

Prepared by:  
Dredged Material Management Office  
Seattle District, US Army Corps of Engineers

**Memorandum for Record**

**August 30, 2023**

**Subject: Supplemental Suitability Determination Memorandum for the Driftwood Key Navigation Channel Maintenance Dredging, Hansville, Washington (NWS-2023-147).**

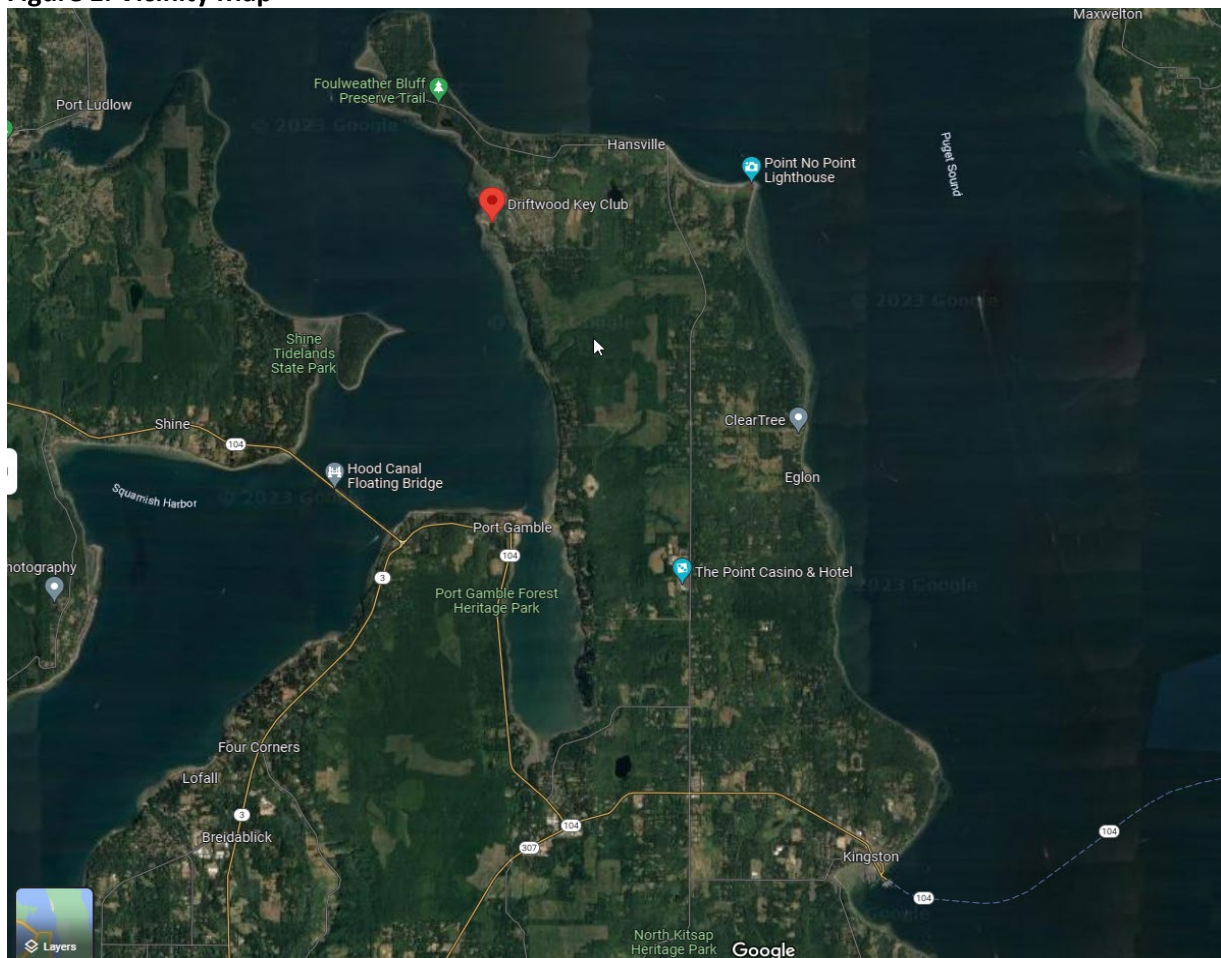
## Introduction

This supplemental suitability determination memorandum (SSDM) documents the consensus regarding the suitability of proposed project dredged material for disposal at an unconfined open-water disposal site, as determined by the Dredged Material Management Program (DMMP) agencies (U.S. Army Corps of Engineers, Washington Departments of Ecology and Natural Resources, and the U.S. Environmental Protection Agency).

## Project Description

The project is located in Coon Bay in Hansville, Washington (Figure 1). This SSDM supplements the SDM for the Driftwood Key inner bay, outer navigation channel, and previously dredged private dock areas adjacent to the main channel (DMMP, 2023). Additional samples were collected in the marina boat slips in inner Coon Bay to characterize this area for open-water disposal.

**Figure 1. Vicinity Map**



## Project Summary

Waterbody	Coon Bay / Hood Canal / Puget Sound
Water classification	Marine
Project rank	Low-Moderate
Total proposed dredging volume (cy)	Up to 2,000 from Coon Bay
