

## MEMORANDUM FOR RECORD

SUBJECT: RECENCY/FREQUENCY DETERMINATION ON THE SUITABILITY OF DREDGED MATERIAL PROPOSED FOR MAINTENANCE DREDGING AT THE TOKE POINT ENTRANCE CHANNEL (CENWS-OD-TS-NS-3 / 98-2-01349) FOR DISPOSAL AT THE GOOSE POINT OPEN-WATER ESTUARINE SITE.

1. The U.S. Army Corps of Engineers is proposing a modification to the existing Bay Center maintenance dredging<sup>1</sup> contract (DACW67-01-C-0020) to maintenance dredge approximately 19,000 cubic yards of sediments from the Toke Point Marina entrance channel, Willapa Harbor, Washington during late August/September 2002 under DMMP frequency/recency guidelines. The authorized project depth is -15 feet deep at Mean Lower Low Water (MLLW), and according to a recently completed condition survey (April 10, 2002) the controlling depth is currently at approximately 6 feet MLLW.
2. **Background and Previous Dredging and Testing History**. Maintenance dredging is currently ongoing under a contract with American Construction at Bay Center in Willapa Harbor, and is expected to be completed on or around 25 August 2002. The contract for that dredging is being modified to include clamshell maintenance dredging at the Toke Point Entrance Channel (see enclosure 1 for dredging footprint layout). The estimated dredge volume is 19,000 cubic yards, which includes allowable overdepth. The estimated time to complete the dredging of the entrance channel at Toke Point is 3-4 weeks<sup>2</sup>.
3. The federal project and marina (Port of Willapa Harbor) were previously maintenance dredged in 1991 and in 1998/1999 under joint public notice number CENWS-OD-TS-NS-03 / 98-01349. Maintenance dredging is required at a frequency of every 3-5 years. In addition, since then the WDFW upgraded their boat launch ramp at Toke Point and for mitigation breached the Port's rubble stone breakwater at the marina.
4. The Toke Point marina (ranked moderate) was characterized in 1991 (enclosure 2: SDM dated 11 November 1991) under the PSDDA program guidelines and was subsequently recharacterized in 1998 (enclosure 3: SDM dated 29 May 1998) along with the federal channel (ranked low) under the Grays Harbor/Willapa Bay Manual guidelines. Therefore, the frequency guidelines have been met with two sequential testing rounds having been performed at the marina, which is a worse case analysis for the adjacent federal channel, which was only characterized in 1998. The recency guidelines based on the 1998 testing conducted at Toke Point are March 2003 for the moderate ranked marina and March 2005 for the low ranked federal channel.

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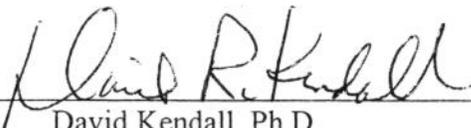
1 Reference: WDOE, WQC/WQM: Order #CENWS-03/98-01349 dated 23 July 1998.

2 Hiram Arden coordinated and confirmed the proposed dredging schedule at the Toke Point Entrance channel on 12 August 02, with Mr. Bob Burkle, WDFW. WDFW has no objection to the proposed modification to perform dredging at Toke Point provided no dredging occurs between 26-27 August 02, during WDFW's annual update fishery sampling.

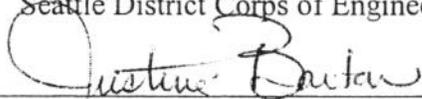
5. The agencies with jurisdiction over dredging and disposal (Corps of Engineers, Department of Ecology, Department of Natural Resources and the Environmental Protection Agency) reviewed the previous testing summarized in 1991 and 1998 suitability determinations (see Enclosures 2 and 3), and have determined that no testing is required for the proposed federal channel maintenance dredging of 19,000 cy at the Toke Point channel in 2002.
  
6. This memorandum documents the suitability of proposed dredged sediments for disposal at a Willapa Bay estuarine open-water disposal site. The 19,000 cubic yards of dredged material proposed for dredging during late August/September 2002 from the Toke Point entrance channel is suitable for open-water disposal at the Goose Point estuarine disposal site. 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.

