

15 May 1995

SUBJECT: FINAL DETERMINATION ON THE SUITABILITY OF DREDGED MATERIAL AND EXCAVATED MATERIAL TESTED FOR THE WEST BLAIR TERMINAL DEVELOPMENT PROJECT, PORT OF TACOMA, WASHINGTON (93-2-01286) FOR DISPOSAL AT A PSDDA UNCONFINED OPEN-WATER DISPOSAL SITE.

1. The following summary reflects the final consensus determination of the PSDDA Agencies' (U.S. Army Corps of Engineers, Department of Ecology, Department of Natural Resources, and the Environmental Protection Agency) with jurisdiction on dredging and disposal on the suitability of the estimated 525,000<sup>1</sup> cubic yards of dredged material and excavated material proposed for dredging from the West Blair Terminal Development Site (formerly the Murray Pacific log yard), Port of Tacoma, Washington for disposal at a PSDDA unconfined open-water disposal site (Commencement Bay nondispersive site).
2. The project design calls for excavating the existing Blair Waterway shoreline by 88 feet along approximately 2,000 feet of 2H:1V sloped shoreline. The upland portion of the site is a MTCA cleanup site slated for cleanup prior to PSDDA excavation/dredging. Moreover, the waterward portion of the site is bordered in part by a CERCLA site also slated for cleanup, and the northeast portion of the site lies next to the Port of Tacoma's Blair Waterway dredging project (SDM, 21 August 1991). The PSDDA agencies determined that confirmational sampling of the dredged material surface underlying both MTCA and CERCLA cleanups would be required before a final determination of suitability could be completed (enclosure 1; DMMO letter dated December 17, 1993).
3. The side slope confirmation sampling and analysis plan was approved on January 19, 1994. The sampling occurred on April 8-12, 1994, and data analysis results were documented in Hart Crowser report dated June 17, 1994. The confirmation side slope sampling consisted of collecting six samples located between elevation + 17 to 0 feet MLLW. These samples were composited for two analyses for arsenic (3 samples per analysis). Between elevation 0 to -20 feet MLLW nine samples were collected and composited into three analyses (3 samples per analysis) for PSDDA chemicals of concern. The results of these five confirmation analyses indicated all chemicals were quantitated below the PSDDA screening levels.
4. Upland verification sampling for the MTCA upland cleanup of arsenic slag deposits occurred on February 8-10, 1995, and are documented in GeoEngineers report dated March 27, 1995. The sampling consisted of excavating 21 test pits ranging from 2.35 to 4 feet below the ground surface using a rubber-tired backhoe. Soil encountered in the test pits generally

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<sup>1</sup> The interim Suitability Determination had 500,000 cubic yards. Advanced engineering design work revised this estimate to 525,000 cubic yards, which was reflected in the public notice.

consisted of compacted fill extending from the ground surface to a depth of around 3.5 feet below the ground surface. Dredged fill was encountered below the compacted fill at depths ranging from 0.5 to 4.0 feet below the ground surface. Three test pits were excavated in each of the seven dredged material management units (DMMUs), and samples were collected for analysis within each test pit at depth intervals of 0-6 inches, 6-12 inches, 12-24 inches, 24 inches to the base of the test pit. All samples were analyzed for arsenic. No arsenic was detected at levels exceeding the screening level (57 mg/kg) 12 inches below the surface. The upland MTCA cleanup has not yet occurred, but minimum excavation requirements contained in the plans and specifications, currently being developed in accordance with the former Murray Pacific Logyard No. 2 Consent Decree will require excavating a minimum of 2 feet depth along the shoreline. The removal of this material will be completed prior to any dredging activities (enclosure 2, letter dated March 28, 1995 from Beth Doan, Port of Tacoma).

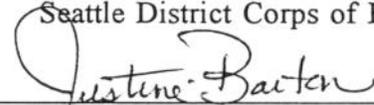
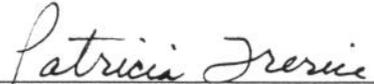
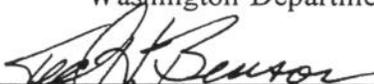
5. The supplemental verification sampling of the upland soils underlying the area slated for cleanup under a MTCA consent decree were the basis of an interim PSDDA suitability determination issued on March 24, 1994 (enclosure 3).
6. Collectively, the confirmation sampling of the side slopes, the upland verification sampling, and the supplemental sampling all collectively support the conclusion that the 525,000 cubic yards of excavated dredged material is suitable for unconfined open-water disposal at a PSDDA nondispersive site. A public notice issued for this project on June 9, 1994 indicated that proposed project mitigation would involve the placement of 80,000 cubic yards of dredged material, which would come from the total of 525,000 cubic yards (enclosure 4). Therefore, the total likely to be placed at an unconfined open-water disposal site is 445,000 cubic yards.
7. This memorandum documents the suitability of proposed dredged sediments for unconfined open-water disposal at a PSDDA site. A public notice was issued for this project on June 9, 1994. After the public comment period a permit was issued on November 7, 1994 after full consideration of agency input, and after an alternatives analysis was done under Section 404 (b)(1) of the Clean Water Act.

