of proposed project, if applicable.

Removal of spent potlining piles

2. Name of applicant. Aluminum Company of America

3. Address and phone number of applicant and contact person:

S. H. Myers

Aluminum Company of America

P. O. Box 970

Vancouver, WA 98666 (206) 699-5842

4. Date checklist prepared: 1990 September 15

5. Agency requesting checklist: Clark County

6. Proposed timing or schedule (including phasing, if applicable):

1990 October 01 - 1991 April 01

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

No

TO BE COMPLETED BY APPLICANT

8 List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

A groundwater monitoring program is ongoing with several monitoring wells around the waste piles.

9 Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

An order from Washington DOE for removal of these waste piles is expected soon.

10 List any government approvals or permits that will be needed for your proposal, if known.

Approval from Washington DOE.

11 Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

Remove and dispose off-site three spent potlining waste piles.

12 Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

Waste piles are located adjacent to Vanexco, Inc., 5509 N.W. Lower River Road, Vancouver, WA

B ENVIRONMENTAL ELEMENTS

1 Earth

a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____ Area around waste piles is flat to gentle rolling.

b. What is the steepest slope on the site (approximate percent slope)?

N/A

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

N/A - Waste piles to be removed down to grade only.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

N/A

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Removal only.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

No

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

N/A

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any.

N/A

2 Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Small amount of dust will be generated, water will be used to control dusting.

b. Are there any off site sources of emissions or odor that may affect your proposal? If so, generally describe.

No

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Water to control dusting.

4 Plants

a. Check or circle types of vegetation found on the site.

- deciduous tree: alder, maple, aspen, other
- evergreen tree: fir, cedar, pine, other
- shrubs
- grass
- pasture
- crop or grain
- wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

Waste piles have a sparse vegetation cover.

c. List threatened or endangered species known to be on or near the site.

None

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

N/A

5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

- birds hawk, heron, eagle, songbirds, other: birds
- mammals deer, bear, elk, beaver, other:
- fish bass, salmon, trout, herring, shellfish, other: None other than Columbia River

b. List any threatened or endangered species known to be on or near the site.

None

c. Is the site part of a migration route? If so, explain

No

d. Proposed measures to preserve or enhance wildlife, if any

N/A

6 Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc

N/A

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe

No

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.

N/A

7 Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal?

If so, describe

The spent potlining is listed as a dangerous waste in Washington.

Removal will minimize present low threat to exposure.

1) Describe special emergency services that might be required.

None

2) Proposed measures to reduce or control environmental health hazards, if any

Work will be done by a trained contractor. All equipment that leaves the job site will be cleaned; generation of job site dust will be minimized.

b. Noise

1) What types of noise exist in the area which may affect your project (for example, traffic, equipment, operation, other)?

N/A

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example, traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Construction noise only, nearest resident is one mile away.

3) Proposed measures to reduce or control noise impacts, if any:

N/A

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

Property is part of the yard that was formerly Alcoa's Vancouver Operations. The yard is owned by Alcoa and adjoins property of Vanalco, Inc.

b. Has the site been used for agriculture? If so, describe.

No

c. Describe any structures on the site.

None

d. Will any structures be demolished? If so, what?

No

e. What is the current zoning classification of the site?

Heavy industry - E - MH

f. What is the current comprehensive plan designation of the site?

Heavy manufacturing

g. If applicable, what is the current shoreline master program designation of the site?

Urban

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No

i. Approximately how many people would reside or work in the completed project?

N/A

j. Approximately how many people would the completed project displace?

N/A

k. Proposed measures to avoid or reduce displacement impacts, if any:

N/A

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Project will return land to its current use.

9 Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing

N/A

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing

N/A

c. Proposed measures to reduce or control housing impacts, if any:

N/A

10 Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas, what is the principal exterior building material(s) proposed?

N/A

b. What views in the immediate vicinity would be altered or obstructed?

N/A

c. Proposed measures to reduce or control aesthetic impacts, if any:

N/A

11 Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

N/A

b. Could light or glare from the finished project be a safety hazard or interfere with views?

N/A

c. What existing off-site sources of light or glare may affect your proposal?

N/A

d. Proposed measures to reduce or control light and glare impacts, if any:

N/A

12 Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Fishing in the Columbia River.

b. Would the proposed project displace any existing recreational uses? If so, describe.

N/A

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

N/A

13 Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe

None

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None

c. Proposed measures to reduce or control impacts, if any:

N/A

14 Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Site is off Lower River Road accessed by the private entrance road used by Vanexco and ACPC, Inc.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No

c. How many parking spaces would the completed project have? How many would the project eliminate?

N/A

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private)

N/A

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

N/A

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

Waste material will be moved by truck with approximately 20 trucks per day leaving the site.

g. Proposed measures to reduce or control transportation impacts, if any:

Trucks will be covered and cleaned prior to leaving the site. This small quantity of additional trucks for the limited duration of the project will have a negligible effect on traffic in the area.

15 Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe

No

b. Proposed measures to reduce or control direct impacts on public services, if any.

N/A

16 Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed

N/A

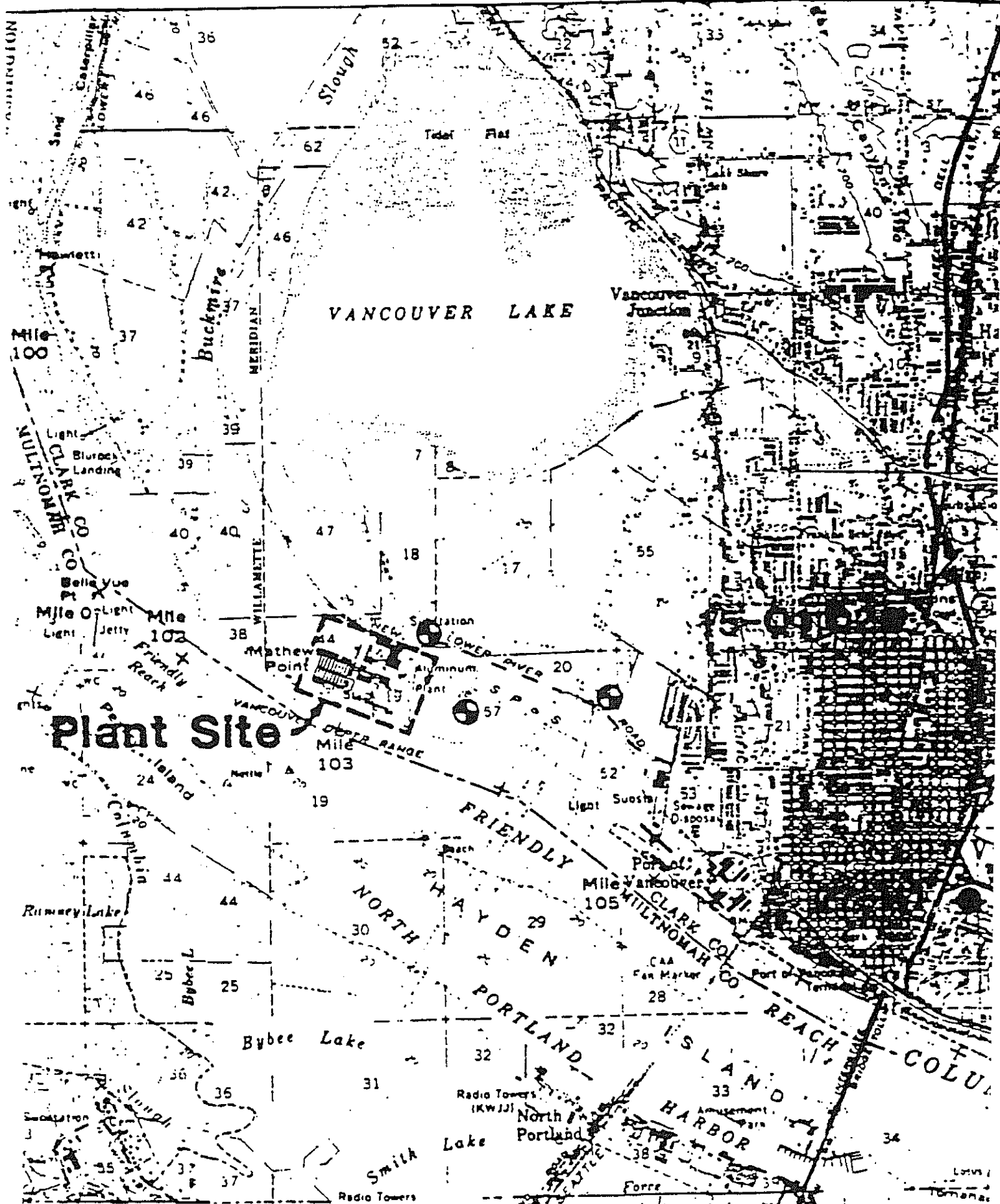
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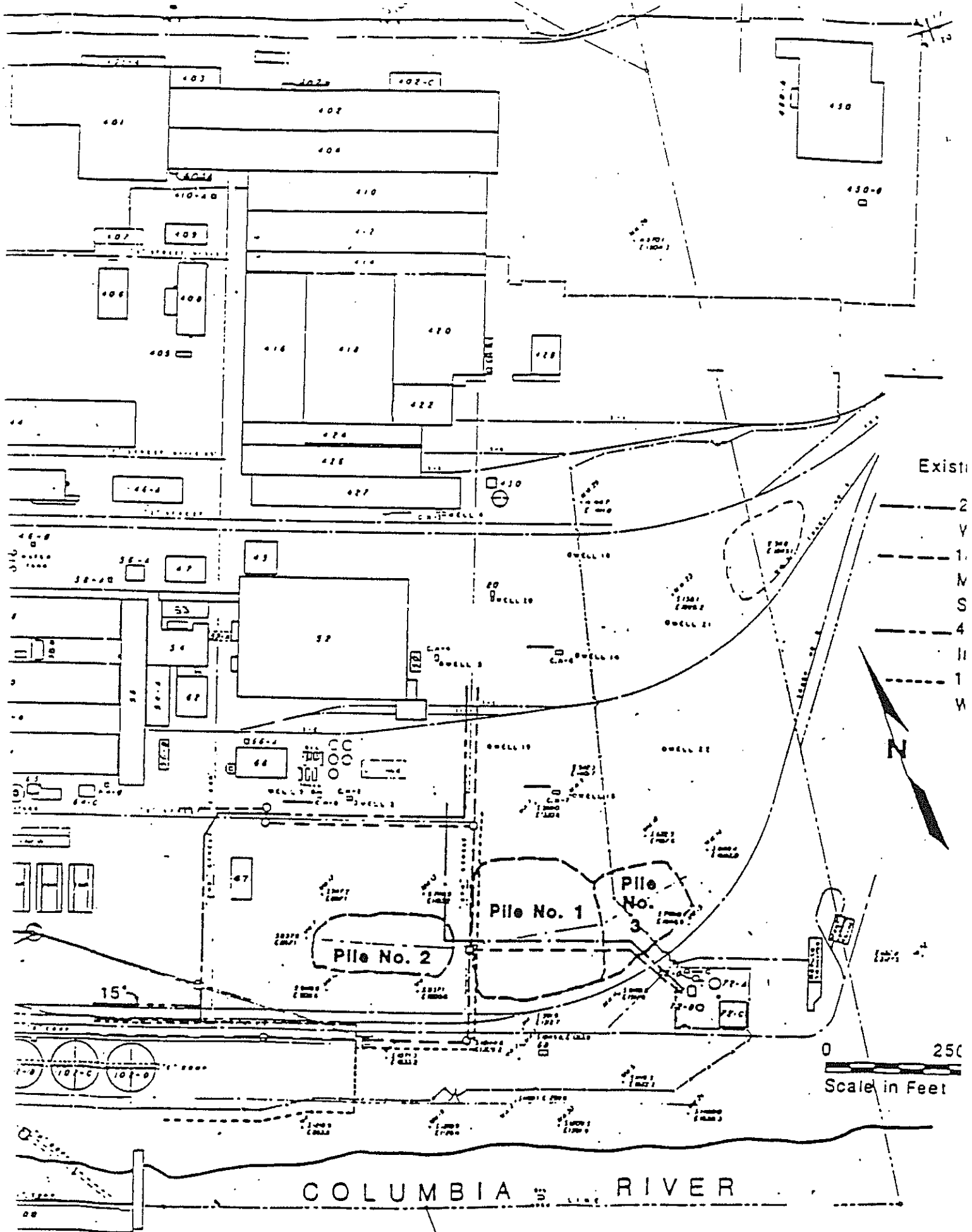
The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature J.A. Myers

