

11 December 2000

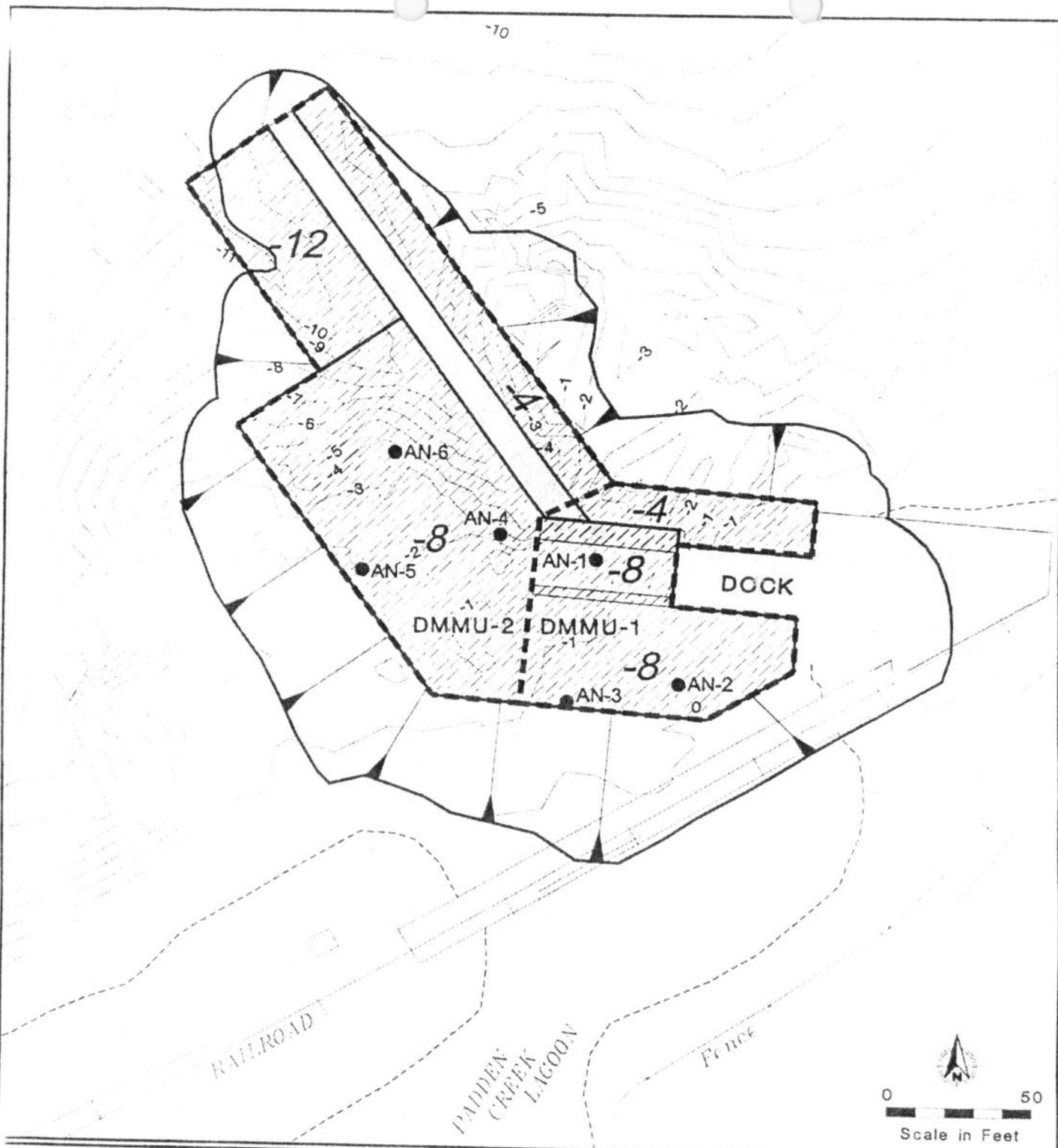
**SUBJECT: DETERMINATION OF THE SUITABILITY OF SEDIMENT PROPOSED TO BE DREDGED FROM THE PADDEN CREEK DREDGING PROJECT FOR OPEN-WATER DISPOSAL AT EITHER THE BELLINGHAM BAY NONDISPERSIVE SITE OR THE ROSARIO STRAIT DISPERSIVE SITE, AS EVALUATED UNDER SECTION 404 OF THE CLEAN WATER ACT. [Reference No. 2003-2-00904](#)**

1. The following summary reflects the consensus determination of the Agencies that comprise the regional Dredged Material Management Program (DMMP) for the State of Washington. The agencies include the Corps of Engineers, Department of Ecology, Department of Natural Resources, and the Environmental Protection Agency. The agencies are charged with determining the suitability of dredged material for in-water disposal and have evaluated the proposed dredging associated with the Padden Creek dredging project located in Bellingham Bay. The Agencies assessed the suitability of an estimated 6,800 cubic yards of sediment to be dredged adjacent to an existing finger pier and boat haul out facility at the Fairhaven Marine Industrial Park (formerly known as the Fairhaven Boatyard) for disposal at either the nondispersive, Bellingham Bay site, or at the dispersive, Rosario Strait site. The purposes of the dredging is to provide required berthing and operational depth for boats using the pier and/or haul out facilities. The dredging area is located north of the mouth of Padden Lagoon, where Padden Creek merges with Bellingham Bay.
2. The project was ranked high for testing purposes, and the sampling and analysis plan was approved on March 24, 2000 by the DMMP agencies for an estimated dredged material footprint volume of 6,800 cubic yards. Sampling of the proposed dredging footprint consisted of collecting three core samples within each Dredged Material Management Unit (DMMU) at two separate DMMU locations on June 14, 2000 from the proposed dredging footprint (see figure 1).
3. The Sampling and Analysis Plan approved by the Agencies for testing of the two DMMUs was followed, and quality assurance/quality control guidelines specified by the Puget Sound Dredged Disposal Analysis Users Manual were generally complied with. The data gathered were deemed sufficient and acceptable for decision making by the Dredged Material Management Program (DMMP) agencies based on best professional judgment.
4. Relevant dates for regulatory tracking purposes are included in Table 1.

