INTERIM ACTION WORK PLAN ADDENDUM
DAKOTA CREEK INDUSTRIES SHIPYARD
ECOLOGY AGREED ORDER NO. DE-07TCPHQ-5080
ANACORTES, WASHINGTON

JUNE 17, 2008

FOR
PORT OF ANACORTES

GeoEngineers

Interim Action Work Plan Addendum
Dakota Creek Industries Shipyard
Ecology Agreed Order No. DE-07TCPHQ-5080
Anacortes, Washington
File No. 5147-006-02

June 17, 2008

Prepared for:

Port of Anacortes
First and Commercial Avenue
P.O. Box 297
Anacortes, Washington 98221

Prepared by:

GeoEngineers, Inc.
Plaza 600 Building
600 Stewart Street, Suite 1700
Seattle, Washington 98101
(206) 728-2674

Chris Bailey, PE
Project Environmental Engineer

John M. Herzog, PhD
Principal

RST:CLB:JGR:JMH:bmw
SEAT:\5\5147006\02\Finals\514700602IAWP Addendum.doc

TABLE OF CONTENTS

List of Figures

List of Attachments

INTERIM ACTION WORK PLAN ADDENDUM
DAKOTA CREEK INDUSTRIES SHIPYARD
ECOLOGY AGREED ORDER NO. DE-07TCPHQ-5080
ANACORTES, WASHINGTON
FOR
PORT OF ANACORTES

1.0 INTRODUCTION

This document presents the Interim Action Work Plan Addendum (Addendum) for the Dakota Creek Industries (DCI) shipyard facility (Site), located at the 115 Q Avenue in Anacortes, Washington (Figure 1). This document is an addendum to the Final Remedial Investigation/Feasibility Study and Interim Action Work Plan (Work Plan; GeoEngineers April 1, 2008) for the Site. The Work Plan was approved by Washington Department of Ecology (Ecology) on May 27, 2008. The April 2008 Work Plan includes an overview of the scope of work that will be completed during interim remedial activities at the Site. The interim action will address contaminated sediments within the shipyard basin (Basin). This Addendum provides additional, specific information on the interim action, including the anticipated extent of contaminated sediments within the Basin, dredging and disposal methods, compliance monitoring program and placement of backfill. Information presented in this Addendum was discussed with Ecology staff on May 21, 2008. Ecology comments that came out of that discussion are incorporated in this Addendum.

The interim remedial action will be conducted in accordance with the Agreed Order for the Site dated December 2007. Remediation work at the Site is scheduled to begin in mid-July 2008 at the open of the in-water work window.

2.0 BACKGROUND INFORMATION

Detailed information describing the Site including its history, current uses, existing property features and a summary of environmental investigations completed at the Site between 1985 and 2007 is presented in the Work Plan. The general location of the Site with respect to the City of Anacortes and the Guemes Channel is presented on Figure 1.

Collection and analysis of additional sediment samples was completed at the Site as part of the Remedial Investigation (RI) field study in March 2008 in general accordance with the Work Plan. The 2008 RI data was used to delineate the extent of contaminated sediment for the purpose of defining the scope of the interim action described in this Addendum. The results of this investigation were presented to Ecology in a technical memorandum titled "March 2008 Sediment Sampling at Dakota Creek Industries-Results Summary" dated May 19, 2008 (attached for reference) and are summarized below in Section 3.0.

3.0 NATURE AND EXTENT OF CONTAMINATION

Surface and subsurface sediment samples were obtained throughout the Basin during several environmental investigations completed at the Site from approximately 1985 to 2008. Sampling and analysis has identified that sediments in parts of the basin are contaminated with metals (arsenic, lead, copper, mercury and zinc), polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs) at concentrations exceeding the respective Sediment Management Standards (SMS). SMS exceedances identified in the samples collected from within the basin are shown on Figure 2.

Historical Site use including bulk fuel and oil storage facilities, shipyard activities on the upland and offshore portions of the DCI basin and outfall discharges to the Site are likely sources of the contaminated sediments that have been identified.

In addition to cleanup studies, the basin sediments have been characterized for the purposes of dredged material disposal. For the Dredge Material Management Program (DMMP) characterization study, the basin was divided into two Dredge Material Management Units (DMMUs) as shown on Figure 2. DMMU-1 encompasses the near surface sediments in the outer (northern) half of the basin and DMMU-2 encompasses the near surface sediments located in the nearshore (southern) half of the basin. The near surface sediments generally consist of sandy silt ranging from 0.5 to 5 feet in thickness overlying consolidated glacial till.

An open water disposal suitability determination (Suitability Determination) was issued by the DMMP on April 12, 2001 and later updated on March 23, 2007. DMMU-1 and DMMU-2 extend vertically from the sediment surface down to the native till contact. The Suitability Determination identifies that the proposed dredged material within DMMU-1, and the native till material underlying DMMU-1 and DMMU-2 to the specified redevelopment dredge depths, are suitable for disposal at the Rosario Strait dispersive open water disposal site. The dredged material within DMMU-2 was determined to be not suitable for open water disposal due to exceedances of hydrocarbon compounds.

4.0 INTERIM ACTION

4.1 GENERAL

The purpose of the interim action at the Dakota Creek Industries Site is to remove sediments exceeding the Sediment Management Standards (SMS) Cleanup Screening Level (CSL) so that the chemical quality of the exposed sediment surfaces remaining within the Basin after redevelopment of the site meet the Sediment Quality Standard (SQS). Once the interim action dredging has removed contaminated sediments within the basin, dredging will continue across much of the Site for the purpose of redeveloping the shipyard. The post-cleanup dredging will involve only clean sediment that has been determined by the DMMP to be suitable for open water disposal. Therefore, it is important that only the material suitable for open water disposal remains within the Basin following completion of the interim action.

The interim action will achieve an immediate reduction in the volume of contaminated sediment and will lower, if not eliminate, the potential environmental impacts posed by leaving the contaminated sediment in place. The interim action at the Site will be conducted in accordance with the MTCA cleanup regulation and applicable state and federal laws described in WAC 173-340-430.

The areas and limits of environmental dredging are shown on Figure 3. For the purpose of planning and managing the dredging operations, the Basin has been divided into six Sediment Management Areas (SMAs), each requiring specific consideration during dredging activities. The scope of environmental dredging within each of the SMAs shown on Figure 3 is summarized in Table 1 below.