Date Submitted

Map





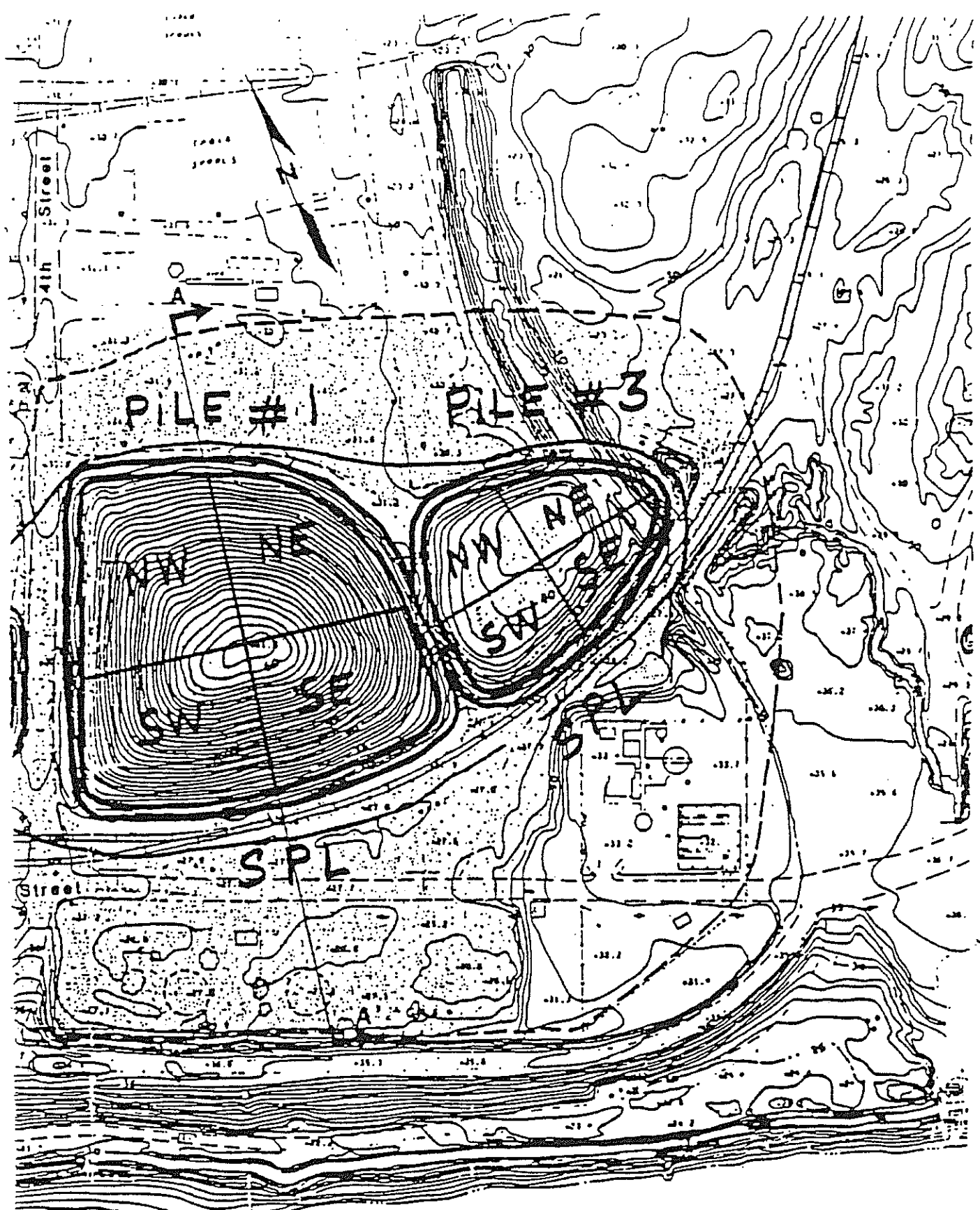
Existing

- 2
- 1
- M
- S
- 4
- H
- W



0 250
Scale in Feet

COLUMBIA RIVER



PILE #1

PILE #3

SW NE
SE

SW NE
SE

SPL

Street

COLUMBIA RIVER

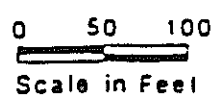
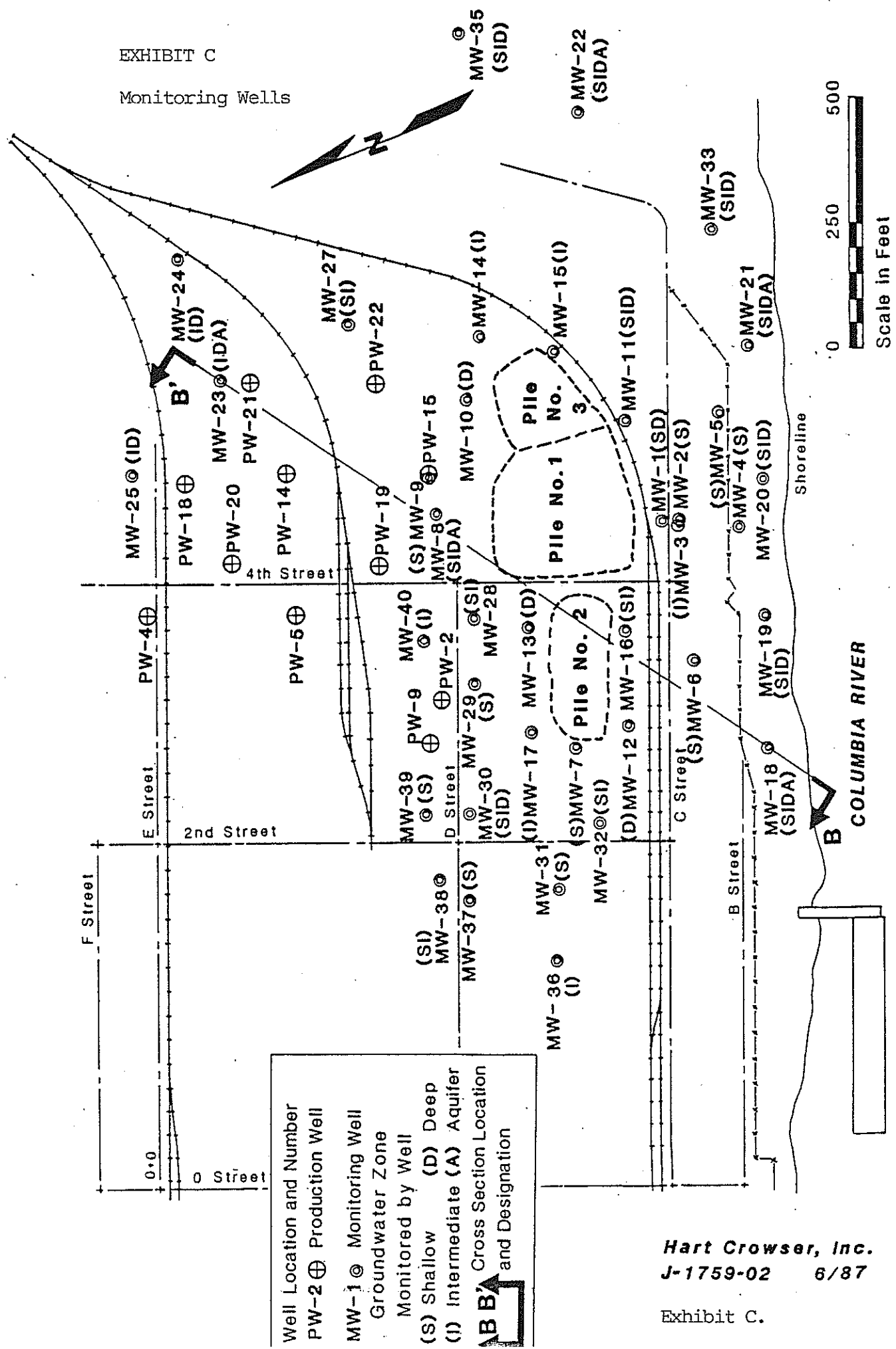


EXHIBIT C
Monitoring Wells

300 Feet
↑ (ID) ⊙ MW-26



Hart Crowser, Inc.
J-1759-02 6/87

Exhibit C.

EXHIBIT D

Public Participation Plan

PUBLIC PARTICIPATION PLAN
ALUMINUM COMPANY OF AMERICA VANCOUVER NPL SITE
VANCOUVER, WASHINGTON

1. Introduction and Overview.

The Washington Department of Ecology (Ecology) is committed to providing public participation opportunities during the investigation and cleanup of hazardous waste sites. The public participation plan is intended to promote public understanding of Ecology's responsibilities, planning activities, and remedial activities at hazardous waste sites. It also provides an opportunity for Ecology to learn information, from the public that will enable the Department to develop a comprehensive cleanup plan that is protective of both human health and the environment.

