

IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON
FOR PIERCE COUNTY

STATE OF WASHINGTON,
DEPARTMENT OF ECOLOGY,

Plaintiff,

v.

PORT OF TACOMA,

Defendant.

NO. 94 2 09922 7
ORDER ENTERING
CONSENT DECREE

Having reviewed the Consent Decree signed by the parties to this matter, the Joint Motion for Entry of the Consent Decree, the Affidavit of Daniel Alexanian, and the file herein, it is hereby

ORDERED AND ADJUDGED that the Consent Decree in this matter is Entered and that the Court shall retain jurisdiction over the Consent Decree to enforce its terms.

Signed this 16th day of September 1994.

MEAGAN M. FOLEY
Court Commissioner

Superior Court Judge

Present by:
Robert L. Gerstein
WSB 4717123
Robert I. Gonsky
Att'y for Defendant

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FOR PIERCE COUNTY

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY,

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CONSENT DECREE

v.

PORT OF TACOMA

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2 I. INTRODUCTION

3 A. In entering into this Consent Decree (Decree), the
4 mutual objective of the Washington State Department of Ecology
5 (Ecology) and The Port of Tacoma (Defendant) is to provide for
6 remedial action at the Murray Pacific No. 2 Log Sort Yard in
7 Tacoma, WA (the "Site") where there has been a release or
8 threatened release of hazardous substances (Exhibits A and B).
9 This Decree requires the Defendant to undertake the following
10 remedial action(s) which are discussed in more detail in
11 Section VI:

- 12 (1) The Defendant shall perform the remedial actions
13 specified in detail in the Cleanup Action Plan
14 (Exhibit C) and the Scope of Work (Exhibit D).
15 These exhibits are incorporated by reference and are
16 integral and enforceable parts of this Decree.
- 17 (2) Record with the property deed the attached
18 Declaration of Restrictive Covenant (Exhibit E)
19 limiting the Site to industrial uses and ensuring
20 that future use and development is consistent with
21 the strength and permeability limitations of the
22 Site.

23 Ecology has determined that these actions are necessary to
24 protect public health and the environment.

25 B. The Complaint in this action is being filed
26 simultaneously with this Decree. An answer has not been
filed, and there has not been a trial on any issue of fact or

1 law in this case. However, the parties wish to resolve the
2 issues raised by Ecology's complaint. By entering into this
3 Decree, the Defendant neither admits nor denies liability
4 under federal or state law. In addition, the parties agree
5 that settlement of these matters without litigation is
6 reasonable and in the public interest and that entry of this
7 Decree is the most appropriate means of resolving these
8 matters.

9 C. In signing this Decree, the Defendant agrees to its
10 entry and agrees to be bound by its terms.

11 D. By entering into this Decree, the parties do not
12 intend to discharge nonsettling parties from any liability
13 they may have with respect to matters alleged in the
14 complaint. The parties retain the right to seek
15 reimbursement, in whole or in part, from any liable persons
16 for sums expended under this Decree.

17 E. This Decree shall not be construed as proof of
18 liability or responsibility for any releases of hazardous
19 substances or cost for remedial action nor an admission of any
20 facts; provided, however, that the Defendant shall not
21 challenge the jurisdiction of Ecology in any proceeding to
22 enforce this Decree.

23 F. The Court is fully advised of their reasons for
24 entry of this Decree, and good cause having been shown: IT IS
25 HEREBY ORDERED, ADJUDGED, AND DECREED AS FOLLOWS:
26

II. JURISDICTION

1 A. This Court has jurisdiction over the subject matter,
2 and over the parties pursuant to Chapter 70.105D RCW, the
3 Model Toxics Control Act (MTCA).
4

5 B. Authority is conferred upon the Washington State
6 Attorney General by RCW 70.105D.040(4)(a) to agree to a
7 settlement with any potentially liable person if, after public
8 notice and hearing, Ecology finds the proposed settlement
9 would lead to a more expeditious cleanup of hazardous
10 substances. RCW 70.105D.040(4)(b) requires that such a
11 settlement be entered as a consent decree issued by a court of
12 competent jurisdiction.

13 C. Ecology has determined that a release or threatened
14 release of hazardous substances has occurred at the Site which
15 is the subject of this Decree. Ecology has further determined
16 that the release is causing contamination of surface water and
17 will continue to cause contamination unless the release is
18 remediated.

19 D. Ecology has given notice to the Defendant, as set
20 forth in RCW 70.105D.020(8), of Ecology's determination that
21 the Defendant is a potentially liable person for the Site and
22 that there has been a release or threatened release of
23 hazardous substances at the Site.

24 E. The actions to be taken pursuant to this Decree are
25 necessary to protect public health, welfare, and the
26 environment.

1 F. Defendant has agreed to undertake the actions
2 specified in this Decree and consents to the entry of this
3 Decree under the MTCA.

4
5 III. PARTIES BOUND

6 This Decree shall apply to and be binding upon the
7 signatories to this Decree (parties), their successors and
8 assigns. The undersigned representative of each party hereby
9 certifies that he or she is fully authorized to enter into
10 this Decree and to execute and legally bind such party to
11 comply with the Decree. Defendant agrees to undertake all
12 actions required by the terms and conditions of this Decree
13 and not to contest state jurisdiction regarding this Decree.
14 No change in ownership or corporate status shall alter the
15 responsibility of the Defendant under this Decree. Defendant
16 shall provide a copy of this Decree to all agents, contractors
17 and subcontractors retained to perform work required by this
18 Decree and shall ensure that all work undertaken by such
19 contractors and subcontractors will be in compliance with this
20 Decree.

21
22 IV. DEFINITIONS

23 Except for as specified herein, all definitions in WAC 173-
24 340-200 apply to the terms in this Decree.

25 A. Property: The Property, known as the Murray Pacific
26 No. 2 Log Sort Yard, is located between the Port of Tacoma
Road and the Blair Waterway, south of Lincoln Avenue and north

1 of the Blair Terminal in Tacoma, Washington. The property is
2 owned by the Port of Tacoma and consists of a 49.5 acre
3 parcel.

4 B. Site: Refers to the Murray Pacific No. 2 Log Sort
5 Yard. The Site is further described in Exhibit A, a detailed
6 site diagram, and Exhibit B, a legal description, attached and
7 hereby incorporated as part of this Decree.

8 C. Parties: Refers to the Washington State Department
9 of Ecology and the Port of Tacoma.

10 D. Defendant: Refers to the Port of Tacoma.

11 E. Consent Decree or Decree: Refers to this Consent
12 Decree and each of the exhibits to the Decree. All exhibits
13 are integral and enforceable parts of this Consent Decree.
14 The terms "Consent Decree" or "Decree" shall include all
15 Exhibits to the Consent Decree.

16 V. STATEMENT OF FACTS

17 Ecology makes the following finding of facts without any
18 express or implied admissions by Defendant.

19 1. The Port is the owner of a 49.5 acre parcel of land
20 currently known as the Murray Pacific No. 2 Log Sort Yard.
21 The property is located along the Blair Waterway, the Port of
22 Tacoma Road, and Lincoln Avenue in Tacoma, Washington (Exhibit
23 A).

24 2. Since 1970, the Murray Pacific Corporation has
25 leased the property for use as a log sort yard. Prior to
26 1970, the land was undeveloped and unleased.

1 3. Slag, a product of the ore smelting process produced
2 at the ASARCO smelting facility in Tacoma(Ruston), Washington,
3 was placed on the Site as ballast between 1975 and 1980.

4 4. Ecology collected storm water runoff samples at the
5 Site between November 1983 and June 1984 (Norton D. and
6 Johnson A., 1985). The highest concentrations of metals
7 measured from this sampling program were as follows: arsenic
8 (As) 10,000 micrograms per liter (ug/L), copper (Cu) 1,200
9 ug/L, lead (Pb) 1,000 ug/L, and zinc (Zn) 3,500 ug/L. The
10 levels of these metals exceeded federal and state marine water
11 quality criteria. In the 1985 report, Norton and Johnson
12 concluded that in all probability the use of slag for ballast
13 was the major source of elevated metals concentrations.

14 5. Surface water runoff that leaves the property
15 discharges to the Blair Waterway or to Lincoln Avenue ditch,
16 which in turn discharges to the Blair Waterway.

17 6. A remedial investigation/feasibility study (RI/FS)
18 was performed by Kennedy/Jenks Consultants (Kennedy/Jenks) as
19 an independent action for the Port in conformance with MTCA.
20 The RI/FS was circulated for 30 days of public comment by the
21 Port.

22 7. Elevated concentrations of arsenic and other metals
23 were detected in soil and bark samples collected during the
24 RI. The maximum detected concentrations of metals of concern
25 in these samples were 1,740 mg/kg for arsenic, 2,090 mg/kg for
26 copper, 1,250 mg/kg for lead, and 3,690 mg/kg for zinc. The
 metals concentrations decreased significantly at depths 2.5

1 feet below the ground surface. No samples collected at or
2 below the 5.0 foot sample interval exceeded the MTCA
3 Industrial cleanup levels (200 mg/kg for arsenic).
4 Approximately 250 soil and bark samples were collected and
5 analyzed during the RI.

6 8. If generated (i.e., excavated and removed from the
7 site), soil and bark containing arsenic concentrations at or
8 above 100 mg/kg are currently considered a state-only
9 dangerous waste because of the carcinogenic or cancer-causing
10 properties of arsenic. Chapter 254 of The Laws of 1994 or
11 Engrossed Substitute Senate Bill 6123 (ESSB 6123) (effective
12 June 30, 1994), recently amended the Hazardous Waste
13 Management Act (chapter 70.105 RCW) to conditionally exempt
14 state-only dangerous waste from the requirements of that
15 chapter if the waste is generated pursuant to a consent decree
16 under MTCA. The waste still must be managed in a manner
17 determined by Ecology to be protective of human health and
18 environment (see Exhibit C). Off-site disposal locations are
19 subject to Ecology's approval as well as local regulatory
20 agencies.

21 9. Three rounds of ground water samples were taken from
22 8 monitoring wells during the RI process. Concentrations of
23 metals were generally low and indicate that in the past,
24 ground water has not been a significant pathway of contaminant
25 migration.

26 10. Monitoring of surface water runoff conducted during
the RI in 1992 and 1993 detected maximum total concentrations

1 of arsenic, copper, lead, and zinc of 17,900 ug/l, 4100 ug/l,
2 2100 ug/l and 5050 ug/l respectively. The levels of these
3 metals exceeded federal and state marine quality criteria.
4 Runoff is a concern for transporting metals to the surface
5 water.

6 11. Sediment samples were taken along the bank of
7 Lincoln Avenue Ditch and along the bank of the Blair Waterway
8 during the RI. Maximum detected metals concentrations in the
9 sediment samples were 411 mg/kg arsenic, 262 mg/kg copper, 200
10 mg/kg lead, and 617 mg/kg zinc. The marine sediment criteria
11 for arsenic was exceeded in several samples taken from both
12 the bank of Lincoln Avenue Ditch and the Blair Waterway.
13 Marine sediment criteria for zinc was exceeded in one sample
14 at the Blair Waterway.

15 12. The RI concluded that migration of metals in the
16 surface runoff is the most critical method of metals
17 transport, and that leaching of the metals into the soil below
18 5 feet of ground surface or into the ground water does not
19 appear to have been a significant problem to date.

20 13. A Cleanup Action Plan (CAP) for the Site is attached
21 as Exhibit C. The CAP specifies the selected cleanup action,
22 remedial action objectives (including Site cleanup levels) and
23 waste management practices. The CAP is based primarily on the
24 Remedial Investigation Report and Feasibility Study Report
25 findings.

26 14. The Port of Tacoma has entered into a federal
consent decree (Civil #C93-5462) for the Commencement Bay

1 Nearshore/ Tideflats Superfund Site; Sitcum Waterway Problem
2 Area. This Federal Decree is also signed by the State of
3 Washington in its capacity as a natural resource trustee. The
4 Federal Decree settles the Natural Resource Damage (NRD)
5 liability for all land owned, operated, or managed by the
6 Port, including the site subject to this Decree.

7
8 VI. WORK TO BE PERFORMED

9 This Decree contains a program designed to protect public
10 health, welfare and the environment from the known release, or
11 threatened release, of hazardous substances or contaminants
12 at, on, or from the Site.

13 A. The Defendant shall perform the remedial actions
14 specified in detail in the Cleanup Action Plan (Exhibit C) and
15 the Scope of Work (Exhibit D). These exhibits are
16 incorporated by reference and are integral and enforceable
17 parts of this Decree. A summary of the work program to be
18 performed is as follows:

- 19 (1) Prepare the subgrade at the Site by physically
20 separating material from the bark piles and site
21 surface into material structurally suitable for use
22 beneath the cap and waste material to be disposed of
23 off-site.
- 24 (2) Approval has been granted by Ecology, the Klickitat
25 County Board of Commissioners and the Southwest
26 Washington Health Districts for use of the Roosevelt
Regional Landfill located in Klickitat County for

1 disposal of contaminated bark/soil from the Site.
2 This facility meets the minimum performance
3 requirements included in the Site CAP (Exhibit C).
4 A new section added to chapter 70.105 RCW (ESSB
5 6123) states in part that solid wastes that
6 designate as dangerous waste or extremely hazardous
7 waste under state law, but which do not designate as
8 hazardous waste under federal law, are conditionally
9 exempt from the requirements of the chapter, if a
10 consent decree with Ecology for the cleanup of the
11 site characterizes the solid waste and specifies
12 management practices and a department-approved
13 treatment or disposal location. The waste
14 characterization and management practices are
15 specified in the CAP, Section 6.2, Off-site Landfill
16 Requirements.