4.2 INTERIM ACTION ACTIVITIES

The following activities will be completed during the interim action:

- Mobilize dredging equipment (barge-mounted long-reach excavator with hydraulic clam-shell bucket) and sediment transport barges to the Site.

- Implement environmental protection measures consisting of best management practices (BMPs) for dredging, transporting sediment by barge, transferring from barge to upland stockpile area, and construction of dredged material stockpiles. The BMPs will address sediment loss, drainage, and erosion control; spill prevention and pollution control; and all other controls needed to protect environmental quality. The BMPs will be described in a Pollution Prevention Plan that will be part of the contractor's Construction Quality Control Plan. Some of the BMPs that will be required include: using a clamshell-type bucket and ensuring complete closure of the dredge bucket before raising it from the sediment surface; using silt and debris control booms at all times dredging is occurring; performing periodic monitoring of water column turbidity; and minimizing barge grounding and propeller wash to avoid disturbing the sediment surface.
- Implement Site access and vessel control measures to comply with U.S. Coast Guard and other federal, state, and local vessel moorage and navigation requirements.
- Dredge approximately 26,000 cubic yards (estimated 38,000 tons) of contaminated sediment from the Site. Dredging will be completed using a barge-mounted excavator, or equivalent dredging equipment, fitted with a hydraulic clamshell-type bucket. The anticipated dredge areas and depths are shown on Figure 3 and described in Table 1. Dredged material will be stockpiled in an upland location to allow dewatering and characterization for disposal method determination. During dredging, the dredge material will be placed directly on transport barges and the full barges will be navigated to the upland stockpile location, where the material will be placed in stockpiles. The dredge material will be stockpiled for purposes of dewatering and to allow collection of samples from the stockpiles for waste disposal characterization.
- Load and haul dredge material that sample results have characterized as contaminated for offsite disposal at a permitted Subtitle D landfill. Waste manifest procedures and contaminated sediment disposal receipts will be documented in the cleanup report. Dredge material determined to be clean with respect to Model Toxic Control Act Unrestricted Use levels will either be used as upland backfill for the redevelopment project or disposed of at an appropriate offsite location.
- Backfill of select dredged areas with clean imported fill will be performed in instances where dredging of contaminated sediments results in surfaces or slopes that do not match the final grade required for the redevelopment project. Backfill procedures and materials are prescribed in the design for the DCI redevelopment project. Dredged areas that are backfilled to intertidal zone (-14 feet to +14 feet relative to mean lower low water) elevations will be backfilled to grade using a washed sand habitat substrate.

Dredging will be completed using a sequence designed to minimize the potential for contaminated dredge residuals to contaminate adjacent SMAs. The environmental dredging will be sequenced so that the more-contaminated sediments located in the inner Basin SMAs are dredged before the less-contaminated outer Basin SMAs. This sequence will allow any residuals that may be generated by the inner Basin dredging to be removed during dredging of the outer basin SMAs. Dredging of contaminated sediment across the entire Basin will be completed prior to dredging areas of clean sediment for the basin redevelopment project.

Basin sediments with concentrations of contaminants exceeding Cleanup Screening Levels will be removed during the interim action, to the extent practicable. Although it is the intent of the Port to have the interim action be as complete as possible, the interim action may not constitute the final cleanup action for the site. Consistent with WAC 173-340-430, the proposed interim action will be implemented in a manner that does not foreclose reasonable alternatives for a future site cleanup action (if necessary).

4.3 COMPLIANCE MONITORING

Compliance monitoring will be implemented during the interim action in accordance with MTCA requirements described in WAC 173-340-410. Protection monitoring will be conducted during remedial activities to confirm that human health and the environment are adequately protected. Performance monitoring will be conducted to demonstrate that sediment cleanup levels (Sediment Quality Standard) have been attained at the Site. Compliance monitoring activities are described below.

4.3.1 Protection Monitoring

Protection monitoring will include monitoring of worker health and safety and environmental protection practices such as stormwater, erosion, and sediment controls. The purpose of protection monitoring is to confirm that human health and the environment are adequately protected during the interim action. Protection monitoring activities will include the following:

- A health and safety plan describing actions that will be taken to protect worker health and safety for the Port's construction management consultant, GeoEngineers, is provided in the Work Plan. The Port's remedial Contractor will be required to prepare and submit a separate health and safety plan for use by the Contractor's personnel. Personnel engaged in work that involves hazardous material dredging and handling shall comply with the provisions of WAC 173-340-810 (MTCA Cleanup Regulation, Worker Safety and Health) and be HAZWOPER, OSHA, and WISHA certified.
- The Contractor will be required to inspect and maintain all temporary erosion and sediment control measures and spill prevention and pollution control measures associated with the work. If the Owner or any governmental agency determines that the Contractor's environmental protection measures are inadequate to meet the intent of applicable regulations, the Contractor will be required to implement additional measures to address the deficiencies.

4.3.2 Performance Monitoring

Performance monitoring will be conducted by the Port during interim action dredging activities. Performance monitoring will consist of geologic field monitoring during dredging and collecting sediment samples for laboratory analysis from the final environmental dredging surface of the SMAs. The dredging contractor will assist the Port's representative during these monitoring activities, and perform follow-up dredging as needed to achieve the cleanup objectives. Performance monitoring activities will include the following:

- The Port's representative will perform geologic field monitoring during dredging to document the material being removed. Field observation of the dredged material and dredged surfaces, where exposed during low tides, will be conducted to confirm that dredging to the native till contact has been achieved in SMAs-2, -3, -4 and -5. The native till contact is assumed to demarcate the vertical boundary between clean and contaminated sediments within the Basin.
- The Port's representative will collect one sample from SMAs -1 through -5 (five samples total) for chemical analysis to evaluate whether removal of contaminated sediment is complete. The proposed post-dredge confirmation sampling locations are shown on Figure 3. The confirmatory samples will be submitted for analysis of Sediment Management Standards compounds including metals (arsenic, lead, copper, mercury and zinc) using EPA 6000/7000 series Methods; ionizable and nonionizable organic compounds (including SVOCs/PAHs) using EPA Method 8270 SIM; and PCBs using EPA Method 8082.

- Collection of performance monitoring samples is not planned for SMA-6 because the sediments being dredged from this area did not have exceedances of SMS contaminants.

4.4 QUALITY ASSURANCE/QUALITY CONTROL

Quality assurance/quality control (QA/QC) procedures and standards that will be used during the interim action performance sampling and analysis are presented in the Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) that are appendices to the approved Work Plan. The purpose of these documents is to describe sediment sampling, analysis and quality control procedures that will be implemented to produce chemical and field data that are representative, valid and accurate for use in evaluating the interim action effectiveness.