**Table 1. Regulatory Tracking Dates**

SAP Approval date	December 17, 1993
Sampling date(s)	November 3-5, 1993
Initial data report submittal date	December 28, 1993
Interim Suitability Determination date	March 24, 1994
Side slope verification sampling report submittal date	April 8-12, 1994
Upland verification sampling report submittal date	March 28, 1995
Section 10/404 Permit Issuance date	November 7, 1994
<b>Recency Determination Dates:</b> High Concern DMMU (2 years)	Recency date = March 1997

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Concur:

<p>6/1/95 Date</p>	<p> David R. Kendall, Ph.D Seattle District Corps of Engineers</p>
<p>6/14/95 Date</p>	<p> Justine Barton Environmental Protection Agency, Region X</p>
<p>6/8/95 Date</p>	<p> Pat Trerice Washington Department of Ecology</p>
<p>6/6/95 Date</p>	<p> Ted Benson Washington Department of Natural Resources</p>

Enclosures

Copies Furnished:

Ted Besnson, DNR  
Justine Barton, EPA  
Pat Trerice, Ecology

Evans Lewis, Corps  
Elizabeth Doan, Port of Tacoma  
DMMO File

CENPS-OP-DMMO

MEMORANDUM FOR RECORD

25 March 1994

SUBJECT: INTERIM DETERMINATION ON THE SUITABILITY OF DREDGED MATERIAL AND EXCAVATED MATERIAL TESTED FOR THE WEST BLAIR TERMINAL DEVELOPMENT PROJECT, PORT OF TACOMA, WASHINGTON (93-2-01286) FOR DISPOSAL AT A PSDDA UNCONFINED OPEN-WATER DISPOSAL SITE.

1. The following summary reflects the interim consensus determination of the PSDDA Agencies' (U.S. Army Corps of Engineers, Department of Ecology, Department of Natural Resources, and the Environmental Protection Agency) with jurisdiction on dredging and disposal on the suitability of the estimated 500,000 cubic yards of dredged material and excavated material proposed for dredging from the West Blair Terminal Development Site (formerly the Murray Pacific log yard), Port of Tacoma, Washington for disposal at a PSDDA unconfined open-water disposal site (Commencement Bay nondispersive site).
2. The project design calls for excavating the existing Blair Waterway shoreline by 88 feet along approximately 2,000 feet of 2H:1V sloped shoreline (figure 1). The upland portion of the site is a MTCA cleanup site slated for cleanup prior to PSDDA excavation/dredging. The entire Commencement Bay (CB) Nearshore Tidelands area (including all waterways) is a CERCLA site. However, Blair Waterway was not identified as a problem area in the CB Record of Decision. Blair deepening, while not a CERCLA cleanup, is being administered by CERCLA as part of the Sitcum Waterway problem area remediation. The PSDDA agencies determined that confirmational sampling of the dredged material surface underlying both the upland MTCA cleanup and the Blair Waterway deepening being administered by CERCLA, would be required before a final determination of suitability could be completed (DMMO letter dated December 17, 1993). The northeast portion of the West Blair Terminal site lies next to the Blair Waterway dredging project (SDM, 21 August 1991). The sampling and testing discussed herein addresses the sampling and analyses conducted for the material proposed for excavation and disposal at a PSDDA open-water unconfined disposal site. This interim determination of suitability is based on the acceptability of the sample collection and compositing conducted by Hart Crowser, Inc. between November 3-5, 1993 and all relevant test data contained in December 28, 1993 Data Summary Report submitted by Hart Crowser to the PSDDA agencies.
3. The Port of Tacoma's approved sampling and testing plan was followed, and quality assurance/quality control guidelines specified by PSEP and the PSDDA program were generally complied with. This project was ranked "high" for the 10' of dredged fill underlying the 3ft (i.e., 14-17 feet MLLW) of MTCA cleanup material. Seven borings (hollow-stem auger drilling rig) were taken approximately 250 feet apart to depths of 13 to 24 feet below ground surface (figure 2). Samples were collected vertically within each boring location from the tidal marsh fill sediment layer (i.e., 9-14 feet MLLW) for seven uncomposited analyses (figure 3). Underlying material below the tidal marsh fill layer representing native soil was