- 17 (3) Institute interim surface water runoff controls
18 (e.g., site grading, berms, silt fences, and/or
19 hydro-seeding as necessary to assist in controlling
20 surface water runoff) and compliance monitoring in
21 accordance with the Interim Measures for Storm Water
22 Control and Ground Water Monitoring Report. Interim
23 measures are required to control surface water
24 runoff prior to the construction of the site cap.
25 Construction of the site cap shall be completed by
26 December 1997. (All or portions of the cap may be
constructed prior to this date.)

- 1 (4) Cap the Site with a low permeability cap in
2 accordance with the plans specified in the Ecology-
3 approved Final Design Engineering Report.
4 (5) Install a storm water collection system as described
5 in the Ecology-approved Final Design Engineering
6 Report.
7 (6) Inspect and maintain the cap and storm water system
8 in accordance with the Ecology-approved Operation
9 and Maintenance Plan.
10 (7) Monitor surface water and ground water and conduct
11 soil verification sampling in accordance with the
12 Monitoring Plan contained in the Ecology-approved
13 Final Design Engineering Report.
14 (8) Defendant agrees not to perform any remedial actions
15 outside the scope of this decree, unless the parties
16 agree to amend the scope of work to cover these
17 actions. All work conducted under this decree shall
18 be done in accordance with Ch. 173-340 WAC unless
19 otherwise provided herein.
20 (9) Within 20 days of completion of paving, the
21 Defendant shall record a restrictive covenant
22 (Exhibit E) in the title records to that portion of
23 the property underlying the Site over which
24 Defendant holds fee title. The restrictive covenant
25 shall limit the Site to industrial uses, and ensure
26 that future use and development is consistent with
the strength and permeability limitations of the

1 Site. The Defendant shall forward a filed copy of
2 the restrictive covenant to Ecology within 10 days
3 of receiving a filed copy from the Pierce County
4 Auditor.

5
6 VII. DESIGNATED PROJECT COORDINATORS

7 The project coordinator for Ecology is:

8 Daniel Alexanian, Hydrogeologist

9 Department of Ecology

10 Southwest Regional Office

11 P. O. Box 47775

12 Olympia, Washington 98504-7775

13 The project coordinator for the Defendant is:

14 Curtis Ratcliffe

15 Port of Tacoma

16 P. O. Box 1837

17 Tacoma, WA 98401-1837

18 Each project coordinator shall be responsible for
19 overseeing the implementation of this Decree. The Ecology
20 project coordinator will be Ecology's designated
21 representative at the Site. To the maximum extent possible,
22 communications between Ecology and the Defendant and all
23 documents, including reports, approvals, and other
24 correspondence concerning the activities performed pursuant to
25 the terms and conditions of this Decree, shall be directed
26 through the project coordinators. The project coordinators
may designate, in writing, working level staff contacts for

1 all or portions of the implementation of the remedial work
2 required by this Decree. The project coordinators may agree
3 to minor modifications to the work to be performed without
4 formal amendments to this Decree. Minor modifications will be
5 documented in writing by Ecology.

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

9 10 VIII. PERFORMANCE

11 All work performed pursuant to this Decree shall be under
12 the direction and supervision, as necessary, of a professional
13 engineer or hydrogeologist, or equivalent, with experience and
14 expertise in hazardous waste site investigation and cleanup.
15 Any construction work must be under the supervision of a
16 professional engineer. Defendant shall notify Ecology in
17 writing as to the identity of such engineer(s) or
18 hydrogeologist(s), or others and of any contractors and
19 subcontractors to be used in carrying out the terms of this
20 Decree, in advance of their involvement at the Site.

21 22 IX. ACCESS

23 Ecology or any Ecology authorized representatives shall
24 have the authority to enter and freely move about all property
25 at the Site at all reasonable times for the purposes of, inter
26 alia: inspecting records, operation logs, and contracts
related to the work being performed pursuant to this Decree;

1 reviewing Defendant's progress in carrying out the terms of
2 this Decree; conducting such tests or collecting such samples
3 as Ecology may deem necessary; using a camera, sound
4 recording, or other documentary type equipment to record work
5 done pursuant to this Decree; and verifying the data submitted
6 to Ecology by the Defendant. Upon request, Ecology shall
7 split any samples taken during an inspection unless the
8 Defendant fails to make available a representative for the
9 purpose of splitting samples. All parties with access to the
10 Site pursuant to this paragraph shall comply with approved
11 health and safety plans.

12
13 X. SAMPLING, DATA REPORTING, AND AVAILABILITY

14 With respect to the implementation of this Decree,
15 Defendant shall make the results of all sampling, laboratory
16 reports, and/or test results generated by it, or on its behalf
17 available to Ecology and shall submit these results in
18 accordance with Section XI of this Decree.

19 If requested by Ecology, Defendant shall allow split or
20 duplicate samples to be taken by Ecology and/or its authorized
21 representatives of any samples collected by Defendant pursuant
22 to the implementation of this Decree. Unless otherwise agreed
23 to by the parties, Defendant shall notify Ecology seven (7)
24 calendar days in advance of any sample collection or work
25 activity at the Site. Ecology shall, upon request, allow
26 split or duplicate samples to be taken by Defendant or
authorized representatives of any samples collected by Ecology

1 pursuant to the implementation of this Decree provided it does
2 not interfere with the Department's sampling. Without
3 limitation on Ecology's rights under Section IX, Ecology shall
4 endeavor to notify Defendant prior to any sample collection
5 activity. Ecology, or its representatives shall check in with
6 Port security and follow the Port's safety rules upon entering
7 the Site.

8 XI. PROGRESS REPORTS

9 Defendant shall submit to Ecology written monthly
10 progress reports until construction is complete. The progress
11 reports shall describe the actions taken during the previous
12 month to implement the requirements of this Decree. The
13 progress report shall include the following:

14 A. A list of on-site activities related to this order
15 that have taken place during the month;

16 B. Detailed description of any deviations from required
17 tasks not otherwise documented in project plans or amendment
18 requests;

19 C. Description of all deviations from the schedule
20 (Exhibit D) during the current month and any planned
21 deviations in the upcoming months;

22 D. For any deviations in schedule, a plan for
23 recovering lost time and maintaining compliance with the
24 schedule;
25
26

1 E. All raw data (including laboratory analysis)
2 received by the Defendant during the past month and an
3 identification of the source of the sample; and

4 F. A list of deliverables for the upcoming month if
5 different from the schedule.

6 All progress reports shall be submitted by the tenth day
7 of the month in which they are due after the effective date of
8 this Decree. Unless otherwise specified, progress reports and
9 any other documents submitted pursuant to this Decree shall be
10 sent by certified mail, return receipt requested, to Ecology's
11 project coordinator.

12
13 XII. RETENTION OF RECORDS

14 Defendant shall preserve, during the pendency of this
15 Decree and for ten (10) years from the date this Decree is no
16 longer in effect as provided in Section XXV, all records,
17 reports, documents, and underlying data in its possession
18 relevant to the implementation of this Decree and shall insert
19 in contracts with project contractors and subcontractors a
20 similar record retention requirement. Upon request of
21 Ecology, Defendant shall make all non-archived records
22 available to Ecology and allow access for review. All
23 archived records shall be made available to Ecology within a
24 reasonable period of time.

XIII. TRANSFER OF INTEREST IN PROPERTY

No voluntary or involuntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site not previously described in this Consent Decree shall be consummated without provision for continued operation and maintenance of any containment system, storm water collection system, and monitoring system installed or implemented pursuant to this Decree.

Prior to transfer of any legal or equitable interest in all or any portion of the property not previously described in this Consent Decree, and during the effective period of this Decree, Defendant shall serve a copy of this Decree upon any prospective purchaser, lessee, transferee, assignee, or other successor in interest of the property; and, at least twenty (20) days prior to any transfer, Defendant shall notify Ecology of said contemplated transfer.

XIV. RESOLUTION OF DISPUTES

A. In the event a dispute arises as to an approval, disapproval, proposed modification or other decision or action by Ecology's project coordinator, the parties shall utilize the dispute resolution procedure set forth below.

(1) Upon receipt of the Ecology project coordinator's decision, the Defendant shall have fourteen (14) calendar days within which to notify Ecology's project coordinator of its objection to the decision.

1 (2) The parties' project coordinators shall then confer
2 in an effort to resolve the dispute. If the project
3 coordinators cannot resolve the dispute within fourteen (14)
4 calendar days, Ecology's project coordinator shall issue a
5 written decision.

6 (3) Defendant may then request Ecology management review
7 of the decision. This request shall be submitted in writing
8 to the Toxics Cleanup Program Manager within seven (7)
9 calendar days of receipt of Ecology's project coordinator's
10 decision.

11 (4) Ecology's Toxics Cleanup Program Manager shall
12 conduct a review of the dispute and shall issue a written
13 decision regarding the dispute within thirty (30) calendar
14 days of the Defendant's request for review. The Program
15 Manager's decision shall be Ecology's final decision on the
16 disputed matter.

17 B. If Ecology's final written decision is unacceptable
18 to Defendant, Defendant has the right to submit the dispute to
19 the Court for resolution within thirty (30) calendar days of
20 receipt of Ecology's decision. The parties agree that one
21 judge should retain jurisdiction over this case and shall, as
22 necessary, resolve any dispute arising under this Decree. In
23 the event Defendant presents an issue to the Court for review,
24 the Court shall review the action or decision of Ecology on
25 the basis of whether such action or decision was arbitrary and
26 capricious and render a decision based on such standard of
review.

1 C. The parties agree to only use the dispute resolution
2 process in good faith and agree to expedite, to the extent
3 possible, the dispute resolution process whenever it is used.
4 Where either party uses the dispute resolution process in bad
5 faith or for purposes of delay, the other party may seek
6 sanctions.

7 Implementation of these dispute resolution procedures
8 shall not provide a basis for delay of any activities required
9 in this Decree, unless Ecology agrees in writing to a schedule
10 extension or the Court so orders.

11
12 XV. AMENDMENT OF CONSENT DECREE

13 This Decree may only be amended by a written stipulation
14 among the parties to this Decree that is entered by the Court
15 or by order of the Court. Such amendment shall become
16 effective upon entry by the Court. Agreement to amend shall
17 not be unreasonably withheld by any party to the Decree.

18 Defendant shall submit any request for an amendment to
19 Ecology for approval. Ecology shall indicate its approval or
20 disapproval in a timely manner after the request for amendment
21 is received. If the amendment to the Decree is substantial,
22 Ecology will provide public notice and opportunity for
23 comment. Reasons for the disapproval shall be stated in
24 writing. If Ecology does not agree to any proposed amendment,
25 the disagreement may be addressed through the dispute
26 resolution procedures described in Section XIV of this Decree.

XVI. EXTENSION OF SCHEDULE

1
2 A. An extension of schedule shall be granted only when
3 a request for an extension is submitted in a timely fashion,
4 generally at least 30 days prior to expiration of the deadline
5 for which the extension is requested, and good cause exists
6 for granting the extension. All extensions shall be requested
7 in writing. The request shall specify the reason(s) the
8 extension is needed.

9 An extension shall only be granted for such period of
10 time as Ecology determines is reasonable under the
11 circumstances. A requested extension shall not be effective
12 until approved by Ecology or the Court. Ecology shall act
13 upon any written request for extension in a timely fashion.
14 It shall not be necessary to formally amend this Decree
15 pursuant to Section XV when a schedule extension is granted.

16 B. The burden shall be on the Defendant to demonstrate
17 to the satisfaction of Ecology that the request for such
18 extension has been submitted in a timely fashion and that good
19 cause exists for granting the extension. Good cause includes,
20 but is not limited to, the following.

- 21 (1) Circumstances beyond the reasonable control and
22 despite the due diligence of Defendant including
23 delays caused by unrelated third parties or Ecology,
24 such as (but not limited to) delays by Ecology in
25 reviewing, approving, or modifying documents
26 submitted by Defendant; or

1 (2) Acts of God, including fire, flood, blizzard,
2 extreme temperatures, storm, or other unavoidable
3 casualty; or

4 (3) Endangerment as described in Section XVII.

5 (4) Agreement by both parties to the extension.

6 However, neither increased costs of performance of the
7 terms of the Decree nor changed economic circumstances shall
8 be considered circumstances beyond the reasonable control of
9 Defendant.

10 C. Ecology may extend the schedule for a period not to
11 exceed ninety (90) days, except where a longer extension is
12 needed as a result of:

13 (1) Delays in the issuance of a necessary permit which
14 was applied for in a timely manner; or

15 (2) Other circumstances deemed exceptional or
16 extraordinary by Ecology; or

17 (3) Endangerment as described in Section XVI.