4.5 SCHEDULE

Interim action construction is currently scheduled to start in mid-July 2008. Dredging of contaminated sediments is expected to take approximately 8 to 12 weeks. Disposal of the dredged material will be performed after dredging. The schedule for dredged material disposal will be determined based on the dewatering rate and availability of cost-effective landfill transportation and disposal.

4.6 REPORTING

Following completion of the interim action, a cleanup report summarizing the interim remedial activities, results of confirmatory sediment sampling and a discussion regarding the attainment of Sediment Management Standards (SMS) criteria will be prepared in accordance with WAC 173-340-400. A Draft version of the cleanup report will be submitted to Ecology for review and comment. Data will be provided in the format required by Ecology's EIM Policy 840.

5.0 REFERENCES

Dredge Material Management Program. March 23, 2008. Memorandum "Recency Extension Suitability Determination for Sediments Proposed to be Maintenanced Dredged from Port of Anacortes Dakota Creek Industries (DCI) Shipyard Facility / Pier 1, Anacortes WA for Open Water Disposal at the Rosario Strait Dispersive Open-Water Disposal Site, As Evauated Under Section 404 of the Clean Water Act."

GeoEngineers Inc. April 1, 2008. "Final Work Plan, Remedial Investigation/Feasibility Study and Interim Action Work Plan, Dakota Creek Industries."

GeoEngineers Inc. May 19, 2008. "Sediment Sampling at Dakota Creek Industries-Results Summary."

6.0 LIMITATIONS

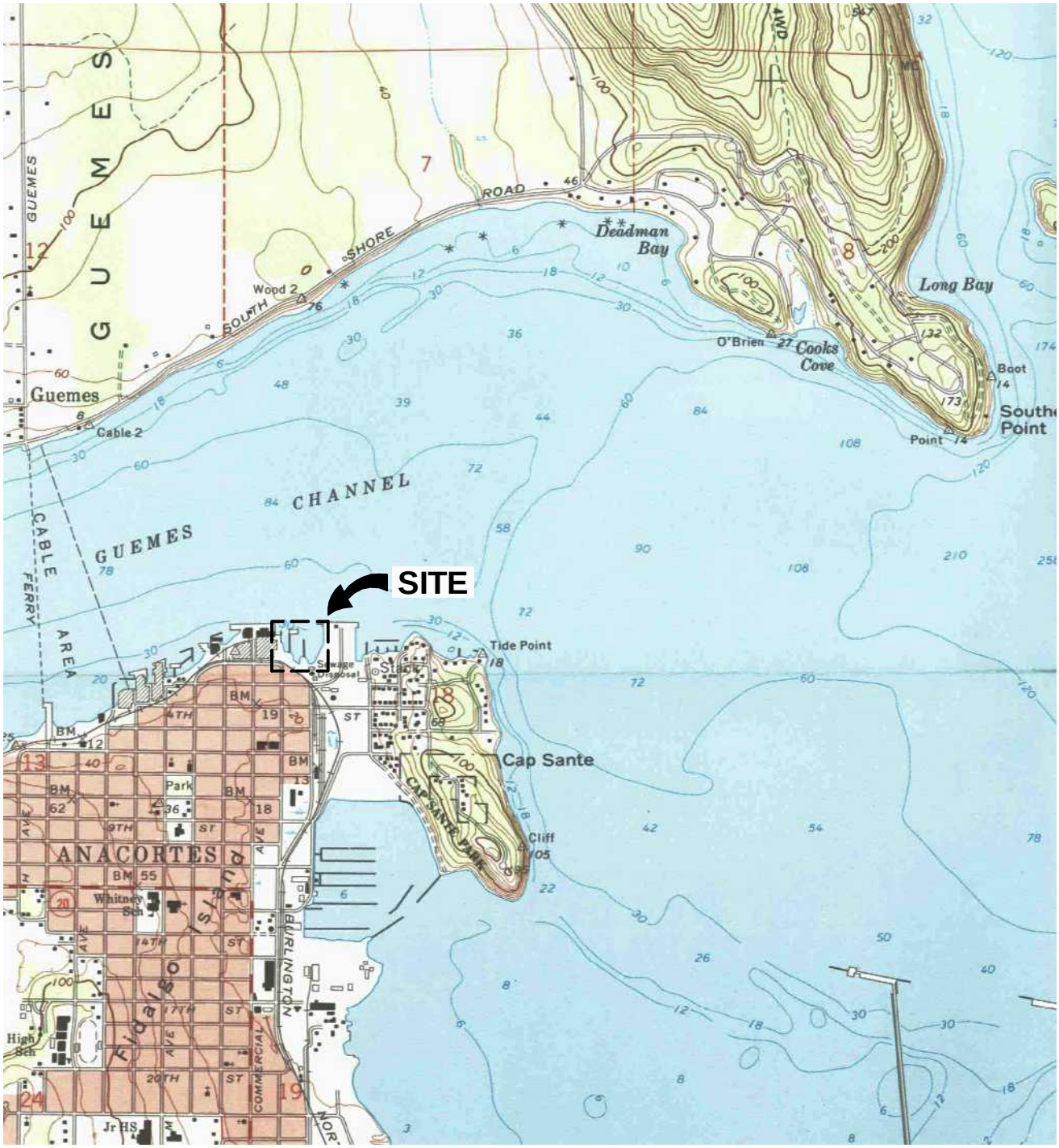
We have prepared this Interim Action Work Plan Addendum for use by the Port of Anacortes during the interim action at the Dakota Creek Industries Shipyard Site. Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

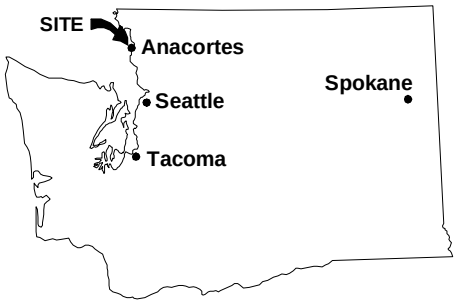
Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by GeoEngineers, Inc. and will serve as the official document of record.

