

MEMORANDUM FOR: RECORD

October 19, 2012

SUBJECT: DETERMINATION REGARDING THE SUITABILITY OF EXPOSED SEDIMENT SURFACE RELATIVE TO WASHINGTON STATE ANTIDegradation COMPLIANCE AFTER PROPOSED REMOVAL OF WOOD DEBRIS FROM SIMPSON LUMBER, SHELTON, WA (NWS-2012-0666) EVALUATED UNDER SECTION 404 OF THE CLEAN WATER ACT FOR UPLAND REUSE DISPOSAL.

1. **Introduction.** This memorandum reflects the consensus determination of the Dredged Material Management Program (DMMP) agencies (U.S. Army Corps of Engineers, Washington Department of Ecology, Washington State Department of Natural Resources, and the Environmental Protection Agency) regarding the suitability of the exposed sediment surface after removal of up to 135 cubic yards (cy) of wood debris, and regarding the suitability of the wood debris recycling into mulch with respect to the MTCA method B cleanup level for unrestricted land use, which was coordinated with Mason County health jurisdiction and Ecology's Toxic Cleanup Program.
2. **Background.** Simpson Lumber is located in Oakland Bay, Puget Sound (Figure 1). Over the years of loading train cars from log rafts, bark and other woody debris has settled under the loading area. This woody debris accumulation is interfering with operations by delaying loading until tides are above +6 feet. Removal of approximately 135 cubic yards of woody debris is necessary in order to return operations to normal conditions. Dredged material is proposed to be disposed at an upland site and sorted for recycling into mulch and topsoil.
3. **Project Summary.** Table 1 includes project summary and tracking information.

Table 1. Project Summary

Project ranking	High
Proposed dredging volume	135 cy
Proposed dredging depth	-3 ft MLLW
SAP received	8/17/2012
SAP approved	8/23/2012
Sampling dates	8/28/2012
Final data report received	10/15/2012 ??
DAIS Tracking number	SIMPS-1-A-O-327
USACE Permit Application Number	NWS-2012-0666
Recency Determination (rank = 2 years)	August 2014

4. **Project Ranking and Sampling Requirements.** This project was ranked "high" by the DMMP agencies according to the guidelines set out in the User's Manual (DMMP, 2008a) and as a result of the high dioxin concentrations found throughout Oakland Bay. Analysis of the woody debris

planned for removal was required to determine if the material would comply with the Washington State antidegradation policy and to determine if the material would pass the upland unrestricted reuse threshold for dioxin.

5. **Sampling.** Sampling took place on August 28, 2012 using a shovel to collect a single surface material sample. Figure 2 shows the location of the sample within the dredge area. There were no deviations from the sampling protocols in the approved SAP.
6. **Chemical Analysis.** The approved sampling and analysis plan (Inouye and van der Elst, 2012) was followed, with the exceptions noted below, and quality control guidelines specified by the DMMP program were generally met.

All project and method defined quality criteria were met during chemical analysis, except as noted below.

1. Sediment Reference Material NIST1944 was analyzed instead of the Puget Sound SRM.
2. The measured value for 2,3,7,8-TCDD was more than 20% above the reference value range for NIST SRM1944. This target was been detected in the samples, but below the calibrated range. In addition, quantification standards have been verified against two independent sources including NIST reference solution 1614. 2,3,7,8-TCDD results are not expected to be biased.
3. The measured value for 2,3,4,7,8-PeCDF is more than 20% above the reference range for NIST SRM1944. However, this target co-elutes with 3 other non 2,3,7,8-substituted PeCDF isomers, and the measured value is expected to exceed the reference value for the single isomer.

No negative impacts were expected due to these deviations. The data gathered were deemed sufficient and acceptable for regulatory decision-making under the DMMP program. Dioxin results are presented in Table 2.

7. **Sediment Exposed by Dredging.** The sediment to be exposed by dredging must either meet the State of Washington Sediment Quality Standards (SQS) (Ecology, 1995) or the State's antidegradation standard (DMMP, 2008b). However, there are currently no established SQS guidelines for dioxin. The DMMP agencies agreed to use the established DMMP upper screening value of 10 ppb TEQ to evaluate anti-degradation.

Dioxin concentrations for both the < 0.5 inch and > 0.5 inch samples were below 10 ppb TEQ.

As demonstrated by the results of the above analysis, the sediment to be exposed by dredging is not considered to be degraded relative to the currently exposed sediment surface. On this basis the DMMP agencies conclude that this project is in compliance with the Washington State anti-degradation policy, and no additional testing of the sediment to be exposed by dredging is required.