Target proposed dredging depth	-8 ft MLLW
Max. proposed dredging depth (includes 1 ft overdepth allowance and 1 ft advanced maintenance)	-10 ft MLLW
Proposed disposal location(s)	Port Gardner open-water disposal site
Dredged Material Management Units (DMMUs): No. of stations	DMMU 4: 3 grabs; 1 composite sample from inner Coon Bay
DMMO tracking number	DWK1AF445
EIM Study ID	DWK21
USACE Regulatory Reference Number	NWS-2023-147
Sampling and Analysis Plan Addendum Submittal Date	April 19, 2023 (Anchor QEA, 2023a)
Sampling and Analysis Plan (SAP) Approval Date	April 20, 2023
Sampling Date(s)	May 9, 2023
Sediment Characterization Report Approval Date	August 22, 2023 (Anchor QEA, 2023b)
Testing Parameters	DMMP standard marine COCs and D/F
Biological Testing	Not required
Suitability Outcome	All material found suitable for open-water disposal
Recency Expiration Date (low-moderate = 6 years)	Coon Bay Area: May 2029
Antidegradation Assessment	In compliance

## Sampling and Analysis Description

Surface sediment samples were collected on shore at low tide on May 9, 2023 by Anchor QEA staff. A 2-inch diameter polycarbonate core was advanced 1-foot below mudline at each of the 3 stations (Figure 2). The 3 samples within the DMMU were subsequently composited at Analytical Resources, Inc. Laboratory in Tukwila, Washington to generate one analytical sample (PG-DFK-A,B,C).