18 Ecology shall give Defendant written notification in
19 a timely fashion of any extensions granted pursuant
20 to this Decree.

21
22 XVII. ENDANGERMENT

23 In the event Ecology determines that activities
24 implementing or in noncompliance with this Decree, or any
25 other circumstances or activities, are creating or have the
26 potential to create a danger to the health or welfare of the
people on the Site or in the surrounding area or to the

1 environment, Ecology may order Defendant to stop further
2 implementation of this Decree for such period of time as
3 needed to abate the danger or may petition the Court for an
4 order as appropriate. During any stoppage of work under this
5 section, the obligations of Defendant with respect to the work
6 under this Decree which is ordered to be stopped shall be
7 suspended and the time periods for performance of that work,
8 as well as the time period for any other work dependent upon
9 the work which is stopped, shall be extended, pursuant to
10 Section XVI of this Decree, for such period of time as Ecology
11 determines is reasonable under the circumstances.

12 In the event Defendant determines that activities
13 undertaken in furtherance of this Decree or any other
14 circumstances or activities are creating an endangerment to
15 the people on the Site or in the surrounding area or to the
16 environment, Defendant may stop implementation of this Decree
17 for such period of time necessary for Ecology to evaluate the
18 situation and determine whether Defendant should proceed with
19 implementation of the Decree or whether the work stoppage
20 should be continued until the danger is abated. Defendant
21 shall notify Ecology's project coordinator as soon as
22 possible, but no later than twenty-four (24) hours after such
23 stoppage of work, and thereafter provide Ecology with
24 documentation of the basis for the work stoppage. If Ecology
25 disagrees with the Defendant's determination, it may order
26 Defendant to resume implementation of this Decree. If Ecology
concurs with the work stoppage, the Defendant's obligations

1 shall be suspended and the time period for performance of that
2 work, as well as the time period for any other work dependent
3 upon the work which was stopped, shall be extended, pursuant
4 to Section XVI of this Decree, for such period of time as
5 Ecology determines is reasonable under the circumstances. Any
6 disagreements pursuant to the clause shall be resolved through
7 the dispute resolution procedures in Section XIV.

8
9 XVIII. OTHER ACTIONS

10 Ecology reserves its rights to institute remedial
11 action(s) at the Site and subsequently pursue cost recovery,
12 and Ecology reserves its rights to issue orders and/or
13 penalties or take any other enforcement action pursuant to
14 available statutory authority under the following
15 circumstances:

- 16 (1) Where Defendant fails, after notice, to comply with
17 any requirement of this Decree;
- 18 (2) In the event or upon the discovery of a release or
19 threatened release not addressed by this Decree;
- 20 (3) Upon Ecology's determination that action beyond the
21 terms of this Decree is necessary to abate an
22 emergency situation which threatens public health
23 or welfare or the environment; or
- 24 (4) Upon the occurrence or discovery of a situation
25 beyond the scope of this Decree as to which Ecology
26 would be empowered to perform any remedial action or
to issue an order and/or penalty, or to take any

1 other enforcement action. This Decree is limited in
2 scope to the geographic site described in Exhibit A
3 and Exhibit B and to those contaminants which
4 Ecology knows to be at the Site when this Decree is
5 entered.

6 The Port of Tacoma has entered into a federal consent
7 decree (Federal Decree) for the Commencement Bay
8 Nearshore/Tideflats Superfund site, Sitcum Waterway Problem
9 Area (Civil #C93-5462). This Federal Decree is also signed by
10 the State of Washington in its capacity as a natural resource
11 trustee. The Federal Decree settles the Natural Resource
12 Damage (NRD) liability for all land owned, operated, or
13 managed by the Port, including the site subject to this
14 Decree.

15 Ecology reserves the right to take any enforcement action
16 whatsoever, including a cost recovery action, against
17 potentially liable persons not party to this Decree.

18 19 XIX. INDEMNIFICATION

20 To the extent permitted by law, defendant agrees to
21 indemnify and save and hold the State of Washington, its
22 employees, and agents harmless from any and all claims or
23 causes of action for death or injuries to persons or for loss
24 or damage to property arising from or on account of acts or
25 omissions of Defendant, its officers, employees, agents, or
26 contractors in entering into and implementing this Decree.
However, the Defendant shall not indemnify the State of

1 Washington nor save nor hold its employees and agents harmless
2 from any claims or causes of action arising out of the
3 negligent acts or omissions of the State of Washington, or the
4 employees or agents of the State, in implementing the
5 activities pursuant to this Decree.

6
7 XX. COMPLIANCE WITH APPLICABLE LAWS

8 All actions carried out by Defendant pursuant to this
9 Decree shall be done in accordance with all applicable
10 federal, state, and local requirements, including requirements
11 to obtain necessary permits.

12
13 XXI. REMEDIAL AND INVESTIGATIVE COSTS

14 The Defendant agrees to pay costs incurred by Ecology
15 pursuant to this Decree. These costs shall include work
16 performed by Ecology or Ecology's contractors for, or on, the
17 Site under Cb. 70.dR RCW both prior to and subsequent to the
18 issuance of this Decree for investigations, remedial actions,
19 and Decree preparation, negotiations, oversight and
20 administration. Ecology costs shall include costs of direct
21 activities and support costs of direct activities as defined
22 in WAC 173-340-550(2). The Defendant agrees to pay the
23 required amount within ninety (90) days of receiving from
24 Ecology an itemized statement of costs that includes a summary
25 of costs incurred, an identification of involved staff, and
26 the amount of time spent by involved staff members on the
project. A general statement of work performed will be

1 provided upon request. Itemized statements shall be prepared
2 quarterly. Failure to pay Ecology's costs within ninety (90)
3 days of receipt of the itemized statement will result in
4 interest charges.

5 Nothing in this section shall preclude Ecology or other
6 federal, state or local governmental entities from seeking to
7 recover other costs incurred by such entities for which
8 Defendant is liable.

9
10 XXII. IMPLEMENTATION OF REMEDIAL ACTION

11 If Ecology determines that Defendant has failed without
12 good cause to implement the remedial action, Ecology may,
13 after notice to Defendant, perform any or all portions of the
14 remedial action that remain incomplete. If Ecology performs
15 all or portions of the remedial action because of the
16 Defendant's failure to comply with its obligations under this
17 Decree, Defendant shall reimburse Ecology for the costs of
18 doing such work in accordance with Section XXI, provided that
19 Defendant is not obligated under this section to reimburse
20 Ecology for costs incurred for work inconsistent with or
21 beyond the scope of this Decree.

22
23
24 XXIII. FIVE YEAR REVIEW

25 As remedial action continues at the Site, the parties
26 agree to review the progress of remedial action at the Site,
and to review the data accumulated as a result of Site

1 monitoring as often as is necessary and appropriate under the
2 circumstances. At least every five years the parties shall
3 meet to discuss the status of the Site and the need, if any,
4 of further remedial action at the Site. Ecology reserves the
5 right to require further remedial action at the Site under
6 appropriate circumstances. This provision shall remain in
7 effect for the duration of the Decree.

8
9 XXIV. PUBLIC PARTICIPATION

10 Ecology shall maintain the responsibility for public
11 participation at the Site. However, Defendant shall
12 cooperate with Ecology and, if agreed to by Ecology, shall:

13 A. Prepare drafts of public notices and fact sheets at
14 important stages of the remedial action, such as the
15 submission of work plans and the completion of engineering
16 design reports. Ecology will finalize (including editing if
17 necessary) and distribute such fact sheets and prepare and
18 distribute public notices of Ecology's public presentations
19 and meetings;

20 B. Notify Ecology's project coordinator prior to the
21 preparation of all press releases and fact sheets, and before
22 major meetings with the interested public and local
23 governments. Likewise, Ecology shall notify Defendant prior
24 to the issuance of all press releases and fact sheets, and
25 before major meetings with the interested public and local
26 governments;

1 C. Participate in public presentations on the progress
2 of the remedial action at the Site. Participation may be
3 through attendance at public meetings to assist in answering
4 questions, or as a presenter;

5 D. In cooperation with Ecology, arrange and/or continue
6 information repositories to be located at Citizens for a
7 Healthy Bay, 771 Broadway, Tacoma, and at Ecology's Southwest
8 Regional Office at 5751 6th Ave. SE, Olympia, Washington. At
9 a minimum, copies of all public notices, fact sheets, and
10 press releases; all quality assured ground water, surface
11 water, soil sediment, and air monitoring data; remedial
12 actions plans; supplemental remedial planning documents; and
13 all other similar documents relating to performance of the
14 remedial action required by this Decree shall be promptly
15 placed in these repositories.

16
17 XXV. DURATION OF DECREE

18 This Decree shall remain in effect and the remedial
19 program described in the Decree shall be maintained and
20 continued until the Defendant has received written
21 notification from Ecology that the requirements of this Decree
22 have been satisfactorily completed. After the Defendant
23 concludes that Tasks 1 through 7 of Exhibit D of the remedial
24 action have been performed, the Defendant may submit a written
25 report to Ecology stating that the remedial action associated
26 with Tasks 1 through 7 of Exhibit D have been completed in
accordance with the requirements of this Decree and request

1 that Ecology issue a written acknowledgment. If Ecology
2 concurs that Tasks 1 through 7 of Exhibit D have been
3 adequately completed, Ecology shall issue a written
4 acknowledgment. Such letter may only be issued at the point
5 in time when the only remaining actions required under this
6 Decree are associated with operation and maintenance of the
7 cap, storm water system, and completion of long-term
8 monitoring.

9
10 XXVII. CLAIMS AGAINST THE STATE

11 Defendant hereby agrees that it will not seek to recover
12 any costs accrued in implementing the remedial action required
13 by this Decree from the State of Washington or any of its
14 agencies; and further, that the Defendant will make no claim
15 against the State Toxics Control Account or any Local Toxics
16 Control Account for any costs incurred in implementing this
17 Decree. Except as provided above, however, Defendant
18 expressly reserves the right to seek to recover any costs
19 incurred in implementing this Decree from any other
20 potentially liable person.

21
22 XXVIII. COVENANT NOT TO SUE

23 In consideration of Defendants' compliance with the terms
24 and conditions of this Decree, the State covenants not to
25 institute legal or administrative actions against Defendants
26 regarding contamination covered by this Decree. Compliance
with this Decree shall stand in lieu of any and all

1 administrative, legal, and equitable remedies and enforcement
2 actions available to the State against Defendants for the
3 release or threatened release of hazardous substances covered
4 by the terms of this Decree.

5 This covenant is strictly limited in its application to
6 the Site specifically defined in Exhibit A and to those
7 hazardous substances which Ecology knows to be located at the
8 Site as of the entry of this Decree. This covenant is not
9 applicable to any other hazardous substance or area and the
10 State retains all of its authority relative to such substances
11 and areas.

12 A. Reopeners: Notwithstanding the covenant given
13 above, Ecology reserves the right to institute legal or
14 administrative actions against Defendants seeking to require
15 them to perform additional response actions at the site, and
16 to pursue appropriate cost recovery in accordance with
17 provisions set out in RCW 70.105D.050, under the following
18 circumstances:

19 (1) If Defendants fail to meet the requirements of this
20 Decree, including, but not limited to, failure of the remedial
21 action to meet the cleanup standards identified in the Cleanup
22 Action Plan (Exhibit C).

23 (2) Upon Ecology's determination that action beyond the
24 terms of this Decree is necessary to abate an imminent and
25 substantial endangerment to public health or welfare or the
26 environment.

1 (3) In the event new information becomes available
2 regarding factors previously unknown to Ecology, including the
3 nature or quantity of hazardous substances at the Site, and
4 Ecology determines, in light of this information, that further
5 remedial action is necessary at the Site to protect human
6 health or the environment, and Defendants, after notice, fail
7 to take the necessary action with a reasonable time.

8 B. Applicability. The Covenant Not to Sue set forth
9 above shall have no applicability whatsoever to:

- 10 1. Criminal liability;
- 11 2. Liability for damages to natural resources;
- 12 3. Any Ecology action against potentially liable
13 persons not a party to this Decree, including
14 cost recovery.

15
16 XXVIII. CONTRIBUTION PROTECTION

17 Defendants shall not be liable for claims for
18 contribution regarding matters addressed in this Consent
19 Decree, pursuant to RCW 70.105D.040(4)(d).

20
21 XXIX. EFFECTIVE DATE

22 This Decree is effective upon the date it is entered by
23 the Court.

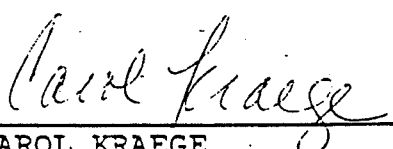

24
25 XXX. PUBLIC NOTICE AND WITHDRAWAL OF CONSENT

26 This Decree has been the subject of public notice and
comment under RCW 70.105D.040(4)(a). As a result of this

1 process, Ecology has found that this Decree will lead to a
2 more expeditious cleanup of hazardous substances at the Site.

