CENPS-OP-DMMO

MEMORANDUM FOR RECORD

15 August 1994

SUBJECT: DETERMINATION OF THE SUITABILITY OF DREDGED MATERIAL TESTED UNDER GRAYS HARBOR/WILLAPA INTERIM EVALUATION PROCEDURES FOR THE PORT OF GRAYS HARBOR TERMINAL 1 PROJECT WITH PROPOSED DISPOSAL AT THE SOUTH JETTY OR POINT CHEHALIS ESTUARINE OPEN-WATER DISPOSAL SITES.

1. The Port of Grays Harbor proposes to maintenance dredge up to 25,000 cubic yards of sediments from its Terminal 1 facility. The following summary reflects the consensus decision of the agencies with jurisdiction (Corps of Engineers, Department of Ecology, Department of Natural Resources[1] and the Environmental Protection Agency) on the acceptability of the sampling plan and all relevant test data to make a determination of suitability for the disposal of the material at the South Jetty or Point Chehalis open-water disposal sites.

2. The ranking for the project area is "low-moderate", based on the guidance provided in the "Interim Evaluation Guidelines for Testing Sediments Proposed for Dredging from Regulated Projects in Grays Harbor and Willapa Bay".

3. Sampling and testing for this project was undertaken as part of a study to determine sediment quality prior to leasing the Terminal 1 facility. While not undertaken specifically for a proposed dredging project, the sampling was conducted in accordance with criteria set forth in the Interim Guidelines. A combined sampling and analysis plan and sediment characterization report were submitted to the PSDDA agencies on 28 April 1994. Sampling for this project was undertaken on 3 February 1994.

4. Seven sampling stations were characterized as a part of this project. Due to the high energy of the area and the homogenous nature of the sediment, the agencies have determined that grab samples are adequate for sediment characterization in the vicinity of Terminal 1. Samples were not composited, and seven analyses were performed.

5. The chemistry data indicated there were no detected exceedances of the PSDDA screening levels (SL) for any of the seven samples. There were no detection limits above SL.

6. In addition to the suite of 58 chemicals of concern required under the Interim Guidelines, the sediment samples were also analyzed for butyltins. No exceedances of the PSDDA screening level for tributyltin was detected.

7. In summary, agency approved protocols and procedures were followed, and quality assurance, quality control guidelines specified by the Interim Guidelines were generally complied with. The data gathered were deemed sufficient and acceptable for regulatory decision-making under the Interim Guidelines for Grays Harbor/Willapa Bay area. Based on

the results of the chemical testing, the agencies concluded that up to 25,000 cubic yards of proposed dredged material are suitable for unconfined open-water disposal at an approved open-water disposal site.

7. This memorandum documents the suitability of proposed dredged sediments for disposal at a the Point Chehalis or South Jetty open-water disposal sites. This determination of suitability does not preclude the consideration of this material for an appropriate beneficial use. It does not constitute final agency approval of the 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.

Concur:

10/12/94
Date

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

10/12/94
Date

Stephanie Stirling
Stephanie Stirling
Seattle District Corps of Engineers

10/12/94
Date

Justine Barton
Justine Barton
Environmental Protection Agency, Region 10

10/12/94
Date

Sandra Manning
Sandra Manning
Washington Department of Ecology

Date

Deborah Lester[1]
Washington Department of Natural Resources

1. Project not reviewed: suitability determination deferred to other PSDDA agencies.

Copies Furnished:
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Tom Evans/Port of Grays Harbor
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DMMO file

DAIS SUMMARY REPORTS

Report File: w:\daisvb\output\sum_pght2092_001.txt
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DAIS Stations Summary Report
05/11/2007
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Survey: Grays Harbor, Port of, T2, DY94
Tracking Number: PGHT21AF092

Sampling Station	Latitude	Longitude	Station Name
1	46°57' 54.04"	123° 51' 19.19"	Null
2	46°57' 53.07"	123° 51' 16.82"	Null
3	46°57' 51.73"	123° 51' 13.71"	Null
4	46°57' 50.92"	123° 51' 12.65"	Null
5	46°57' 50.84"	123° 51' 13.65"	Null
6	46°57' 50.30"	123° 51' 10.15"	Null
7	46°57' 49.49"	123° 51' 07.36"	Null
8	46°57' 49.14"	123° 51' 07.48"	Null
9	46°57' 49.24"	123° 51' 09.08"	Null
10	46°57' 48.33"	123° 51' 06.57"	Null
11	46°57' 49.43"	123° 51' 11.25"	Null
12	46°57' 47.62"	123° 51' 07.10"	Null
13	46°57' 47.22"	123° 51' 07.37"	Null
14	46°57' 46.56"	123° 51' 08.05"	Null
15	46°57' 45.70"	123° 51' 05.39"	Null
16	47°00' 21.20"	124° 05' 47.20"	GHS7 REF
17	48°23' 00.00"	122° 40' 00.00"	West Beach