8. **Suitability of Woody Debris.** The Mason County health jurisdiction coordinated with Ecology's Toxic Cleanup Program to concur that in order to be eligible for recycling, the woody debris material must meet the MTCA method B cleanup level for unrestricted land use for dioxin of 11 ppb TEQ. The sediment sample was divided into the fine portion (<0.5 inch) and coarse portion (>0.5 inch) to represent the fractions that are likely to be left at the Simpson upland properties during the drying and sorting process, and recycled into topsoil and mulch, respectively. Dioxin concentrations for

both fractions were below the MTCA value. Therefore, all 135 cy of woody debris material is acceptable for unrestricted upland reuse and recycling.

9. Conclusion.

In summary, based on the results of the previously described testing, the DMMP agencies conclude that **all 135 cy of woody debris material is suitable** for upland disposal and recycling according to the MTCA method B unrestricted land use dioxin cleanup level. In addition, the DMMP agencies conclude that the project is **in compliance** with the Washington State anti-degradation standard.

This suitability determination does ***not*** constitute final agency approval of the project. During the public comment period that 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.

A pre-dredge meeting with DNR, Ecology and the Corps of Engineers is required at least 7 days prior to dredging. A dredging quality control plan must be developed and submitted to the Regulatory Branch of the Seattle District Corps of Engineers at least 7 days prior to the pre-dredge meeting. A DNR site use authorization must also be acquired.

10. References

DMMP, 2010. *Dredged Material Management Program New Interim Guidelines for Dioxins*. December 6, 2010.

DMMP, 2008a. *Dredged Material Evaluation and Disposal Procedures (Users Manual)*. Prepared by the Seattle District Dredged Material Management Office for the Dredged Material Management Program, July 2008.

DMMP, 2008b. *Quality of Post-Dredge Sediment Surfaces (Updated)*. A Clarification Paper Prepared by David Fox (USACE), Erika Hoffman (EPA) and Tom Gries (Ecology) for the Dredged Material Management Program, June 2008.

Ecology, 1995. *Sediment Management Standards – Chapter 173-204 WAC*. Washington State Department of Ecology, December 1995.

Inouye and van der Elst, 2012. *Sampling and Analysis Plan: Simpson Lumber*. August 2012

11. Agency Signatures.

The signed memo is on file in the Dredged Material Management Office.

Concur:

Date Kelsey van der Elst - Seattle District Corps of Engineers

Date Erika Hoffman - Environmental Protection Agency

Date Laura Inouye, Ph.D. - Washington Department of Ecology

Date Celia Barton - Washington State Department of Natural Resources

Copies furnished:

Tony Enslow, Simpson Lumber

Darren Habel, Seattle District Regulatory

DMMP signatories

Table 2. Dioxin data results

Congener	TEF	pg/g dry wt						pg TEQ/ g dry wt						
		whole		>0.5 inch		<0.5 inch		whole		>0.5 inch		<0.5 inch		
		pg/g DW	qualifier	pg/g DW	qualifier	pg/g DW	qualifier	pg/g DW	qualifier	pg/g DW	qualifier	pg/g DW	qualifier	
2,3,7,8-TCDD	1	0.29	U _{EMPC}	0.26	U	0.421	J	0.29	U	0.26	U	0.42		
1,2,3,7,8-PeCDD	1	2.02		1.11	J	1.86	J	2.02		1.11		1.86		
1,2,3,4,7,8-HxCDD	0.1	4.23		1.2	J	2.15	J	0.42		0.12		0.22		
1,2,3,6,7,8-HxCDD	0.1	10.2		7.27		11.8		1.02		0.73		1.18		
1,2,3,7,8,9-HxCDD	0.1	5.45		3.28	J	5.15	J	0.55		0.33		0.52		
1,2,3,4,6,7,8-HpCDD	0.01	203		138		217		2.03		1.38		2.17		
OCDD	0.0003	1540		1180		1860		0.46		0.35		0.56		
2,3,7,8-TCDF	0.1	1.56		0.894	J	1.39		0.16		0.09		0.14		
1,2,3,7,8-PeCDF	0.03	1.4	U _{EMPC}	0.991	J	1.34	J	0.04	U	0.03		0.04		
2,3,4,7,8-PeCDF	0.3	2.9		1.6	J	2.56	J	0.87		0.48		0.77		
1,2,3,4,7,8-HxCDF	0.1	4.5		3.75	J	6.36	J	0.45		0.38		0.64		
1,2,3,6,7,8-HxCDF	0.1	2.16		1.4	U _{EMPC}	2.45	J	0.22		0.14	U	0.25		
2,3,4,6,7,8-HxCDF	0.1	2.93		2.52	J	3.59	J	0.29		0.25		0.36		
1,2,3,7,8,9-HxCDF	0.1	1.4	U	0.58	U _{EMPC}	0.85	U _{EMPC}	0.14	U	0.06	U	0.09	U	
1,2,3,4,6,7,8-HpCDF	0.01	53.3		39.7		63.4		0.53		0.40		0.63		
1,2,3,4,7,8,9-HpCDF	0.01	3.25		2.02	J	3.55	J	0.03		0.02		0.04		
OCDF	0.0003	139		111		213		0.04		0.03		0.06		
								SUM TEQ	U = DL	9.56		6.15		9.92
								SUM TEQ	U=0.5 DL	9.42		5.92		9.88
								SUM TEQ	U=0	9.27		5.70		9.84