Concur:

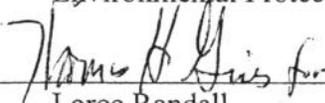
8/13/02  
Date

  
David Kendall, Ph.D  
Seattle District Corps of Engineers

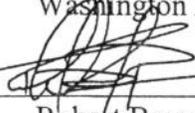
8/13/02  
Date

  
Justine Barton  
Environmental Protection Agency, Region 10

8/13/02  
Date

  
Loree Randall  
Washington Department of Ecology

8/13/02  
Date

  
Robert Brenner  
Washington Department of Natural Resources

Enclosures:

Copies Furnished:

DMMO file

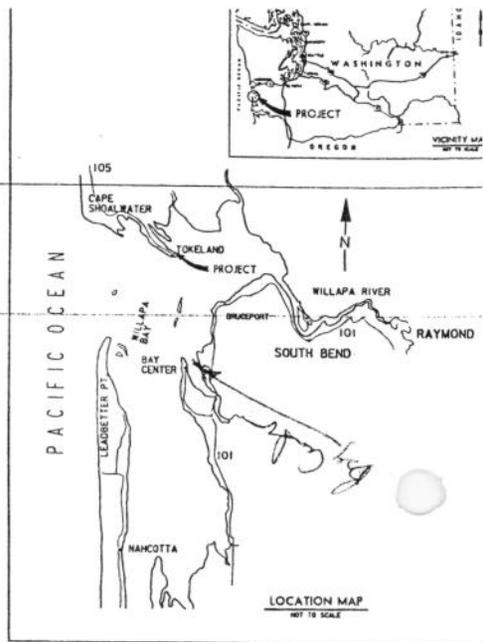
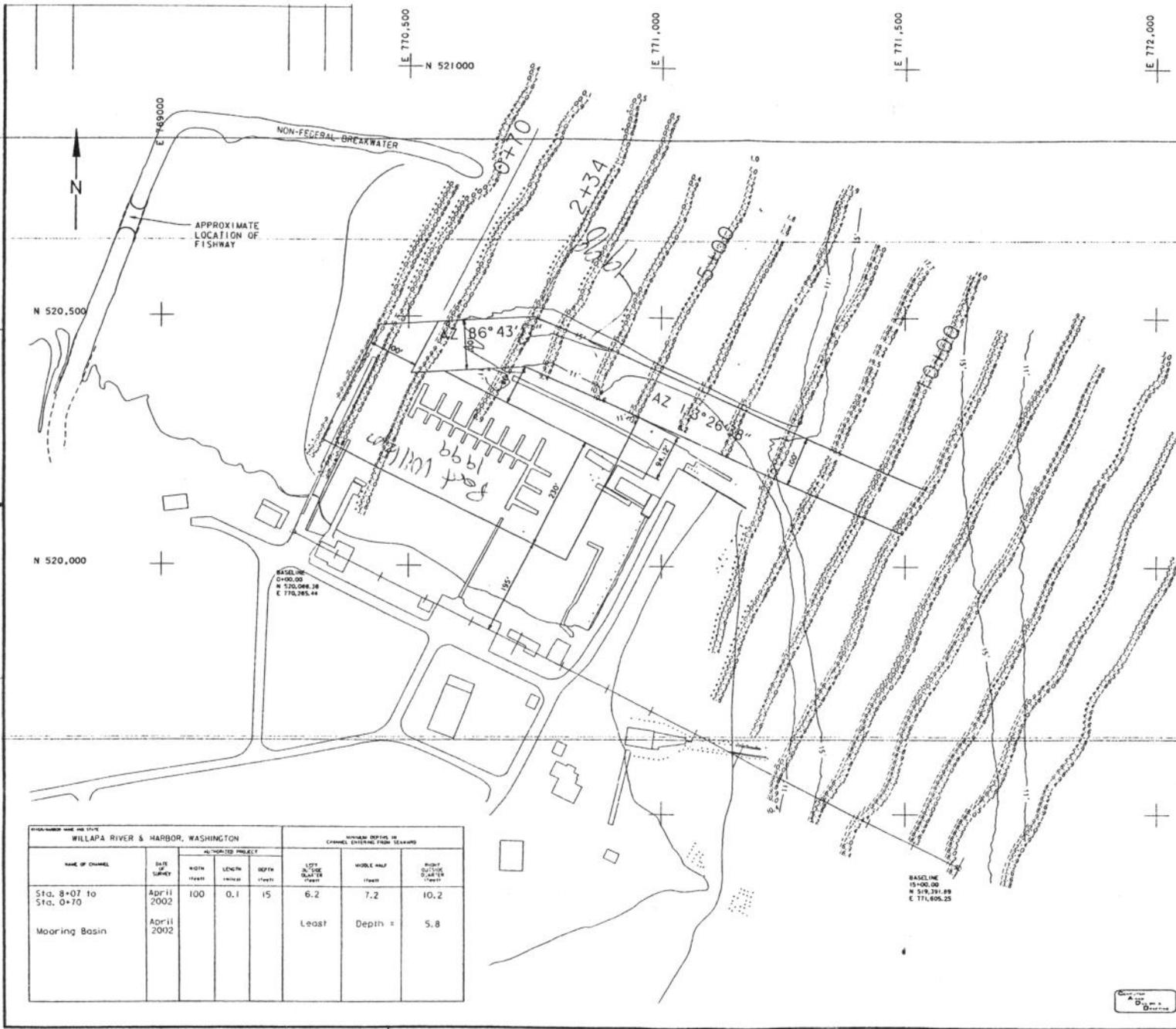
Hiram Arden, Corps (OD-TS)