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DAIS Lab Samples Summary Report
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Survey: Grays Harbor, Port of, T2, DY94
Tracking Number: PGHT21AF092

Sample Id	Alias	Date	Sub Area	Rank	Sampling Stations	Depths (ft)	Sampling Method
C1	PGHT2-C1	02/02/1994	1	M	1	0.0-0.2	VAN VEEN
			2	0.0-0.2			
			3	0.0-0.2			
			4	0.0-0.2			
			5	0.0-0.2			
C2	PGHT2-C2	02/02/1994	1	M	6	0.0-0.2	VAN VEEN
			7	0.0-0.2			
			8	0.0-0.2			
			9	0.0-0.2			
			10	0.0-0.2			
C3	PGHT2-C3	02/02/1994	1	M	11	0.0-0.2	VAN VEEN
			12	0.0-0.2			
			13	0.0-0.2			
			14	0.0-0.2			
			15	0.0-0.2			

K1 WB CONTROL 02/08/1994 17 0.0-0.2 AMPHIPOD DREDGE

R1 GHS7 REF 02/06/1994 16 0.0-0.2 VAN VEEN

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DAIS Grain Size Summary Report

05/11/2007
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Survey: Grays Harbor, Port of, T2, DY94
Tracking Number: PGHT21AF092

Analysis Method for Fine Fraction:
Grainsize Distribution Type:

Samples	Percent Gravel >=2000	Percent Sand 2000 to 62.5	Percent Silt 62.5 to 3.9	Percent Clay <3.9	Total	Percent Fines <62.5
C1/1	0.5	23.7	61.0	14.7	99.9	75.7
C2/1	0.0	15.0	51.8	16.8	83.6	68.6
C3/1	0.9	29.6	56.4	0.0	86.9	56.4
R1/1	0.6	67.1	22.7	0.0	90.4	22.7

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Survey Means (Includes only the first replicate for 'S' and 'C' Samples)
Percent Gravel: 0.5
Percent Sand: 22.8
Percent Silt: 56.4
Percent Clay: 10.5
Percent Fines: 66.9

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End of Report

DAIS Value Table - Dry Weight Basis

Project: PGHT21AF092

	units	C1		C2		C3	
SEDIMENT CONVENTIONALS							
Total Solids	%	42.5		41.2		45	
Volatile Solids	%	5.4		6.7		6.4	
Total Organic Carbon	%	2.7		2.5		2.1	
Ammonia	MG/KG	0.5		0.7		0.6	
Total Sulfides	MG/KG	28		19		48	
METALS							
Antimony (1)	MG/KG	0.54		0.33		0.36	
Arsenic	MG/KG	8.1		7.5		6.8	
Cadmium	MG/KG	0.14		0.14		0.14	
Copper	MG/KG	53		57		58	
Lead (1)	MG/KG	12		11		11	
Mercury	MG/KG	0.02	u	0.02	u	0.02	u
Nickel	MG/KG	26		30		32	
Silver	MG/KG	0.2		0.15		0.16	
Zinc	MG/KG	97		100		100	
LPAH							
2-Methylnaphthalene (1)	UG/KG	35	u	35	u	30	u
Acenaphthene (1)	UG/KG	35	u	35	u	30	u
Acenaphthylene (1)	UG/KG	35	u	35	u	30	u
Anthracene (1)	UG/KG	35	u	35	u	30	u
Fluorene (1)	UG/KG	35	u	35	u	30	u
Naphthalene (1)	UG/KG	35	u	35	u	30	u
Phenanthrene (1)	UG/KG	48		64		30	u
Total LPAH (1)	UG/KG	48		64		30	u
HPAH							
Benzo(a)anthracene (1)	UG/KG	35	u	35	u	30	u
Benzo(a)pyrene (1)	UG/KG	35	u	35	u	30	u
Benzo(g,h,i)perylene (1)	UG/KG	35	u	35	u	30	u
Benzofluoranthenes (1)	UG/KG	35	u	35	u	30	u
Chrysene (1)	UG/KG	35	u	35	u	30	u
Dibenzo(a,h)anthracene (1)	UG/KG	35	u	35	u	30	u
Fluoranthene	UG/KG	55		70		31	
Indeno(1,2,3-c,d)pyrene (1)	UG/KG	35	u	35	u	30	u
Pyrene	UG/KG	35	u	51		30	u
Total HPAH (1)	UG/KG	55		121		31	
CHLORINATED HYDROCARBONS							
1,2,4-Trichlorobenzene (1)	UG/KG	11	u	11	u	9.1	u
1,2-Dichlorobenzene (1)	UG/KG	4	u	4	u	4	u
1,3-Dichlorobenzene (3)	UG/KG	4	u	4	u	4	u
1,4-Dichlorobenzene (1)	UG/KG	4	u	4	u	4	u
Hexachlorobenzene	UG/KG	21	u	21	u	18	u
PHTHALATES							
Bis(2-ethylhexyl)phthalate (1)	UG/KG	40		40		30	u
Butyl benzyl phthalate (1)	UG/KG	35	u	35	u	30	u
Di-n-butyl phthalate (1)	UG/KG	35	u	35	u	30	u