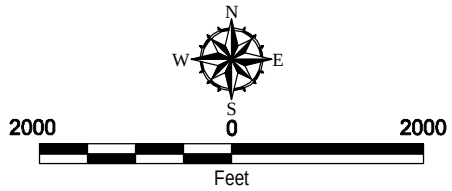
Table 1

Interim Action Plan for DCI Shipyard Basin

SMA (Figure 3)	Contaminants Exceeding SMS Criteria	Depth of Contamination	Proposed Environmental Dredge/Backfill Depth	Dredge Depth Rationale	Notes
SMA-1	Mercury	Mercury detected above SQS in 0-20 cm sample. No exceedances in the 1.5 to 2.5-foot sample interval.	Dredge to 1-foot below mudline.	Dredge to the vertical midpoint between 0 to 20 cm and 1.5 to 2.5-ft sample.	Backfill to grade with habitat mix backfill material.
SMA-2	Copper, Zinc PAHs PCBs	Composite samples from 0 to 5 feet exceeded SQS for HPAHs. Copper, Zinc, LPAHs, HPAHs, and PCBs detected above SQS in 0 to 20 cm sample.	Dredge to contact between sediment and native glacial till.	Upland disposal of all dredged material above the contact with native glacial till is required within DMMU DCI-2, which includes all of SMA-2.	Backfill as required to restore subtidal slopes designed for redevelopment project.
SMA-3	Arsenic, Copper, Mercury, Zinc PAHs PCBs	Several contaminants (metals, PAHs, and PCBs) detected in the 0 to 1 foot, 2 to 3 foot, and 4 to 5 foot sample intervals within SMA-3.	Dredge to contact between sediment and native glacial till.	The deepest (4 to 5 feet) samples collected from within SMA-3 did not reach the contact with the native glacial till and were shown to be contaminated with several constituents above SQS and CSL criteria. Therefore, dredging to the native till contact is planned to remove the contaminated sediments.	Area will be filled after construction of sheet pile wall.
SMA-4	PAHs	Composite samples from 0 to 5 feet exceeded SQS for HPAHs.	Dredge to contact between sediment and native glacial till.	Upland disposal of all dredged material above the contact with native glacial till is required within DMMU DCI-2, which includes all of SMA-4.	Backfill as required with habitat mix to restore subtidal slopes designed for redevelopment project.
SMA-5	Arsenic, Copper, Mercury, Zinc PAHs PCBs	Several contaminants (metals, PAHs, and PCBs) detected in the 1 to 2 foot and 2 to 3 foot sample intervals within SMA-5. No exceedances in the 4 to 5-foot sample interval.	Dredge to contact between sediment and native glacial till.	Dredging in SMA-5 is planned to extend to the contact with native glacial till to remove the contaminated sediments.	Area will be filled after construction of sheet pile wall.
SMA-6	None	There are no SMS exceedances.	Dredge to 1-foot below mudline.	Surfical sediments will be dredged to remove near-surface dioxin/furan concentrations. No SMS is established for dioxin/furan.	No backfill.







Vicinity Map

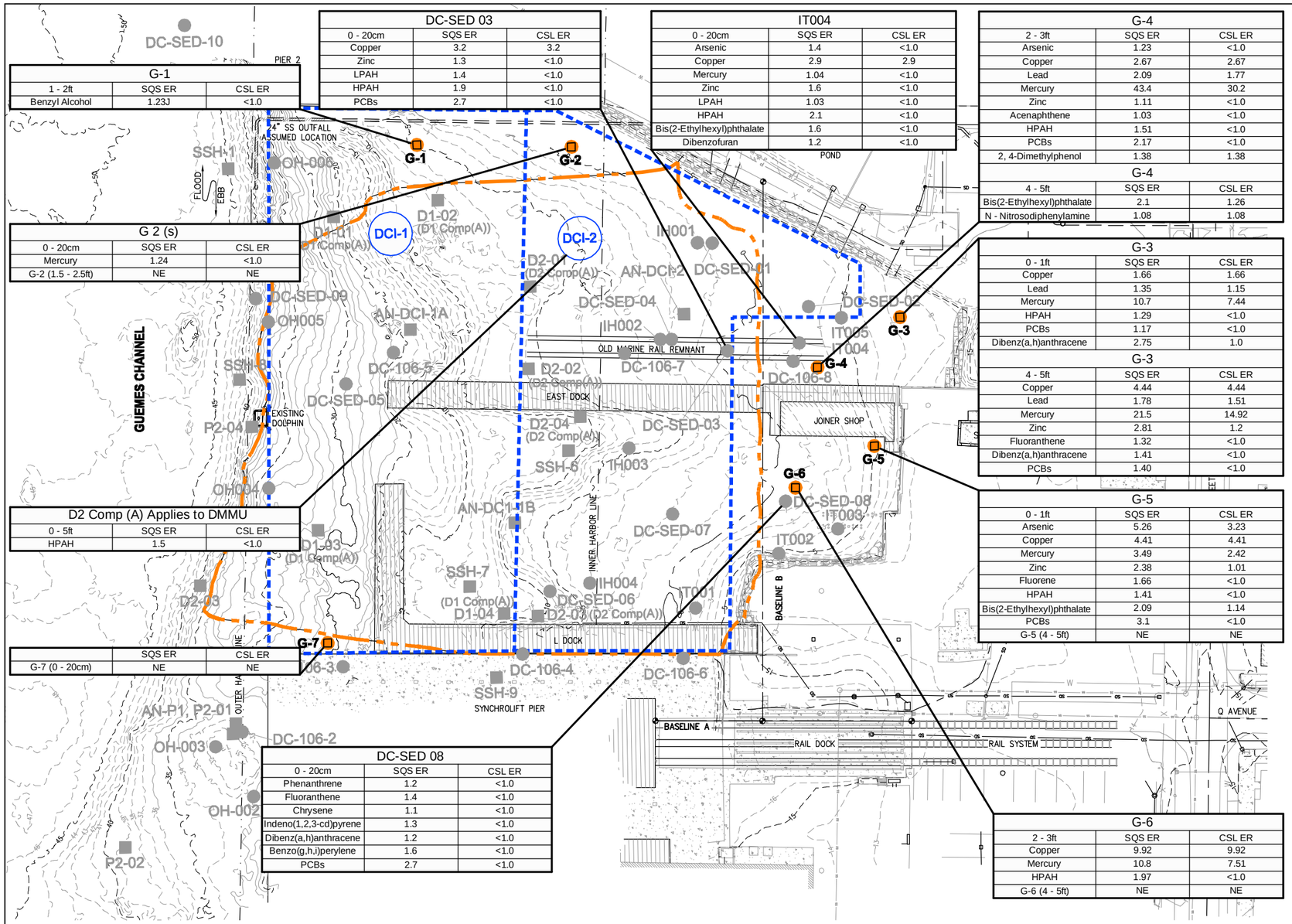
Port of Anacortes - Dakota Creek Industries
Anacortes, Washington

GeoEngineers

Figure 1

Reference: USGS 7.5' topographic quadrangle map "(Anacortes North, Wash.," photoinspected 1978).