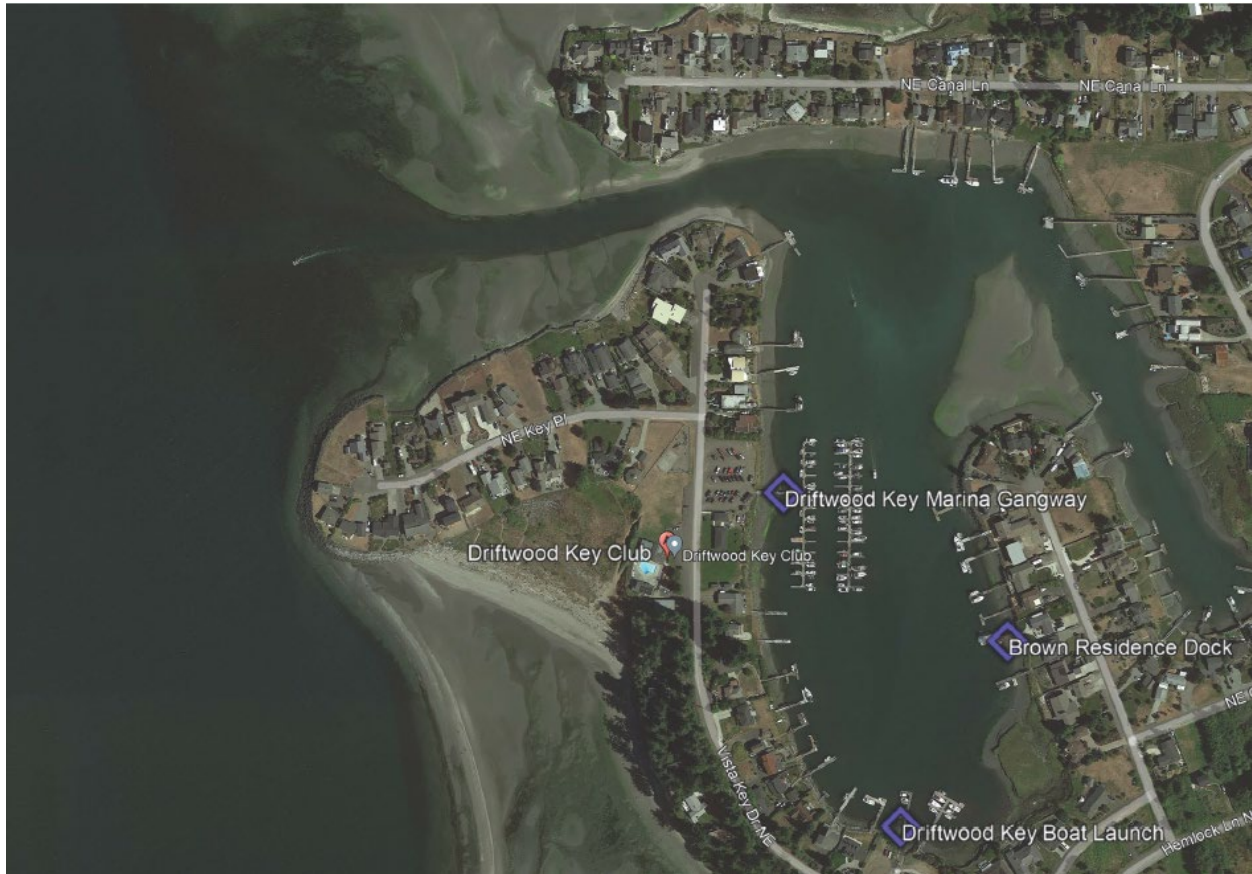
## Data Validation

The contractor indicated that a Stage 2B data validation was conducted, and that all data are usable as qualified.

## Analytical Testing Results

Table 1 summarizes the analytical results for the three DMMU composite samples collected in 2021 and the new composite sample from inner Coon Bay (PG-DFK-A,B,C) alongside the DMMP marine guidelines. No detected or non-detect exceedances of the marine screening levels occurred in sample PG-DFK-A,B,C.

The material in inner Coon Bay is mostly sand (80.6%) with fines (15.9%) and little gravel (3.4%). Total organic carbon (TOC) was low (0.4%).

**Figure 2. Inner Coon Bay Sampling Locations**

## DMMP Determinations

### Suitability Determination

Chemical concentrations in the inner Coon Bay composite sample were below the DMMP marine screening levels as discussed above. The DMMP agencies have concluded that up to 2,000 cy of characterized material from the Driftwood Key inner Coon Bay dock areas are suitable for open-water disposal at the Port Gardner non-dispersive disposal site. Removal of inner Coon Bay sediment is authorized until the recency expiration date of May 2029 as long as there are no significant changes to the project scope or new contaminant sources identified. The assessment of dredged material in the inner and outer navigation channel (which was also suitable) is detailed in the March 28, 2023 SDM (DMMP, 2023).

### Antidegradation Determination

The sediment to be exposed by dredging must either meet the State of Washington Sediment Management Standards (SMS) or the State's Antidegradation Standard (Ecology, 2013) as outlined by DMMP guidance (DMMP, 2008). Concentrations of all DMMP chemicals of concern were below the DMMP SLs. There is no reason to believe that a new exposed surface would be contaminated relative to

the overlying materials; therefore, this project is in compliance with the State of Washington Antidegradation Standard.

