

MEMORANDUM FOR RECORD

10 June 1991

SUBJECT: DECISION ON THE SUITABILITY OF DREDGED MATERIAL TESTED FOR THE PORT OF GRAYS HARBOR TERMINAL ONE, HOQUIAM, WASHINGTON (OYB-2-013392) TO BE DISPOSED OF AT THE SOUTH JETTY OR POINT CHEHALIS ESTUARINE OPEN WATER DISPOSAL SITES.

1. The following summary reflects the consensus decision of the Agencies (Corps, Department of Ecology, Department of Natural Resources, and the Environmental Protection Agency) with jurisdiction on the acceptability of the sampling plan and all relevant test data (i.e., contained in Data Summary Letter Report from SAIC dated May 9, 1991) to make a determination of suitability of the 25,000 cubic yards of material proposed for dredging from the Port of Grays Harbor Terminal One Berth at Hoquiam, Washington for disposal at either the South Jetty or Point Chehalis estuarine disposal sites.

2. The Agencies' approved sampling and testing plan was followed, and quality assurance/quality control guidelines specified by PSEP and the PSDDA program were generally complied with. The data gathered were deemed sufficient and acceptable for decision making by the Agencies based on best professional judgement.

3. Chemistry data from two composited samples indicated that there were no detected chemical of concern exceedances of the current PSDDA screening level (SL) guideline values. PSDDA SL's are used in Puget Sound to establish a concern for biological effects, where chemicals below the SL have a low level of concern. In this context, they are used in Grays Harbor as a yardstick to evaluate chemical concentration levels measured in sediments. A single undetected exceedance of the PSDDA SL occurred for 1,2,4 Trichlorobenzene (SL = 6.4 ppb), with a detection limit of 7.0 ppb. This sample also had a high total solids content (47 percent), which was probably the main reason the sample failed to achieve the detection limit for this analyte. The PSDDA agencies are currently recommending raising the SL of 1,2,4, Trichlorobenzene to 13 ppb due to the frequency of QA/QC detection limit exceedances for this analyte. The proposed SL adjustment is scheduled for implementation on June 16, 1991. With respect to the present Terminal One Project, the Agencies' consensus was that this detection limit exceedance was not a problem and no biological testing was required.

4. Two composited sediment samples were also analyzed for dioxins by Twin City Testing Laboratory (St. Paul, Minnesota) utilizing EPA method 8290. These data are provided as enclosure 1. Results indicated that 2,3,7,8 TCDD (Tetrachloro-Dibenzo-p-Dioxin) was undetected at detection limits of 1.8 and 2.8 ppb (parts per trillion). This congener is regarded by the EPA as the most toxic form of dioxin. A few other less toxic dioxin congeners were detected at low parts per trillion concentrations. In the following table, the toxicity equivalence in terms of 2,3,7,8-TCDD is shown for the nine most toxic congeners of furan and dioxin (U expresses the detection limit for congeners that could not be quantified).

NATIVE CONGENERS ¹	TOXICITY EQUIVALENCE FACTOR	GH-C1 (OUTSIDE) (pptr)	GH-C2 (INSIDE) (pptr)
2,3,7,8-TCDD	1	1.8 U	2.8 U
2,3,7,8-TCDF	0.1	4.9	7.9
1,2,3,7,8-PeCDD	0.5	1.6	1.2
2,3,4,7,8-PeCDF	0.5	0.47 U	0.3
1,2,3,7,8-PeCDF	0.5	0.92 U	0.74 U
1,2,3,4,7,8-HxCDF	0.1	0.49 U	0.65 U
1,2,3,6,7,8-HxCDF	0.1	0.47 U	0.34
1,2,3,7,8,9-HxCDF	0.1	0.66	0.58
2,3,4,6,7,8-HxCDF	0.1	0.36 U	0.54 U

5. One way to summarize potential toxicity for mammals is to calculate the toxicity equivalent concentration (TEC). This is usually used for food ingestion, and has limited applicability to sediment because it does not consider the relative bioavailability of the congeners. Accordingly, TEC overstates toxicity to mammals when applied to sediments. TEC as a toxicity measure does not apply to fish, shellfish or birds. However, TEC does allow for a quick comparison of toxicity with other sediment samples. The sample GH-C1 (outside) had a TEC for sediment of 3.66 pptr, whereas the sample GH-C2 (inside) had a TEC for sediment of 4.18 pptr. These key species are within the range found for other sediment samples collected in the Grays Harbor navigation channel.

6. Based on the Agencies' present best professional judgment, these low concentrations are unlikely to be environmentally harmful for this project. The Agencies' consensus is that the material is suitable for estuarine unconfined open-water disposal relative to these dioxin test results.