P:\15\14700602\CAD\INTERIM WORK PLAN ADDENDUM FIGURES\15I4700602 FIG 1.DWG\TAB:F1 MODIFIED BY TMICHAUD ON JUN 02, 2008 - 9:20



G-1		
1 - 2ft	SQS ER	CSL ER
Benzyl Alcohol	1.23J	<1.0

G 2 (s)		
0 - 20cm	SQS ER	CSL ER
Mercury	1.24	<1.0
G-2 (1.5 - 2.5ft)	NE	NE

D2 Comp (A) Applies to DMMU		
0 - 5ft	SQS ER	CSL ER
HPAH	1.5	<1.0

	SQS ER	CSL ER
G-7 (0 - 20cm)	NE	NE

DC-SED 03		
0 - 20cm	SQS ER	CSL ER
Copper	3.2	3.2
Zinc	1.3	<1.0
LPAH	1.4	<1.0
HPAH	1.9	<1.0
PCBs	2.7	<1.0

DC-SED 08		
0 - 20cm	SQS ER	CSL ER
Phenanthrene	1.2	<1.0
Fluoranthene	1.4	<1.0
Chrysene	1.1	<1.0
Indeno(1,2,3-cd)pyrene	1.3	<1.0
Dibenz(a,h)anthracene	1.2	<1.0
Benzo(g,h,i)perylene	1.6	<1.0
PCBs	2.7	<1.0

IT004		
0 - 20cm	SQS ER	CSL ER
Arsenic	1.4	<1.0
Copper	2.9	2.9
Mercury	1.04	<1.0
Zinc	1.6	<1.0
LPAH	1.03	<1.0
HPAH	2.1	<1.0
Bis(2-Ethylhexyl)phthalate	1.6	<1.0
Dibenzofuran	1.2	<1.0

G-4		
2 - 3ft	SQS ER	CSL ER
Arsenic	1.23	<1.0
Copper	2.67	2.67
Lead	2.09	1.77
Mercury	43.4	30.2
Zinc	1.11	<1.0
Acenaphthene	1.03	<1.0
HPAH	1.51	<1.0
PCBs	2.17	<1.0
2, 4-Dimethylphenol	1.38	1.38

G-4		
4 - 5ft	SQS ER	CSL ER
Bis(2-Ethylhexyl)phthalate	2.1	1.26
N - Nitrosodiphenylamine	1.08	1.08

G-3		
0 - 1ft	SQS ER	CSL ER
Copper	1.66	1.66
Lead	1.35	1.15
Mercury	10.7	7.44
HPAH	1.29	<1.0
PCBs	1.17	<1.0
Dibenz(a,h)anthracene	2.75	1.0

G-3		
4 - 5ft	SQS ER	CSL ER
Copper	4.44	4.44
Lead	1.78	1.51
Mercury	21.5	14.92
Zinc	2.81	1.2
Fluoranthene	1.32	<1.0
Dibenz(a,h)anthracene	1.41	<1.0
PCBs	1.40	<1.0

G-5		
0 - 1ft	SQS ER	CSL ER
Arsenic	5.26	3.23
Copper	4.41	4.41
Mercury	3.49	2.42
Zinc	2.38	1.01
Fluorene	1.66	<1.0
HPAH	1.41	<1.0
Bis(2-Ethylhexyl)phthalate	2.09	1.14
PCBs	3.1	<1.0
G-5 (4 - 5ft)	NE	NE

G-6		
2 - 3ft	SQS ER	CSL ER
Copper	9.92	9.92
Mercury	10.8	7.51
HPAH	1.97	<1.0
G-6 (4 - 5ft)	NE	NE

Legend

Existing and Historical Site Features

- Elevation contour
- DCI-2 — Dredge Material Management Unit (DMMU) Designation
- DMMU boundaries

NE = Concentration of chemicals of concern did not exceed the SQS or CSL criteria.

SQS ER = Ratio of analytical result to sediment quality standard criteria.

CSL ER = Ratio of analytical result to cleanup screening level.

Historical Sediment Sample Location and Type

- Subsurface sediment core
- Surface sediment grab

Future Redevelopment Feature

- Planned project Pier 1 dredge boundary

2008 RI/FS Sample Locations and Type

- G-7 — Sediment core sample and surface sample location (March 2008)

N E S W

100 0 100

FEET

NOTES:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: AutoCAD drawing entitled "Existing Conditions and Project Control", file name 064065.01-1.14.dwg, by PND Engineers, Inc., dated September 2007; and PDF of Figure 1.1 "Sediment Sampling Locations" from the Sediment Sampling Data Report by Floyd Snider, dated 1/3/2007.

SURVEY NOTES

1) THIS DRAWING BASED ON SURVEY BY LEONARD, BOUDINOT, SKODJE INC. NOV. 2006

2) HORIZONTAL DATUM = BETWEEN THE MONUMENT AT THE INTERSECTION OF "R" AVENUE AND 4TH STREET AND THE MONUMENT AT THE INTERSECTION OF "T" AVENUE AND 4TH STREET. BEARS S 88°06'27" E, AS CALCULATED FROM COORDINATES SHOWN ON RECORD OF SURVEY, "A SURVEY OF ANACORTES HARBOR LINES IN T.35 N., R.1 E., AND T.34 N., & 35 N., R.2 E., W.M.", AS RECORDED UNDER AUDITOR'S FILE NUMBER 200110030106, RECORDS OF SKAGIT COUNTY, WASHINGTON.

3) VERTICAL DATUM = STANDARD DISK, STAMPED "5 1922", SET VERTICALLY IN THE EAST END OF NORTH FACE OF CONCRETE FOUNDATION OF GREAT NORTHERN RAILWAY STATION ON EAST SIDE OF R" AVENUE AT SEVENTH STREET. IT IS 3 1/2 FEET WEST OF THE NORTHEAST CORNER OF BUILDING, 3/4 FOOT ABOVE BRICK SIDEWALK, AND 26 FEET WEST OF THE WEST RAIL OF RAILROAD TRACK. ELEVATION = 16.98 FEET ABOVE MEAN LOWER LOW WATER (MLLW).