### Debris Management

The DMMP agencies implemented a debris management requirement following the 2015 SMARM in order to prevent the disposal of debris (natural or anthropogenic) greater than 12 inches in any dimension at open-water disposal sites in Puget Sound (DMMP, 2015). Debris screens are required unless it can be demonstrated that debris is unlikely to be present or that the debris is large woody debris that can be easily observed and removed by other means during dredging.

The current and historical use of the Driftwood Key navigation channel is for transit of recreational boats associated with the homeowner's association. A debris screen is required for all Coon Bay material going to the Port Gardner open-water disposal site, because anthropogenic sources of debris can be encountered near private docks and marinas.

### Notes and Clarifications

The decisions documented in this memorandum do **not** constitute final agency approval of the project. During the public comment period that follows a public notice, 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 USACE Seattle District's Regulatory Branch and Ecology. Refer to the USACE permit and Ecology 401 certification for project-specific submittal requirements and timelines.*

The DMMP does not make specific beneficial use determinations. However, these data are available for the assessment of project-specific beneficial use by the project proponent, permitting agencies, local health jurisdictions and/or the owner of a receiving property.

Projects proposing to use one of the DMMP open-water disposal sites must submit their application for a Site Use Authorization (SUA) to the Washington State Department of Natural Resources (DNR) at least 4 weeks prior to dredging. Applications submitted less than 4 weeks prior to dredging may be subject to delays.

### References

- Anchor QEA, 2023a. Memorandum To: DMMO, Seattle District, USACE. *RE: Driftwood Key Suitability Determination Sampling and Analysis Plan Addendum*. April 19, 2023.
- Anchor QEA, 2023b. Memorandum To: DMMO, Seattle District, USACE. *RE: Suitability Determination Data Addendum*. August 22, 2023.
- DMMP, 2005. *Determination on the Suitability of proposed Dredged material from the Driftwood Key Community Navigation Channel, Coon Bay, Kitsap County (PN#2005008282) for Open-Water Disposal*.
- DMMP, 2008. *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.

- DMMP, 2015. *Debris Screening Requirements for Dredged Material Disposed at Open-Water Sites*. Prepared by the DMMP. October 2, 2015.
- DMMP, 2021. *Dredged Material Evaluation and Disposal Procedures (User Manual)*. Dredged Material Management Program, updated July 2021.
- DMMP, 2023. Memorandum for Record. *Suitability Determination Memorandum for the Driftwood Key Navigation Channel Maintenance Dredging, Hansville, Washington (NWS-2023-147)*. Dredged Material Management Program, March 28, 2023.
- Ecology, 2013. *Sediment Management Standards – Chapter 173-204 WAC*. Washington State Department of Ecology, February 2013.

**Agency Signatures**

The signed copy is on file in the Dredged Material Management Office, Seattle District U.S. Army Corps of Engineers

\_\_\_\_\_  
Date Joy Dunay – U.S. Army Corps of Engineers, Seattle District

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Date Justine Barton – U.S. Environmental Protection Agency, Region 10

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Date Laura Inouye, PhD. – Washington State Department of Ecology

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Date Shannon Soto – Washington State Department of Natural Resources

**Copies Furnished:**

- Sarah Albright-Garland, USACE Regulatory PM
- DMMP agencies
- Clay Patmont, Anchor QEA
- DMMO File