U_{EMPC} = undetected at the estimated maximum possible concentration

U = undetected at the EDL

J = estimated concentration

Figure 1. Area map showing project and disposal site locations.

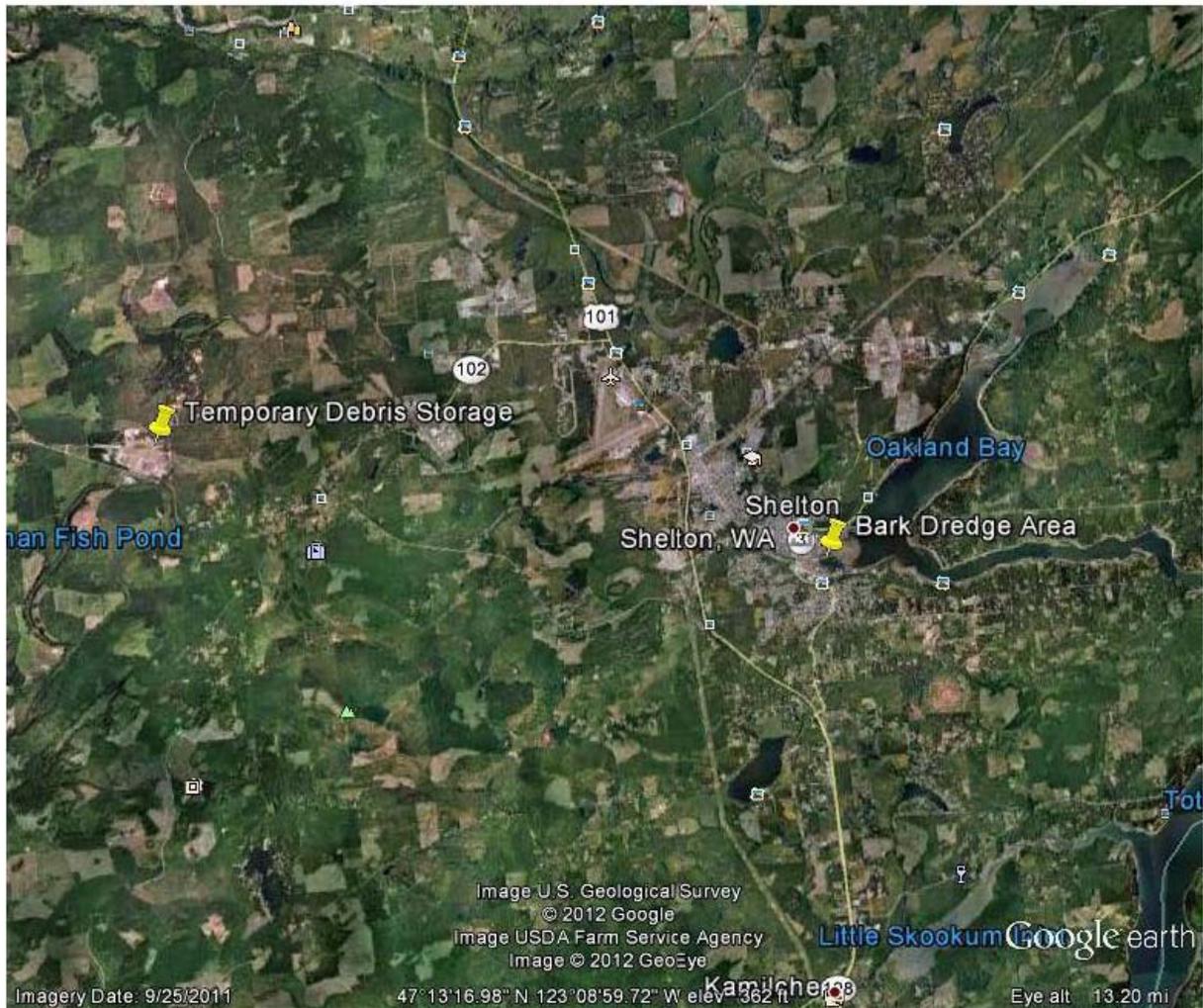


Figure 2. Location of sample at 47° 12' 33.72" N, 123° 05' 31.39" W.