6) THIS DRAWING REPRESENTS THE EXISTING CONDITIONS AS FOUND ON THE DATE OF SURVEY; NOV. 2006. F.B.#651, PGS. 68-70.

7) THE UTILITIES SHOWN HEREON REPRESENT WHAT WAS FOUND BY FIELD INVESTIGATION ON THE DATE OF THE SURVEY. THE 1-800 UTILITY LOCATE SERVICE WAS USED. OTHER UNDERGROUND UTILITIES DO EXIST IN THIS AREA. THIS MAP IS REPRESENTING SOME UTILITIES THAT WERE NOT APPARENT ON THE GROUND.

8) CONTOURS AND SURFACE FEATURES AS REPRESENTED HEREON ARE IN CONFORMANCE WITH ACCEPTED INDUSTRY PRACTICE. CONTOUR INTERVAL: 1 FOOT.

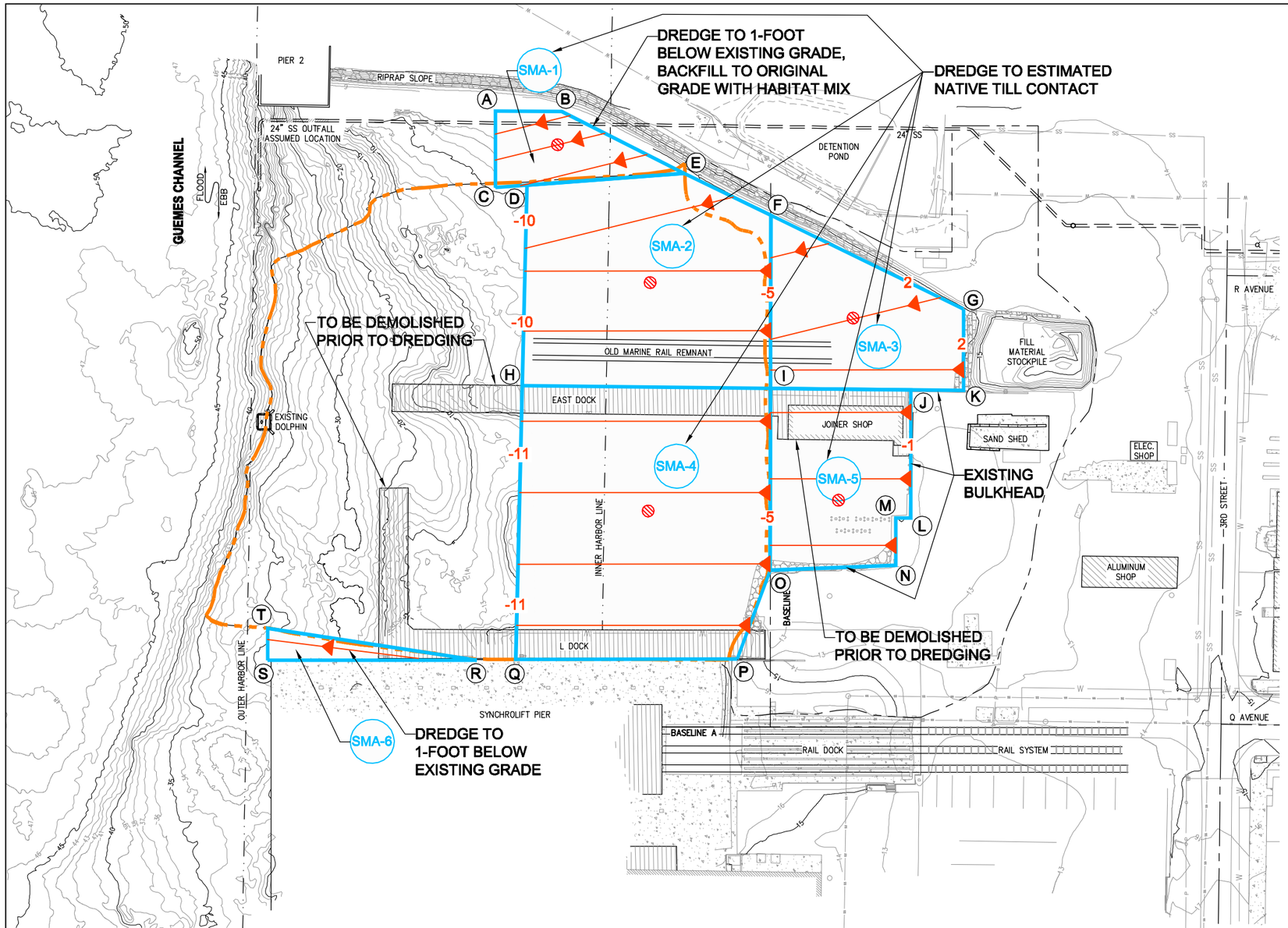
Summary of SQS and CSL Exceedances

Port of Anacortes - Dakota Creek Industries
Anacortes, Washington

GeoEngineers

Figure 2

P:\15\14700\02\CAD\Interim Work Plan Addendum Figures\15l4700602 Fig 2.dwg\TAB:F2 modified by tmichaud on Jun 02, 2008 - 11:32



SMA Corner Point Coordinates (NAD83)

	Northing	Easting
A	560003.75	1210180.58
B	559947.66	1210179.23
C	560004.88	1210116.05
D	559978.29	1210117.52
E	559844.76	1210124.91
F	559772.61	1210088.04
G	559611.18	1210005.70
H	559985.56	1209948.06
I	559775.67	1209941.63
J	559657.21	1209938.00
K	559612.43	1209936.64
L	559659.17	1209829.87
M	559671.91	1209830.10
N	559672.64	1209789.97
O	559778.88	1209787.92
P	559808.36	1209713.37
Q	559995.50	1209716.50
R	560028.37	1209716.65
S	560205.31	1209720.00
T	560204.75	1209747.07

Legend

Existing and Historical Site Features

- Gravel
- Concrete
- Rip Rap
- Elevation contour
- Planned project Pier 1 dredge boundary
- SMA-6 — Sediment Management Area (SMA) Designation
- SMA Boundary
- -10 — Proposed Dredge Elevation Contour in Feet MLLW
- Proposed Dredge Elevation Slope Arrow (Down Slope)
- A — SMA Corner Point (See Table Above)
- Approximate Location of Post-Dredge Confirmation Sample

N E S W

100 0 100

FEET

NOTES:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: AutoCAD drawing entitled "Existing Conditions and Project Control", file name 064065.01-1.14.dwg, by PND Engineers, Inc., dated September 2007; and PDF of Figure 1.1 "Sediment Sampling Locations" from the Sediment Sampling Data Report by Floyd Snider, dated 1/3/2007.

