

MEMORANDUM FOR: RECORD

November 6, 2014

SUBJECT: DETERMINATION REGARDING THE SUITABILITY OF PROPOSED DREDGED MATERIAL FROM THE SCOLAR COMPANY'S BURBANK SLIP GRAIN FACILITY, BURBANK, WA EVALUATED UNDER SECTION 404 OF THE CLEAN WATER ACT FOR FLOW LANE DISPOSAL IN THE COLUMBIA RIVER OR BENEFICIAL USE, AND FOR ANTIDegradation.

1. **Introduction.** This memorandum reflects the consensus determination of the Dredged Material Management Program (DMMP) agencies (U.S. Army Corps of Engineers (USACE), Washington State Department of Ecology, Washington State Department of Natural Resources, and the Environmental Protection Agency) regarding the suitability of up to 9,700 cubic yards (cy) of dredged material from The Scoular Company's Burbank Slip Grain Facility (Burbank Grain Facility) for flow-lane disposal in the Columbia River or beneficial use, and for compliance with the State of Washington Antidegradation Policy.
2. **Background.** The Burbank Grain Facility is located in Burbank, Washington (Figure 1) on property leased by The Scoular Company from the Port of Walla Walla. The slip was created prior to 1964, and since then dredging has occurred occasionally. Most recently, a permit for dredging was issued by USACE in 1985 for clamshell dredging of 4,000 cy in the first year and 1,000 cy of dredging for the following 9 years. Disposal was permitted at an adjacent upland site.

The Scoular Company intends to use the site for grain storage and conveyance via barge and rail transport. Based on the bathymetric survey data from January 2014, the current depth of the barge berth is inadequate to allow for barge traffic to safely enter and exit. Therefore, it will be necessary to dredge the slip to accommodate barge access.

3. **Project Summary.** Table 1 includes project summary and tracking information.

Table 1. Project Summary

Project ranking	moderate
Proposed dredging volume	9,700 CY
Proposed dredging depth	321 feet NAVD88 (including 1 ft overdepth)
Proposed disposal location	Upland on Port of Walla Walla property
1 st draft SAP received	July 3, 2014
Comments provided on 1 st draft SAP	July 24, 2014
2 nd draft SAP received	July 29, 2014
Comments provided on 2 nd draft SAP	July 31, 2014
Final SAP received	August 5, 2014
SAP approved	August 6, 2014
Sampling dates	August 14, 2014

Draft data report received	October 1, 2014
Comments provided on draft report	October 10, 2014
Final data report received	October 15, 2014
EIM Study ID	BURBA14
USACE Permit Application Number	NWS-2014-1036
Recency Determination (moderate = 5 years)	August 2019

4. **Project Ranking and Sampling Requirements.** This project was ranked moderate by the DMMP agencies according to the guidelines set out in the DMMP User Manual for ship berthing areas. In addition, while a Tier 1 analysis would indicate a low rank for the area, there is insufficient data to confirm this and there are some potential historical sources in the vicinity of the project. Therefore the DMMP agencies ranked the project moderate. In a moderate-ranked area the number of samples and analyses are calculated using the following guidelines (DMMP, 2013):
- Maximum volume of sediment represented by each field sample = 4,000 cubic yards
 - Maximum volume of sediment represented by each analysis in the upper 4-feet of the dredging prism (surface sediment) = 16,000 cubic yards
 - Maximum volume of sediment represented by each analysis in the subsurface portion of the dredging prism = 24,000 cubic yards

Due to the small volume of material proposed for dredging, the project was characterized as a single surface DMMU, with one coincident z-sample.