**Table 2**  
**Driftwood Key Near-Surface Sediment Characterization Data Summary**

Chemical	Location ID Sampling Date DMMP Screening Guidance	PG-DWK-COMP01 8/11/2021	PG-DWK-COMP02 8/11/2021	PG-DWK-COMP03 8/11/2021	PG-DFK-A,B,C 5/9/2023
<b>Conventional Parameters (pct)</b>					
Total organic carbon	--	0.22	0.58	0.53	0.40
Total solids	--	75.9	74.9	68.2	81.4
<b>Grain Size (pct)</b>					
Gravel	--	6.1	4.5	NA	3.4
Sand	--	86.5	89.9	NA	80.6
Silt	--	5.4	4.1	NA	8.0
Clay	--	2.2	1.6	NA	7.9
Percent fines (silt + clay)	--	7.6	5.7	NA	15.9
<b>Metals (mg/kg)</b>					
Antimony	150	0.26 U	0.26 U	0.27 U	0.24 U
Arsenic	57	2.65	2.06	2.10	2.53
Cadmium	5.1	0.22	0.09 J	0.11 J	0.33
Chromium	260	18.1	18.7	18.9	22.2
Copper	390	6.88	6.93	6.94	11.7
Lead	450	1.2	1.11	1.08	1.67
Mercury	0.41	0.008 J	0.008 J	0.008 J	0.006 J
Selenium	3	0.58 J	0.38 J	0.38 J	0.36 J
Silver	6.1	0.03 J	0.03 J	0.27 U	0.04 J
Zinc	410	22.2	41.9	23.2	34.0
<b>Semivolatile Organics (µg/kg)</b>					
1,2,4-Trichlorobenzene	31	20.0 U	19.9 U	19.9 U	34.0 U
1,2-Dichlorobenzene	35	20.0 U	19.9 U	19.9 U	24.5 U
1,4-Dichlorobenzene	110	20.0 U	19.9 U	19.9 U	25.4 U
2,4-Dimethylphenol	29	20.0 U	19.9 U	19.9 U	35.6 U
2-Methylphenol (o-Cresol)	63	20.0 U	19.9 U	19.9 U	26.6 U
4-Methylphenol (p-Cresol)	670	20.0 U	19.9 U	12.6 J	29.5 U
Benzoic acid	650	200 UJ	199 UJ	199 UJ	204 J
Benzyl alcohol	57	20.0 U	19.9 U	19.9 U	65.0 U
bis(2-Ethylhexyl)phthalate	1,300	49.9 U	49.8 U	11.6 J	337 J
Butylbenzyl phthalate	63	20.0 U	19.9 U	19.9 U	37.6 U
Diethyl phthalate	200	49.9 U	43.8 J	49.9 U	78.8 U
Dimethyl phthalate	71	20.0 U	19.9 U	19.9 U	17.5 U
Di-n-butyl phthalate	1,400	20.0 U	19.9 U	19.9 U	34.4 J
Di-n-octyl phthalate	6,200	20.0 U	19.9 U	19.9 U	17.5 U
n-Nitrosodiphenylamine	28	20.0 U	19.9 U	19.9 U	29.8 U
Pentachlorophenol	400	99.8 UJ	99.6 UJ	99.7 UJ	125 U
Phenol	420	20.0 U	19.9 U	6.8 J	64.4 J
<b>Polycyclic Aromatic Hydrocarbons (µg/kg)</b>					
1-Methylnaphthalene	--	2.31 J	2.27 J	6.52	3.24 J
2-Methylnaphthalene	670	3.68 J	1.85 J	9.58	6.34
Naphthalene	2,100	9.98	4.24 J	19.7	10.5
Acenaphthene	500	1.16 J	4.99 U	4.87 J	2.47 J
Acenaphthylene	560	2.31 J	4.99 U	4.90 J	2.65 J
Fluorene	540	1.27 J	0.69 J	5.57	2.97 J
Phenanthrene	1,500	7.3	5.37	19.1	10.9
Anthracene	960	1.96 J	1.24 J	4.28 J	4.58 J
Benzo(a)anthracene	1,300	4.98 U	4.99 U	5.0 U	12.3
Benzo(a)pyrene	1,600	4.98 U	4.99 U	5.0 U	9.15
Benzo(b)fluoranthene	--	2.40 J	1.92 J	9.8	19.8
Benzo(b,j,k)fluoranthenes	--	3.68 J	9.98 U	15.7	40.0
Benzo(g,h,i)perylene	670	4.98 U	4.99 U	7.47	7.53
Benzo(j)fluoranthene	--	4.98 U	4.99 U	5.0 U	9.79
Benzo(k)fluoranthene	--	4.98 U	4.99 U	5.0 U	10.4
Carbazole	--	20.0 U	19.9 U	19.9 U	2.2 J
Chrysene	1,400	4.98 U	4.99 U	10.1	21.7
Dibenzo(a,h)anthracene	230	4.98 U	4.99 U	5.0 U	1.47 J
Dibenzofuran	540	1.84 J	4.99 U	5.8	2.3 J
Fluoranthene	1,700	7.74	7.77	29.7	35.2