- A. This public participation plan at the Alcoa Vancouver NPL Site covers the final consent decree for cleanup activities. It has been tailored to the needs of the public based on the stage and nature of the cleanup, level of public concern, and the risks posed by the site.
- B. Between 1973 and 1981 Alcoa disposed of potliner from it's aluminum smelter on site in large waste piles. The waste piles were not covered and were exposed to normal precipitation. Fluoride and cyanide leached out of the exposed potliner and contaminated soils and ground water below the piles. The piles were covered with a temporary cover in 1981. In 1986, as a result of increasing cyanide levels in monitoring wells, Ecology ordered Alcoa to conduct a program to assess the ground water contamination at the site and to evaluate potential cleanup actions. The site was placed on the National Priorities List (NPL) in February of 1990. Alcoa and Ecology began negotiations for cleanup of the site in January of 1991.
- C. This plan discusses the communities concerns and outlines public participation activities to be conducted in during the cleanup of the site. This plan will be reviewed at the end of the cleanup and amended or rewritten as appropriate.

The purpose of the public participation effort and of this plan is to assure that the affected public and governmental agencies are kept informed as the cleanup proceeds and that each has an opportunity to contribute information and comment regarding the cleanup activities.

2. Site Description.

- A. Land Use. The current land use in the area of the site is a mixture of heavy industry and agriculture. The site is located in the southeastern corner of the VANALCO aluminum smelter complex in the NW 1/4 of Section 19, T. 3 N, R. 1 E, Willamette Meridian. It is bounded by the smelter complex on its northern and western boundaries; and the Columbia River on the southern boundary. Property on the eastern boundary is currently undeveloped. The site is zoned Heavy Industrial (MH-E) and is accessible via Lower River Road and a private entrance road used by Vanexco and ACPC, Inc. The nearest residents are located at least 5,000 feet to the east and west of the site. There are production cooling water wells located on the northern edge of the site.
- B. Chemical Contamination. Studies conducted at the site have discovered cyanide and fluoride in the ground water and soils; and TCE in groundwater. Cyanide and fluoride contamination in ground water on the site is above water quality standards in three of the four hydrogeologic units. Cyanide and fluoride contamination are the result of the improper storage of potliner. The source of the TCE contamination currently being investigation as a separate action and is off of the potliner site. Only the cyanide and fluoride contamination is addressed in this public participation plan.

The consent decree and cleanup action plan address the cyanide and fluoride contamination. The principal elements of the proposed Alcoa remedial action are:

- o Removal of approximately 47,000 cubic yards of spent potlining and reclaimed alumina insulation to a dangerous waste landfill.
- o Characterization of soils below the existing waste piles.
- o Capping of the pile area with PVC liner and covering the area with two feet of clean sand. Re-vegetating the cap.
- o Fencing the site.
- o Placement of institutional controls on the property deed to prevent disruption of the cap or withdraw of ground water from the site.
- o Continued groundwater monitoring.

3. Public Participation Activities.

The public participation plan for the Alcoa Vancouver NPL Site will consist of the following items:

- A. A thirty day public comment period. The comment period will run beginning February 7, 1992 ending March 7, 1992.
- B. A public hearing on the Consent Decree and Proposed Cleanup Action Plan shall be held on February 27, 1992 at 7:00 PM in the Clark County PUD Building, 1200 Fort Vancouver Way, Vancouver, WA
- C. Notice of the comment period and hearing will be advertized with:
 - 1. A legal notice in the Vancouver newspaper.
 - 2. A press release.
 - 3. A mailing to interested parties generated from Industrial Section Files and the Intergovernmental Resource Center (IRC) in Vancouver, Washington. The IRC mailing lists consist of citizens interested in hazardous waste issues and neighborhood associations in Clark County.
 - 4. A mailing to the local news media.
- D. Public notice announcements regarding the site will be placed in the Site Register for each comment period.
- E. Information repositories will be placed in the following locations:
 - 1. Fort Vancouver Regional Library
Main Branch
1007 East Mill Plain Boulevard
Vancouver, Washington 98633
 - 2. Intergovernmental Resource Center
1351 Officer's Row
Vancouver, Washington 98661
 - 3. Washington State Department of Ecology
Industrial Section Suite 260
2404 Chandler Court S.W.
Olympia, Washington 98501
- F. All comments received will be retained in the site files. Responses to comments received on documents circulated for comment will be compiled in a "responsiveness summary" that will be sent to those who submit written comments and to designated information repositories. Notice of availability will be sent to those on the site mailing list.
- G. Should there be need for additional public participation activities, the public shall be notified through advertisement in the Vancouver newspaper.

EXHIBIT E

Restrictive Covenant

EXHIBIT E
RESTRICTIVE COVENANT

The property that is the subject of this Restrictive Covenant has been the subject of remedial action under Chapter 70.105D RCW. The work done to clean up the property (hereafter the "Cleanup Action") is described in the Consent Decree entered in State of Washington Department of Ecology v. Aluminum Company of America, Clark County Superior Court No. _____, and in attachments to the Decree and in documents referenced in the Decree. This Restrictive Covenant is required by Ecology under Ecology's rule WAC 173-340-440 (1991 ed.) because the Cleanup Action on the Site resulted in residual concentrations of free cyanide and fluoride which exceed Ecology's Method B cleanup levels for groundwater established under WAC 173-340-720(3)(a)(i).

The undersigned, Aluminum Company of America, is the fee owner of real property in the County of Clark, State of Washington (legal description attached), hereafter referred to as the "Site." The Site refers to the three piles of spent potlining and reclaimed alumina insulation materials in the northeast corner of the old Alcoa complex at 5509 N.W. Lower River Road, Vancouver, Washington. Also refers to subsurface areas impacted by cyanide and fluoride, as documented through groundwater, subsurface sediment and soil sampling performed by Alcoa, within the shallow zone, intermediate zone, deep zone and aquifer zone. Aluminum Company of America makes the following declaration as to limitations, restrictions, and uses to which the Site may be put, and specifies that such declarations shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Site.

Section 1. No groundwater may be taken for domestic purposes from any well at the old Alcoa complex that is located within the rectangular area bounded to the south by the banks of the Columbia River, to the west by O Street, to the north by D Street, and to the east by a line running in a north/south direction 2500 feet southeast of O Street.

Section 2. Any activity on the Site that may interfere with the Cleanup Action is prohibited. Any activity on the Site that may result in the release of a hazardous substance that was contained as a part of the Cleanup Action is prohibited.

Section 3. For purposes of Sections 4, 5 and 6 of this Restrictive Covenant, the Site shall not include the wastewater treatment facility located at the old Alcoa complex, nor shall

the Site include subsurface utilities and conveyances to and from the facility, nor shall the Site include surface and subsurface areas required for access to the facility and to subsurface conveyances and utilities. The owner and operator of the wastewater treatment facility and the subsurface conveyances and utilities (unless Alcoa is the owner and operator) shall not be subject or bound by the terms of this Restrictive Covenant.

Section 4. The owner of the Site must give written notice to the Department of Ecology, or to a successor agency, of the owner's intent to convey any interest in the Site. No conveyance of title, easement, lease or other interest in the Site shall be consummated by the owner without adequate and complete provision for the continued operation, maintenance and monitoring of the Cleanup Action.

Section 5. The owner must notify and obtain approval from the Department of Ecology, or from a successor agency, prior to any use of the Site that is inconsistent with the terms of this Restrictive Covenant. The Department of Ecology or its successor agency may approve such a use only after public notice and comment.

Section 6. The owner shall allow authorized representatives of the Department of Ecology, or of a successor agency, the right to enter the Site at reasonable times for the purpose of evaluating compliance with the Cleanup Action Plan and the Consent Decree, to take samples, to inspect Cleanup Actions conducted at the Site, and to inspect records that are related to the Cleanup Action.

Section 7. The owner of the Site and the owner's assigns and successors in interest reserve the right under WAC 173-340-720 and WAC 173-340-440 (1991 ed.) to record an instrument which provides that this Restrictive Covenant shall no longer limit use of the Site or be of any further force or effect. However, such an instrument may be recorded only with the consent of the Department of Ecology, or of a successor agency. The Department of Ecology or a successor agency may consent to the recording of such an instrument only after public notice and comment.

Name
Title
for Aluminum Company of America

Date

103\alcoa-c.exh

EXHIBIT F

During the public notice period for this Decree, Alcoa objected to a document presented by Ecology as Exhibit F, "Site Description and Sample Data Submittal Requirements," draft date 6/27/91. Alcoa objected to this document because it had not been negotiated between Alcoa and Ecology (it has been shown to Alcoa only at a very late date) and because the technical requirements in the document needed improvement.

Based on Alcoa's objections, Alcoa and Ecology agreed to omit from this Consent Decree the document titled "Site Description and Sample Data Submittal Requirements," draft date 6/27/91. Alcoa and Ecology also agreed to meet and confer on a replacement or revision to the document. That replacement or revision will be needed before the first quarterly progress report in which Alcoa must report groundwater monitoring data to Ecology. The first groundwater monitoring data collected under the Consent Decree shall be due beginning with the first quarter after completion of the construction phase of the work on the Consent Decree. Completion of the construction phase likely will occur in the third quarter 1992. If so, the first progress report that must contain groundwater monitoring data will be the progress report due for the fourth quarter 1992.

If Alcoa and Ecology cannot reach agreement on a replacement or revision to the document titled "Site Description and Sample Data Submittal Requirements," draft date 6/27/91 by December 31, 1992, then Alcoa and Ecology shall use the procedure in Consent Decree Section XIV "Resolution of Disputes" to resolve their disagreement. Any replacement or revision to Exhibit F agreed to by Alcoa and Ecology, or ordered by the Superior Court, shall be attached to the Consent Decree as Exhibit F and shall be an integral and enforceable part of the Consent Decree.

4545480 COV

RegFee - \$74.00 Pages: 33 - FIDELITY NATIONAL TITLE
Clark County, WA 03/31/2009 02:06

After Recording Return to:

Paul Skillingstad
Department of Ecology
Industrial Section
P.O. Box 47706
Olympia, Washington 98504-7706

ENVIRONMENTAL RESTRICTIVE COVENANT
Former Alcoa Vancouver Works

V64009

Grantor: Alcoa Inc.

Grantee: State of Washington, Department of Ecology

Legal: A tract of land located in Sections 17, 18, 19 and 20, Township 2 North, Range 1 East, Willamette Meridian, Clark County, Washington; another tract of land located in Sections 18 and 19, Township 2 North, Range 1 East and Section 13, Township 2 North, Range 1 West, Willamette Meridian, Clark County, Washington; and another tract of land located in Northeast one-quarter of Section 19, Township 2 North, Range 1 East, Willamette Meridian, Clark County, Washington. Additional legal description can be found attached as Exhibit A hereto.

Tax Parcel Nos.: 152166-000, 152798-000, 152800-000, 152903-000, 152905-000, 152907-000, and 153104-000.