5. **Sampling.** Sampling took place August 14, 2014 using a Vibracore with cellulose acetate butyrate liners. The approved sampling and analysis plan (Anderson Perry, 2014) was followed to the extent possible given the challenge of coring the rock and cobble substrate encountered in areas of the dredge prism. Figure 2 shows the target and actual coring locations. All decisions regarding changing sampling locations and acceptance of cores was coordinated real-time with the DMMO. The following changes were approved:

- At Location 1, the retained core did not penetrate the full depth of the dredge prism. However, the retained core had the best penetration of the three attempts at Location 1.
- After 4 coring attempts, a core from Location 2 was accepted with less than 75% recovery and only 4 feet of penetration, 4.2 feet less than the target penetration depth. Full penetration was not possible due to refusal on large rounded cobbles and gravel and hard packed sand.
- After 3 attempts at target location 3 were met with immediate refusal on rounded coarse to fine gravel and cobbles, the station was moved toward the head of the slip between Locations 1 and 2. The second attempt at the modified Location 3 was retained because it had the greatest penetration, although it did not penetrate to the full depth of the dredge prism and had less than 75% recovery.
- The bottom 6 to 12 inches of cores from Locations 1 and 3 were collected and composited to approximate the z-layer sample. The 'z-sample' material was collected at the observed lithological break between the recently deposited sandy silts and native-like sand.

6. **Chemical Analysis.** Analysis of conventionals and all standard DMMP COCs was conducted by Analytical Resources, Inc. The approved sampling and analysis plan (Anderson Perry, 2014) was followed, and quality control guidelines specified by the DMMP program were generally met.

The conventional results showed that the dredged material is loam with 41.3 percent sand, 47.3 percent silt and 11 percent clay. Total organic carbon (TOC) was 0.124% in the dredged material.

Chemistry results were compared to the 2013 Freshwater values that were adopted by the Department of Ecology in September 2013 and subsequently presented by the DMMP at the 2014 SMARM. There were no detected or undetected exceedances of any of the freshwater guidelines, see Table 4. Dioxin analysis was not required for this project.

7. **Sediment Exposed by Dredging.** The sediment to be exposed by dredging must either meet the State of Washington Sediment Quality Standards (SQS) or the State's antidegradation standard (Ecology, 2013) as outlined by DMMP guidance (DMMP, 2008).

A sample representing the material found at the bottom of the cores, an approximation of the material that will be exposed by dredging, was collected and composited from locations 1 and 3. This sample, referred to as the z-sample, was analyzed concurrently for the standard list of DMMP freshwater COCs and conventionals. Grain size results from the z-sample are consistent with the observations made during sampling that there is a coarse native layer (with 94% sand and 6% fines) below the recent infill material (41% sand, 58% fines). In addition, there were no detected or undetected exceedances of any of the freshwater screening values. For nearly all COCs, the values in the z-sample were either detected at a lower concentration than in the dredged material, or were undetected in the z-sample. The only exception is for phenol, which was undetected (19 U) in the dredged material but estimated to be present in the z-sample at a lower concentration (10 J). Both of these values are well below the sediment cleanup objective value of 120, and therefore do not present a concern for the DMMP agencies.

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 State of Washington anti-degradation policy.

8. **Suitability Determination.** This memorandum documents the evaluation of the suitability of sediment proposed for dredging from the Burbank Grain Facility for flow-lane disposal in the Columbia River or beneficial use. The approved sampling and analysis plan was generally followed. The data gathered were deemed sufficient and acceptable for regulatory decision-making under the DMMP program.

In summary, based on the results of the previously described testing, the DMMP agencies conclude that **all 9,700 cy are suitable** for flow-lane disposal in the Columbia River or for beneficial use. Contact the local Health Department to determine suitability of the material for upland disposal.

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 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.

9. References.

Anderson Perry and Associates, Inc, 2014. *Sampling and Analysis Plan, Burbank Slip Dredging, Permitting and Design*, July 2014.

DMMP, 2013. *Dredged Material Evaluation and Disposal Procedures (Users Manual)*. Prepared by the Seattle District Dredged Material Management Office for the Dredged Material Management Program, July 2013.

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.

Ecology, 2013. *Sediment Management Standards – Chapter 173-204 WAC*. Washington State Department of Ecology, February 2013.

10. Agency Signatures.

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

Concur:

Date Kelsey van der Elst - Seattle District Corps of Engineers

Date Justine Barton - Environmental Protection Agency

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

Date Celia Barton - Washington Department of Natural Resources

Copies furnished:

DMMP signatories

Tim Erkel, Corps Regulatory

Dana Kurtz, Anderson Perry and Associates

Brian Ring, Scoular Company

Table 2. Sampling and Compositing.