collected from each of the seven boring locations (i.e., 5-9 feet MLLW) and composited for two analyses as depicted in figure 3. No additional analyses were required from the "native soil" layer by the agencies, although additional material underlying the "native soil" PSDDA sampling layer (i.e., 1-5 feet MLLW) were collected, composited and archived pending analysis results (figure 3).

4. The results of these analyses showed that all chemicals of concern were quantitated below the PSDDA screening levels for all seven uncomposited surface and two composited subsurface dredged material management units (DMMU). There was no need to analyze the archived samples based on these chemical testing results, and no biological testing was required. Sediment conventional characteristics of the maintenance material are summarized in Table 1 for each of the nine DMMU.

5. The Agencies concluded in this interim suitability determination based on the above discussion and summary of sediment chemical testing results for the West Blair Terminal Development Project, Port of Tacoma, Washington, that all the material tested (representing 500,000 cubic yards of proposed excavated/dredged material), is suitable for disposal at either a PSDDA nondispersive or dispersive open-water disposal site, subject to further confirmation sampling of both uplands and sideslopes following MTCA cleanup and CERCLA administered actions (Blair deepening). After reviewing these confirmational sampling and analyses results, the PSDDA agencies will issue a final suitability determination memorandum for this project.

6. This memorandum documents the suitability of proposed dredged sediments for unconfined open-water disposal at a PSDDA site. It does not constitute final agency approval of the project. A public notice will be issued for this project. During the public comment period, which follows a public notice, the resource agencies will provide input on the overall project. A final decision will be made after full consideration of agency input, and after an alternatives analysis is done under Section 404 (b)(1) of the Clean Water Act.

**Table 1. Summary of DMMU Sediment Conventional Parameters and suitability for UCOWD<sup>1</sup>.**

Conventional Parameters	HC-1 (S1)	HC-2 (S2)	HC-3 (S3)	HC-4 (S4)	HC-5 (S5)	HC-6 (S6)	HC-7 (S7)	HC-8 (C-1)	HC-9 (C2)
DMMU Volume (cubic yards)	3,714.3	3,714.3	3,714.3	3,714.3	3,714.3	3,714.3	3,714.3	13,000	13,000
Grain Size (%):									
Gravel	0.0	0.2	0.3	0.1	0.0	0.0	0.1	0.0	0.0
Sand	65.9	89.3	91.5	80.8	86.7	95.7	94.8	7.7	13.6
Silt	27.1	5.9	5.2	14.5	11.0	3.3	3.6	63.2	58.2
Clay	7.0	4.6	3.0	4.6	2.3	1.0	1.5	29.1	28.2
Total Solids (%)	87.3	79.4	89.7	81.1	88.1	90.2	79.5	81.6	71.0
Total Volatile Solids (%)	1.2	0.76	0.62	0.83	0.74	0.57	0.58	2.0	2.4
Total Organic Carbon (%)	0.44	0.32	0.17	0.24	0.10	0.05	0.09	1.0	0.32
Bulk Ammonia (mg/Kg)	7.0	5.3	2.2	2.7	0.76	0.72	2.2	36.0	77.8
Total Sulfides (mg/Kg)	0.22U	0.24U	0.22U	1.04U	0.22U	1.35U	0.26U	0.25U	1.61U
Pass / Fail	Pass	Pass							

<sup>1/</sup> UCOWD = unconfined open-water disposal

surface: 26,000 cy  
 surface/subsurface: 52,000 cy characterized

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Concur:

30 March 1994  
Date

David R. Kendall  
David R. Kendall, Ph.D  
Seattle District Corps of Engineers

8 April 1994  
Date

Justine S. Barton  
Justine Barton  
Environmental Protection Agency, Region X

March 30, 1994  
Date

Patricia Trerice  
Pat Trerice  
Washington Department of Ecology

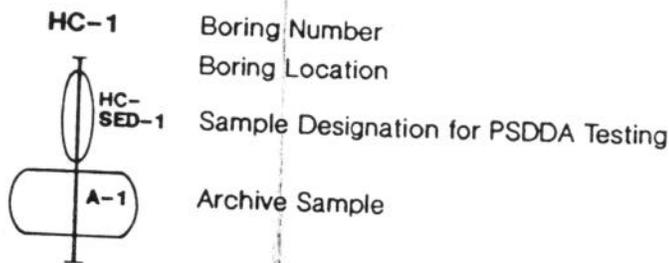
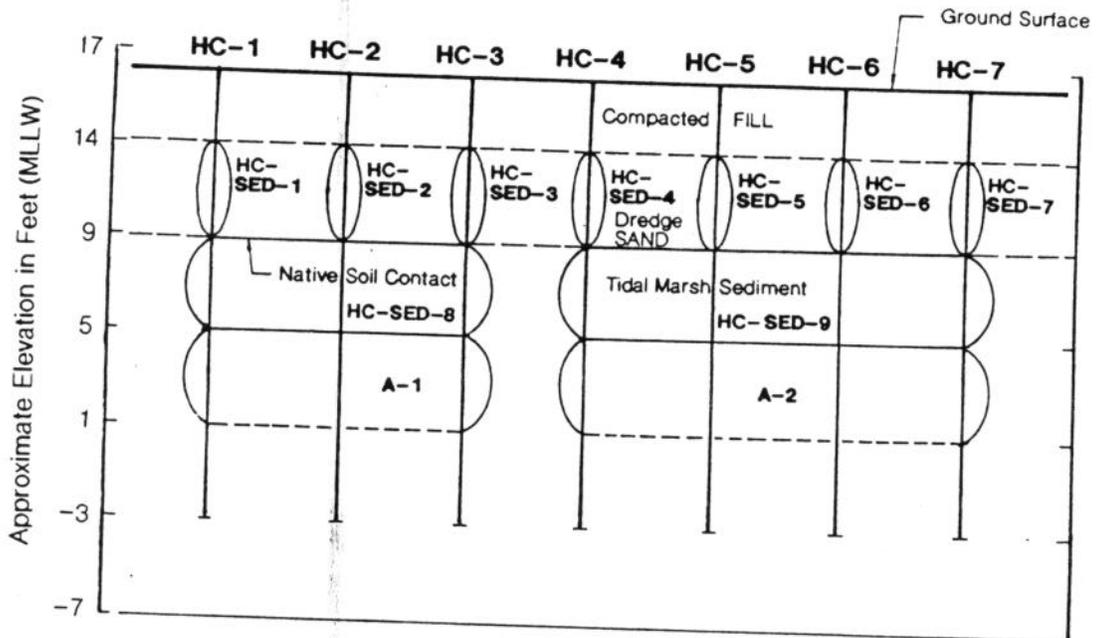
April 1994  
Date

Phil Hertzog  
Phil Hertzog  
Washington Department of Natural Resources

Copies Furnished:

- Evan Lewis, Corps
- Justine Barton, EPA
- Pat Trerice, Ecology
- Phil Hertzog, DNR
- Elizabeth Doan, Port of Tacoma
- DMMO File

