CENPS-OP-RG

MEMORANDUM FOR RECORD 14 December 1989

SUBJECT: DECISION ON THE SUITABILITY OF DREDGED MATERIAL TESTED UNDER PSDDA CRITERIA FOR THE LONE STAR NORTHWEST, DUWAMISH MAINTENANCE DREDGING PROJECT (OYB-2-013065) TO BE DISPOSED OF AT THE ELLIOTT BAY OPEN WATER DISPOSAL SITE.

1. The following summary reflects the PSDDA agencies (Corps, Department of Ecology, and the Environmental Protection Agency) consensus decision on the acceptability of the sampling plan and all relevant test data (i.e., contained in sampling/testing report delivered to the Corps on November 21, 1989 and subsequently sent to the PSDDA agencies for review) to make a determination on the suitability of dredged material proposed for dredging from the Lone Star Northwest project site (i.e., 1600 cubic yards) for disposal at a PSDDA disposal site.

2. The PSDDA approved sampling and testing plan for small projects was followed, and quality assurance/quality control guidelines specified by PSDDA were complied with. The data gathered were deemed sufficient and acceptable for regulatory decision making under the PSDDA program.

3. Chemistry data from the single composited sample/analysis indicated that exceedences of the 1988 PSDDA screening level (SL) values were found for a number of low and high molecular weight aromatic hydrocarbons (LPAH's and HPAH's) and dibenzofuran as depicted in enclosure 1. All excedences were well below the PSDDA maximum level (ML) values. The chemical analyses conducted also noted that quantitation limits for five Chemicals of Concern (COC) were expressed as undetected above the PSDDA SL, which were attributable to high blank contamination (enclosure 1).

4. Under the small project testing guidelines, a single amphipod bioassay is run when chemical characterization results show exceedences of SL values. To fail the single bioassay the "single hit rule" applies (Phase II MPR), whereby test sediment mortality must exceed the reference sediment mortality by 30 percent absolute and show a statistically significant response (t-test; $p<.05$). Therefore, a test sediment mortality response less than 30 percent absolute over reference is not considered a hit under the "single hit rule". Because the project sediment tested was coarse sand and gravel (85 percent) the Whidbey Island control sediment was deemed satisfactory by the PSDDA agencies as a suitable reference sediment. A comparison of the test sediment response with the control/reference sediment showed a 23 percent absolute mortality response relative to the control/reference sediment, which was also statistically significant. Therefore, under the small project testing guidelines, the bioassay response was considered a pass (i.e.,"single hit rule").

5. Based on the above discussion and summary of chemical and bioassay results for the Lone Star Northwest Project area, the PSDDA agencies concluded that all the dredged material tested (1,600 cubic yards) is suitable for disposal at the Elliott Bay PSDDA disposal site.

Concur:

Dec 20, 1989 David R. Kendall
Date

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

Dec 21, 1989 John Malek * See attached memo for clarification.
Date

John Malek
Environmental Protection Agency
Region X

12/20/89 Richard L. Vining
Date

Rick Vining
Washington Department of Ecology

Enclosures

Copies Furnished:

PSDDA/Frank Urabeck/John Wakeman
OP-RG/Jim Green
OP-RG/David Kendall
EPA/John Malek
DOE/Rick Vining
DNR/David Jamison

RESULTS OF CHEMICAL ANALYSES EXCEEDING PSDDA GUIDELINES: LONE STAR NORTHWEST PROJECT (OYB-2-013065)*

CHEMICAL	1988 SL	1988 ML	PROJECT D > SL	PROJECT U > SL	METHOD BLANK
2-Methylphenol	10	72		15u	10u
2,4-Dimethylphenol	10	50		15u	10u
Pentachlorophenol	140	--		150u	100u
2-Methylnapthalene	67	670	81		10u
Acenaphthene	63	630	260		10u
Fluorene	64	640	370		10u
Phenanthrene	320	3,200	1,900		10u
Anthracene	130	1,300	380		10u
Total LPAH	610	6,100	3,101		
Fluoranthene	630	6,300	1,200		10u
Pyrene	430	7,300	1,300		10u
Benzo(a)anthracene	450	4,500	570		10u
Indeno(1,2,3-cd)pyrene	69	5,200	75		20u
Total HPAH	1,800	51,000	4,527		
Benzyl Alcohol	10	73		15u	10u
Benzoic Acid	216	690		380u	250u
Dibenzofuran	54	540	190		10u