		DMMU 1	Z-sample	Total
SAP volume (CY):		9,700		9,700
Station	S-1	0 to 4.6 ft	4.6 to 5.2	
	S-2	0 to 1.5 ft	- - -	
	S-3	0 to 4.4 ft	4.4 to 5.3	

Notes:

- 1) The design depth for DMMU-1 is -321 ft NGVD88, including 1 ft of overdepth
- 2) DMMU volumes include a 10% contingency factor

Table 3. Sampling coordinates (NAD83)

		Latitude	Longitude
Station	S-1	46° 12' 33.17617"	119° 01' 20.51577"
	S-2	46° 12' 34.68835"	119° 01' 23.19128"
	S-3	46° 12' 33.81824"	119° 01' 21.60276"

Table 4. Chemical results compared to DMMP regulatory guidelines for freshwater areas.

CHEMICAL	2013 Freshwater Guidelines		DMMU 1		Z-sample	
	SCO/SL1	CSL/SL2	conc	LQ	conc	LQ
CONVENTIONALS						
Gravel, %			0.2		0	
Sand, %			41.4		94.3	
Silt, %			47.3		3.9	
Clay, %			11		1.8	
Fines (Silt + Clay), %			58.3		5.7	
Total Solids, %			80.04		57.49	
Volatile Solids, %			55.22		78.42	
Total Organic Carbon, %			0.124		1.69	J
Total Sulfides, mg/kg			326		1.2	
Total Ammonia, mg N/kg			109		100	
METALS (mg/kg dry)						
Arsenic	14	120	8	U	6	U
Cadmium	2.1	5.4	0.4		0.176	J
Chromium	72	88	22		11.7	
Copper	400	1,200	22.9		11.3	
Lead	360	>1300	11		3	
Mercury	0.66	0.8	0.04		0.02	U
Nickel	38	110	17		10	
Selenium	11	>20	0.356	J	0.137	J
Silver	0.57	1.7	0.5	U	0.4	U
Zinc	3,200	>4200	77		38	
PAHs (ug/kg dry)						
Total PAHs	17,000	30,000	266.6	J	19	U
Naphthalene			19	U	19	U
Acenaphthylene			19	U	19	U
Acenaphthene			15	U	19	U
Fluorene			12	J	19	U
Phenanthrene			44		19	U
1-Methylnaphthalene			19	U	19	U
Anthracene			10	J	19	U
2-Methylnaphthalene			19	U	19	U
Fluoranthene			67		19	U
Pyrene			52		19	U
Benzo(a)anthracene			13	J	19	U
Chrysene			21		19	U
Total benzofluoranthenes			20	J	38	U
Benzo[a]pyrene			8.6	J	19	U
Indeno(1,2,3-c,d)pyrene			19	U	19	U
Dibenzo(a,h)anthracene			19	U	19	U
Benzo(g,h,i)perylene			19	U	19	U

Table 4. Chemical results compared to DMMP regulatory guidelines for freshwater areas.

CHEMICAL	2013 Freshwater Guidelines		DMMU 1		Z-sample	
	SCO/SL1	CSL/SL2	conc	LQ	conc	LQ
BULK PETROLEUM HYRDOCARBONS (mg/kg dry)						
TPH - Diesel	340	510	53		6.2	
TPH - Residual	3,600	4,400	200		18	
PHTHALATE ESTERS (ug/kg dry)						
Di-n-butyl phthalate	380	1,000	19 U		19 U	
Bis(2-ethylhexyl)phthalate	500	22,000	140 J		48 U	
Di-n-octyl phthalate	39	>1100	19 U		19 U	
PHENOLS (ug/kg dry)						
Phenol	120	210	19 U		10 J	
4 Methylphenol	260	2,000	14		19 U	
Pentachlorophenol	1,200	>1200	96 U		95 U	
MISCELLANEOUS EXTRACTABLES (ug/kg dry)						
Benzoic acid	2,900	3,800	270		190 U	
Dibenzofuran	200	680	6.7 J		19 U	
Beta-Hexachlorocyclohexane	7.2	11	0.79 UJL		0.5 UJL	
PESTICIDES (ug/kg dry)						
Carbazole	900	1100	19 U		19 U	
Endrin ketone	8.5	****	0.97 U		0.97 U	
Dieldrin	4.9	9.3	0.97 U		0.97 U	
Total DDE (sum of o,p' and p,p' isomers)	21	33	3.2		0.97 U	
Total DDD (sum of o,p' and p,p' isomers)	310	860	1.4		0.97 U	
Total DDT (sum of o,p' and p,p' isomers)	100	8,100	0.97 U		0.97 U	
PCBs (ug/kg dry)						
Total PCBs	110	2,500	18 U		18 U	
SUMMARY						
DMMP Determination			PASS			
DMMU volume			9,700 cy			
Rank			Moderate			
Mean sample depth			3.5 feet			
Maximum sampling depth			4.6 feet			