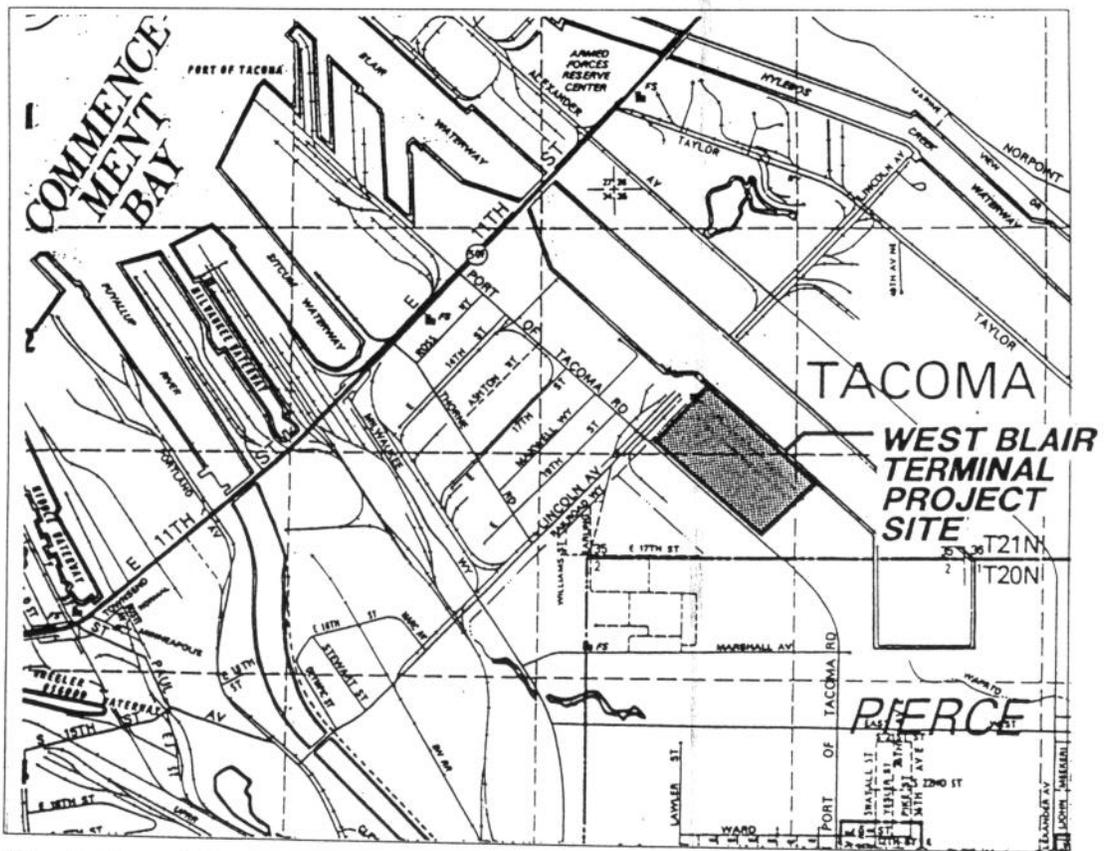
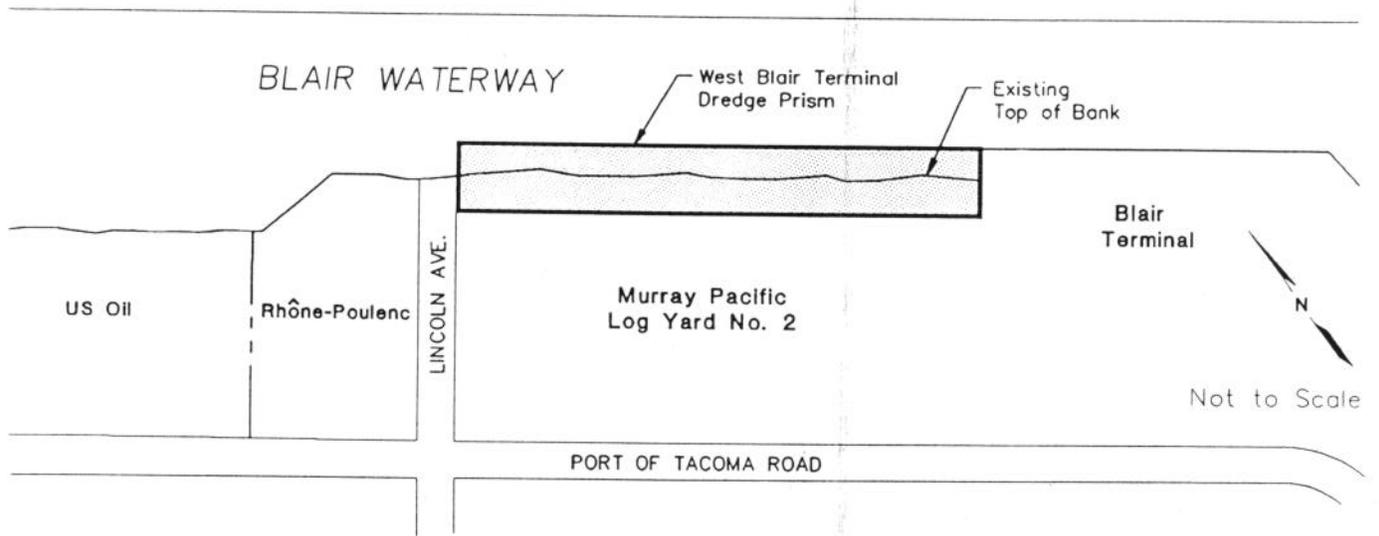
# Compositing Scheme