**Table 2**  
**Driftwood Key Near-Surface Sediment Characterization Data Summary**

Chemical	Location ID	PG-DWK-COMP01	PG-DWK-COMP02	PG-DWK-COMP03	PG-DFK-A,B,C
	Sampling Date	8/11/2021	8/11/2021	8/11/2021	5/9/2023
	DMMP Screening Guidance				
Indeno(1,2,3-c,d)pyrene	600	4.98 U	4.99 U	5.0 U	<b>5.98</b>
Pyrene	2,600	<b>8.72</b>	<b>9.35</b>	<b>38.4</b>	<b>56.4</b>
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 0)	21	<b>0.608 J</b>	<b>0.192 J</b>	<b>2.65</b>	<b>14.36</b>
Total cPAH TEQ (7 minimum CAEPA 2005) (U = 1/2 max limit)	21	<b>4.12 J</b>	<b>4.21 J</b>	<b>6.15</b>	<b>14.36</b>
Total HPAH	12,000	<b>20.14 J</b>	<b>17.12</b>	<b>101.37</b>	<b>143.3</b>
Total LPAH	5,200	<b>23.98 J</b>	<b>11.54 J</b>	<b>58.42 J</b>	<b>34.07</b>
<b>Pesticides (µg/kg)</b>					
2,4'-DDD (o,p'-DDD)	--	1.00 U	1.00 U	1.00 U	1.00 U
2,4'-DDE (o,p'-DDE)	--	1.00 U	1.00 U	3.00 U	1.00 U
2,4'-DDT (o,p'-DDT)	--	1.00 UJ	1.00 UJ	1.00 UJ	1.00 U
4,4'-DDD (p,p'-DDD)	16	1.00 U	1.00 U	1.00 U	1.00 U
4,4'-DDE (p,p'-DDE)	9	1.00 U	1.00 U	1.00 U	1.00 U
4,4'-DDT (p,p'-DDT)	12	1.00 U	1.00 U	1.00 U	1.00 U
Total DDT	--	1.00 U	1.00 U	1.00 U	1.00 U
Aldrin	9.5	0.50 U	0.50 U	0.50 U	0.50 U
Chlordane, alpha- (Chlordane, cis-)	--	0.50 U	0.50 U	0.50 U	0.50 U
Chlordane, beta- (Chlordane, trans-)	--	0.50 U	0.50 U	0.50 U	0.50 U
Total Chlordane (U = 1/2 max limit)	2.8	2.00 U	3.50 U	3.00 U	2.00 U
Dieldrin	1.9	1.00 U	1.00 U	1.00 U	1.00 U
Endrin ketone	--	1.00 U	1.00 U	1.00 U	1.00 U
Heptachlor	1.5	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobenzene	22	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	11	0.50 U	0.50 U	0.50 U	0.50 U
Nonachlor, cis-	--	1.00 U	1.00 U	1.00 U	1.00 U
Nonachlor, trans-	--	1.00 U	1.00 U	1.00 U	1.00 U
Oxychlordane	--	1.00 U	3.99 U	3.00 U	1.00 U
<b>Dioxin Furans (ng/kg)</b>					
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	--	0.488 U	0.494 U	0.495 U	1.0 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	--	2.44 U	2.47 U	2.47 U	1.0 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	--	2.44 U	2.47 U	2.47 U	1.0 U
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	--	2.44 U	<b>0.237 J</b>	<b>0.321 J</b>	<b>0.710 J</b>
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	--	2.44 U	2.47 U	<b>0.304 J</b>	<b>0.449 J</b>
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	--	<b>2.94</b>	<b>3.67</b>	<b>7.87</b>	<b>30.5</b>
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	--	<b>20.4</b>	<b>27.5</b>	<b>65.6</b>	<b>231</b>
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	--	0.488 U	0.494 U	0.495 U	1.0 U
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	--	2.44 U	2.47 U	2.47 U	1.0 U
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	--	2.44 U	2.47 U	2.47 U	1.0 U
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	--	2.44 U	2.47 U	2.47 U	<b>0.188 J</b>
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	--	2.44 U	2.47 U	2.47 U	1.0 U
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	--	2.44 U	2.47 U	2.47 U	1.0 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	--	2.44 U	2.47 U	2.47 U	<b>0.237 J</b>
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	--	<b>0.336 J</b>	<b>0.337 J</b>	<b>0.635 J</b>	<b>2.35</b>
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	--	2.44 U	2.47 U	2.47 U	1.0 U
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	--	<b>0.572 J</b>	<b>0.38 J</b>	<b>1.54 J</b>	<b>3.78</b>
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 0)	4	<b>0.04 J</b>	<b>0.07 J</b>	<b>0.17 J</b>	<b>0.56 J</b>
Total Dioxin/Furan TEQ 2005 (Mammal) (U = 1/2 max limit)	4	<b>2.80 J</b>	<b>2.74 J</b>	<b>2.71 J</b>	<b>0.82 J</b>
<b>PCB Aroclors (µg/kg)</b>					
Aroclor 1016	130	20.0 U	19.7 U	19.9 U	25.4 U
Aroclor 1221	130	20.0 U	19.7 U	19.9 U	25.4 U
Aroclor 1232	130	20.0 U	19.7 U	19.9 U	25.4 U
Aroclor 1242	130	20.0 U	19.7 U	19.9 U	25.4 U
Aroclor 1248	130	20.0 U	19.7 U	19.9 U	25.4 U
Aroclor 1254	130	20.0 U	19.7 U	19.9 U	25.4 U
Aroclor 1260	130	20.0 U	19.7 U	19.9 U	25.4 U