RECITALS

A. Grantor, Alcoa Inc. ("Alcoa"), hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights under this environmental restrictive covenant (hereafter "Covenant") made this 26 day of March 2009 in favor of the State of Washington, Department of Ecology ("Ecology"). Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act ("MTCA"), RCW 70.105D.030(1)(g), and the Uniform Environmental Covenants Act, 2007 Wash. Laws ch. 104, sec. 12.

B. This Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by and between Alcoa and its successors and assigns, and Ecology and its successors and assigns.

C. The undersigned, Alcoa, is the fee owner of the real property in the County of Clark, State of Washington, that is subject to this Covenant (hereafter "Property"). The Property is legally described in Exhibit A attached to this Covenant and made a part hereof.

D. A remedial action occurred at the Property that is the subject of this Covenant (hereafter "Remedial Action"). The Remedial Action is described in the Consent Decree

entered in the *State of Washington Department of Ecology v. Alcoa Inc.*, Clark County Superior Court No. 09-2-00247-2, and in attachments to the Decree and in documents referenced in the Decree. These documents are on file at Ecology's Olympia Washington Office.

E. As described in detail in the Cleanup Action Plan attached to the Consent Decree, this Covenant is required because after the Remedial Action is complete, residual concentrations of fluoride, cyanide, vinyl chloride, polychlorinated biphenyls ("PCBs"), trichloroethylene ("TCE"), polycyclic aromatic hydrocarbons ("PAHs") and total petroleum hydrocarbons ("TPH") will remain at the Property which exceed Cleanup Levels for soil (fluoride, vinyl chloride, TCE, TPH, PCBs and PAHs) and/or groundwater (fluoride, cyanide, TPH, TCE and vinyl chloride) established in accordance with WAC 173-340-720 and 740.

F. Within the Property are located 3 separate and distinct areas where, as part of the Remedial Action, soils having residual concentrations of contaminants (fluoride, vinyl chloride, PCBs, TCE, and PAHs) above Unrestricted Use Cleanup Levels established in accordance with WAC 173-340-740 remain in place (the "Restricted Sites"). The Restricted Sites, known as the East Landfill (vinyl chloride, fluoride, TCE, PCBs and PAHs), the North and North 2 Landfill Area (PCBs and PAHs), and the Shoreline Area (PCBs and PAHs), are more particularly described in Exhibits B, C and D attached to this Covenant and made a part hereof.

G. This Restrictive Covenant is in addition to the prior Restrictive Covenants concerning the Property which were recorded at 9212160226 and 9603120195 by the Recording Division of the Clark County Auditor's Office.

DECLARATION OF RESTRICTIONS AND COVENANTS APPLICABLE TO ENTIRE PROPERTY

Alcoa makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including Alcoa and all future owners of any portion of or interest in the Property (hereafter "Owner").

Section 1. The Property shall be used solely for industrial purposes, as described in RCW 70.105D.020(23) and defined in and allowed under the City of Vancouver's zoning regulations codified at Title 20 of the Vancouver Municipal Code and/or Clark County's Unified Development Code codified at Title 40 of the Clark County Code.

Section 2: Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained within the Restricted Sites as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology. Some examples of activities that are prohibited in the Restricted Sites

include: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork.

Section 3. Owner is prohibited from extracting through wells or by other means or otherwise using the groundwater at the Property for consumption or other beneficial uses, as long as the hazardous substance concentrations exceed the acceptable risk level for such use, as determined by water quality at the wellhead. These prohibitions shall not apply to extraction of groundwater associated with groundwater treatment or monitoring activities approved by Ecology or to temporary dewatering activities related to construction, development, or the installation of utilities or other subsurface infrastructure at the Property. Owner shall conduct a waste determination on any groundwater that is extracted during such monitoring, treatment, or dewatering activities and handle, store and manage the water according to applicable laws and regulations. In addition to these restrictions and limitations concerning groundwater use at the Property generally, Owner is strictly prohibited from installing wells and/or extracting groundwater adjacent to or in the vicinity of the East Landfill as such could result in migration of trichloroethylene from that area.

Section 4. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 5. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 6. The Owner of the Property, or any portion thereof, must give thirty (30) days advance written notice to Ecology of the Owner's intent to convey any interest in the Property or said portion thereof. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action in accordance with the Consent Decree and Cleanup Action Plan.

Section 7. The Owner must restrict leases to uses and activities consistent with the Covenant and notify all lessees of the restrictions on the use of the Property. The Owner must include in any instrument conveying any interest in any portion of the property, notice of this restrictive covenant.

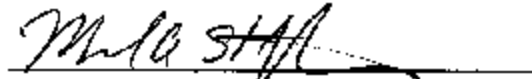
Section 8. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant. Ecology may approve any inconsistent use only after public notice and comment. If Ecology approves of an inconsistent use, this Restrictive Covenant must be amended to reflect the change.

Section 9. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take

samples, to inspect remedial actions conducted at the Property, to determine compliance with this Covenant, and to inspect records that are related to the Remedial Action.

Section 10. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

ALCOA INC.



Mark A. Stiffler

Director Asset Planning and Management

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

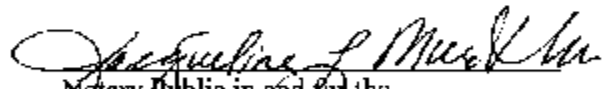


[Name] Merley F. McCall

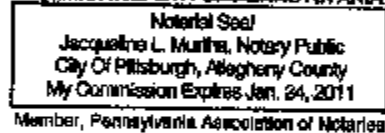
[Title] Industrial Section Manager

Commonwealth Of Pennsylvania)
) ss:
County of Allegheny)

On this 19th day of March, 2009, I certify that Mark A. Stiffler personally appeared before me, acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to execute this instrument, and acknowledged it as the Director of Asset Planning and Management of Alcoa Inc. to be the free and voluntary act and deed of such party for the uses and purposes mentioned in the instrument.

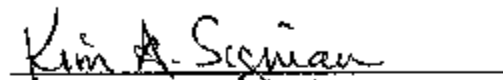

Notary Public in and for the
Commonwealth of Pennsylvania

My appointment expires: ~~COMMONWEALTH OF PENNSYLVANIA~~



State of Washington)
) ss:
County of Thurston)

On this 23rd day of March, 2009, I certify that Mertley McCall personally appeared before me, acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to execute this instrument, and acknowledged it as the Industrial Section Manager of State of Washington Department of Ecology to be the free and voluntary act and deed of such party for the uses and purposes mentioned in the instrument.


Notary Public in and for the
State of Washington

My appointment expires: 9-10-11



EXHIBIT A

**Legal Description of Property
(See Next Page)**

EXHIBIT 'A'

LEGAL DESCRIPTION:

Parcel I

A TRACT OF LAND LOCATED IN SECTIONS 17, 18, 19 AND 20, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591"

THENCE ALONG THE SOUTHERN LINES OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9206090248 THE FOLLOWING COURSES:

SOUTH 65°59'34" EAST, 861.82 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 62°05'21" EAST, 78.63 FEET A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°53'48" EAST, 278.45 FEET TO THE SOUTHWESTERN LINE OF THAT PROPERTY CONVEYED TO THE UNITED STATES OF AMERICA AS DESCRIBED IN AUDITOR'S FILE E36885;

THENCE ALONG SAID SOUTHWESTERN SOUTH 40°06'49" EAST, 9.21 FEET THE EASTERN LINE OF THAT PROPERTY CONVEYED TO ALCOA, INC. AS DESCRIBED IN AUDITOR'S FILE 3451521;

THENCE ALONG SAID EASTERN LINE SOUTH 23°47'45" WEST, 526.31 FEET;

THENCE ALONG THE SOUTHERN AND EASTERN LINES OF THOSE PROPERTIES DESCRIBED IN AUDITOR'S FILES 9609250325 AND 9506230321 THE FOLLOWING COURSES:

SOUTH 66°56'33" EAST, 61.43 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 22°18'35" WEST, 26.79 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 66°01'38" EAST, 546.86 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 25°14'59" WEST, 5.80 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 69°29'52" EAST, 1.06 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°56'09" WEST, 152.66 FEET TO A POINT OF NON-TANGENT CURVATURE WITH A 220.00 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS NORTH 07°47'59" EAST;

THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 19°29'02" (THE CHORD BEARS NORTH 88°03'28" EAST, 74.45 FEET) AN ARC DISTANCE OF 74.81 FEET;

THENCE NORTH 78°18'57" EAST, 61.62 FEET TO A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 220.00 FEET RADIUS CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 54°14'23" (THE CHORD BEARS NORTH 51°11'45" EAST, 200.58 FEET) AN ARC DISTANCE OF 208.27 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°04'34" EAST, 471.83 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591" AT A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 270.00 FEET RADIUS CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 38°56'34" (THE CHORD BEARS NORTH 04°36'17" EAST, 180.00 FEET) AN ARC DISTANCE OF 183.51 FEET TO A POINT OF REVERSE CURVATURE;

THENCE ALONG THE ARC OF A 330.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 22°54'37" (THE CHORD BEARS NORTH 03°24'42" WEST, 131.08 FEET) AN ARC DISTANCE OF 131.95 FEET;

THENCE NORTH 08°05'38" EAST, 30.56 FEET TO THE SOUTHERN RIGHT-OF-WAY LINE OF LOWER RIVER ROAD AT A POINT OF NON-TANGENT CURVATURE WITH A 497.00 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS SOUTH 02°19'17" EAST;

THENCE ALONG SAID RIGHT-OF-WAY CURVE THROUGH A CENTRAL ANGLE OF 06°58'17" (THE CHORD BEARS SOUTH 88°50'08" EAST, 60.44 FEET) AN ARC DISTANCE OF 60.47 FEET;

THENCE ALONG THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1A THE FOLLOWING COURSES:

SOUTH 08°05'03" WEST, 37.80 FEET TO A POINT OF NON-TANGENT CURVATURE WITH A 270.00 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS SOUTH 81°57'23" EAST;

THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 22°54'37" (THE CHORD BEARS SOUTH 03°24'41" EAST, 107.24 FEET) AN ARC DISTANCE OF 107.96 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT A POINT OF REVERSE CURVATURE;

THENCE ALONG THE ARC OF A 330.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 38°56'34" (THE CHORD BEARS SOUTH 04°36'17" WEST, 220.00 FEET) AN ARC DISTANCE OF 224.29 FEET;

THENCE SOUTH 24°04'34" WEST, 471.83 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 280.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 36°12'35" (THE CHORD BEARS SOUTH 42°10'52" WEST, 174.02 FEET) AN ARC DISTANCE OF 176.95 FEET TO THE NORTHERN RIGHT-OF-WAY OF THE SPOKANE, PORTLAND AND SEATTLE RAILROAD AS DESCRIBED IN AUDITOR'S FILE E24906;

