

7 November 1991

SUBJECT: DECISION ON THE SUITABILITY OF DREDGED MATERIAL TESTED UNDER PSDDA EVALUATION PROCEDURES FOR THE DAY ISLAND YACHT CLUB MAINTENANCE DREDGING PROJECT (OYB-2-014636) TO BE DISPOSED OF AT THE COMMENCEMENT BAY OR ANDERSON/KETRON ISLAND OPEN-WATER DISPOSAL SITES.

1. The following summary reflects the PSDDA agencies' (Corps of Engineers, Department of Ecology, Department of Natural Resources and the Environmental Protection Agency) consensus decision on the acceptability of the sampling plan and all relevant test data to make a determination of suitability for the 9,000 cubic yards of material proposed for dredging from the Day Island Yacht Club project site. Disposal will occur at the PSDDA Commencement Bay or Anderson/Ketron Island open-water disposal sites.
2. The project area was ranked moderate. One dredged material management unit (DMMU C1), represented by five composited field samples, was subjected to tiered chemical and biological testing.
3. Chemistry data indicated that one or more exceedances of the 1991 PSDDA screening levels (SL) occurred for C1 (see Attachment 1). There were no exceedances of bioaccumulation triggers (BT) or maximum levels (ML).
4. The SL exceedances for this test sample triggered the requirement for biological testing under the tiered testing approach. The amphipod 10-day acute toxicity test, echinoderm sediment larval combined mortality and abnormality (effective mortality) test, the Neanthes 10-day acute toxicity test, and the Microtox bacterial luminescence test were conducted. PSDDA interpretation guidelines specified in the Phase II Management Plan Report (Sept 1989), modified by changes made at the second annual review meeting, were used to evaluate the bioassay data. West Beach (Whidbey Island) sand was used for the negative control sediment for the amphipod and Neanthes bioassays. The reference sediment (all bioassays) came from Carr Inlet.
5. There were no hits for the amphipod, sediment larval or Neanthes bioassays. Control and reference sediments met their PSDDA performance standards with the exception of the Carr Inlet reference in the sediment larval test. In the sediment larval test, the reference sediment exhibited 73.7% seawater-normalized effective mortality, exceeding the performance standard of 20%. The test sediment C1, however, exhibited only 17.8% seawater-normalized effective mortality. Because the test sediment seawater-normalized effective mortality must exceed 20% before any comparison need be made to the reference sediment, the failure of the reference sediment to meet the performance standard is not an issue and C1 passes the sediment larval test.

In the Microtox test, due to a communication problem between Landau Associates and their Microtox subcontractor, Laucks Testing, five replicates at the highest concentration were not performed. Only the dilution series was conducted for both the reference and test sediments, which included two replicates at the highest concentration. This was not considered a serious problem due to the following reasons:

1) While the Carr Inlet reference sediment exhibited an average 24.2% light diminution for the two replicates at the highest concentration, the test sediment exhibited only 0.9% light diminution for one replicate at the highest concentration and no light diminution for the other replicate. It is highly unlikely that the test sediment would have shown significantly greater light diminution relative to reference had five replicates been done.

2) Under PSDDA guidelines, the Microtox test alone cannot fail a test sediment (MPR-Phase II, page A-30). As part of the Section 401 Water Quality Certification process, Microtox hits may be used to corroborate hits under the two-hit rule for any of the other bioassays. In the present case there were no hits for the other bioassays. The Microtox results are inconsequential.

6. In summary, the PSDDA-approved sampling and testing plan was followed, and quality assurance/quality control guidelines specified by PSDDA were generally complied with. The data gathered were deemed sufficient and acceptable for regulatory decision-making under the PSDDA program. Based on the results of chemical and biological testing, the following consensus decision was made by the PSDDA agencies:

All 9,000 cubic yards proposed for dredging from the Day Island Yacht Club (OYB-2-014636) are suitable for disposal at the Commencement Bay or Anderson/Ketron Island open-water sites.