3 If the Court withholds or withdraws its consent to this
4 Decree, it shall be null and void at the option of any party
5 and the accompanying Complaint shall be dismissed without
6 costs and without prejudice. In such an event, no party shall
7 be bound by the requirements of this Decree.
8
9

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26

	
<u>CAROL KRAEGE</u>	<u>STEVE THIELE</u>
Acting Program Manager	WSBA #20275
Toxics Cleanup Program	Assistant Attorney General
<u>9/13/94</u>	<u>9/13/94</u>
Date	Date

For PORT OF TACOMA


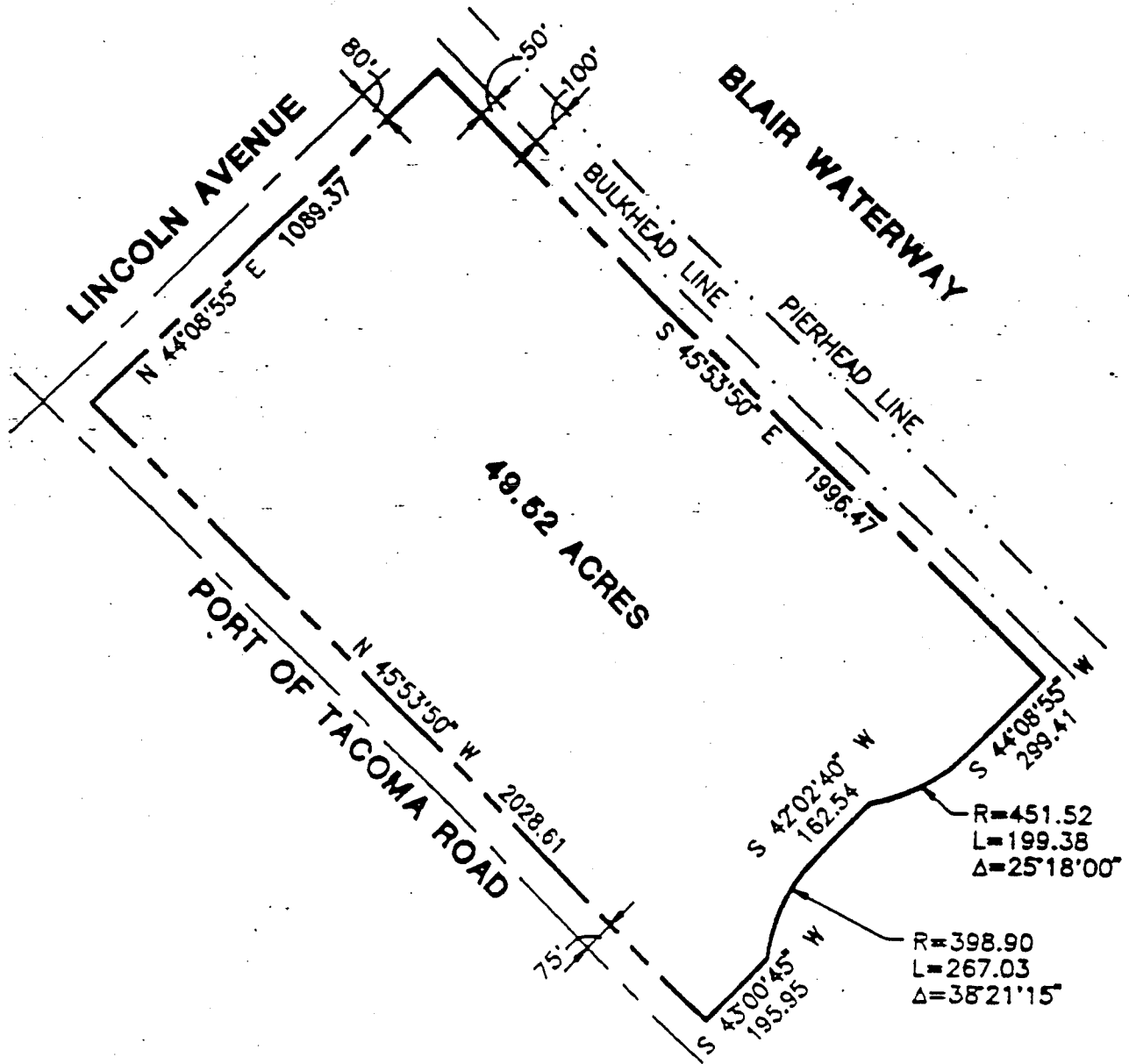
	<u>9/15/94</u>
Authorized Representative	Date
Port of Tacoma	

EXHIBIT A



NORTH

SCALE: 1" = 400'



JUNE 21, 1994



PORT OF TACOMA

P.O. BOX 1837 TACOMA, WASHINGTON 98401
(206) 343-5841

CONSULTANTS

**SITTS & HILL
ENGINEERS, INC.**

CIVIL ■ STRUCTURAL ■ SURVEYING
2701 E. 40th ST. TACOMA, WA 98409
(206) 476-8888

**MURRAY PACIFIC
REMEDATION
EXHIBIT A**

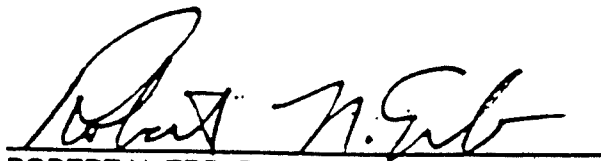
EXHIBIT B

EXHIBIT B
DESCRIPTION
MURRAY PACIFIC REMEDIATION

A PARCEL OF LAND SITUATE IN THE SOUTHWEST QUARTER OF SECTION 35, TOWNSHIP 21 NORTH, RANGE 3 EAST OF THE WILLAMETTE MERIDIAN, COUNTY OF PIERCE, STATE OF WASHINGTON AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MONUMENT IN THE INTERSECTION OF PORT OF TACOMA ROAD AND LINCOLN AVENUE AS SHOWN ON THE PLAT OF THE PORT OF TACOMA INDUSTRIAL DEVELOPMENT DISTRICT FIRST ADDITION RECORDED MARCH 20, 1957 IN VOLUME 18 OF PLATS AT PAGE 8; THENCE SOUTH $45^{\circ}53'50''$ EAST ALONG THE MONUMENT LINE OF SAID PORT OF TACOMA ROAD, 80.00 FEET; THENCE NORTH $44^{\circ}08'55''$ EAST, 75.00 FEET TO THE INTERSECTION OF EASTERLY RIGHT-OF-WAY LINE OF SAID PORT OF TACOMA ROAD AND THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID LINCOLN AVENUE AND THE TRUE POINT OF BEGINNING; THENCE CONTINUING ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, NORTH $44^{\circ}08'55''$ EAST 1089.37 FEET TO A POINT LYING 50 FEET SOUTHWESTERLY OF THE SOUTHWESTERLY BULKHEAD LINE OF THE BLAIR WATERWAY; THENCE SOUTHEASTERLY AND PARALLEL WITH SAID BULKHEAD LINE, SOUTH $45^{\circ}53'50''$ EAST 1996.47 FEET; THENCE SOUTHWESTERLY AND PARALLEL WITH SAID SOUTHERLY RIGHT-OF-WAY LINE OF LINCOLN AVENUE, SOUTH $44^{\circ}08'55''$ WEST 299.41 FEET TO THE BEGINNING OF A NON-TANGENT CURVE CONCAVE TO THE NORTH HAVING A RADIUS POINT WHICH BEARS NORTH $38^{\circ}19'23''$ WEST, 451.52 FEET; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE 199.38 FEET THROUGH A CENTRAL ANGLE OF $25^{\circ}18'00''$; THENCE SOUTHWESTERLY AND NOT TANGENT TO THE PRECEDING CURVE, SOUTH $42^{\circ}02'40''$ WEST 182.54 FEET TO THE BEGINNING OF A NON-TANGENT CURVE CONCAVE TO THE SOUTHEAST HAVING A RADIUS POINT WHICH BEARS SOUTH $48^{\circ}52'36''$ EAST 388.90 FEET; THENCE SOUTHERLY ALONG THE ARC OF SAID CURVE 287.03 FEET THROUGH A CENTRAL ANGLE OF $38^{\circ}21'15''$; THENCE SOUTHWESTERLY AND NOT TANGENT TO THE PRECEDING CURVE, SOUTH $43^{\circ}00'45''$ WEST 195.95 FEET TO THE EASTERLY RIGHT-OF-WAY LINE OF SAID PORT OF TACOMA ROAD; THENCE NORTHWESTERLY ALONG SAID EASTERLY RIGHT-OF-WAY LINE, NORTH $45^{\circ}53'50''$ WEST 2028.61 FEET TO THE POINT OF BEGINNING.

CONTAINING 2,157,237.83 SQ. FEET OR 49.52 ACRES MORE OR LESS.



ROBERT N. ERB, P.L.S.
WASHINGTON REGISTRATION NO. 18082

PROJECT NO. 7897
JUNE 21, 1994

SITTS & HILL ENGINEERS, INC.
2901 SOUTH 40TH STREET
TACOMA, WASHINGTON 98409

TELEPHONE: (206) 474-9449
FAX: (206) 474-0153

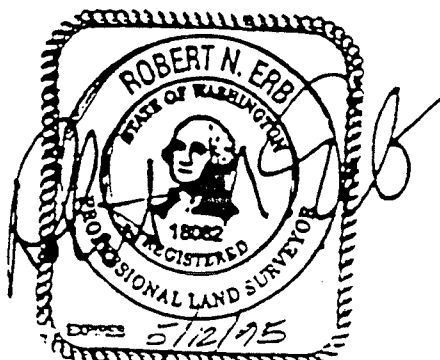


EXHIBIT C

EXHIBIT C
CLEANUP ACTION PLAN
MURRAY PACIFIC NO. 2 LOG SORT YARD
JUNE 1994

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1.0 INTRODUCTION

The draft cleanup action plan (CAP) is provided to describe the proposed remedial action for the Murray Pacific Log Yard No. 2 (hereafter referred to as "the Site") located between the Port of Tacoma Road and the Blair Waterway, south of Lincoln Avenue and north of Blair Terminal in Tacoma, Washington (Exhibit A). The CAP has been prepared to satisfy the requirements of the Model Toxics Control Act (MTCA). The purposes of the CAP are to: 1) describe the Site, including a summary of its history and the extent of contamination as presented in the Remedial Investigation/Feasibility Study (RI/FS); 2) identify the site-specific cleanup standards; 3) summarize the remedial alternatives presented in the FS; and 4) identify and describe the selected alternative for Site remediation.

Thorough descriptions of the Site and the remedial alternatives set forth are found in the RI/FS (Kennedy/Jenks Consultants, 1993). The RI/FS was performed as part of the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) independent action initiated by the Port of Tacoma (Port).

2.0 SITE DESCRIPTION

The Site is located at 2407 Port of Tacoma Road in Tacoma, Washington and is a 49.5 acre, industrially-zoned parcel of land owned by the Port (Exhibit A). The Site, which adjoins the Blair Waterway in Commencement Bay, has been leased to the Murray Pacific Corporation (Murray Pacific) and operated as a log sort yard since 1970. The Site is used for receiving, sorting and debarking logs, as well as for staging and delivery of logs to ships at the Blair Terminal. Prior to 1970, the land was undeveloped and unleased.

Soils at the site consist of native sands and silt underlying dredged fill material. The soils are fine-grained silt and silty sand which are unstable under heavy loads, particularly during wet weather. Therefore, operation of the Site as a log sort yard requires the use of ballast material

to support heavy machinery and the log inventory. In addition to rock and gravel material, slag from the ASARCO smelter was deposited as ballast at the Site in the late 1970's. Murray Pacific estimates that 68,000 tons of ASARCO slag were deposited between 1975 and 1980 (Murray Pacific, 1981).

During log sort yard operations, wood waste (principally bark) is produced by loading, unloading and moving logs within the yard. This wood waste accumulates on top of the dredged fill material and ballast. As a result of heavy vehicular traffic, wood wastes have mixed with surficial soils and slag ballast.

In 1985, the Department of Ecology (Ecology) issued a report entitled "Assessment of Log Sort Yards as Metals Sources to Commencement Bay Waterways, November 1983-June 1984" (Norton and Johnson, 1985). This report indicates that storm water runoff samples collected by Ecology at the Site and similar log sort yards in the Commencement Bay area contained elevated concentrations of metals. Ecology believes that the metals are leached from the slag by acidic conditions attributed to the biological decomposition products of wood waste. The mechanical grinding of the slag by heavy vehicular traffic created smaller particles which increased the surface area of the slag available to leach metals. The report concludes that metals in excess of surface water quality standards were leaving the Site via storm water.

3.0 SITE CHARACTERIZATION

An RI/FS was performed by Kennedy/Jenks Consultants (Kennedy/Jenks, 1993) as an independent action for the Port in conformance with MTCA. The remedial investigation (RI) estimated the amounts of heavy metals on-site and leaving the site. The feasibility study (FS) evaluated various alternatives to clean up the facility. The RI/FS was circulated for public comment for 30 days by the Port. The results of the RI are summarized below. The results of the FS are summarized in Section 5.0.