NOTES:

1. The proposed dredge elevations correspond to the approximate extent of contaminated sediments. final extent of dredging will be determined by chemical verification sampling.
2. The dredged area within SMA-1 will be backfilled with habitat mix to restore the original grade.
3. SMAs 2, 3, 4, and 5 shall be dredged to the native till contact. The dredge elevations for these areas are estimated using available geotechnical data and may vary within each SMA.
4. Dredging of transition slopes between areas shall result in slopes of no greater than 1.75 to 1.

Environmental Dredging Overlay

Port of Anacortes - Dakota Creek Industries
Anacortes, Washington

GeoEngineers

Figure 3

P:\15\14700\02\CAD\INTERIM WORK PLAN ADDENDUM FIGURES\15I4700602 FIG 3.DWG\TAB:F2 MODIFIED BY TMICHAUD ON JUN 02, 2008 - 11:33

GeoEngineers

ATTACHMENT A

MAY 19, 2008 MEMORANDUM TO SANDRA CALDWELL, WASHINGTON STATE DEPARTMENT OF ECOLOGY

GeoEngineers

MEMORANDUM

PLAZA 600 BUILDING, 600 STEWART STREET, SUITE 1700, SEATTLE, WA 98101, TELEPHONE: (206) 728-2674, FAX: (206) 728-2732 www.geoengineers.com

TO:	Sandra Caldwell, Washington State Department of Ecology
FROM:	John M. Herzog and Victoria R. England, GeoEngineers, Inc.
DATE:	May 19, 2008
FILE:	5147-006-02
SUBJECT:	March 2008 Sediment Sampling at Dakota Creek Industries--Results Summary

INTRODUCTION

GeoEngineers conducted a sediment characterization study at Dakota Creek Industries (DCI) shipyard facility basin (Site) in March 2008 as part of the Remedial Investigation (RI) study of the Site. The Site is located at 115 Q Avenue in Anacortes, Washington (Figure 1). The RI sediment characterization was completed in general accordance with the Washington State Department of Ecology (Ecology)-approved Final Remedial Investigation/Feasibility Study and Interim Action Work Plan for the Site (GeoEngineers, April 1, 2008).

The chemical analytical results of the sediment characterization study will be used to determine the nature and extent of sediment contamination at the site. These data will serve as a basis for the design of the interim action dredging at the site.

SEDIMENT SAMPLING AND ANALYSIS

The sampling program consisted of collecting sediment samples from the seven locations shown on Figure 2. Samples were collected from locations G-1, G-2 and G-7 using a vibracore sampler deployed from a boat; locations G-3, G-4, G-5 and G-6 were sampled using a hollow stem auger limited access drill rig. Samples were collected from the surface (0 to 20 cm) interval and in one foot depth intervals to completion of the boring at each sample location.

Selected sediment samples were submitted for analysis of the Washington State Sediment Management Standards (SMS) chemicals of concern (COCs) including porewater tributyltin.

Initial sample intervals submitted for chemical analysis were based on the location and depth of historic COC exceedances at the Site. Follow-up samples were submitted for analysis based on the chemical exceedances of SMS criteria identified by the first round of analyses. The second round of samples were submitted for analysis of SMS COCs. Porewater tributyltin was not included in the second round of analyses due to the low detected concentrations in the initial round of testing.

CHEMICAL ANALYTICAL RESULTS

The chemical analytical results are compared to the SMS SQS/CSL criteria in attached Table 1. Chemical exceedances of the SQS and CSL criteria are summarized below.

Sample Location/Depth Interval	SQS	CSL
G-1		
0-20 cm	No exceedances	No exceedances
1-2 ft	benzyl alcohol[1]	No exceedances
G-2		
0-20 cm	mercury	No exceedances
1.5-2.5 ft	No exceedances	No exceedances
G-3		
0-1 ft	HPAHs, PCBs	copper, lead, mercury, dibenz(a,h)anthracene
4 -5 ft	PCBs, fluoranthene, dibenz(a,h)anthracene	copper, lead, mercury, zinc
G-4		
2-3 ft	arsenic, zinc, HPAHs, PCBs, acenapthene	copper, lead, mercury, 2,4-dimethylphenol
4-5 ft	No exceedances	bis(2-ethylhexyl)phthalate, n-nitrosodiphenylamine
G-5		
0-1 ft	HPAHs, PCBs, fluorene	arsenic, copper, mercury, zinc, bis(2-ethylhexyl)phthalate
4-5 ft	No exceedances	No exceedances
G-6		
2-3 ft	HPAHs	copper, mercury
4-5 ft	No exceedances	No exceedances
G-7		
0-20 cm	No exceedances	No exceedances

[1] The benzyl alcohol concentration is an estimate by the analytical laboratory due to quality assurance and control results outside of laboratory limits. Note that benzyl alcohol was not detected using the full scan EPA Method 8270.

Based on the chemical analytical results of the March 2008 sediment characterization study, SMS SQS/CSL criteria were exceeded at five sampling locations (G-2, G-3, G-4, G-5 and G-6). These data, and sediment data from previous studies, will be used to prepare the dredge design that will be presented to Ecology in the Interim Action Work Plan Supplement for the Site.

Attachments: Table 1. DCI Basin Sediment Data Summary Relative to SMS
Figure 1. Vicinity Map
Figure 2. Summary of SQS and CSL Exceedances

JGR:VRE:bmw
SEAT:\5\5147006\02\Finals\514700602sed samp summary memo.doc

TABLE 1
DCI BASIN SEDIMENT SAMPLE[a] DATA SUMMARY RELATIVE TO SMS[b]
RI/FS INTERIM ACTION INVESTIGATION
DAKOTA CREEK SITE