THENCE ALONG SAID RIGHT-OF-WAY LINE SOUTH 73°39'14" WEST, 507.82 FEET TO THE WESTERN LINE OF THE VAN ALMAN DONATION LAND CLAIM;

THENCE THEN ALONG SAID WESTERN LINE SOUTH 09°54'57" WEST, 497.01 FEET TO THE SOUTHERN RIGHT-OF-WAY LINE THE SPOKANE, PORTLAND AND SEATTLE RAILROAD;

THENCE ALONG SAID SOUTHERN RIGHT-OF-WAY NORTH 39°07'39" EAST, 468.36 FEET TO A POINT OF CURVATURE;

THENCE CONTINUING ALONG SAID RIGHT-OF-WAY ALONG THE ARC OF A 739.50 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 33°02'42" (THE CHORD BEARS NORTH 55°39'00" EAST, 420.62 FEET) AN ARC DISTANCE OF 426.50 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT ITS INTERSECTION WITH THE WESTERN LINE OF THAT PROPERTY CONVEYED TO CLARK COUNTY AS DESCRIBED IN AUDITOR'S FILE 9804030486;

THENCE ALONG THE WESTERN AND SOUTHERN LINES OF SAID CLARK COUNTY PROPERTY THE FOLLOWING COURSES:

SOUTH 04°23'45" WEST, 79.82 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025" AT A POINT OF NON-TANGENT CURVATURE WITH A 691.97 FEET RADIUS CURVE FROM WHICH A RADIAL LINE BEARS SOUTH 21°15'02" EAST;

THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 29°41'58" (THE CHORD BEARS SOUTH 53°53'59" WEST, 354.68 FEET) AN ARC DISTANCE OF 358.68 FEET;

THENCE SOUTH 39°03'00" WEST, 741.81 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE SOUTH 24°08'35" WEST, 28.79 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE SOUTH 89°38'19" EAST, 352.44 FEET TO A ½" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE NORTH 82°45'01" EAST, 712.86 FEET TO THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1B;

THENCE ALONG SAID WESTERN LINE SOUTH 35°02'02" WEST, 44.85 FEET;

THENCE CONTINUING ALONG SAID WESTERN LINE SOUTH 35°00'15" WEST, 749.59 FEET;

THENCE CONTINUING ALONG SAID WESTERN LINE SOUTH 35°00'15" WEST 1.05 FEET TO THE ORDINARY HIGH WATER LINE OF THE COLUMBIA RIVER;

THENCE ALONG THE ORDINARY HIGH WATER LINE THE FOLLOWING COURSES:

NORTH 89°29'12" WEST, 9.52 FEET;

THENCE NORTH 77°40'26" WEST, 16.60 FEET;

THENCE SOUTH 86°36'31" WEST, 77.49 FEET;

THENCE NORTH 78°50'38" WEST, 173.64 FEET;

THENCE NORTH 84°19'36" WEST, 254.87 FEET;

THENCE NORTH 76°30'55" WEST, 20.14 FEET;

THENCE NORTH 69°05'45" WEST, 310.36 FEET;

THENCE NORTH 73°25'50" WEST, 31.58 FEET;

THENCE NORTH 78°01'48" WEST, 41.07 FEET;

THENCE NORTH 75°14'34" WEST, 70.64 FEET;

THENCE NORTH 67°13'09" WEST, 106.03 FEET;

THENCE NORTH 85°08'56" WEST, 14.42 FEET;
THENCE NORTH 69°41'50" WEST, 102.24 FEET;
THENCE NORTH 62°47'21" WEST, 22.10 FEET;
THENCE NORTH 85°06'24" WEST, 12.19 FEET;
THENCE NORTH 78°40'23" WEST, 23.96 FEET;
THENCE NORTH 68°36'38" WEST, 11.78 FEET;
THENCE NORTH 54°35'29" WEST, 28.64 FEET;
THENCE NORTH 61°34'46" WEST, 105.07 FEET;
THENCE NORTH 70°03'25" WEST, 111.12 FEET;
THENCE NORTH 61°56'51" WEST, 18.49 FEET;
THENCE NORTH 66°35'10" WEST, 27.88 FEET;
THENCE NORTH 71°57'33" WEST, 28.64 FEET;
THENCE NORTH 61°44'43" WEST, 36.12 FEET;
THENCE NORTH 70°11'57" WEST, 27.01 FEET;
THENCE NORTH 75°26'06" WEST, 88.93 FEET;
THENCE NORTH 69°07'46" WEST, 82.68 FEET;
THENCE NORTH 85°00'29" WEST, 9.41 FEET;
THENCE NORTH 79°39'38" WEST, 24.20 FEET;
THENCE NORTH 71°31'12" WEST, 49.99 FEET;
THENCE NORTH 76°56'35" WEST, 34.63 FEET;
THENCE NORTH 79°53'56" WEST, 6.78 FEET;
THENCE NORTH 74°55'38" WEST, 53.64 FEET;
THENCE NORTH 73°16'30" WEST, 41.35 FEET;
THENCE NORTH 69°24'34" WEST, 52.13 FEET;
THENCE NORTH 62°17'46" WEST, 32.15 FEET;

THENCE NORTH 65°47'53" WEST, 33.52 FEET;
THENCE NORTH 63°32'11" WEST, 25.50 FEET;
THENCE NORTH 55°03'48" WEST, 52.98 FEET;
THENCE NORTH 34°13'21" WEST, 10.50 FEET;
THENCE NORTH 48°48'47" WEST, 8.46 FEET;
THENCE NORTH 67°23'10" WEST, 34.95 FEET;
THENCE NORTH 62°28'18" WEST, 21.35 FEET;
THENCE NORTH 60°53'29" WEST, 42.70 FEET;
THENCE NORTH 62°43'59" WEST, 61.76 FEET;
THENCE NORTH 47°54'15" WEST, 13.10 FEET;
THENCE NORTH 57°42'47" WEST, 34.21 FEET;
THENCE NORTH 45°30'34" WEST, 26.68 FEET;
THENCE NORTH 63°11'33" WEST, 91.74 FEET;
THENCE NORTH 63°52'03" WEST, 43.89 FEET;
THENCE NORTH 68°40'24" WEST, 45.31 FEET;
THENCE NORTH 63°18'56" WEST, 41.82 FEET;
THENCE NORTH 55°08'42" WEST, 40.63 FEET;
THENCE NORTH 65°23'25" WEST, 39.33 FEET;
THENCE NORTH 68°13'41" WEST, 36.75 FEET;
THENCE NORTH 59°46'47" WEST, 20.47 FEET;
THENCE NORTH 56°29'02" WEST, 23.33 FEET;
THENCE NORTH 73°15'43" WEST, 30.91 FEET;
THENCE NORTH 65°05'42" WEST, 34.79 FEET TO THE EASTERN LINE OF THAT
PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC AS
DESCRIBED IN AUDITOR'S FILE 8706250115;

THENCE ALONG THE EASTERN LINE OF SAID PROPERTY THE FOLLOWING COURSES:

NORTH 24°51'44" EAST, 19.90 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°51'44" EAST, 75.00 FEET;

THENCE SOUTH 67°02'30" EAST, 150.95 FEET;

THENCE SOUTH 24°24'13" WEST, 8.03 FEET;

THENCE SOUTH 65°32'25" EAST, 139.46 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°25'27" EAST, 190.47 FEET TO A BRASS SCREW IN LEAD;

THENCE SOUTH 65°26'27" EAST, 75.44 FEET;

THENCE NORTH 24°33'33" EAST, 16.47 FEET;

THENCE SOUTH 65°26'27" EAST, 3.23 FEET TO A BRASS SCREW IN LEAD;

THENCE NORTH 24°02'00" EAST, 8.74 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°37'38" EAST, 30.69 FEET;

THENCE NORTH 24°22'22" EAST, 43.42 FEET;

THENCE SOUTH 66°03'36" EAST, 202.10 FEET;

THENCE SOUTH 21°35'33" WEST, 53.64 FEET;

THENCE SOUTH 66°03'43" EAST, 337.03 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°23'48" EAST, 332.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°37'48" EAST, 491.35 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°34'33" WEST, 17.72 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 65°13'05" EAST, 25.00 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 23°39'31" EAST, 602.51 FEET;

THENCE NORTH 65°35'48" WEST, 483.30 FEET TO A SPINDLE;

THENCE NORTH 09°15'46" WEST, 56.18 FEET TO A SPINDLE;

THENCE NORTH 24°23'13" EAST, 214.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°27'24" WEST, 22.46 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°16'52" EAST, 40.03 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°35'26" WEST, 440.76 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°23'35" EAST, 253.74 FEET TO A BRASS SCREW IN LEAD;

THENCE SOUTH 65°35'08" EAST, 29.66 FEET TO A BRASS SCREW IN LEAD;

THENCE NORTH 19°44'44" WEST, 68.68 FEET;

THENCE NORTH 65°36'36" WEST, 109.69 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°23'37" EAST, 435.28 FEET TO THE POINT OF BEGINNING.

EXCEPTING THERE FROM:

COMMENCING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON, SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°22'35" EAST, 2,450.69 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591" AND THE TRUE POINT OF BEGINNING;

THENCE SOUTH 65°57'51" EAST, 137.31 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°06'06" WEST, 125.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°57'29" WEST, 137.25 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°04'31" EAST, 125.66 FEET TO THE POINT OF BEGINNING.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.

Parcel II

A TRACT OF LAND LOCATED IN SECTIONS 18 AND 19, TOWNSHIP 2 NORTH, RANGE 1 EAST AND SECTION 13, TOWNSHIP 2 NORTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 83°36'37" WEST, 2,411.16 FEET TO A POINT ON THE SOUTHERN LINE OF THE TIDEWATER TRACT BEING THE MOST NORTHERN NORTHWEST CORNER OF THAT PROPERTY CONVEYED TO RUSSELL TOWBOAT AND MOORAGE CO. AS DESCRIBED IN AUDITOR'S FILE 9501260058 AND THE TRUE POINT OF BEGINNING;

THENCE ALONG THE WESTERN LINE OF SAID RUSSELL PROPERTY THE FOLLOWING COURSES:

SOUTH 25°51'55" WEST, 511.44 FEET;

THENCE SOUTH 65°53'18" EAST, 426.16 FEET;

THENCE SOUTH 49°01'37" WEST, 182.34 FEET;

THENCE SOUTH 49°01'33" WEST, 782.97 FEET;

THENCE NORTH 65°32'10" WEST, 53.72 FEET;

THENCE NORTH 08°41'22" WEST, 212.96 FEET;

THENCE NORTH 66°14'51" WEST, 109.99 FEET TO THE SOUTHERN MOST CORNER OF THAT PROPERTY CONVEYED TO VANALCO INC AS DESCRIBED AS PARCEL 1 AUDITOR'S FILE 9501260083;

THENCE ALONG THE EASTERN AND NORTHERN BOUNDARY OF SAID VANALCO PROPERTY THE FOLLOWING COURSES:

NORTH 23°44'52" EAST, 93.21 FEET;
THENCE SOUTH 72°34'32" EAST, 28.67 FEET;
THENCE SOUTH 78°41'13" EAST, 29.76 FEET;
THENCE SOUTH 88°59'26" EAST, 29.49 FEET;
THENCE NORTH 84°48'34" EAST, 28.92 FEET;
THENCE NORTH 68°13'10" EAST, 40.09 FEET;
THENCE NORTH 40°50'00" EAST, 30.39 FEET;
THENCE NORTH 27°26'22" EAST, 49.86 FEET;
THENCE SOUTH 64°08'05" EAST, 96.65 FEET;
THENCE NORTH 25°51'55" EAST, 376.04 FEET;

THENCE NORTH 65°53'18" WEST, 993.55 FEET TO THE SOUTHEASTERN LINE OF THAT PROPERTY CONVEYED TO TIDEWATER ENVIRONMENTAL SERVICES, INC AS DESCRIBED IN AUDITOR'S FILE 9104290287;

THENCE ALONG SAID SOUTHEASTERN LINE NORTH 23°15'04" EAST, 606.83 FEET TO A FOUND 1/2" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE ALONG THE SOUTHERN LINE OF SAID TIDEWATER TRACT SOUTH 65°25'50" EAST, 1,021.02 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS 19.87 ACRES MORE OR LESS.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.