The RI included sampling the surface soils, subsurface soils, ground water, storm water, and sediment for elevated metal concentrations as a result of depositing ASARCO slag at the Site. Selected samples were also analyzed for priority pollutants. Concentrations of arsenic, copper, lead, and zinc were detected above naturally occurring levels. No non-metal contaminants were detected at levels of concern. The results of the RI sampling program are summarized below.

3.1 SURFACE WATER QUALITY

Surface water occurs on-site as a result of precipitation and discharges off-site through culverts to Blair Waterway and via culverts and ditches to the Lincoln Avenue ditch. Storm water samples collected by Ecology in 1983-1984 contained concentrations of arsenic, copper, lead, and zinc up to 10,000, 1200, 1000, and 3500 ug/l (ppb), respectively. Storm water sampling conducted during the RI showed higher concentrations of metals discharging from the Site (arsenic-17900, copper-4100, lead-2100, and zinc-5050 ppb). Concentrations were consistently above marine chronic criteria. Maximum concentrations measured in surface water on-site and the marine chronic and acute water quality criteria are shown in Table 1. Based on the results of the environmental investigations conducted at the Site, it appears that surface water runoff is the primary pathway by which metals are transported from the Site.

3.2 GROUND WATER QUALITY

Site hydrogeology is characterized by two distinct zones of saturation: an unconfined Dredge Fill unit consisting of poorly graded sand and gravel, and the confined Middle Sand unit consisting of silty- to medium-grained sand. These two zones are separated by an aquitard consisting of clayey silt approximately 9 to 10 feet thick (Kennedy-Jenks, 1993). Saturation in the Dredge Fill unit appears to be discontinuous; ground water was observed in only 13 of 66 shallow soil borings drilled in this zone. Where ground water was observed, saturated

conditions were typically encountered at approximately 6 to 10 feet below ground surface (bgs). The Dredge Fill unit appears to be recharged by infiltration of surface water that pools on the Site. The Middle Sand unit appears to be tidally influenced and discharges to the Blair Waterway. The ground water at the Site is not a current or potential future source of drinking water due to tidal influence and natural salinity.

Table 1. Measured Levels of Contaminants of Concern at the Murray Pacific Site and Marine Ambient Water Quality Criteria

Contaminant	Surface Water Maximum Measured ^(a) ug/l	Ground Water Range Measured/Avg. ^(b) ug/l	Marine Acute ^(c) ug/l	Marine Chronic ^(c) ug/l
arsenic	17,900	<1 to 15 / 3	69	36 (0.14 ^(d))
copper	4,100	<2 to 26 / 8	2.9	2.9
lead	2,100	<1 to 4 / 1	220	8.5
zinc	5,050	<4 to 150 / 17	95	86

Key: (a) Total metals
 (b) Dissolved metals
 (c) U.S. EPA Water Quality Criteria
 (d) National Toxics Rule (Amendments to Water Quality Standards Regulation)

Three rounds of ground water samples were taken from eleven monitor wells (eight in the Dredge Fill unit and three in the Middle Sand unit) during the RI. The ranges in concentrations of dissolved arsenic, copper, lead, and zinc from these wells and the Marine Chronic Water Quality Criteria are shown in Table 1. Arsenic did not exceed the Marine Chronic criterion in any sample collected from monitoring wells in the Dredge Fill; all samples were below the Marine Acute criterion. The majority of samples were below the detection limit of 1 ug/l. Arsenic was not detected in samples from the Middle Sand unit over 2 ug/l. While most copper concentrations measured exceeded the Marine Chronic and Acute criteria, they were generally low; within the apparent range of ground water background

levels and do not indicate an impact on the Site ground water. It is Ecology's opinion that the ground water has not been a significant pathway for migration of the contaminants resultant from the slag present on the Site.

3.3 SOIL QUALITY

Most of the surface of the Site is covered by bark, other wood debris, gravel, and slag. The bark is often mixed with sand and silt, and ranges in thickness from 0.5 to 3.0 feet. Estimates of the percentage of slag in surface materials on the Site were made using historical data provided by Murray Pacific and after digging test pits. Visible slag fragments identified during the RI comprised less than 5% of surface material and were occasionally encountered up to 2 inches in diameter. Smaller particles were observed but were difficult to identify.

- **Surface Soils** - The surface soils are defined as the upper 6 inches of soil over the Site. Elevated concentrations of arsenic (greater than 200 mg/kg - MTCA Method A industrial cleanup levels) were found in three general areas of surface soils on the Site. They are: 1) in the southwestern corner of the Site between the debarker area and the intersection of Lincoln Avenue and Port of Tacoma Road; 2) in the southeastern corner of the Site near the log scaling and truck-trailer loading area; and 3) along the Blair Waterway between the log storage bays and the berm along the Site boundary - from about the middle of the Site southeast to the Blair Terminal. The maximum detected concentrations of metals of concern in the surface soil samples were 967 mg/kg for arsenic, 873 mg/kg for copper, 690 mg/kg for lead, and 1490 mg/kg for zinc. A total of 71 surface soil samples were collected and analyzed during the RI; of these 12 exceeded the MTCA Method A industrial cleanup level for arsenic.
- **Subsurface Soils** - Sixty-six soil borings were drilled at the Site. Of the 168 subsurface soil samples analyzed, only eight had arsenic concentrations exceeding 200 mg/kg and two had lead concentrations exceeding 1000 mg/kg (MTCA Method A Industrial Cleanup

Levels). These exceedances occurred in two general areas: 1) the debarker area near the center of the Site, and 2) the log scaling and truck-trailer loading area. The maximum detected concentrations of metals of concern in the subsurface soil samples were 1740 mg/kg for arsenic, 2090 mg/kg for copper, 1250 mg/kg for lead, and 3690 mg/kg for zinc. The metal concentrations decreased significantly 2.5 feet below the ground surface. No samples collected below 2.5 feet exceeded the MTCA Industrial Cleanup Levels.

- **"Fines" Pile and "Sinkable Bark" Pile** - As part of Murray Pacific's operations at the Site, material in the roadways and log bays were periodically scraped and graded. This was done both to recapture rock to use as ballast and clean bark to sell as a product. The material was processed and sorted into four piles. The first stage separated out all material under 5/8 inches in size (the "fines"). "Fines" from newly deposited bark material (red in color) were sold as a soil amendment product. "Fines" from older bark material (gray in color) were transported and piled in the northern corner of the yard where Lincoln Avenue and Blair Waterway meet. No material has been added to the "fines" pile in several years. During the second stage, after the "fines" were removed, the material fell into a water filled tank. Floating bark was separated, ground up and sold as fuel to the Tacoma Steam Plant. In the final stage, the sinkable material was separated into rock - which was returned to the yard as ballast, and "sinkable bark" material (primarily bark and flat rocks). This material was moved to the center of the yard near the debarking area and stored in a "sinkable bark" pile.

Five samples each from the "fines" and "sinkable bark" piles were collected during the RI. Since completion of the RI, approximately 20 additional samples were collected (Port of Tacoma, 1994). Average concentrations of metals of concern detected in these samples collected from the "fines" pile were 133 mg/kg for arsenic, 176 mg/kg for copper, 129 mg/kg for lead, and 345 mg/kg for zinc. The average concentrations of metals of concern

detected in these samples from the "sinkable bark" pile were 101 mg/kg for arsenic, 137 mg/kg for copper, 75 mg/kg for lead, and 236 mg/kg for zinc.

- **Sediment** - Sediment samples were taken in the Lincoln Avenue Ditch and along the bank of the Blair Waterway. Maximum detected metals concentrations in the sediment samples from the Lincoln Avenue Ditch were 135 mg/kg for arsenic, 55 mg/kg for copper, 99 mg/kg for lead, and 214 mg/kg for zinc. Maximum detected metals concentrations in the sediment samples from the Blair Waterway were 411 mg/kg for arsenic, 262 mg/kg for copper, 200 mg/kg for lead, and 617 mg/kg for zinc. The marine sediment criteria for arsenic was exceeded in several samples taken from both the Lincoln Avenue Ditch and the bank of the Blair Waterway. Marine sediment criteria for zinc was exceeded in one sample at the Blair Waterway.

Elevated metals concentrations in the soil throughout the Site appears to be limited to the upper 5 feet of soil. The RI concluded that migration of metals in the surface water runoff is the most critical method of metals transport and that leaching of the metals into the soil 5 feet below ground surface or into the ground water does not appear to have been a significant problem.

4.0 CLEANUP STANDARDS

Cleanup standards were developed for the Site based on Chapter 173-340 WAC. The use of Method A industrial soil cleanup standards per WAC 173-340-745 is justified for the following reasons: the Site cleanup may be defined as a routine cleanup per WAC 173-340-130; the Site is located in a heavy industrial area, adjacent to other industrial properties; the Site is zoned for industrial use; and, deed restrictions will limit the use of the Site to industrial activities in the future.

Soil cleanup levels have been determined for arsenic and lead. Copper and zinc were evaluated and determined not to be present on-site at concentrations which would present a human health (direct contact) hazard. Ground water cleanup standards were set for arsenic, copper, lead, and zinc. The cleanup standards for soil and ground water are presented in Table 2.

Table 2. Cleanup Standards

Site Cleanup Standards			
Contaminant	Ground Water (ug/l) ^(e)	Soil (mg/kg) ^(f)	Surface Water ^(g)
Arsenic	0.14 ^(a) (10 ^(b))	200 ^(c)	*
Copper	2.9 ^(d) (10 ^(b))		*
Lead	8.5 ^(d) (10 ^(b))	1000 ^(c)	*
Zinc	86 ^(d)		*

- Key:
- (a) National Toxics Rule (Amendments to Water Quality Standards Regulation)
 - (b) Practical Quantification Limit (PQL). Ecology recognizes that the PQL may be higher than the cleanup standard for a given parameter. In these cases, the cleanup standard may be considered to be attained if the parameter is undetected at the PQL and the conditions outlined in WAC 173-340-707 are met.
 - (c) MTCA Method A Cleanup Levels - Industrial Soil per WAC 173-340-745
 - (d) U.S. EPA Water Quality Criteria - Marine Chronic
 - (e) Natural background values may be substituted as cleanup objectives by Ecology if the requirements of WAC 173-340-708 (11) are satisfied.
 - (f) Soil cleanup standards are not based on 100 X ground water cleanup level due to the low ground water concentrations (below cleanup standards) of the compounds listed.
 - (g) No surface water cleanup standards have been set for this Site since the proposed remedial action should eliminate surface water as a contaminant pathway; however, surface water will be monitored for the same parameters as ground

water, as indicated by the symbol *, to ensure the efficacy of the cleanup.

These

data will be compared to U.S. EPA marine chronic water quality criteria to determine whether an individual NPDES permit and/or additional cleanup is required.

In addition to protection of human health from the direct contact exposure pathway, contaminant concentrations remaining in soil after the cleanup is completed must also support maintenance of acceptable water quality (see standards in Table 2).

The Middle Sand saturated unit underlying the Site cannot be used for drinking water due to low yield and poor natural water quality. The shallow ground water zone is not continuously saturated across the Site. However, the Site is immediately adjacent to the Blair Waterway and site ground water discharges to the waterway. Ground water discharge therefore, must be of a quality which will maintain acceptable sediment and water column quality. Sediment cleanup objectives are set forth in the Sediment Management Standards (Chapter 173-204 WAC). Ground water standards for the Site are the state and federal marine chronic ambient water quality criteria. It is expected that discharge of ground water contaminant concentrations below the cleanup standards in Table 2 will result in sediment and surface water concentrations at or below acceptable levels as discussed above. The points of compliance for the ground water will be as close as practicable to the point the ground water discharges to the surface water in accordance with WAC 173-340-740 (6). Compliance monitoring requirements are discussed in Section 6.3.

5.0 SUMMARY OF REMEDIAL ALTERNATIVES

The MTCA requires at a minimum that all cleanup actions protect human health and the environment, comply with cleanup standards, comply with applicable state and federal laws, and provide for compliance monitoring. In addition, all cleanup actions must consider implementation time, cost effectiveness, permanent solutions, and resource recovery technologies to the maximum extent practicable.

A number of potential remediation alternatives were screened in the FS process to select the most-effective, implementable, and cost-effective alternatives for more detailed evaluation. Based on experience evaluating remedial alternatives at other log sort yards in Commencement Bay (Louisiana Pacific, Portac, Cascade Timber #1, Wasser & Winter, Cascade Timber #3, 3009 Taylor Way), the FS developed three remedial alternatives to address potential human health and environmental risks associated with the metals present in slag and contaminated soil at the Site. One of the alternatives (Alternative 1) did not meet the MTCA threshold criteria and was screened out. A detailed evaluation was performed on the remaining two alternatives. The alternatives are briefly described below.

Alternative 1: No Action

In this alternative, no action would be taken to reduce the potential for exposure to hazardous substances or reduce the level of site contamination. However, the no action alternative would include semi-annual storm water and ground water monitoring. Storm water monitoring would provide data on contaminant concentrations in storm water, contaminant loading to Blair Waterway, and changes in soil conditions. Ground water monitoring would be used to determine the hydraulic and chemical characteristics of ground water at the Site. Ground water monitoring also would provide data that could be used to detect changes in ground water conditions that could affect human health and the environment.