J = estimated concentration

U = undetected

UJL = analyte not detected at or above reported estimate with likely high bias

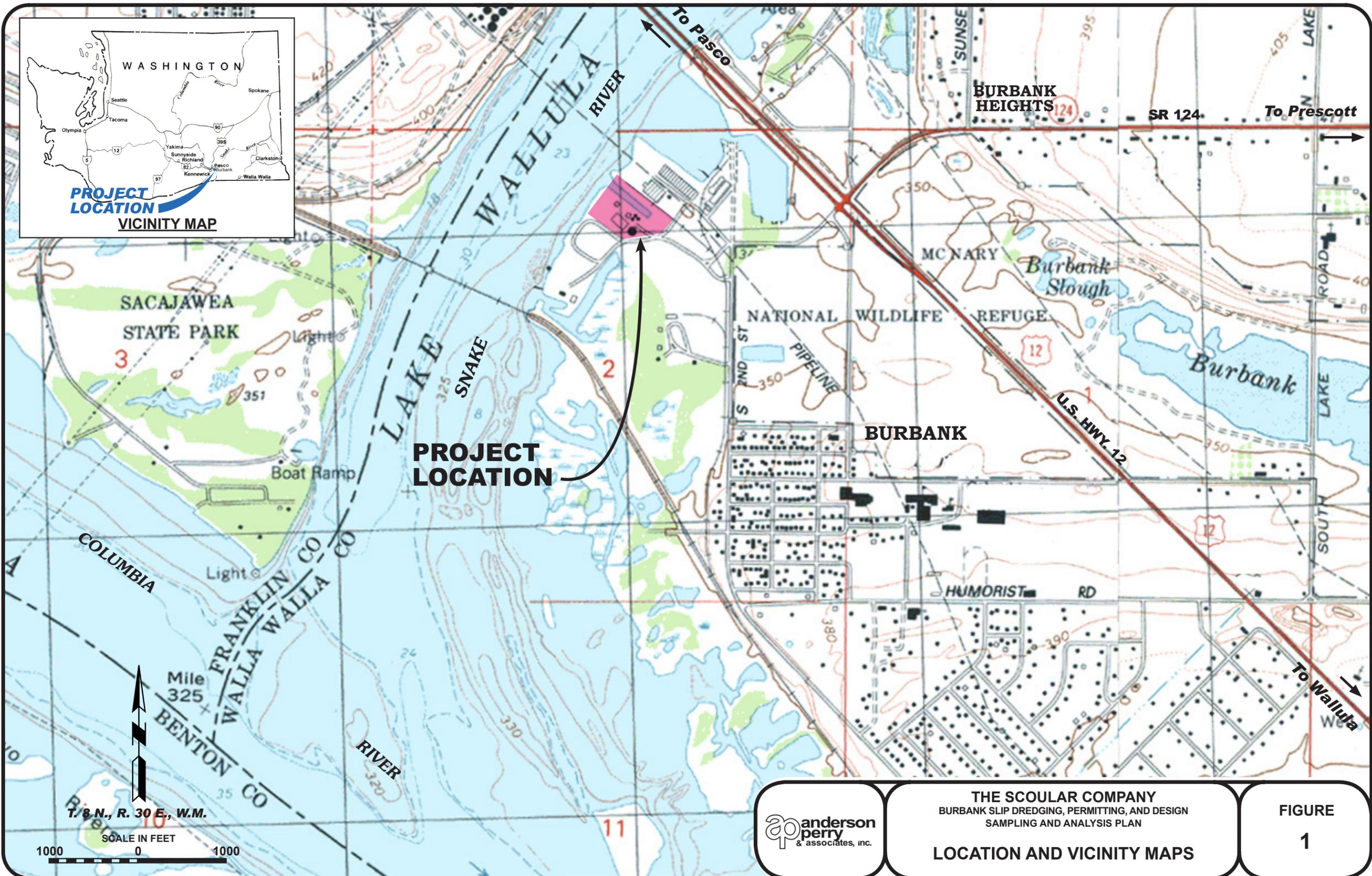
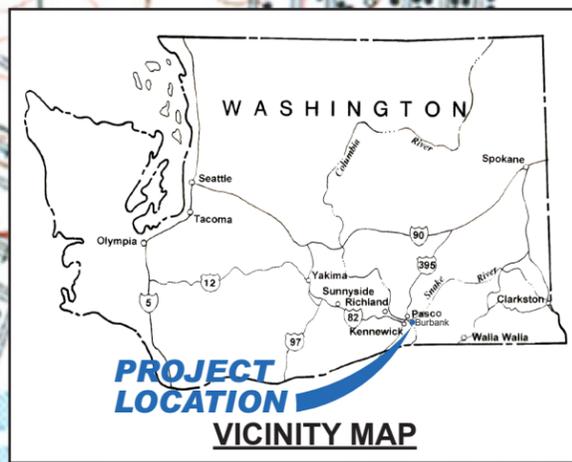
SCO = sediment cleanup objective