Not to Scale

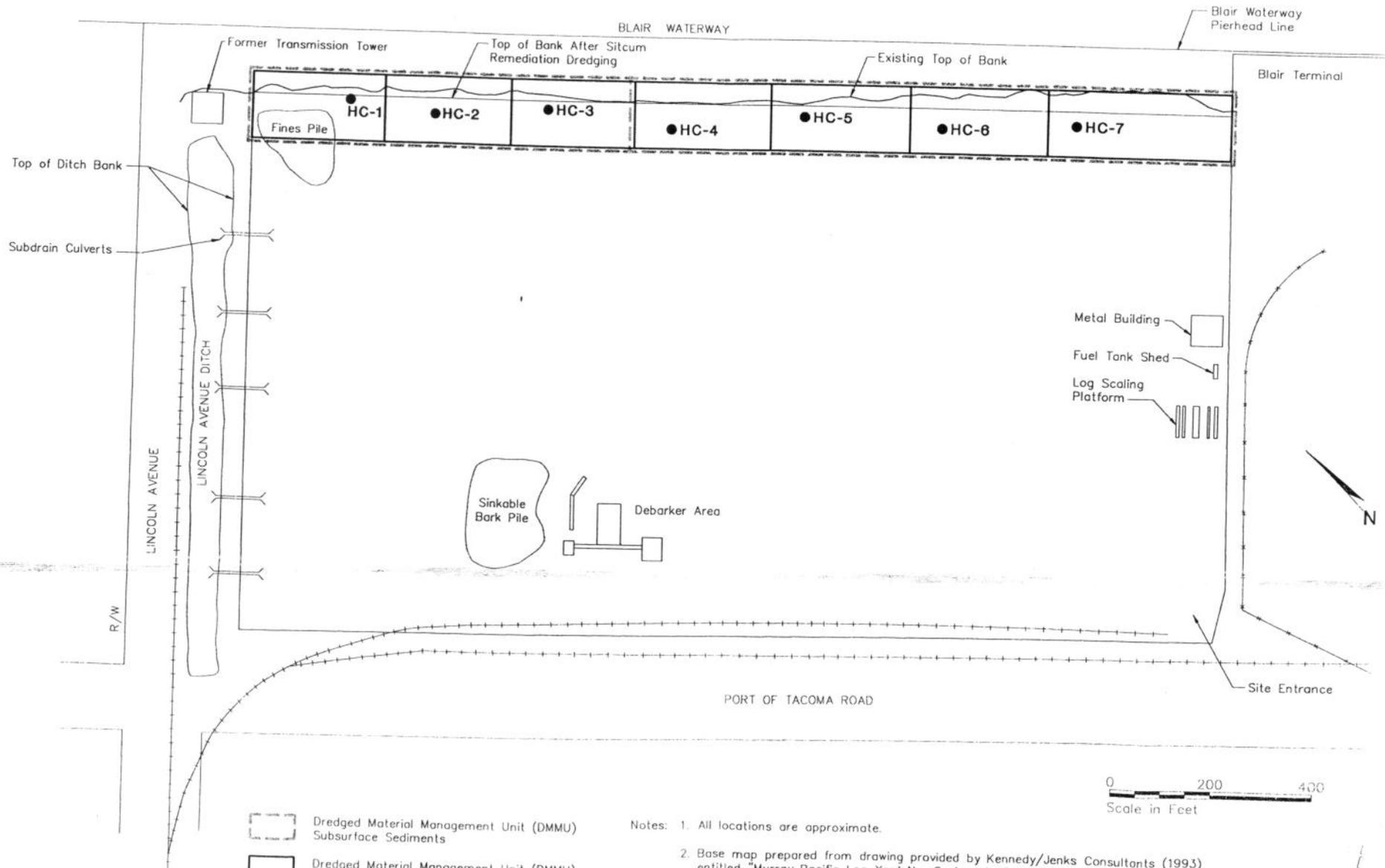
Note: Sample interval elevations are approximate. Actual elevations varied.

# Site and Vicinity Map



Vicinity Map

# Site and Exploration Plan



- Dredged Material Management Unit (DMMU) Subsurface Sediments
- Dredged Material Management Unit (DMMU) Surface Sediments
- HC-2 Boring Location and Number

- Notes:
1. All locations are approximate.
  2. Base map prepared from drawing provided by Kennedy/Jenks Consultants (1993) entitled "Murray Pacific Log Yard No. 2, Arsenic Concentration with Depth".
  3. Approximate location of sampling area is from 47° 15' 53.5" Latitude, 122° 23' 29.7" Longitude to 47° 15' 39.0" Latitude, 122° 23' 07.1" Longitude (NAD, 1927).

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