Alternative 2: Excavating/Complete Off-Site Disposal/Backfilling/Grading/Storm Water Controls/Ground Water Monitoring/Institutional Controls

In this alternative, contaminated soil, slag, and bark in excess of cleanup levels would be excavated and disposed of at a permitted off-site disposal facility.

Compliance sampling procedures, described in WAC 173-340-740(7), would be used to determine the extent of contaminated materials that require removal. The excavation would be backfilled with clean material and then graded.

To meet the surface water remedial action objectives, storm water control measures would be required. The storm water controls in this alternative would consist of grading, a collection and diversion system, and a spill containment vessel. The collection and diversion system would consist of surface trenches or catch basins to collect the storm water and convey it to the spill containment vessel with subsequent disposal to the Blair Waterway.

Ground and surface water monitoring and institutional controls would be included in this alternative. Ground and surface water samples would be monitored for arsenic, copper, lead, and zinc. Institutional controls, which would include deed restrictions are included in this alternative as required by WAC 173-340-745(1)(a)(v).

Alternative 3: Excavating/Partial Off-Site Disposal/Homogenizing/Grading/Asphalt Cap/Storm Water Controls/Ground Water Monitoring/Institutional Controls

In this alternative, contaminated bark and excess surface organic/bark material would be disposed of at a permitted off-site disposal facility. The Site would then be graded and capped with base course material and asphalt.

The cap would extend over impacted areas of the Site. The actual cap thickness would be evaluated in the preliminary remedial design. The cap alternative would include a storm water drainage system that would convey storm water from the capped area to the Blair Waterway, after treatment, if necessary.

The cap alternative also includes a cap maintenance plan. The cap would be inspected periodically and repairs made as required to maintain the integrity of the cap. Details of the inspection frequency and activities would be described in the operation and maintenance plan.

Surface water monitoring and institutional controls, such as deed restrictions, would also be included in this alternative.

6.0 SELECTED CLEANUP ACTION

While two of the alternatives examined in the FS should positively impact the quality of surface water runoff, ground water, and soil conditions on the Site, it is Ecology's opinion that Alternative 3, outlined above and described in detail below, is more practicable than Alternative 2, but should be equally protective.

Waste treatment of the contaminated bark and soil was not considered as a cleanup alternative because literature review and bench scale studies for similar sites have not demonstrated the existence of a feasible treatment system (biological or chemical) for this waste type.

6.1 DETAILED DESCRIPTION OF THE SELECTED CLEANUP ACTION

The alternative selected involves capping of the Site with low permeability material. The cap system will serve to isolate contaminated materials from surface water, prevent infiltration through contaminated soils, and eliminate the potential for worker exposure to the contaminated material. While the actual cap design will be determined as part of the remedial design, the cap is expected to consist of a suitable layer of base course rock and gravel overlain by an asphaltic concrete or roller-compacted concrete layer of appropriate thickness, strength, and low permeability characteristics. Seams and edges of the cap will be engineered to reduce effective permeability and the potential for cracking of the cap. Specifics of this alternative will be presented in the Final Design Engineering report.

After the logs are removed from the Site, Murray Pacific will remove bark, which does not contain the elevated metals of concern from the Site. Material from the "sinkable bark" pile and yard debris will be screened. The less than 1/2-inch and greater than 6-inch material along with the "fines" pile material (which is already less than 1/2-inch material) will be disposed of

at a permitted off-site disposal facility as discussed in Section 6.2. The remaining greater than 1/2-inch material will be further separated using air separation techniques into slag/rock and bark. The bark will also be disposed of at a permitted off-site disposal facility. The slag/rock will be reused on-site as sub-base material under the cap for support of the pavement section.

Because of the size and scope of the project, construction season limitations, and economic considerations, the cap/pavement process will commence during the summer of 1994 with bark separation activities, and conclude with capping/paving activities by winter 1997. During the interim, storm water controls (e.g., silt fences, berms, vegetation) and monitoring activities (using existing or new wells) will be required to ensure the protection of human health and the environment and to minimize off-site transportation. Details will be included in the Interim Measures for Storm Water Control and Ground Water Monitoring report.

The cap would extend to 150 feet from the bank of the Blair Waterway. Concurrently with the Sitcum Remediation Project (EPA/Port, 1993), the Port cut back and dredged the sediments along the side-slopes of the Waterway 5 to 25 feet in January 1994. The Port will excavate soil to Site cleanup levels (anticipated to be a minimum of 2 feet based on Site chemical data) from the Waterway bank to 150 feet upland and extending the entire length of the Site. This contaminated soil will be placed under the cap. The West Blair Terminal pier, which the Port plans to build on the site, will involve cutting back and dredging the bank an additional 88 feet upland. The pier will extend from the pier headline to 62 feet upland (total of 150 feet). The cap will extend over the remaining areas of the Site. Soils and bark with elevated concentrations of arsenic will remain on-site and will be covered with the low permeability cap.

Approximately one foot of soil (with additional excavation, if necessary, until soils are clean) will be excavated along the sideslope of the Lincoln Avenue Ditch to within 5 feet of the ordinary high water mark. A low permeability membrane covered with crushed rock will be

placed over the excavated area. In a later phase, during a separate independent cleanup as the West Blair Terminal is being constructed, any remaining contaminated soils will be removed, a culvert system installed, and the ditch paved over. Soils and bark with elevated concentrations of arsenic will remain on-site and will be covered with the low permeability cap.

The on-site material to remain may be mixed and graded to conform to the sub-grade plan. Aggregate base material will be placed as a sub-base and the low permeability cap will be placed on the aggregate base material. A pavement section will be placed on the cap and will be tied into the existing surface structures on the properties around the Site perimeter.

A storm water collection system will be included in the cleanup action. This system will collect water from the entire cap surface and convey it to a detention vessel with subsequent treatment (if necessary) and discharge to the Blair Waterway. The purpose of this system is to efficiently drain the surface of the cap to prevent the occurrence of standing water on the cap and the associated potential for leakage. The requirements of the National Pollutant Discharge Elimination System and State Waste Discharge Baseline General Permit for Storm Water Discharges Associated with Industrial Activities will be met during the construction of the cleanup action. Interim storm water control measures - until the cap/pavement process is complete - will be presented in the Interim Measures for Storm Water Control and Ground Water Monitoring report.

A key component of the selected cleanup action is a rigorous schedule of inspection and maintenance of the cap. An Operation and Maintenance Plan will be prepared as part of the remedial design phase. This plan will specify regular and frequent cap inspections and maintenance to ensure that the cap is functioning as intended. This plan will also address the regular maintenance and operation of the storm water collection system. Any breach in the cap will be closed and repaired in a timely fashion to prevent infiltration impacts.

Institutional controls prohibiting the disruption of the cap system without Ecology approval will be placed on the site; such approval will be granted by Ecology only after a public comment period. Since industrial soil cleanup standards will be used, a restrictive covenant limiting site use to industrial activities will be placed on the property deed. Future industrial uses of the site will only be permitted if it can be shown that the cap is of suitable strength to support the proposed activities.

The activities anticipated for the cleanup action are as follows:

- Remove logs and clean bark material from the Site.
- Excavate excess surface material to appropriate Site performance standards.
- Process excess surface material and material from the sinkable bark pile, separating the fines and bark from the rock material.
- Transport and dispose of fines and bark at approved, permitted, off-site disposal facility.
- Institute interim storm water controls and compliance monitoring.
- Grade Site, abandon Site monitoring wells, and install catch basins and drain lines.
- Compact base soil to meet compaction specifications.
- Place Site rock and imported crushed aggregate over the compacted soil, followed by pavement.
- Install monitoring wells per WAC 173-340-360 (8)(b) to verify that aquifers are being protected by the cap.

6.2 OFF-SITE LANDFILL REQUIREMENTS

In Washington State, wastes with arsenic concentrations at or above 100 mg/kg are currently considered a dangerous waste because of the carcinogenic or cancer-causing properties of arsenic. Wastes may also be regulated federally as a hazardous waste if the leachate from the waste material, tested using a method referred to as the Toxicity Characteristic Leaching Procedure (TCLP), exceed 5 mg/L arsenic. The waste material proposed for offsite disposal from this site, contains arsenic at concentrations greater than 100 mg/kg and the leachate from the waste contains arsenic at concentrations less than 5 mg/L. The waste material, therefore, is considered as a state-only dangerous waste.

A recent amendment to the Hazardous Waste Management Act (chapter 70.105 RCW), conditionally exempts state-only dangerous waste from the requirements of that chapter if the waste is generated pursuant to a consent decree under MTCA (chapter 70.105D). This amendment is contained in Chapter 254 of the Laws of 1994 (ESSB 6123) (effective June 30, 1994) and reads as follows:

Solid wastes that designate as dangerous waste or extremely hazardous waste but do not designate as hazardous waste under federal law are conditionally exempt from the requirements of this chapter, if:

- 1. The waste is generated pursuant to a consent decree issued under chapter 70.105D;*
- 2. The consent decree characterizes the solid waste and specifies management practices and a department-approved treatment or disposal location;*
- 3. The management practices are consistent with RCW 70.105.150 and are protective of human health and the environment as determined by the department of ecology; and*
- 4. Waste treated or disposed of on-site will be managed in a manner determined by the department to be as protective of human health and the environment as clean-up standards pursuant to chapter 70.105D RCW.*

The following sections describe the waste characteristics and the management practices to be used to reduce the risk of exposure for humans and the environment to the waste material from this site.

6.2.1 WASTE CHARACTERISTICS

Materials to be processed and disposed of offsite include: yard debris (surface soil and bark); material from the "sinkable bark" pile; and material from the "fines" pile. Extensive chemical and physical testing has been conducted on these materials (Port of Tacoma, May 11, 1994).

A summary of the results for arsenic is presented in the following table.

Waste Material	Arsenic Range (mg/kg)	Arsenic Average (mg/kg)	Arsenic UCL ₉₅ (mg/kg) (a)	Arsenic TCLP (mg/L) (b)
Yard Debris	2.5-967	157	256	0.08-0.35, 2.65(c)
Sinkable Bark	15-384	101	157	0.05U-0.41 (d)
Fines	19 to 230	133	153	0.04-0.58
Combined (e)	2.5-967	141	165	0.05 U-0.58, 2.65 (c)(d)

- a. The 95 percent upper confidence limit of the mean.
- b. Toxicity characteristic leaching procedure.
- c. The TCLP concentration of one sample analysis was 2.65 mg/L, the remaining analyses were in the specified range.
- d. U = undetected.
- e. Combined summary for the yard debris, sinkable bark, and fines.

Ecology uses the 95 percent upper confidence limit of the mean (UCL₉₅), as a way to statistically characterize sample results. The UCL₉₅ of 165 mg/kg for arsenic in the combined waste material is greater than 100 mg/kg, the designation level for carcinogenic dangerous waste and less than 200 mg/kg, the MTCA Method A Industrial cleanup level. Using the exposure assumptions for an industrial site, the 165 mg/kg level is equivalent to a potential cancer risk of approximately 1 in 114,000.

The leachability of the proposed waste material was also evaluated using the TCLP test. The concentrations of metals in the leachate were generally low, with arsenic concentrations well below the 5 mg/L level for designation as hazardous waste under federal law.

6.2.2 WASTE PROCESSING AND TRANSPORT

Prior to offsite disposal, the waste material will be processed to physically separate various components of the waste stream. The first step in the process will be to run the yard debris and material from the sinkable bark pile through a series of finger screens. Material less than 1/2-inch and greater than 6-inch will be stockpiled for offsite disposal along with materials from the fines pile (which are already less than 1/2-inch). The remaining material between 1/2-inch and 6-inch will be processed through an air density separator (referred to as a destoner), separating the bark from the rock and slag. The bark will also be stockpiled for offsite disposal. The rock/slag will be reused onsite as subbase material for support of the pavement section.

The estimated amount of waste material to be disposed of offsite is 76,000 tons. This includes an estimated 24,000 tons from the fines pile and a combined 52,000 tons of screened material and bark. The actual volume will be dependent on the amount of surface material (yard debris) that will need to be excavated to reach a performance standard of 10 percent organics by weight. Ten percent was determined to be the maximum allowable amount of organics in the soil that would adequately support the site pavement section.

The material will be processed in the western portion of the site, away from the Blair Waterway and Lincoln Avenue ditch. The processing equipment will be covered with hoods and have attached water spray bars at the discharge points to control dust as needed. The dust levels on the site will be monitored in accordance with the Site Health and Safety Plan. Observations will be made throughout the processing to make sure that the equipment is performing in accordance with the separation equipment specifications.

The waste material will be loaded for off-site transportation by rail using a front end loader. A water truck and hose fitted with a fine-mist atomizer will be used to minimize fugitive dust during loading. The material will be placed in open-topped 20 foot ISO configured containers

fitted with a roll-type tarpaulin system. The containers will be tightly tarped and dust monitoring will be conducted in accordance with the site health and safety plan.