Concur:

11/14/91
Date

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David Kendall, Ph.D
Seattle District Corps of Engineers

11/12/91
Date

David J. Fox
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Justine D. Smith
Justine Smith
Environmental Protection Agency, Region X

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Date

Richard L. Vining
Rick Vining
Washington Department of Ecology

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Gene Revelas
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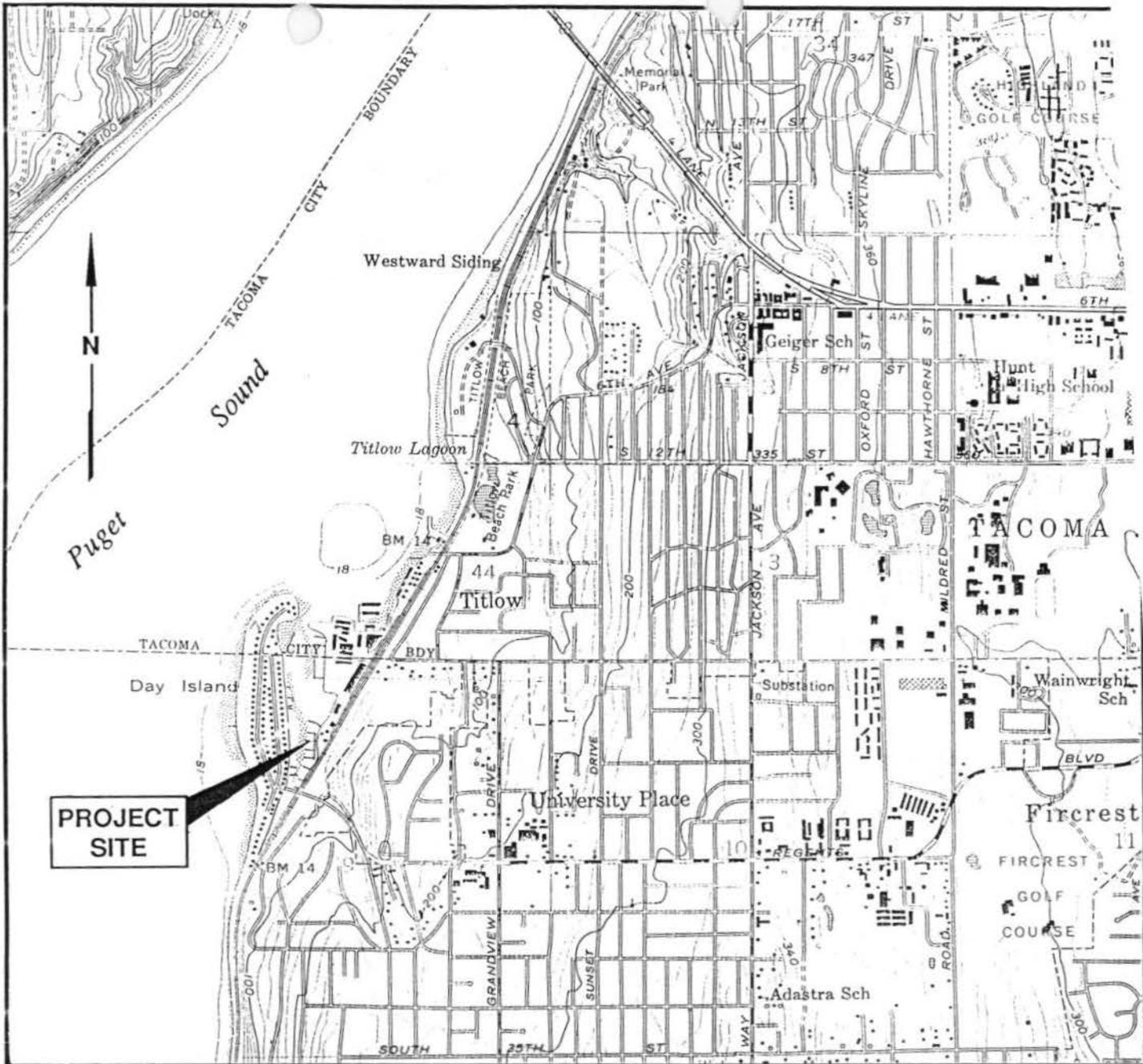
1 Attachment
Copies Furnished:
Frank Urabeck/CENPS-EN-PL-PF
Pat Cagney/Linda Cox/CENPS-EN-PL-ER
Tom Mueller/CENPS-OP
Dick Berg/CENPS-OP-RG