George Hart, Corps (PM-PL-ER)

Justine Barton, EPA

Loree Randall, Ecology

Robert Brenner, DNR



NOTES:

1. SOUNDINGS AND ELEVATIONS ARE IN FEET AND REFER TO THE PLANE OF MEAN LOWER LOW WATER, NOS.
2. HORIZONTAL CONTROL BASED ON NAD83/91.
3. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
4. BASE MAP PREPARED FROM AERIAL PHOTOGRAPHY, FLOWN 10 SEP 1996, AND USGS QUADS BY SURVEY BRANCH, SEATTLE DISTRICT, CORPS OF ENGINEERS.
5. MAP BASED ON LAMBERT GRID PROJECTION FOR WASHINGTON SOUTH ZONE, NAD83.
6. CHANNEL ALIGNMENT SHOWN IS ALIGNMENT 1998.
7. SOUNDINGS TAKEN ABOVE THE DATUM PLANE ARE PREFIXED WITH (+) SIGN.
8. CONDITION SURVEY: 9, 10 APRIL 2002 (SURVEY FILE: 2002-W1-007)

WILLAPA RIVER & HARBOR, WASHINGTON				WILKINSON DIVISION, 10 CHANNEL, EXTENDING FROM SEWARD		
AUTHORIZED PROJECT				WILKINSON DIVISION, 10 CHANNEL, EXTENDING FROM SEWARD		
NAME OF CHANNEL	DATE OF SURVEY	WIDTH (feet)	LENGTH (miles)	DEPTH (feet)	LEFT BANK (feet)	RIGHT BANK (feet)
Sta. 8+07 to Sta. 0+70	April 2002	100	0.1	15	6.2	10.2
Mooring Basin	April 2002				Least	Depth = 5.8

U.S. ARMY ENGINEER DISTRICT, SEATTLE CORPS OF ENGINEERS SEATTLE, WASHINGTON	
<b>TOKE POINT MOORING BASIN</b>	
PREPARED BY: <b>HIRAM T. ARDEN</b> PROJECT NUMBER: _____ DATE: _____	CONDITION: <b>9, 10 APR 2002</b>
CHECKED BY: <b>ROBERT M. PARRY</b> DATE: _____	WILLAPA RIVER & HARBOR, WASHINGTON
APPROVED BY: <b>BRIAN R. APPLEBURY, P.E.</b> DATE: 31 JUL 2002	SHEET: <b>E-4-1-154</b> SCALE: 1" = 100' SHEET: 1 OF 1

Enclosure 1



## MEMORANDUM FOR RECORD

11 November 1991

**SUBJECT:** DECISION ON THE SUITABILITY OF DREDGED MATERIAL TESTED FOR THE PORT OF WILLAPA HARBOR'S TOKELAND MARINA AT TOKEPOINT, WILLAPA HARBOR, WASHINGTON (OYB-2-014585) TO BE DISPOSED OF AT THE CAPE SHOALWATER OPEN WATER DISPOSAL SITE.