6.2.3 WASTE DISPOSAL

The waste material will be disposed of at the Roosevelt Regional Landfill facility located in Klickitat County, Washington. This facility has been designed in accordance with 40 CFR Part 258: Subtitle D. The landfill features include a composite bottom liner system, a final cap, a leak detection system, a leachate collection and management system, groundwater monitoring, air monitoring, monitoring of surrounding soils, fugitive dust controls and record keeping. Ecology has reviewed the waste management plan and site information from this landfill and has determined that it is suitable to handle the waste generated from the Murray Pacific remediation. Approval for disposal of this waste at the Roosevelt Regional Landfill has been granted by the Klickitat County Board of Commissioners and the Southwest Washington Health District.

Once at the landfill, the waste material will be managed with other solid waste material received by the facility. The Murray Pacific #2 waste passes the TCLP test which is intended to represent an aggressive landfill leaching environment. The leachate that this waste may be exposed to by mixing with other municipal solid waste will be no more aggressive or likely to leach contaminants than the TCLP procedure. Mixing of the Murray Pacific waste with other solid wastes will also enhance the structural stability of the waste mass, which will facilitate optimal covering conditions.

Dust will be controlled during unloading using a fine mist of water. Worker health at the landfill will be protected by monitoring levels of airborne arsenic and the use of respirator equipment if monitoring shows hazardous levels.

6.3 COMPLIANCE MONITORING

The proposed cleanup alternative involves containment of hazardous substances on-site. Therefore, requirements of WAC 173-340-740(6)(d) must be met; including compliance monitoring during the interim period prior to installation of the cap. After the paving process has been completed, compliance monitoring as well as other requirements for containment technologies in WAC 173-340-360(8) will continue to ensure the long-term integrity of the containment system.

Monitoring of storm water runoff for the metals of concern will be conducted at the post-remediation points of surface water discharge to the Blair Waterway. If surface water runoff occurs from areas left uncapped, it will be monitored to assess the effectiveness of the cleanup action. Details of interim storm water control measures will be described in the Interim Measures for Storm Water Control and Ground Water Monitoring report.

Although placement of the cap will significantly reduce the amount of water infiltrating to the Dredge Fill and Middle Sand aquifers, they will be monitored per WAC 173-340-360 (8) to verify that they are being protected by the cap. Three wells will be installed - two in the Dredge Fill and one in the Middle Sand aquifer. Specific well placements, designs, and monitoring methodologies will be developed during the remedial design phase. Details of interim monitoring of ground water will be presented in the Interim Measures for Storm Water Control and Ground Water Monitoring report.

Any site soils remaining outside the containment system must comply with soil cleanup standards. A Performance Monitoring Sampling Plan describing the sampling design and analytical methodologies that will be used to ensure that soils remaining outside the containment facility meet the cleanup standards will be prepared during the remedial design phase.

7.0 JUSTIFICATIONS/DETERMINATIONS

The MTCA requires that any alternative selected for site remediation must, at a minimum, meet four threshold requirements: protect human health and the environment; comply with cleanup standards; comply with applicable state and federal laws; and, provide for compliance monitoring.

7.1 PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT

The risks identified during the RI/FS process are: 1) potential human health impacts from ingestion and inhalation of on-site wood waste and soil/slag deposits which contain elevated concentrations of metals; 2) potential water quality impacts in the Blair Waterway attributable to surface water runoff containing elevated concentrations of metals; and, 3) potential impacts to marine sediments.

The selected cleanup action eliminates the human health risks from ingestion and inhalation of metals in the slag/soil mixture by capping of the wood waste, contaminated soil, and slag deposits. The metal concentration in surface water runoff attributable to these soils/wastes will be minimized by preventing surface water contact with the soil/slag.

As noted in Section 6.1 above, sediments which contain elevated levels of metals along the side-slopes of the Blair Waterway were removed on January 1994 as part of the dredging of the Blair Waterway which is being conducted concurrently with the Sitcum Remediation Project. The selected cleanup action for the Site will eliminate the possibility of metals migration from the Site soils to the Blair Waterway.

7.2 COMPLIANCE WITH CLEANUP STANDARDS

The selected alternative is designed to comply with the remedial action objectives listed in Section 5.0 above.

7.3 COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

This evaluation criterion is used to determine the degree to which the selected cleanup action complies with federal and state standards and regulations. The following ARARs apply to the Site:

LOCAL, STATE LAWS AND REGULATIONS

- a. Model Toxics Control Act (MTCA) Cleanup Regulations
- b. State Chapter 70.105 RCW
- c. Criteria for Municipal Solid Waste Landfills, Chapter 173-351 WAC
- d. Hazardous Waste Cleanup - MTCA, Chapter 70.105D RCW
- e. State Environmental Policy Act Regulations, Chapter 197-11 WAC
- f. Minimum Standards for Construction and Maintenance of Water Wells, Chapter 173-160 WAC
- g. Water Pollution Control Act, Chapter 90.48 RCW
- h. NPDES Permit Program Regulations, Chapter 173-220 WAC
- i. Water Quality Standards for Surface Waters of the State of Washington, Chapter 173-201A WAC
- j. Dangerous Waste Regulations, Chapter 173-303 WAC
- k. Washington Clean Air Act, Chapter 70.94 RCW
- l. Washington Industrial Safety and Health Act (WISHA), Chapter 296-62 WAC
- m. Hydraulic Code Rules, Chapter 220-110 WAC

- n. Shoreline Management Act Regulations, Chapter 173-14-28 WAC

FEDERAL LAWS AND REGULATIONS

- o. Resource Conservation and Recovery Act (RCRA)
- p. Criteria for Municipal Solid Waste Landfills, RCRA Subtitle D, 40CFR Part 258
- q. Occupational Safety and Health Act (OSHA), 29 CFR subpart 1910.120
- r. Federal Water Pollution Control Act of 1972 (Clean Water Act) and National Toxics Rule (amendments to Water Quality Standards Regulation)
- s. Water Quality Act of 1987:

Section 308. Establishes water quality criteria for toxic pollutants.

Section 401. A water quality certification is required for any activity which may result in a discharge into surface waters.

Section 402. Establishes the NPDES permit process for discharges to surface water bodies.

Section 404. Required when planning to locate a structure in waters of the U.S.

The selected cleanup action complies with all ARARs listed above. Other ARARs such as air quality regulations will be complied with as an integral part of the remedial design and implementation steps.

7.4 COMPLIANCE MONITORING

Compliance monitoring as specified in WAC 173-340-410 will be provided to determine compliance with the cleanup standards listed in Section 5.0. Surface and ground water will be monitored to evaluate compliance with cleanup standards. Compliance monitoring plans will be prepared and submitted to Ecology for approval prior to start of cleanup (Interim Measures for Storm Water Control and Ground Water Monitoring report) and after completion of remedial construction.

7.5 SHORT-TERM EFFECTIVENESS

Short-term effectiveness considers how each alternative would impact human health and the environment during the implementation (construction) phase and prior to attainment of cleanup standards.

The implementation of the proposed cleanup action involves various earth moving activities. The earth work may have an impact on the community from exposure to airborne dust. This potential impact will be mitigated through use of control measures such as watering to reduce dust generation. The earth work may increase mobility of soil particles in surface water runoff. Mitigation of this potential sediment discharge will involve using sediment barriers and performing remedial activities during the dry season.

Capping should result in immediate improvements in the quality of storm water runoff. The cap should effectively isolate contaminated materials from surface water runoff. Capping should eliminate the human health concerns associated with ingestion of contaminated material.

7.6 LONG-TERM EFFECTIVENESS

Long-term effectiveness is evaluated in terms of the magnitude of residual risk and the adequacy and reliability of the cleanup action.

Implementation of the selected alternative will prevent contact between precipitation/surface water runoff and contaminated soil/slag materials. Long-term reliability will be dependent on maintenance of the engineering controls and continued monitoring since residuals will remain on-site. There is a high degree of confidence that the isolation and containment measures will be effective in controlling mobility of metals when coupled with appropriate long-term operation, maintenance and monitoring to remedy any potential damage to the cap system due to settlement, erosion, or other causes. The selected alternative provides, in addition to monitoring, periodic routine inspections and maintenance of the cap system to ensure its integrity and effectiveness. Institutional controls, including restrictive covenants, will limit the use of the Site to industrial uses for the long-term.

7.7 REDUCTION OF TOXICITY, MOBILITY, OR VOLUME

This evaluation criterion addresses the statutory preference for selecting remedial actions that employ treatment technologies that permanently and significantly reduce toxicity, mobility, and volume of the hazardous substances present. As stated in Section 6.0 above, physical or chemical treatment was not chosen as the preferred cleanup alternative because the existence of a feasible treatment system for this waste is not known.

The human health and environmental risks identified at the Site are a direct result of on-site slag deposits containing metals. The implementation of this alternative will not use treatment technologies to reduce toxicity, mobility, or volume of the contamination present on the Site. The cleanup action will eliminate the contact of storm water with contaminated soil/slag through the use of a physical barrier (cap system), thereby limiting the mobility of contaminants.

7.8 IMPLEMENTABILITY/TECHNICAL FEASIBILITY

This alternative employs conventional technologies and, therefore, should be readily implemented. Capping has been performed at other log sort yards in the Tacoma area. Maintenance requirements for the cap system should not pose any technical difficulties.

7.9 COST

The relative costs of the alternatives determined in the FS are given in Table 3.

TABLE 3. SUMMARY OF COSTS FOR ALTERNATIVES

Alternative	Description	Total Present Worth (\$)
1	No Action	536,000
2(a)	Complete Off-site Disposal (ave. 187,600 yds)	19,667,000 - 31,559,000
3	Partial Off-site Disposal/Asphalt Cap	14,747,000 - 15,240,000 (b,c)

(a) A sensitivity analysis based on the quantity of material that may require a permitted, off-site disposal facility has been performed for Alternative 2. The quantity of contaminated soil and bark and excess surface material shown varies +/- 25 percent from the estimated volume (i.e., 187,600 yd³).

(b) The actual cost will vary between these two values based on the actual volume disposed of and cap thickness - which will be determined during the remedial design process.

(c) The cost estimates are based on disposal of material in a permitted, off-site disposal facility. The cost estimates for disposal of material in a hazardous waste landfill is a present worth of \$19,637,000-26,043,000.

7.10 ELIMINATION OF OTHER ALTERNATIVES

Alternative 1 was not selected because it would not adequately protect human health and the environment.

Alternative 2 could meet the target cleanup levels for soil at the Site; however, the recommended alternative is more practicable than Alternative 2, but should be equally protective.

8.0 STATE AND COMMUNITY ACCEPTANCE

State and community acceptance will be evaluated based on the comments received during the public comment period. Based on the information gathered from the public, Ecology will modify the draft CAP to arrive at a final CAP.

9.0 CLEANUP ACTION REQUIREMENTS

The cleanup action as selected is designed to accomplish the following requirements:

1. Protect human health and the environment.
2. Comply with cleanup standards per WAC 173-340-700 through 760.
3. Comply with applicable state and federal laws per WAC 173-340-710.
4. Provide compliance monitoring per WAC 173-340-410.
5. Use permanent solutions to the maximum extent practicable per WAC 173-340-360(4), (5), (7), and (8).
6. Provide a reasonable restoration time frame per WAC 173-340-360(6).
7. Consider public concerns, if any, raised during public comment on the draft cleanup action plan per WAC 173-340-360(10) through (13).

10.0. SCHEDULE FOR IMPLEMENTATION/UPCOMING ACTIVITIES

Ecology has negotiated a Consent Decree per MTCA with the Port of Tacoma to cover the remedial design, remedial construction, and all other work phases. Full public participation, including a 30-day public comment period and public meeting, will accompany the MTCA Consent Decree.

Bark separation activities will commence during the summer of 1994 and conclude during the winter of 1994. This will be followed by interim storm water controls and ground water monitoring. The capping/paving process will begin no later than September 1997, and will finish by winter of 1997.

REFERENCES

- Ecology and Environment. 1987. Volume 1, Site Inspection Report for Commencement Bay Nearshore/Tideflats, Tacoma, Washington. Prepared for U.S. EPA, Hazardous Site Evaluation Division. Field Investigation Team Zone II, Contract No. 68-01-7347. Ecology and Environment, Inc., Seattle, WA.
- EPA and Port of Tacoma. October 8, 1993. Sitcum Remediation Project Consent Decree: Civil #C93-5462.
- Kennedy/Jenks Consultants. 1993. Remedial Investigation/Feasibility Study, Murray Pacific Log Yard No. 2, Tacoma, Washington. Kennedy/Jenks Consultants, Federal Way, WA.
- Murray Pacific Corporation. 2/26/81. Personal communication - letter from Mr. L. Miller to Ecology.
- Norton, D., and A. Johnson. 1985. Completion Report on WQIS Project 1 for the Commencement Bay Nearshore/Tideflats Remedial Investigation: Assessment of Log Sort Yards as Metal Sources to Commencement Bay Waterways, November 1983 to June 1984. Washington State Department of Ecology Memorandum. February 27, 1985.
- Port of Tacoma. May 11, 1994. Memorandum from Beth Doan, Port of Tacoma to Dan Alexanian, Department of Ecology: Summary of Chemical Data for Murray Pacific Log Yard #2
- Tetra Tech. 1985. Commencement Bay Nearshore/Tideflats Remedial Investigation. Vols. 1 and 2. Final Report. EPA-910/9-85-134b. Prepared for the Washington State Dept. of Ecology and the U.S. Environmental Protection Agency. Tetra Tech, Inc., Bellevue, WA.
- Tetra Tech. 1988. Commencement Bay Nearshore/Tideflats Feasibility Study. Public Review Draft. Prepared for the Washington Department of Ecology. Tetra Tech, Inc., Bellevue, WA.