CSL = cleanup screening level

**** No value could be set due to limited data above the SQS/SL1 concentration

SCO exceedance

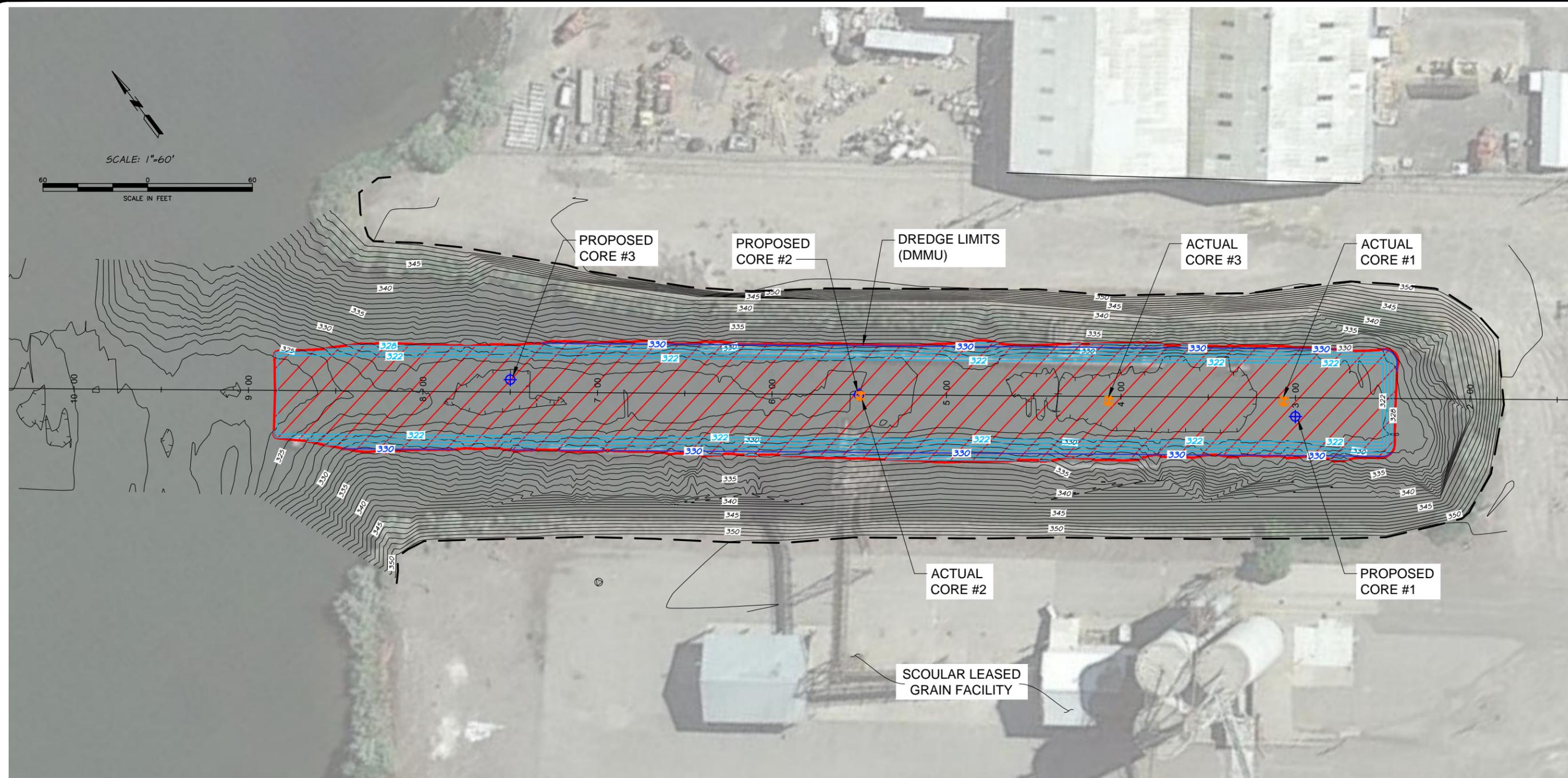
CSL exceedance



THE SCOLAR COMPANY
 BURBANK SLIP DREDGING, PERMITTING, AND DESIGN
 SAMPLING AND ANALYSIS PLAN

LOCATION AND VICINITY MAPS

FIGURE
1



LEGEND

	EXISTING	PROPOSED
INDEX CONTOUR	— 740 —	— 740 —
INTERMEDIATE CONTOUR	— 741 —	— 741 —
TOP OF BANK	— — —	— — —
DREDGE LIMITS (DMMV)	— — —	— — —
DREDGE PRISM		
PROPOSED CORE LOCATION		
ACTUAL CORE LOCATION		

NOTES:

1. THIS DESIGN SURVEY WAS COMPILED UTILIZING CONVENTIONAL SURVEYING DATA COLLECTED BY AP AS WELL AS BATHYMETRIC SURVEY DATA PREPARED BY NORTHWEST HYDRO INC. IN JANUARY 2014. THE LIMITS OF THE BATHYMETRY SURVEY ARE SHOWN HEREON. CONVENTIONAL SURVEY DATA WAS COLLECTED DOWN TO THE SHORELINE OF THE BARGE SLIP IN MAY 2014 AND WAS CONDUCTED USING A TOPCON GPS SYSTEM CONSISTING OF HIPER II DUAL FREQUENCY RECEIVERS WITH A STANDARD DEVIATION OF 1CM + 1.0 PPM.
2. HORIZONTAL DATUM: WASHINGTON DEPARTMENT OF TRANSPORTATION (WSDOT) LOCAL PROJECT CONTROL FROM THE SNAKE RIVER BRIDGE TO SR 730 I/C PROJECT DATED AUGUST 27, 2007.
3. VERTICAL DATUM: NAVD88 BASED ON WSDOT CONTROL POINT SACAJAWEA2 (WSDOT ID-30, NGS PID SA1769)
4. UNITS: U.S. FEET.



THE SCOLLAR COMPANY
 BURBANK SLIP DREDGING, PERMITTING, AND DESIGN
 SEDIMENT CHARACTERIZATION REPORT

**PROPOSED AND ACTUAL CORE
 LOCATIONS AND DREDGE PRISM**

FIGURE
1