Parcel III

A TRACT OF LAND LOCATED IN NORTHEAST ONE-QUARTER OF SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°22'35" EAST, 2,450.69 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591" AND THE TRUE POINT OF BEGINNING;

THENCE SOUTH 65°57'51" EAST, 137.31 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 24°06'06" WEST, 125.67 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 65°57'29" WEST, 137.25 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE NORTH 24°04'31" EAST, 125.66 FEET TO THE POINT OF BEGINNING.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.

EXHIBIT B

**Legal Description of the East Landfill
(See Next Page)**

EXHIBIT 'B'
EAST LANDFILL DESCRIPTION

A TRACT OF LAND LOCATED IN SECTIONS 19 AND 20, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8796250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE ALONG THE SOUTHERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9208090248 SOUTH 85°59'34" EAST, 881.82 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°54'21" EAST, 2,655.23 FEET TO TRUE POINT OF BEGINNING AT THE INTERSECTION OF THE ORDINARY HIGH WATER LINE OF THE COLUMBIA RIVER WITH THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1B;

THENCE ALONG THE ORDINARY HIGH WATER LINE THE FOLLOWING COURSES:

THENCE NORTH 89°29'12" WEST, 8.52 FEET;

THENCE NORTH 77°40'28" WEST, 16.60 FEET;

THENCE SOUTH 86°36'31" WEST, 77.49 FEET;

THENCE NORTH 78°50'38" WEST, 173.64 FEET;

THENCE NORTH 84°19'38" WEST, 254.87 FEET;

THENCE NORTH 76°30'55" WEST, 20.14 FEET;

THENCE NORTH 69°05'45" WEST, 266.22 FEET;

THENCE LEAVING THE ORDINARY HIGH WATER LINE NORTH 25°18'16" EAST, 419.46 FEET TO A 1/2" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE SOUTH 89°38'19" EAST, 352.44 FEET TO A 1/2" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "OLSON 9025";

THENCE NORTH 82°45'01" EAST, 712.86 FEET TO THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9105240201 PARCEL 1B;

THENCE ALONG SAID WESTERN LINE SOUTH 35°02'02" WEST, 44.85 FEET;

THENCE CONTINUING ALONG SAID WESTERN LINE SOUTH 35°00'15" WEST, 750.65 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS 505,061 SQUARE FEET / 11.59 ACRES, MORE OR LESS.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.



EXHIBIT 'B'
EAST LANDFILL DESCRIPTION
 PAGE 3 OF 3

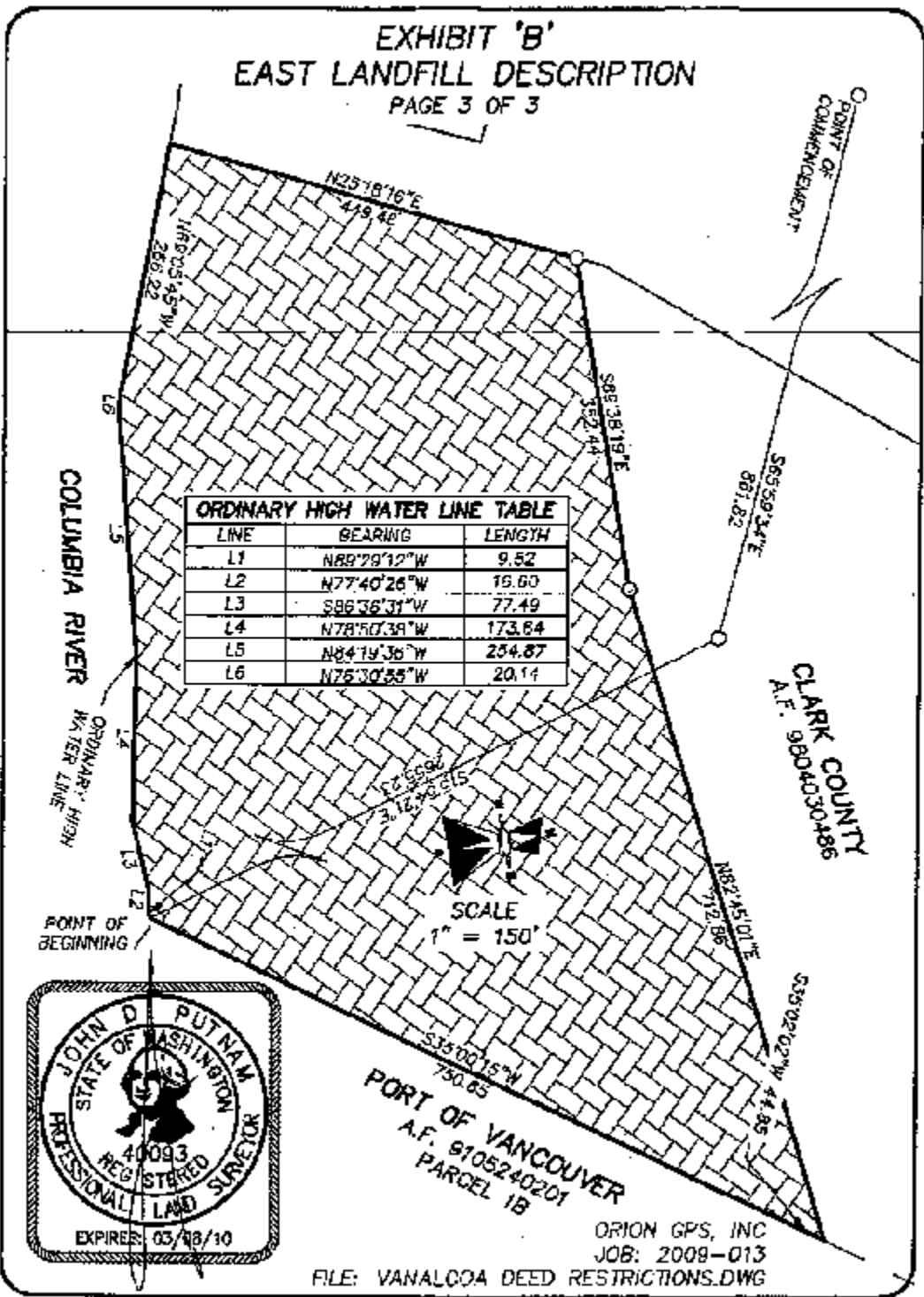


EXHIBIT C

**Legal Description of the North and North 2 Landfills
(See Next Page)**

EXHIBIT 'C'
NORTH AND NORTH 2 LANDFILL DESCRIPTION

A TRACT OF LAND LOCATED IN SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8706250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE ALONG THE SOUTHERN LINES OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9206090248 SOUTH 65°59'34" EAST, 861.82 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°39'29" EAST, 1,256.50 FEET TO THE POINT OF INTERSECTION OF THE NORTHERN RIGHT-OF-WAY OF THE SPOKANE, PORTLAND AND SEATTLE RAILROAD AS DESCRIBED IN AUDITOR'S FILE E24906 WITH THE WESTERN LINE OF THE VAN ALMAN DONATION LAND CLAIM BEING THE TRUE POINT OF BEGINNING;

THENCE ALONG SAID WESTERN LINE SOUTH 09°54'57" WEST, 421.20 FEET;

THENCE SOUTH 39°01'25" WEST, 210.18 FEET TO A POINT OF CURVATURE;

THENCE ALONG THE ARC OF A 450.00 FEET RADIUS CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 20°00'08" (THE CHORD BEARS SOUTH 49°01'29" WEST, 156.30 FEET) AN ARC DISTANCE OF 157.10 FEET;

THENCE SOUTH 59°01'33" WEST, 49.26 FEET;

THENCE NORTH 15°47'45" WEST, 110.37 FEET;

THENCE NORTH 76°13'17" WEST, 32.27 FEET;

THENCE NORTH 80°08'54" WEST, 105.81 FEET;

THENCE NORTH 16°55'31" EAST, 819.47 FEET;

THENCE NORTH 88°14'48" EAST, 47.29 FEET;

THENCE SOUTH 75°52'42" EAST, 535.80 FEET TO THE NORTHERN RIGHT-OF-WAY OF THE SPOKANE, PORTLAND AND SEATTLE RAILROAD AS DESCRIBED IN AUDITOR'S FILE E24906;