1. The following summary reflects the consensus decision of the Agencies with jurisdiction over the dredging and disposal of dredged material (Corps, Department of Ecology, Department of Natural Resources, and the Environmental Protection Agency) on the acceptability of the sampling plan and all relevant test data (i.e., contained in Chemistry Data Report (North Creek Analytical) received by DMMO on October 14, 1991, and Bioassay Report (Invert-Aid) received by DMMO on October 31, 1991) to make a determination of suitability of the 55,000 cubic yards of material proposed for dredging from the Port of Willapa Harbor's Tokeland Marina at Tokeland, Washington for disposal at the Cape Shoalwater open-water disposal site.
2. The Agency (Corps, Ecology, DNR, EPA) approved sampling and testing plan was followed, and quality assurance/quality control guidelines specified by PSEP and the PSSDA program were generally complied with. The data gathered were deemed sufficient and acceptable for regulatory decision making.
3. Chemistry data from the single composited sample indicated there were three detected chemical of concern exceedances of the current PSSDA screening level (SL) guideline values for 4-methylphenol (1000 ppb), phenol (340 ppb), and pyrene (1000 ppb), as well as detection limit exceedances for a number of chemicals noted in enclosure 1. Screening levels 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 Willapa Harbor only as a qualitative yardstick to evaluate chemical concentration levels measured in sediments. Because 4-methylphenol was quantified close to the PSSDA maximum level (ML = 1200 ppb), and due to the multiple exceedances of screening level of various organic chemicals, the Agencies unanimous decision was that bioassay testing of the dredged material would be necessary in order to make a decision on its suitability for unconfined open-water disposal.
4. A review of the bioassay results indicated that they were adequate for regulatory decision making. The results indicated that the amphipod, Neanthes, and Microtox bioassays passed the PSSDA nondispersive guidelines for unconfined open-water disposal, although the echinoderm sediment larval bioassay showed a "hit" under the two hit guidelines (28 percent absolute combined mortality+abnormality over seawater control). The test sediment was interpreted relative to the seawater control (conservative approach) for the echinoderm sediment larval bioassay, because the reference sample outperformed the seawater control (reference = 198.4 versus seawater control = 174.4). Administratively the reference sediment mortality should be equal to or greater than the seawater control mortality in order to allow test interpretation. Comparing the test sediment combined mortality+abnormality count (125.6) with the seawater control count (174.4) results in an absolute mortality+abnormality of 28 percent, which is statistically significant. Therefore, the test results for this bioassay would fit a "hit" under the two

Enclosure 2

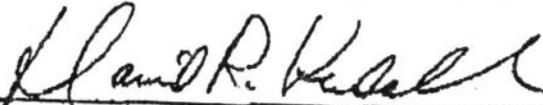
hit rule, and since there are no other hits among the three other bioassays, the dredged material passes the disposal guidelines (as applied under the PSDDA Program) and is suitable for unconfined open-water disposal.

5. Based on the above discussion of chemistry and bioassay results for the Port of Willapa Harbor's Tokeland Marina maintenance dredging project, the Agencies concluded that all the material (55,000 cubic yards) is suitable for disposal at the Cape Shoalwater open-water disposal site.

Concurs:

11/12/91

Date



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

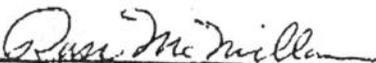
Date

Justine Smith/John Malek  
Environmental Protection Agency  
Region X

*EPA's Concurred  
11/11/91  
signature  
will sign when she  
returns from vacation*

11/15/91

Date



Russ McMillan  
Washington Department of Ecology

11/12/91

Date



Gene Revelas  
Washington Department of Natural Resources

Enclosures

Copies Furnished:

- Frank Urabeck/Steve Babcock, Corps
- Dick Berg, Corps
- John Malek/Justine Smith, EPA
- Russ McMillan, Ecology
- Gene Revelas, DNR