Di-n-octyl phthalate (1)	UG/KG	35	u	35	u	30	u
Diethyl phthalate (1)	UG/KG	35	u	35	u	30	u
Dimethyl phthalate (1)	UG/KG	35	u	35	u	30	u
PHENOLS							
2 Methylphenol (1)	UG/KG	18	u	18	u	15	u
2,4-Dimethylphenol (1)	UG/KG	18	u	18	u	15	u
4 Methylphenol (1)	UG/KG	35	u	35	u	30	u
Pentachlorophenol	UG/KG	88	u	88	u	76	u
Phenol (1)	UG/KG	35	u	35	u	30	u
MISCELLANEOUS EXTRACTABLES							
Benzoic acid (1)	UG/KG	180	u	180	u	150	u
Benzyl alcohol (1)	UG/KG	21	u	21	u	18	u
Dibenzofuran (1)	UG/KG	35	u	35	u	30	u
Hexachlorobutadiene (1)	UG/KG	28	u	28	u	24	u
Hexachloroethane (1)	UG/KG	35	u	35	u	30	u
N-Nitrosodiphenylamine (1)	UG/KG	21	u	21	u	18	u
VOLATILE ORGANICS							
Ethylbenzene (1)	UG/KG	4	u	4	u	4	u
Tetrachloroethene (1)	UG/KG	4	u	4	u	4	u
Total Xylene (1)	UG/KG	4	u	4	u	4	u
Trichloroethene (1)	UG/KG	4	u	4	u	4	u
PESTICIDES AND PCBs							
Aldrin (3)	UG/KG	1.1	u	1	u	0.92	u
Chlordane (2)	UG/KG	1.1	u	1	u	0.92	u
Dieldrin (3)	UG/KG	1.4	u	1.4	u	1.2	u
Heptachlor (3)	UG/KG	1.1	u	1	u	0.92	u
Lindane (3)	UG/KG	1.1	u	1	u	0.92	u
Total DDT	UG/KG	3.5	u	3.5	u	3	u
Total PCBs	UG/KG	71	u	70	u	61	u
ORGANOMETALLICS							
Tributyltin (porewater) (2)	UG/L	-		-		-	

A dash indicates that no data exists for this analyte in DAIS

(1) = No BT exists (2) = No ML exists (3) = No BT or ML exists

END OF REPORT

DAIS DIOXIN TEC REPORT

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Survey: Grays Harbor, Port of, T2, DY94
Tracking Number: PGHT21AF092

Sample	Congener/Isomer	Conc. (ng/kg)	Toxic Equiv. Factor (TEF)	Toxic Equiv. Conc. (TEC)
	DIOXINS			
C1/1	2,3,7,8-TCDD	1.9	1	1.9
	1,2,3,7,8-PeCDD	2.2	1	2.2
	1,2,3,4,7,8-HxCDD	0.5 u	0.1	0.025
	1,2,3,6,7,8-HxCDD	3.9	0.1	0.39
	1,2,3,7,8,9-HxCDD	6	0.1	0.6
	1,2,3,4,6,7,8-HpCDD	56	0.01	0.56
	OCDD	360	0.0003	0.108
			Subtotal for Dioxins:	5.783
	FURANS			
	2,3,4,7,8-PeCDF	0.67 u	0.3	0.1005
	2,3,7,8-TCDF	1.7	0.1	0.17
	1,2,3,4,7,8-HxCDF	0.75 u	0.1	0.0375
	1,2,3,6,7,8-HxCDF	0.66 u	0.1	0.033
	2,3,4,6,7,8-HxCDF	0.95	0.1	0.095
	1,2,3,7,8,9-HxCDF	0.58 u	0.1	0.029
	1,2,3,7,8-PeCDF	9.9 u	0.03	0.1485
	1,2,3,4,6,7,8-HpCDF	12	0.01	0.12
	1,2,3,4,7,8,9-HpCDF	0.72 u	0.01	0.0036
	OCDF	28	0.0003	0.0084
			Subtotal for Furans:	0.7455

Grand Total for Dioxins & Furans: 6.5285

NOTE: All concentrations with a qualifier of "u"
have been divided by 2.

TOTAL ORGANIC CARBON

Sample	Analyte	Conc.(%)
C1/1	Total Organic Carbon	2.7
C2/1	Total Organic Carbon	2.5
C3/1	Total Organic Carbon	2.1
R1/1	Total Organic Carbon	1.3

End of Report