7. Based on the chemistry results described above no bioassay or bioaccumulation testing was required. In general, all the material tested passed the more restrictive disposal guidelines required for disposal at a PSDDA Dispersive Site (Phase II MPR).

8. Based on the above discussion and summary of chemical results for the Port of Grays Harbor Terminal One maintenance dredging project area, the Agencies' concluded that all the dredged material tested (25,000 cubic yards) is suitable for disposal at either the South Jetty or Point Chehalis estuarine disposal sites.

¹ PeCDD = Pentachlorodibenzodioxin
PeCDF = Pentachlorodibenzofuran
HxCDF = Hexachlorodibenzofuran

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Concur:

June 1991
Date

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

June 11, 1991
Date

John Malek
John Malek/Justine Smith
Environmental Protection Agency
Region X

June 11, 1991
Date

Russ McMillan
Russ McMillan
Washington Department of Ecology

June 11, 1991
Date

Betsy Striplin
Phil Hertzog/Betsy Striplin
Washington/Department of Natural Resources

Enclosures

Copies Furnished:

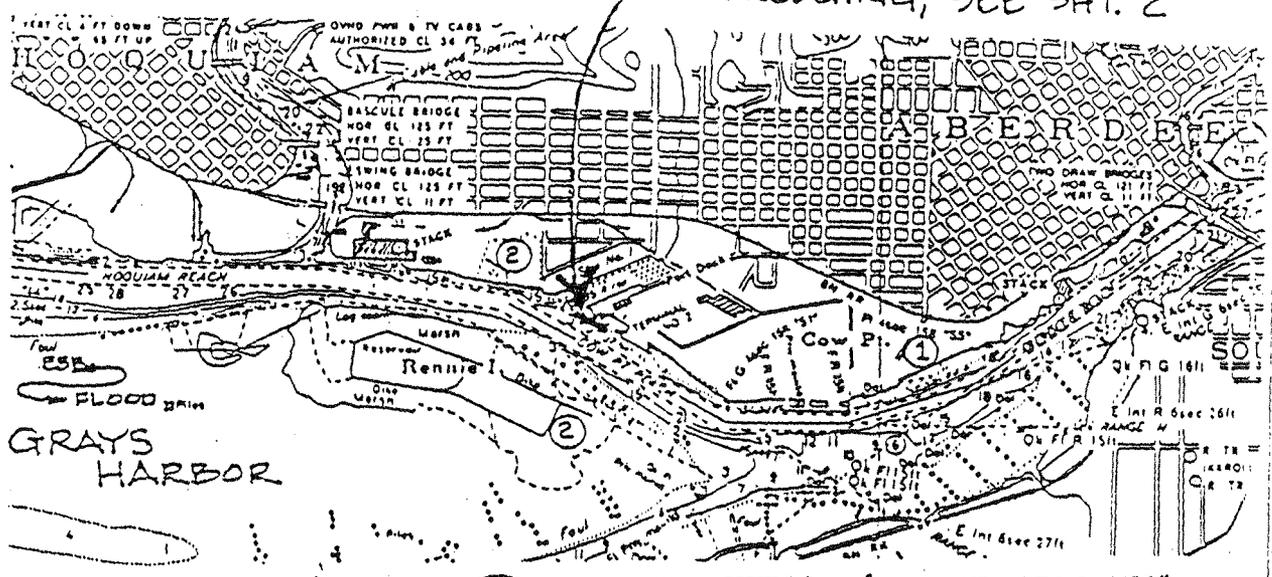
Frank Urabeck/Steve Babcock, Corps
Dick Berg, Corps
John Malek/Justine Smith, EPA
Russ McMillan, Ecology
Betsy Striplin, DNR

DMMO File



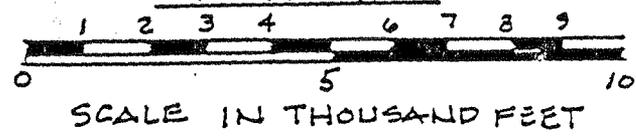
TERMINAL NO 1
DREDGING, SEE SHT. 2

DATUM:
SOUNDINGS
ARE IN
FEET AT
MEAN
LOWER LOW
WATER



VICINITY MAP

LAT. 47° 56' 58"
LONG. 123° 51' 25"



NOTES:

- | | |
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| <p>1. <u>ADJACENT PROPERTY OWNERS:</u>
 (1) WEYERHAUSER CO.
 (2) ITT RAYONIER</p> <p>2. <u>PURPOSE:</u> MAINTENANCE
AND DEEPENING OF EXISTING
TERMINAL BERTHS</p> <p>3. <u>DREDGE QUANTITY:</u> 25,000 CY</p> <p>4. <u>DREDGED MATERIAL:</u>
SILT AND SANDY SILT</p> | <p>5. <u>DREDGING METHOD:</u>
HOPPER OR CLAMSHELL
DREDGE</p> <p>6. <u>DISPOSAL METHOD:</u>
BOTTOM DUMP OF MATERIALS
AT POINT CHEHALIS OPEN
WATER DISPOSAL SITE.
(SEE SHEET 2)</p> |
|--|---|