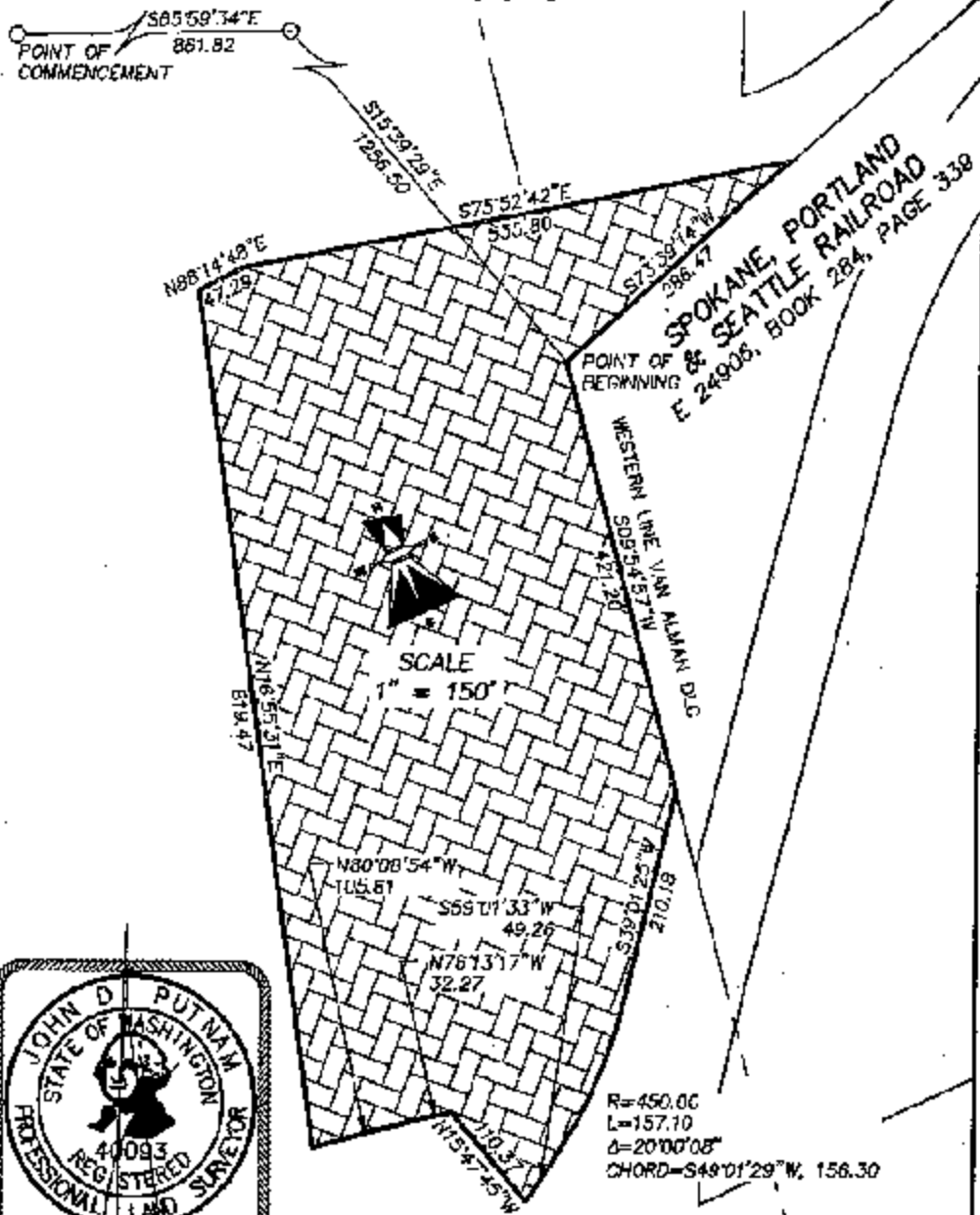
THENCE ALONG SAID RIGHT-OF-WAY SOUTH 73°39'14" WEST, 288.47 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS 315,292 SQUARE FEET / 7.24 ACRES, MORE OR LESS.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1985, SOUTH ZONE AND DISTANCES ARE AT GROUND.



EXHIBIT 'C'
NORTH & NORTH 2 LANDFILL DESCRIPTION
 PAGE 3 OF 3



R=450.00
 L=157.10
 Δ=20°00'08"
 CHORD=S49°01'29"W, 156.30

ORION GPS, INC
 JOB: 2009-013
 FILE: VANALCOA DEED RESTRICTIONS.DWG

EXHIBIT D

**Legal Description of the Shoreline Area
(See Next Page)**

EXHIBIT 'D'
SHORELINE AREA DESCRIPTION

A TRACT OF LAND LOCATED IN SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON. SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHEASTERN CORNER OF THAT PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC BY DEED RECORDED AS AUDITOR'S FILE 8708250115, RECORDS OF CLARK COUNTY WASHINGTON. SAID POINT BEING A 5/8" IRON ROD WITH YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE ALONG THE SOUTHERN LINES OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 9208090248 SOUTH 85°59'34" EAST, 861.82 FEET TO A 5/8" IRON ROD W/ YELLOW PLASTIC CAP STAMPED "HILL LS 7591";

THENCE SOUTH 15°54'21" EAST, 2,855.23 FEET TO **TRUE POINT OF BEGINNING** AT THE INTERSECTION OF THE ORDINARY HIGH WATER LINE OF THE COLUMBIA RIVER WITH THE WESTERN LINE OF THAT PROPERTY CONVEYED TO THE PORT OF VANCOUVER AS DESCRIBED IN AUDITOR'S FILE 5105240201 PARCEL 1B;

THENCE ALONG THE ORDINARY HIGH WATER LINE THE FOLLOWING COURSES:

NORTH 89°29'12" WEST, 9.52 FEET;

THENCE NORTH 77°40'26" WEST, 16.60 FEET;

THENCE SOUTH 86°36'31" WEST, 77.49 FEET;

THENCE NORTH 78°50'38" WEST, 173.64 FEET;

THENCE NORTH 84°19'38" WEST, 254.87 FEET;

THENCE NORTH 76°30'55" WEST, 20.14 FEET;

THENCE NORTH 69°05'45" WEST, 286.22 FEET TO THE TRUE POINT OF BEGINNING;

THENCE CONTINUE ALONG THE ORDINARY HIGH WATER LINE NORTH 69°05'45" WEST, 44.14 FEET;

THENCE NORTH 73°25'50" WEST, 31.58 FEET;

THENCE NORTH 78°01'48" WEST, 41.07 FEET;

THENCE NORTH 75°14'34" WEST, 70.64 FEET;

THENCE NORTH 67°13'09" WEST, 106.03 FEET;

THENCE NORTH 85°08'56" WEST, 14.42 FEET;

THENCE NORTH 69°41'50" WEST, 102.24 FEET;
THENCE NORTH 62°47'21" WEST, 22.10 FEET;
THENCE NORTH 65°06'24" WEST, 12.19 FEET;
THENCE NORTH 78°40'23" WEST, 23.96 FEET;
THENCE NORTH 68°36'38" WEST, 11.78 FEET;
THENCE NORTH 54°35'29" WEST, 28.64 FEET;
THENCE NORTH 61°34'46" WEST, 105.07 FEET;
THENCE NORTH 70°03'25" WEST, 111.12 FEET;
THENCE NORTH 61°56'51" WEST, 10.49 FEET;
THENCE NORTH 66°35'10" WEST, 27.88 FEET;
THENCE NORTH 71°57'33" WEST, 28.64 FEET;
THENCE NORTH 61°44'43" WEST, 36.12 FEET;
THENCE NORTH 70°11'57" WEST, 27.01 FEET;
THENCE NORTH 75°26'06" WEST, 88.93 FEET;
THENCE NORTH 69°07'46" WEST, 82.68 FEET;
THENCE NORTH 85°00'29" WEST, 9.41 FEET;
THENCE NORTH 79°39'38" WEST, 24.20 FEET;
THENCE NORTH 71°31'12" WEST, 49.99 FEET;
THENCE NORTH 76°58'35" WEST, 34.63 FEET;
THENCE NORTH 79°53'56" WEST, 6.78 FEET;
THENCE NORTH 74°55'38" WEST, 53.64 FEET;
THENCE NORTH 73°16'30" WEST, 41.35 FEET;
THENCE NORTH 69°24'34" WEST, 52.13 FEET;
THENCE NORTH 62°17'48" WEST, 32.15 FEET;

THENCE NORTH 65°47'53" WEST, 33.52 FEET;

THENCE NORTH 63°32'11" WEST, 25.50 FEET;

THENCE NORTH 55°03'48" WEST, 52.98 FEET;

THENCE NORTH 34°13'21" WEST, 10.50 FEET;

THENCE NORTH 48°48'47" WEST, 8.46 FEET;

THENCE NORTH 87°23'10" WEST, 34.95 FEET;

THENCE NORTH 62°28'18" WEST, 21.35 FEET;

THENCE NORTH 60°53'29" WEST, 42.70 FEET;

THENCE NORTH 62°43'59" WEST, 61.76 FEET;

THENCE NORTH 47°54'15" WEST, 13.10 FEET;

THENCE NORTH 57°42'47" WEST, 34.21 FEET;

THENCE NORTH 45°30'34" WEST, 28.68 FEET;

THENCE NORTH 63°11'33" WEST, 91.74 FEET;

THENCE NORTH 63°52'03" WEST, 43.89 FEET;

THENCE NORTH 68°40'24" WEST, 45.31 FEET;

THENCE NORTH 83°18'56" WEST, 41.82 FEET;

THENCE NORTH 55°08'42" WEST, 40.63 FEET;

THENCE NORTH 65°23'25" WEST, 39.33 FEET;

THENCE NORTH 68°13'41" WEST, 36.75 FEET;

THENCE NORTH 59°48'47" WEST, 20.47 FEET;

THENCE NORTH 56°29'02" WEST, 23.33 FEET;

THENCE NORTH 73°15'43" WEST, 30.91 FEET;

THENCE NORTH 65°05'42" WEST, 34.79 FEET TO THE EASTERN LINE OF THAT
PROPERTY CONVEYED TO VANCOUVER SMELTING AND INGOT, INC AS DESCRIBED IN
AUDITOR'S FILE 8706250115;

THENCE ALONG THE EASTERN LINE OF SAID PROPERTY NORTH 24°51'44" EAST, 77.61 FEET;

THENCE SOUTH 65°49'16" EAST, 150.32 FEET;

THENCE SOUTH 22°26'15" WEST, 19.56 FEET;

THENCE SOUTH 65°18'35" EAST, 749.17 FEET;

THENCE SOUTH 66°11'01" EAST, 73.82 FEET;

THENCE SOUTH 69°43'12" EAST, 53.83 FEET;

THENCE SOUTH 75°14'17" EAST, 47.47 FEET;

THENCE SOUTH 81°49'10" EAST, 35.53 FEET;

THENCE SOUTH 77°37'51" EAST, 49.50 FEET;

THENCE SOUTH 68°58'58" EAST, 87.05 FEET;

THENCE SOUTH 65°30'32" EAST, 124.87 FEET;

THENCE SOUTH 64°19'30" EAST, 168.53 FEET;

THENCE SOUTH 67°05'55" EAST, 373.27 FEET;

THENCE SOUTH 67°02'30" EAST, 224.87 FEET;

THENCE SOUTH 25°18'16" WEST, 51.22 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS 177,584 SQUARE FEET OR 4.08 ACRES, MORE OR LESS.

BEARINGS BASED ON THE WASHINGTON STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE AND DISTANCES ARE AT GROUND.