**Table 1. Regulatory Tracking Dates**

SAP submittal date:	March 7, 2000
SAP Approval date:	March 24, 2000
Sampling date(s):	June 14, 2000
Sediment data characterization report submittal date:	December 11, 2000
<b>Recency Determination Date: High (2 years)</b>	June 2002

5. Table 2 summarizes the results of the conventional parameters analyzed in the two composited DMMUs. Chemical analysis of the two composited DMMUs indicated that DMMU C-1 exhibited six detected chemicals exceeding the screening level guidelines for the chemicals-of-concern (see Appendix 1). In addition, none of the chemicals-of-concern exceeded bioaccumulation triggers or maximum in either DMMU. Therefore, biological testing was required in DMMU C-1 to render a suitability determination.



Legend

- 8 Required Dredge Cut (Elev.)
  - DMMU Boundary
  - AN-5 Sample Location (ID)
  - 1 Bathymetric Contour (Elev.)
- (Vertical Datum: N.O.S. MLLW=0.0')

Source: 1) Bathymetric survey 07/21/99 -  
 Provided by Duke Engineering,  
 Bellingham, WA.  
 2) Basemap information provided by the  
 City of Bellingham.



Figure 1  
 Sampling Locations and DMMUs  
 Plan View  
 Padden Creek

Table 2. Summary of Bioassay testing results for DMMU C-1.

Parameter	DMMU C-1	Reference CR-22S	Control	Dispersive Guidelines (NH, 1H)	Nondispersive Guidelines (NH, 2H, 1H)
<i>Eohaustorius Estuarius</i> (% mortality)	98 %	98 %	100 %	NH	NH
<i>Dendraster Excentricus</i> (% Normalized mortality & abnormality)	28.3 %	28.0 %	0.0 %	NH	NH
<i>Neanthes Arenaceodentata</i> (growth rate, mg/ind/day dry wgt)	100 % survival	96 % survival	100 % survival	NH	NH
	0.73 mg/ind/day dw	0.85 mg/ind/day dw	0.78 mg/ind/day dw		

**Legend:** NH = no hit response relative to disersive/nondispersive guidelines  
 2H = hit under the nondispersive guidelines  
 1H = hit under the dispersive/nondispersive guidelines.

# Appendix 1. Port of Bellingham Padden Creek Dredging Project DMMP Summary

CHEMICAL NAME	Units	SL	BT	ML	C-1		C-2	
					Conc.	VQ	Conc	VQ
Total LPAH	ug/kg	5,200		29,000	7,542			
Acenaphthene	ug/kg	500		2,000	970			
Fluorene	ug/kg	540		3,600	800			
Phenanthrene	ug/kg	1,500		21,000	3,000			
2-Methylnaphthalene	ug/kg	670		1,900	740			
Fluoranthene	ug/kg	1,700	4,600	30,000	2,300			
Total Solids	%				63.0		58.2	
Total Volatile Solids	%				19.8		18.5	
Total Organic Carbon	%				2.9		3.8	
Total Ammonia	mg/kg				82.0	E	46.0	E
Total Sulfides	mg/kg				140		15	U
Gravel (percent)	%				20.2		18.3	
Sand (percent)	%				56.2		67.4	
Silt (percent)	%				15.5		9.0	
<b>Clay (percent)</b>	%				<b>5.3</b>		<b>5.3</b>	
Fines (percent silt + clay)	%				20.8		14.3	
Reference match (silt+clay):	%							
<i>Eohaustorius estuarius</i> hits:					NH			
<i>Dendraster excentricus</i> hits:					NH			
<i>Neanthes arenaceodentata</i> hits:					NH			
Bioassay Pass/Fail:					Pass		NA	
BTs exceeded:					no		no	
Bioaccumulation conducted:								
Bioaccumulation Pass/Fail:								
ML Rule exceeded:					no		no	
PSDDA Determination:					Pass		Pass	
DMMU Volume:	cy				3,600		3,200	
DMMU ID:					C-1		C-2	
<b>Passed:</b>					3,600		3,200	
<b>Failed:</b>								

## Legend:

- NA = Not Analyzed (bioassays)
- NH = No Hit (dispersive/nondispersive guidelines)
- 2H = two hit failure (nondispersive guidelines)
- 1H = one hit failure (dispersive/nondispersive guidelines)
- P = Pass (Suitable for UCOWD)
- F = Failure (Unsuitable for UCOWD)
- UCOWD = Unconfined open-water disposal
- VQ = Validation Qualifier
- U = Undetected
- E = Estimate
- ML = Maximum Level (upper chemical guideline)
- ML + BT = ML + BT exceedance
- BT = Bioaccumulation Trigger
- SL = Screening Level (lower chemical guideline)