U.S. Environmental Protection Agency, 1989. Commencement Bay Nearshore/Tideflats
Record

EXHIBIT D

EXHIBIT D
SCOPE OF WORK

This Decree contains a program designed to protect public health, welfare, and the environment from the known release, or threatened release, of hazardous substances or contaminants at, on, or from the Site. Based on the facts and determinations found in the Decree, it is hereby Ordered that the Defendant take the following remedial actions:

1. The Defendant shall carry out the provisions of the Workplan in a manner and time frame as described herein. The term "Workplan" is defined to consist of:

- a. This Exhibit (Scope of Work), and
- b. The Cleanup Action Plan (Exhibit C).

The Defendant shall implement the tasks detailed in the Workplan in accordance therewith and within the due dates specified, including, but not limited to, the following deliverables:

WORKPLAN DELIVERABLES:

Task 1 -- Interim Measures for Storm water and Ground Water Monitoring Report

Due Date:

October 21, 1994

This report shall describe measures to be taken to control storm water run-off and to otherwise protect human health and the environment prior to construction of the cap. The report shall include:

- a. Design features for control of storm water run-off and infiltration at the Site, including the Site grading plans, silt fence construction details, and other interim measures (e.g., berms, vegetation) to be taken prior to construction of the Site cap.
- b. A plan for ground water monitoring using existing Site monitoring wells designed to monitor concentrations of metals in the ground water prior to cap construction.

Task 2 -- Draft Engineering Design Report

Due Date:

January 13, 1995

The report shall be prepared by or under the direct supervision of a registered professional engineer and shall include any revisions required by Ecology in response to the Preliminary Cap Design and shall be submitted in accordance with WAC 173-340, Sections 400 and 410, including:

- a. Goals of the cleanup action, including specific cleanup or performance requirements (including cleanup levels listed in Table 2 of the Final Cleanup Action Plan);
- b. General information on the Site, including a summary of information in the remedial investigation/feasibility study updated as necessary to reflect the current conditions;

- c. Identification of who will own, operate, and maintain the Site and the cleanup action during and following construction;
- d. Facility maps, of minimum dimensions two feet square, showing existing Site conditions and proposed location of the cleanup action/components, including surface water drainage features and storm water conveyances;
- e. Location of materials to be treated or otherwise managed, including areas of contaminated soil and sediment;
- f. A schedule for construction of the remedial action and monitoring systems, including a critical timing chart for accomplishment of major milestones.
Remedial Action construction shall begin in accordance with the Ecology-approved schedule within the Engineering Design Report. Construction is to be completed by December 1, 1997.
- g. A description and conceptual plan of the cleanup action, as outlined in the "Selected Cleanup Action", Section 6.0 of the Final Cleanup Action Plan (Exhibit C), any treatment units, facilities, and processes required to implement the cleanup action;
- h. Engineering justification for design parameters, including: design criteria, assumptions, and

calculations for all components of the cleanup action; demonstration that the cleanup action will achieve compliance with cleanup requirements. In particular, provide engineering justifications for the thickness, durability, and permeability of the cap system showing that the permeability will be low enough to reduce infiltration to acceptable levels and that the cap is durable enough to remain viable throughout all proposed Site uses;

- i. Design features for control of hazardous materials spills and accidental discharge (for example, containment structures, leak detection devices, run-on and run-off controls);
- j. Design features to assure long-term safety of workers and local residences as applicable (for example, hazardous substances monitoring devices, pressure valves, bypass systems, safety cutoffs);
- k. A discussion of methods for management or disposal of any treatment residual and other waste materials containing hazardous substances generated as a result of the cleanup action;
- l. Facility specific characteristics which may affect design, construction, or operation of the selected cleanup action, including: Relationship of the proposed cleanup action to existing area and facility operations, probability of flooding, waste

- settling/subsidence, temperature extremes, planned post-remedial site uses/activities, local planning and development issues, solid characteristics, and surface and ground water system characteristics;
- m. Any information not provided in the remedial investigation/feasibility study needed to fulfill all applicable requirements of the State Environmental Policy Act (Chapter 43.21C RCW), and any additional information needed to address the applicable state, federal, and local requirements;
 - n. A copy of all required permits;
 - o. Detailed final construction plans and procedural material specifications necessary for construction of the cleanup system as specified in the "Selected Cleanup Action", Section 6.0 of the Final Cleanup Action Plan (Exhibit C) prepared in conformance with currently accepted engineering practices and techniques;
 - p. Specific quality control (QC) tests to be performed to document the construction as applicable, including specification for the testing or reference to specific testing methods, frequency of testing, acceptable results, and other documentation methods. This section shall include QC testing during asphalt cap construction and monitoring system installation;

q. A Compliance Monitoring Plan prepared under WAC 173-340-410 describing monitoring to be performed during construction and operation, as applicable, and a sampling and analysis plan meeting the requirements of WAC 173-340-820.

q-1. This section shall include a Protection Monitoring Plan, per WAC 173-340-410(1)(a), to confirm that human health and the environment are protected during cleanup action construction.

q-2. This section shall include a detailed Performance Monitoring Plan, per WAC 173-340-410(1)(b), for verifying that soil cleanup limits listed in the Final Cleanup Action Plan (Exhibit C) as amended by Ecology will be achieved at any Site areas outside the final cover system from where woodwaste, soils, and slag will be excavated and transferred to the area to be capped.

q-3. This section shall also include a Confirmation Monitoring Plan, per WAC 173-340-410(1)(c). This plan will include a proposed ground water monitoring system for the Site designed to ensure conformance with ground water cleanup

levels listed in the Final Cleanup Action Plan. The plan shall include a monitoring system designed to verify that ground water contaminants at the Site are within cleanup goals. The plan shall include proposed well locations and depths, construction, sampling and analysis methodology, and sampling frequency. The plan shall also include surface water monitoring locations and protocol.

r. Safety and Health Plan per WAC 173-340-810; and

s. Operation and Maintenance Plan: An Operation and Maintenance Plan which presents technical guidance and regulatory requirements to assure effective operations under both normal and emergency conditions. The Operation and Maintenance Plan shall include the following elements, as appropriate:

- s-1. Name and phone number of the responsible individuals.
- s-2. Process/remedial action description and operating principles.
- s-3. Design criteria and operating parameters and limits.
- s-4. A discussion of the detailed operation of individual treatment units, including

methane venting equipment (if any), and a description of various controls, recommended operation parameters, safety features, and any other relevant information.

s-5. Procedures and sample forms for collection and management of operation and maintenance records.

s-6. Spare part and repair materials inventory, address of suppliers of spare parts, equipment warranties, and appropriate equipment catalogues.

s-7. Equipment and cap maintenance procedures, and maintenance schedules incorporating manufacturers' recommendations.

s-8. Contingency procedures for spills, releases, and personnel accidents.

s-9. Procedures for the maintenance of the facility after completion of the cleanup action, including a methodology and schedule for removal of unneeded appurtenances, and the maintenance of covers, caps, containment structures, and monitoring devices.

s-10. A Compliance Monitoring Plan prepared under WAC 173-340-410, describing

monitoring to be performed during operation, designed to track compliance with remedial action objectives. A Sampling and Analysis Plan meeting the requirements of WAC 173-340-820.

- s-11. Description of procedures which assure that the safety and health requirements of WAC 173-340-810 are met, including specification of contaminant action levels and contingency plans, as appropriate.

Task 3 -- Final Engineering Design Report

Due Date:

Six months prior to commencing construction of the Site cap or no later than March 1, 1997.

The Defendant shall submit a final Engineering Design Report which amends the draft Engineering Design Report to satisfy all written comments regarding the draft report submitted by Ecology.

Task 4-- Construction of Selected Cleanup Action

Due Date:

Complete construction by December 1, 1997.

Construction shall be performed in accordance with, and shall execute the requirements of, the Ecology-approved Engineering Design Report and Construction Plans and Specifications.

All aspects of construction shall be performed under the supervision of a professional engineer registered in the State of Washington or a qualified technician, under the direct supervision of a professional engineer registered in the State of Washington. During construction, detailed records shall be kept of all aspects of the work performed, including construction techniques and materials used, items installed, and tests and measurements performed.

Photographic documentation of all major and critical construction phases shall be performed by the Defendants. An extra copy of the photos shall be submitted to Ecology along with the project record drawings.

During the construction of the Site cap segment of the remedial action, the Defendant's project coordinator or his/her designee will make oral reports at least every two weeks to the Ecology project manager or his/her on-site supervisor regarding progress. Any significant problems, deviation from plans, or emergency conditions will be reported to Ecology immediately.

Task 5 -- Project Record Drawings

Due Date:

Two months after
completion of cleanup
action construction or
no later than February
1, 1998.

At the completion of construction, the engineer responsible for the supervision of construction shall prepare Project Record Drawings and a report documenting all aspects of facility construction.

The report shall also contain an opinion from the project manager and the engineer, based on the testing results and inspections, as to whether the cleanup action has been constructed and performed in substantial compliance with the plans and specifications and related documents.

Task 6 -- Declaration of Restrictive Covenants

1. The Declaration of Restrictive Covenants, Exhibit E, shall be signed by the Defendant and filed with the property deed within 20 days of completion of the paving for the cap or no later than December 31, 1997.

2. Defendant agrees not to perform any remedial actions outside the scope of this Decree unless the parties agree to amend the scope of work to cover these actions. All work conducted under this Decree shall be done in accordance with Ch. 173-340 WAC unless otherwise provided herein.

Task 7 -- Operation and Maintenance of
Remedial Action System

Due Date:

Upon completion
of cleanup action
construction.

Operation and maintenance of a remedial action system shall be in conformance with, and shall execute the applicable requirements of, the following Ecology-approved Workplan

Deliverables: Engineering Design Report, Construction Plans and Specifications, and Operation and Maintenance Plan, including Compliance Monitoring Plan.

EXHIBIT E

EXHIBIT E

DECLARATION OF RESTRICTIVE COVENANT

The property that is the subject of this Restrictive Covenant is 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 Washington State Department of Ecology Consent Decree No. _____, and in attachments to the Decree. This Restrictive Covenant is required by WAC 173-340-440 because the Cleanup Action at the Site will result in residual concentrations of arsenic and lead which exceed Ecology's Method A cleanup levels for Industrial soil established under WAC 173-340-745.

The Port of Tacoma is the fee owner of real property known as the Murray Pacific Log Yard No. 2 in the county of Pierce, state of Washington of which 49.5 acres are referred to as the "Site" (Exhibit B).

As a result of the Cleanup Action, the Site will include a woodwaste, soil, and slag mixture which will be covered with a cap system equipped with a surface water collection system. The Site will also include monitoring wells as per WAC 173-340-360 (8).

The Port of Tacoma 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 The Site may be used only for Industrial uses as defined in and allowed under the City of Tacoma's Zoning Regulations codified in the Tacoma City Code as of the date of this Restrictive Covenant.

Section 2 Any activity on the Site that interferes with or reduces the effectiveness of the Cleanup Action or any operation, maintenance, monitoring, or other activity required by the Decree (or any Ecology-approved modification or amendment to the Decree) is prohibited. Any activity that would threaten the structural integrity of the cap is prohibited. Any activity on the Site that would result in the release of a hazardous substance that was contained as a part of the Cleanup Action is prohibited. It is understood that disturbance of the cap may be required in the future for installation of utilities or other activities associated with future industrial use of the site. The Port shall obtain approval from Ecology prior to initiating any disturbance of the cap storm water drainage and/or monitoring system. Ecology shall not deny approval if the Port can show (1) that no releases of hazardous materials will occur; (2) integrity of the cap and storm water drainage and monitoring systems will be restored to their original condition in a timely manner; and

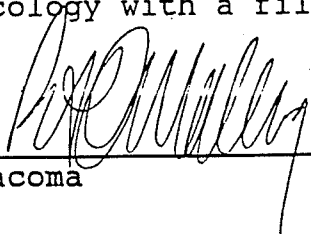
(3) that material will be handled and disposed of in accordance with State law.

Section 3 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 4 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 Order, to take samples, to inspect Cleanup Actions conducted at the Site, and to inspect records that are related to the Cleanup Action.

Section 5 The owner of the Site and owner's assigns and successors in interest reserve the right under WAC 173-340-730 and WAC 173-340-440 to record an instrument which provides that this Restrictive Covenant shall no longer limit the 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.

The Port of Tacoma agrees to file this Restrictive Covenant in the Site property deed with the Pierce County Auditor and provide the Department of Ecology with a filed copy.



Port of Tacoma

9/15/94

Date