EXHIBIT 'D'
SHORELINE AREA DESCRIPTION
PAGE 5 OF 7

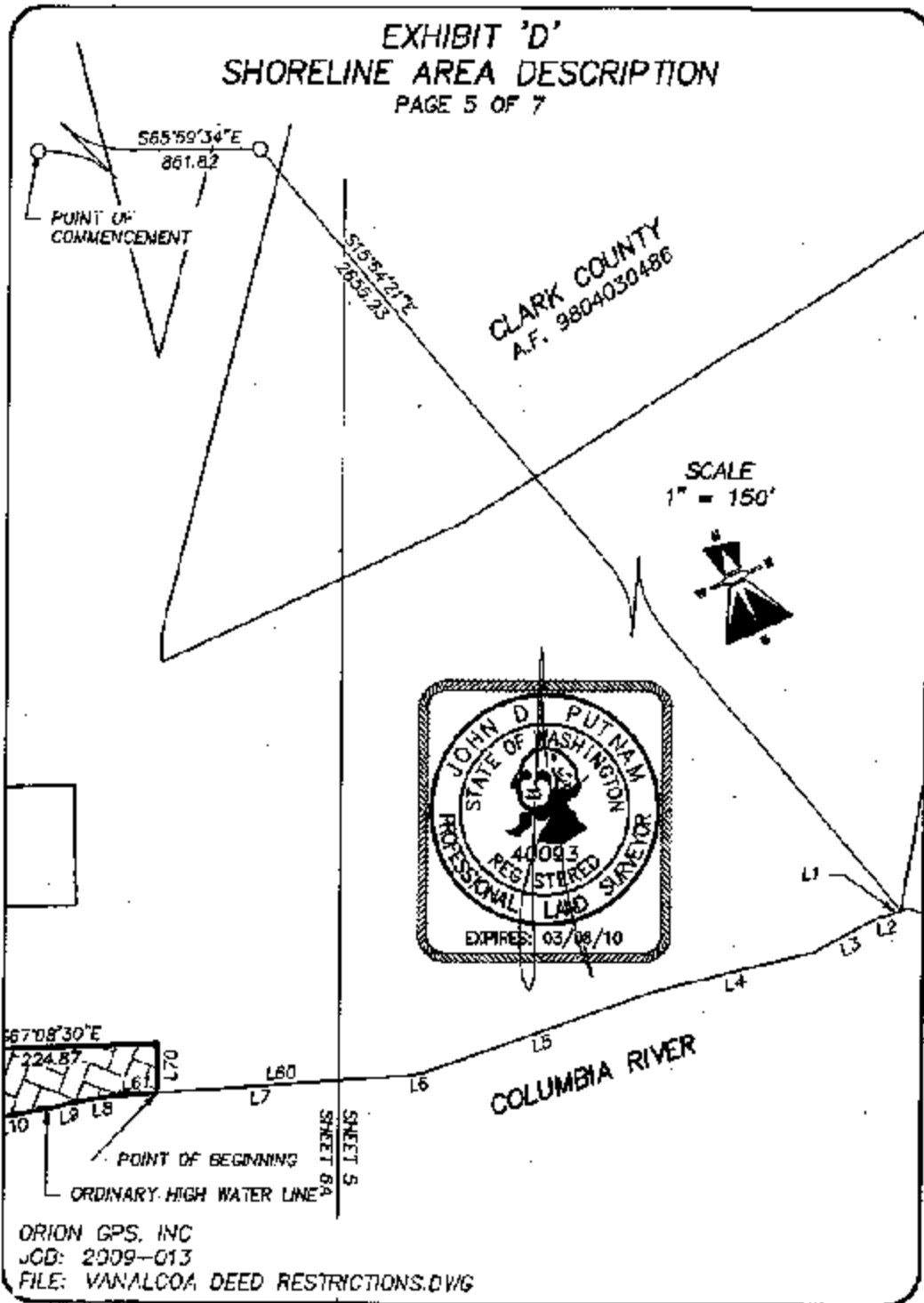


EXHIBIT 'D'
SHORELINE AREA DESCRIPTION
PAGE 6 OF 7

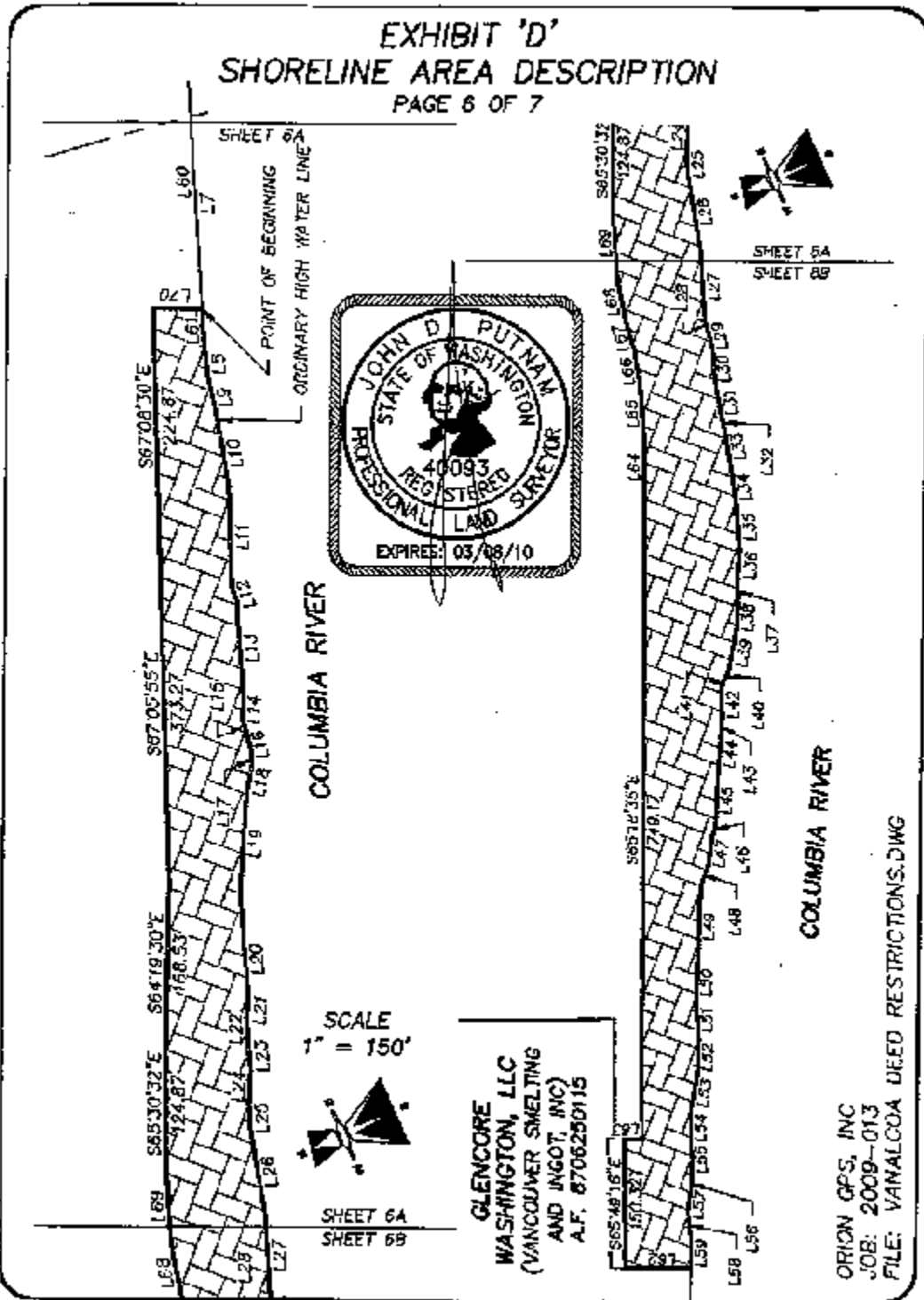


EXHIBIT 'D'
SHORELINE AREA DESCRIPTION
 PAGE 7 OF 7

LINE TABLE					
LINE	BEARING	LENGTH	LINE	BEARING	LENGTH
L1	N89°28'12"W	5.52	L46	N47°54'15"W	13.10
L2	N77°40'29"W	16.50	L47	N57°42'47"W	34.21
L3	S86°36'31"W	77.49	L48	N45°30'34"W	26.68
L4	N78°50'38"W	173.64	L49	N63°11'33"W	91.74
L5	N84°19'38"W	204.87	L50	N65°52'03"W	43.89
L6	N76°30'55"W	20.14	L51	N68°40'24"W	45.31
L7	N69°05'45"W	310.36	L52	N63°18'56"W	41.82
L8	N73°25'52"W	31.58	L53	N55°08'42"W	40.63
L9	N76°01'48"W	41.07	L54	N65°23'25"W	39.33
L10	N75°14'34"W	70.84	L55	N68°13'41"W	36.75
L11	N67°15'09"W	105.03	L56	N69°46'47"W	20.47
L12	N85°08'56"W	14.42	L57	N66°29'02"W	23.33
L13	N69°41'50"W	102.24	L58	N73°15'43"W	30.91
L14	N62°47'21"W	22.10	L59	N65°05'42"W	34.74
L15	N85°06'24"W	12.19	L60	N69°05'45"W	266.22
L16	N78°40'23"W	23.96	L61	N69°05'45"W	44.14
L17	N68°36'38"W	11.78	L62	N24°51'44"E	77.61
L18	N54°35'29"W	28.64	L63	S22°25'15"W	19.56
L19	N61°34'16"W	105.07	L64	S66°11'01"E	73.82
L20	N70°23'25"W	111.12	L65	S69°43'12"E	53.83
L21	N61°56'51"W	15.48	L66	S75°14'17"E	47.47
L22	N65°35'10"W	27.88	L67	S81°49'10"E	35.53
L23	N71°57'33"W	26.64	L68	S77°37'51"E	49.50
L24	N61°44'43"W	36.12	L69	S68°59'58"E	87.03
L25	N70°11'57"W	27.01	L70	S25°18'16"W	51.22
L26	N75°25'06"W	88.93			
L27	N89°07'46"W	82.69			
L28	N85°00'29"W	9.41			
L29	N79°39'38"W	24.20			
L30	N71°31'12"W	48.99			
L31	N76°58'36"W	34.63			
L32	N79°53'56"W	5.78			
L33	N74°55'58"W	53.64			
L34	N73°16'30"W	41.35			
L35	N68°24'34"W	52.13			
L36	N62°17'46"W	32.15			
L37	N65°17'53"W	33.52			
L38	N53°32'11"W	25.50			
L39	N55°03'48"W	52.95			
L40	N34°13'21"W	70.50			
L41	N48°48'47"W	8.45			
L42	N67°23'10"W	34.95			
L43	N62°28'18"W	21.35			
L44	N60°53'29"W	42.70			
L45	N62°43'59"W	61.76			



ORION GPS, INC
 JOB: 2009-013
 FILE: VANALCOA DEED RESTRICTIONS.DWG

APPENDIX A

**Notification Forms
(to be filed)**

APPENDIX B
Miscellaneous Correspondence
(to be filed)