* concentrations expressed as PPB (parts per billion)

United States
Environmental Protection
Agency

Region 10
1200 Sixth Avenue
Seattle WA 98101

Alaska
Idaho
Oregon
Washington

EPA

DEC 20 1989

Reply to
ATTN of: WD-138

MEMORANDUM

SUBJECT: Decision on the Suitability of Dredged Material Tested Under PSDDA Criteria for the Lone Star Northwest, Duwamish Maintenance Dredging Project (OYB-2-013065) to be disposed of at the Elliott Bay Open Water Disposal Site

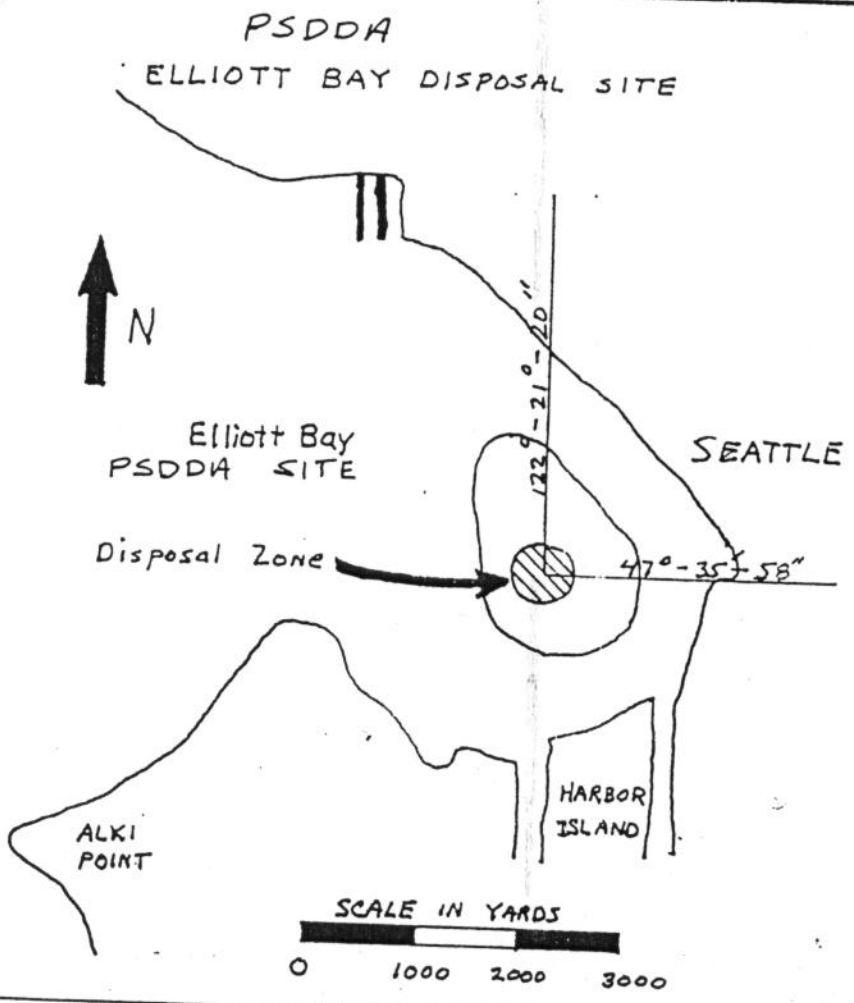
FROM: John Malek, Regional Dredging Coordinator John Malek
Region 10