OYB - 2 - 013392

PROPOSED MAINTENANCE DREDGING WITH OPEN WATER DISPOSAL
IN: GRAYS HARBOR AT: HOQUIAM, WASHINGTON APPLICATION BY: PORT OF GRAYS HARBOR, PO BOX 660, ABERDEEN, WASHINGTON, 98520 DATE: FEB 26, 1990

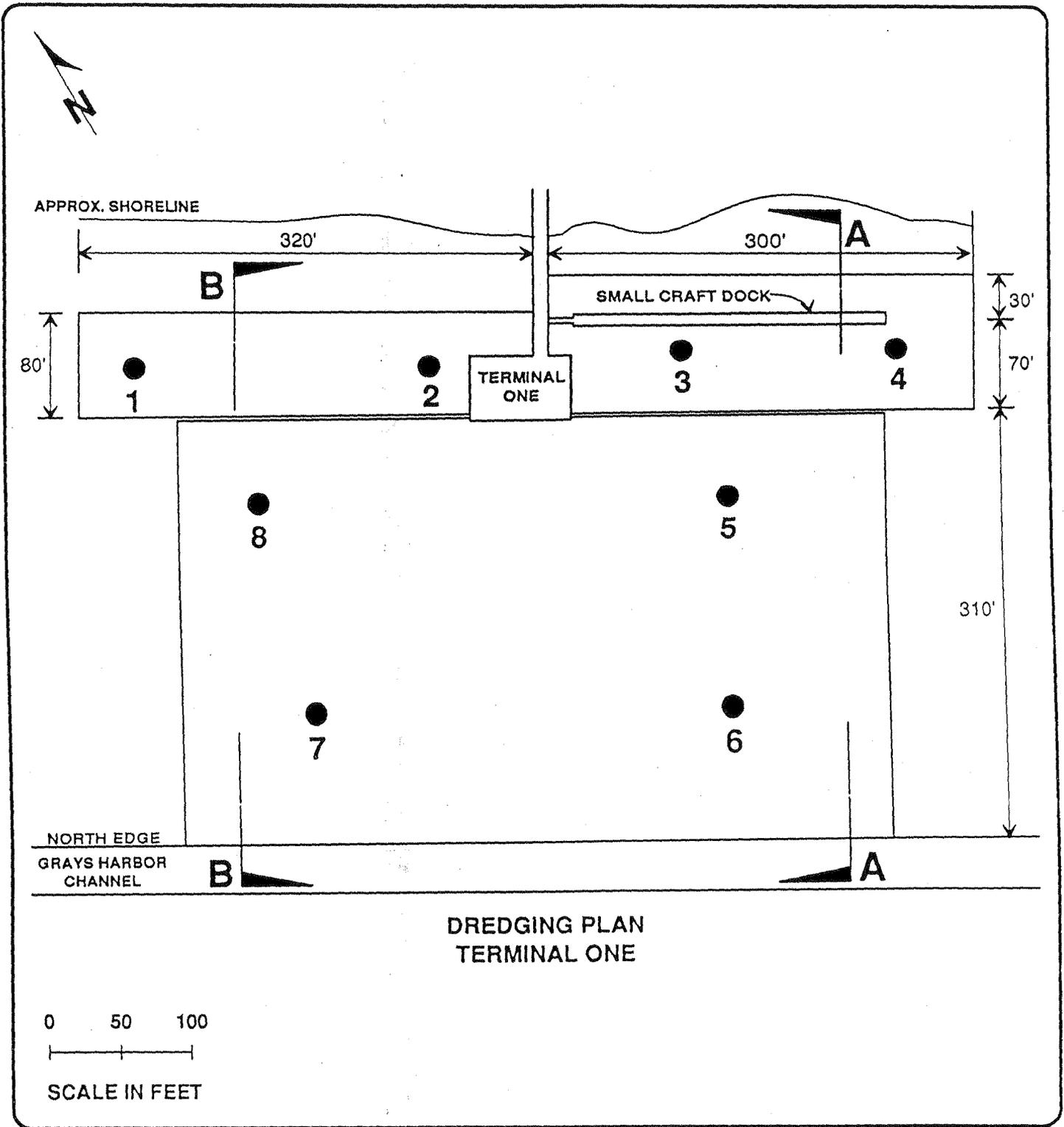


Figure 1. Port of Grays Harbor Station Locations