**Table 2**  
**Driftwood Key Near-Surface Sediment Characterization Data Summary**

	Location ID	PG-DWK-COMP01	PG-DWK-COMP02	PG-DWK-COMP03	PG-DFK-A,B,C
	Sampling Date	8/11/2021	8/11/2021	8/11/2021	5/9/2023
Chemical	DMMP Screening Guidance				

Notes:

**Bold: Detected result**

J: Estimated value

U: Compound analyzed for, but not detected above detection limit

UJ: Compound analyzed for, but not detected above estimated detection limit

DMMP = Dredged Material Management Program

Total cPAH: not a DMMP screening guidance value; Puget Sound marine sediment natural background value developed by Ecology.

Total LPAH = Sum of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, and Anthracene in accordance with the Dredged Material Management Program 2021 Dredged Material Evaluation and Disposal Procedures User Manual (2021 DMMP User Manual).

Total HPAH = Sum of Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Total Benzofluoranthenes, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, and Benzo(g,h,i)perylene (2021 DDMP User Manual).

Total DDT = Sum of 4,4'-DDD, DDE, and DDT (2021 DDMP User Manual).

Total Chlordane = Sum of cis-chlordane, trans-chlordane, cis-nonachlor, trans-nonachlor, and oxychlordane (2021 DDMP User Manual).

Non-detect results are not included in the group summations.

µg/kg: micrograms per kilogram

mg/kg: milligrams per kilogram

ng/kg: nanograms per kilogram

pct: percent

NA: Not analyzed due to insufficient sediment recovered.