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EPA/John Malek/Justine Smith
DOE/Rick Vining
DNR/Gene Revelas
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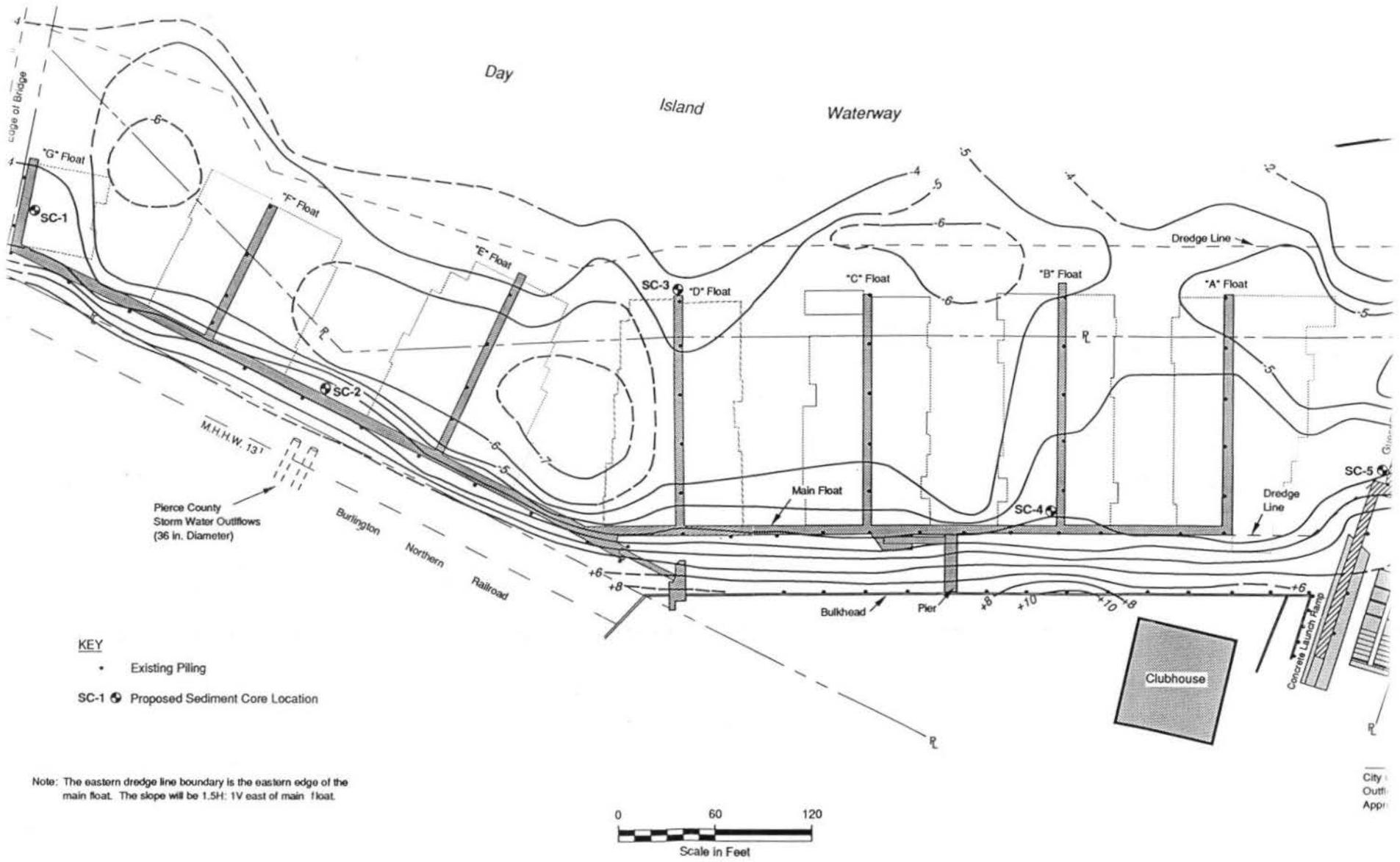
ATTACHMENT 1
Day Island Yacht Club
OYB-2-014636

Chemistry results for C1:

Chemical	Concentration (ug/kg)	PSDDA SL (ug/kg)
Benzyl Alcohol	70 U	25
1,2,4-Trichlorobenzene	14 U	13
Pentachlorophenol	140	100
Phenanthrene	420	320
Pyrene	600	430
Indeno(1,2,3-c,d)pyrene	150	69
Total LPAH	641	610
Total HPAH	2735	1800

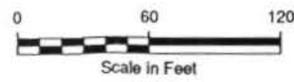


Scale in Miles



- KEY**
- Existing Piling
 - SC-1 • Proposed Sediment Core Location

Note: The eastern dredge line boundary is the eastern edge of the main float. The slope will be 1.5H: 1V east of main float.



Source: The base map for this figure was developed from a Site Plan of Day Island Yacht Club, 1980. Mudline elevations were determined by Robert Clawson, December 1990.