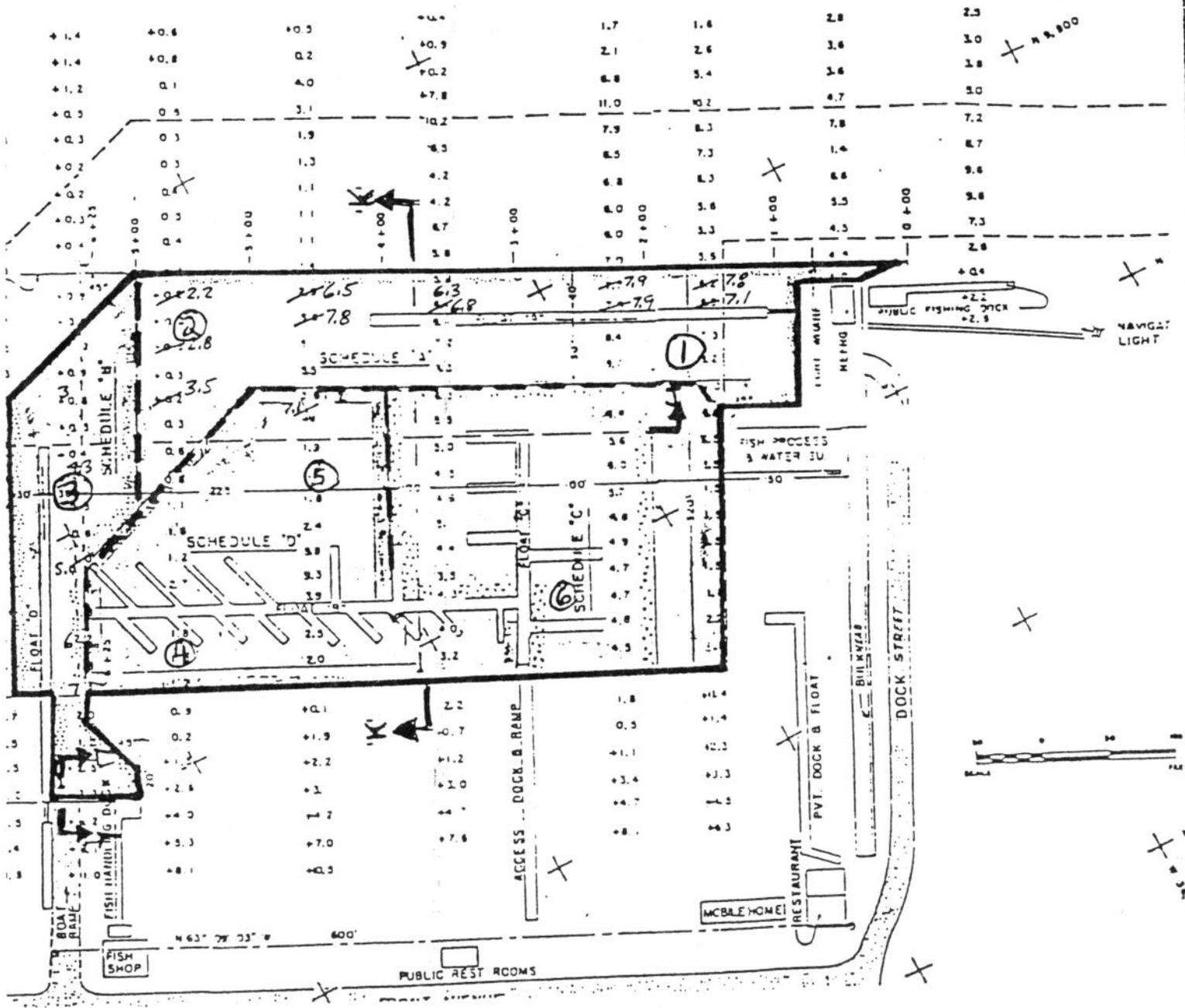
DMGNO File

CHEMICAL (ppb)	Guidelines SL/BT/ML	TEST SAMPLE	CONTROL	REFERENCE
4-methylphenol	120/1200	1000		
phenol	120/876/1200	340		
pyrene	430/7300	1000		
2-methylphenol	20/72	25u		
1,2-dichlorobenzene	19/37/350	25u		
1,2,4-trichlorobenzene	13/64	25u		
hexachlorobenzene	23/168/230	25u		
bulk ammonia (mg/kg-dry)	none	120		
total sulfides (mg/kg-dry)	none	680		
BIOASSYS: <u>Rhepoxynius abronius</u> (% mortality)		10	0	5
<u>Neanthes arenacedentata</u> (% mortality)		2	2	6
<u>Dendraster excentricus</u> (% combined mortality)		28*	0	0**
Microtox (toxic/nontoxic)		nontoxic		
TEST OUTCOME: PASS/FAIL		PASS		

\* single hit under two hit rule

\*\* reference mortality lower than seawater control, and therefore administratively reset to 0 for interpretation purposes.

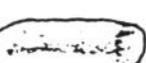




PURPOSE: Routine Maintenance Dredging

DATUM MLLW

ADJACENT PROPERTY OWNERS:

- ①  Dredging to -15' (Note: Est. Ave. Existing depth  $\approx$  -7' MLLW)
- ②  Dredging to -11' (Note: Est. Ave. Existing depth  $\approx$  -6' MLLW)

IN Toke Point Marina  
 AT Willapa Harbor, WA.  
 COUNTY OF Pacific STATE WA  
 APPLICATION BY Port of Willapa Harb  
 SHEET 1 OF 2 DATE 11 FEB 91



29 May 1998

**MEMORANDUM FOR RECORD**

**SUBJECT: DETERMINATION OF THE SUITABILITY OF DREDGED MATERIAL TESTED UNDER DMMP EVALUATION PROCEDURES FOR TOKELAND MARINA ENTRANCE CHANNEL AND MOORING BASIN, WILLAPA HARBOR, FOR DISPOSAL AT THE GOOSE POINT OR CAPE SHOALWATER OPEN WATER DISPOSAL SITES.**

1. The Corps of Engineers and the Port of Willapa Harbor propose to dredge approximately 76,000 cubic yards from the Tokeland Marina Entrance Channel and Mooring Basin at Tokeland WA. The following summary reflects the DMMP 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 disposal of the material at the Willapa Bay Goose Point or Cape Shoalwater open-water disposal sites.