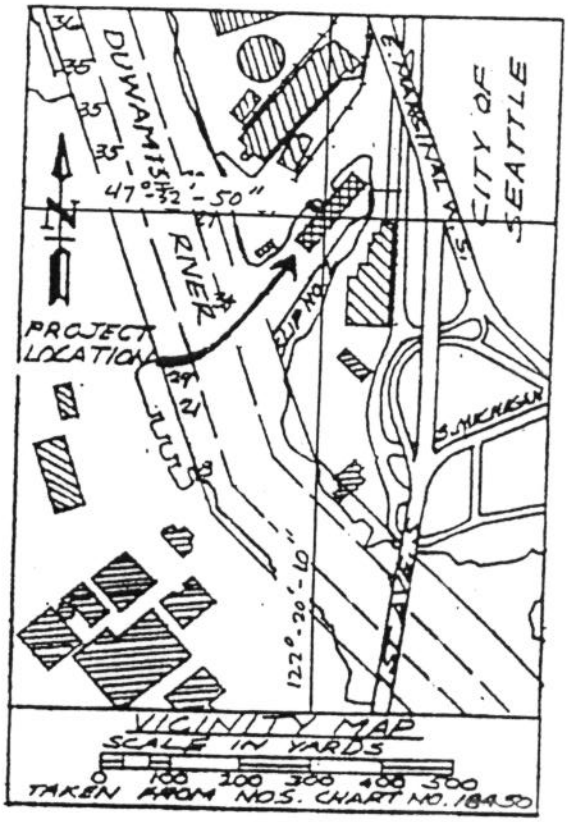
TO: File

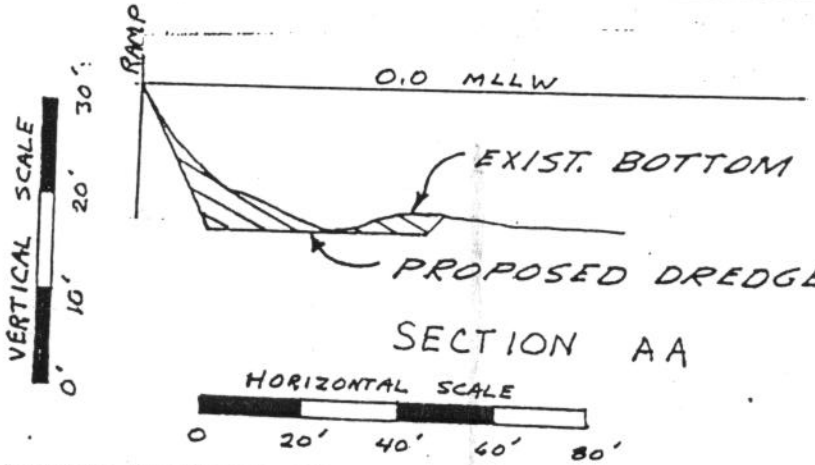
This memorandum to file will be provided to the Seattle District, U.S. Army Corps of Engineers, to be attached to the multi-agency signed memorandum (same subject) clarifying EPA's position.

Information available on sediment testing using the amphipod *Rhepoxynius abronius* throughout Puget Sound has indicated that mortalities less than 25 percent (even though statistically significant) fall within a normal background range (Pastorok *et al*, 1989). This range has been considered to constitute an "acceptable adverse" condition. Accordingly, EPA concurs that the 23 percent mortality in the test (compared with the response in the Control/Reference sediment) for the Lone Star Northwest material does not constitute a "failure." The project sediments are therefore judged to be suitable for unconfined disposal at the PSDDA disposal sites.

The language regarding interpretation of biological testing conducted under the small project option is not clear with regard to use of the "single hit rule." EPA believes that clarification of the small project test interpretation is necessary. Accordingly, we do not accept the "single hit rule" as definitive justification for application to all small projects at this time. Additional discussions should occur between the PSDDA agencies on this issue.







SECTION AA

PURPOSE: PREVENT GROUNDING OF BARGES

DATUM MLLW = 0.0' (N.O.S. DATUM)

ADJACENT PROPERTY OWNERS:

(1) JAMES HARDY GYPSUM

(2) REIDEL INTERNATIONAL

OYB-2-013065

PROPOSED DREDGING & DISPOSAL

IN DUWAMISH RIVER, ELLIOTT BAY, PUGET SOUND

AT SEATTLE

COUNTY OF KING STATE WA

APPLICATION BY LONE STAR NORTHWEST

SHEET 1 OF 2 DATE 11/28/89

Note: Initially clamshell dredge approximately 1600 cubic yards of sediments with disposal at the Elliott Bay disposal site (PSDDA SITE).

Annually, thereafter for a total of 10 years, dredge up to 1000 cubic yards, as necessary to maintain navigation depths, and dispose of the sediments in the same location approved for initial dredging.

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PROPOSED DREDGING & DISPOSAL

IN DUWAMISH RIVER, ELLIOTT BAY, PUGET SOUND

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SHEET 2 OF 2 DATE 11/28/89

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