2. Sediments in the entrance channel were ranked "low" based on the chemical testing conducted in 1993, the lack of potential chemical sources and the homogeneity of the sediments. Sediments in the mooring basin were ranked "moderate."

3. A sampling and analysis plan was completed for this project and approved by the DMMP agencies on 21 February 1998. Sampling for this project was performed on 31 March 1998.

SAP Approval Date	6 March 1998
Sampling dates	31 March 1998
Data Report submittal date	20 May 1998
Recency determination dates	31 March 2003 (moderate) 31 March 2005 (low)

4. Four DMMUs were characterized, with a total of 16 samples taken. Due to the homogenous nature of the material, grab samples were considered sufficient for characterization of the material. DMMU C-1 was comprised of five samples taken from the entrance channel. DMMU C-2 was comprised of 3 samples from the marina area adjacent to the entrance channel. DMMU C-3 was comprised of 4 samples from the southeast section of the marina and DMMU C-4 was comprised of 5 samples from the northwest section of the marina.

5. There were no exceedances of Dredging Year 1998 DMMP screening levels. There were no detection limits above screening level.

Enclosure 3

6. In summary, the DMMP-approved sampling and analysis plan was followed, and quality assurance, quality control guidelines specified by the DMMP agencies were followed. The data gathered were deemed sufficient and acceptable for Regulatory decision-making under the DMMP program. Based on the results of the chemical testing, the consensus determination of the DMMP agencies is that all 76,000 cubic yards of sediment proposed to be dredged from the Tokeland Marina Entrance Channel and Mooring Basin at Tokeland WA is suitable for disposal at a Willapa Bay open-water disposal site.

7. The chemical analytical data were also compared to the State Sediment Management Standards, including the analysis of chromium. No chemicals exceeded SMS criteria. One chemical, hexachlorobenzene had TOC-normalized detection limits above the criteria. Using guidance from the DMMP agencies, the dry weight detection limits (17-20 $\mu$ g/kg) were compared to the draft 1996 SMS detection limit for hexachlorobenzene (22 $\mu$ g/kg dry weight) and all detection limits were achieved. Based on this information, the DMMP agencies determined that the sediments from the Tokeland Marina Entrance Channel and Mooring Basin are chemically suitable for use in beneficial uses projects. Sediment conventional data is included in Table 1.

8. This memorandum documents the suitability of proposed dredged sediments for disposal at a Willapa Bay open water disposal site, and the chemical suitability of the material for proposed beneficial uses. It does not constitute final agency approval of the 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:**

6/4/98  
Date

Stephanie Stirling  
Stephanie Stirling  
Seattle District Corps of Engineers

4 June 98  
Date

John Malek  
for Justine Barton  
Environmental Protection Agency, Region 10

6/8/98  
Date

Richard L. Vining  
Rick Vining  
Washington Department of Ecology

04 JUN 98  
Date

Ted A. Benson  
Ted Benson  
WA Department of Natural Resources

**Table 1. Sediment Conventional Parameters**

<b>DMMU</b>	<b>C-1</b>	<b>C-2</b>	<b>C-3</b>	<b>C-4</b>
Total Solids (%)	42.2	35.6	36.4	26.2
Total Organic Carbon (%)	2.7	3.2	2.7	2.8
Bulk Ammonia (mg/kg)	17	25	27	29
Total Sulfides (mg/kg)	20U	28	22U	22U
Grain-size				
gravel	2.6	0.6	1.4	0.9
sand	31.7	9.3	8.8	7.5
silt	38.6	57.6	57.3	57.5
clay	27	32.8	32.6	34.2

Copies Furnished:

EPA/Justine Barton

DOE/Rick Vining

DNR/Ted Benson

Sandy Browning/Striplin

Hiram Arden/OD-TS

Lauran Cole-Warner/ED-TB-ER

CENPS-OP-RG

DMMO file