Sample Identification	Sediment Quality Standards (SQS) WAC 173-204-320)	Sediment Cleanup Screening Level (CSL) WAC 173-204-520	G-1 (s')		Exceedance Ratio	G-1 (1-2')		Exceedance Ratio	G-2 (s')		Exceedance Ratio	G-2 (1.5-2.5')		Exceedance Ratio	G-3 (0-1')		Exceedance Ratio	G-3 (4-5')		Exceedance Ratio	G-4 (2-3')		Exceedance Ratio	G-4 (4-5')		Exceedance Ratio	G-5 (0-1')		Exceedance Ratio	G-5 (4-5')		Exceedance Ratio	G-6 (2-3')		Exceedance Ratio	G-6 (4-5')		Exceedance Ratio	G-7 (s')		Exceedance Ratio
Conventionals																																									
Total Solids (%)	--	--	46.50			47.40			52.90			39.50			83.10			74.50			81.90			82.40			81.80			84.40			73.00			83.90			79.3		
Total Volatile Solids (%)	--	--	14.54			12.25			9.94			28.59			2.32			7.08			2.55			1.52			0.88			3.17			4.19			1.34			1.78		
Ammonia (mg/kg)	--	--	6.17			20.6			14.1			24.2			0.62			1.77			3.61			9.29			0.22			2.61			3.75			2.93			1.62		
Total Sulfides (mg/kg)	--	--	303			485			231			400			333			370			435			1.19	U		69.7			10.9			1,320			12.4			245		
Total Organic Carbon (%)	--	--	1.96			2.78			2.17			8.53			1.03			4.54			1.39			1.01			0.451			1.73			1.60			1.03			0.602		
Metals	**mg/kg Dry Weight**																																								
Arsenic	57	93	10	U		10	U		9			10	U		30			30			**70**		1.23	6	U		**300**		3.23	6	U		33			6	U		37		
Cadmium	5.1	6.7	0.8			0.8			0.8			0.9			0.6	U		0.8			0.8			0.3			1.2			0.2	U		0.8			0.2	U		0.3		
Chromium	260	270	30			25			31.4			29			47			50			50			17.3			55			25.9			20.6			29.8			30.2		
Copper	390	390	49.3			44.0			36.4			47.6			**648**		1.66	**1,730**		4.44	**1,040**		2.67	52.3			**1,720**		4.41	28.2			**3,870**		9.92	12.0			77.2		
Lead	450	530	15			26			17			34			**609**		1.15	**801**		1.51	**939**		1.77	22			338			12			188			5			25		
Mercury	0.41	0.59	0.1			0.3			**0.51**		1.24	0.4			**4.39**		7.44	**8.8**		14.92	**17.8**		30.2	0.11			**1.43**		2.42	0.22			**4.43**		7.51	0.05	U		0.07		
Silver	6.1	6.1	0.7	U		0.8	U		0.5	U		0.7	U		0.9	U		1	U		0.9	U		0.3	U		0.9	U		0.3	U		0.5			0.3	U		0.4	U	
Zinc	410	960	84			76			59			76			320			**1,150**		1.20	**456**		1.11	37			**974**		1.01	39			307			28			90		
Organotins (porewater tributyltin) ug/L	--	--	0.019	U		NA			0.019	U		NA			1.4			NA			1.3			NA			0.68			NA			0.16			NA			0.026	U	
PAHs	**mg/kg Organic Carbon [c]**																																								
LPAH [d]	370	780	51.07			9			31.6			8.03			91.7			118.7			172.7			42.4			238.4			23.0			232.6			19.1			11.8		
Naphthalene	99	170	7			0.72	U		1.7			0.6			5.6	U		2.64			10.8			2.5			13.1	U		1.5			5.7			1.9	U		3.3	U	
Acenaphthylene	66	66	4.7			0.72	U		1.8			0.5			5.2	J		2.86			7.2			2.0	U		13.1	U		1.2	U		15.6			1.9	U		3.3	U	
Acenaphthene	16	57	1.4			0.72	U		0.9	J		0.2	U		5.3	J		7.49			**16.5**		1.03	3.1			12.0	J		9.25			9.38			4.5			3.3	U	
Fluorene	23	79	4.8			0.72	U		2.7			0.8			4.5	J		7.93			19.4			4.6			11.5	J		1.2			14.4			1.9	U		3.3	U	
Phenanthrene	100	480	28.6			5.76			20.3			5.63			54.4			77.09			86.33			23.8			**166**		1.66	7.51			68.75			9.7			2.8	J	
Anthracene	220	1,200	4.9			1.5			4.2			0.5			19.4			20.7			32.4			7.5			35.5			2.9			118.8			2.0			2.3	J	
2-Methylnaphthalene	38	64	1.9			0.72	U		0.8	J		0.4			5.6	U		1.7			7.91			2.0	U		13.1	U		1.2	U		3.9			1.9	U		3.3	U	
HPAH [e]	960	5,300	241.3			52.09			108.8			23			**1,240**		1.29	950.88			**1,448.9**		1.51	287.0			**1,355**		1.41	104.2			**1,890.0**		1.97	46.9			51.00		
Fluoranthene	160	1,200	43.9			11.5			26.3			5.98			**214**		1.33	**211.5**		1.32	**417.3**	D	2.61	73.3			**332.6**		2.08	26.6			**687.50**	D	4.30	13.6			8.0		
Pyrene	1,000	1,400	36.7			11.2			23.0			5.04			223.3			215.9			244.6	D		65.3			243.9			30.6			468.8	D		13.6			15		
Benzo(a)anthracene	110	270	18.4			4.7			9.22			1.88			94.2			81.50			107.9			22.8			**122**		1.11	9.25			**162.5**		1.48	3.7			4.0		
Chrysene	110	460	28.6			7.6			10.6			2.58			**117**		1.06	83.70			**151.1**		1.37	29.7			**160**		1.45	10.4			**193.8**		1.76	3.9			5.5		
Total Benzofluoranthenes [f]	230	450	46.4			9.4			17.1			3.40			**282**		1.22	193.8			**259.0**		1.13	45.5			**243.9**		1.06	13.3			206.3			5.6			9.5		
Benzo(a)pyrene	99	210	29.1			4.3			10.1			1.88			**136**		1.37	85.90			**115.1**		1.16	24.8			**115**		1.16	8.09			93.75			3.6			3.7		
Indeno(l,2,3-c,d)pyrene	34	88	18.4			1.7			5.99			1.0			**70.9**		2.08	33.04			**61.9**		1.82	9.90			**59.9**		1.76	2.8			**34.4**		1.01	1.9	U		2.8	J	
Dibenz(a,h)anthracene	12	33	5.1			1.3			1.4			1.2			**33.0**		1.00	**16.96**		1.41	**28.8**		2.40	6.4			**20.2**		1.68	1.0			9.38			0.66			1.0	U	
Benzo(g,h,i)perylene	31	78	14.8			1.5			5.07			1.0			**70.9**		2.29	28.63			**63.3**		2.04	9.3			**57.6**		1.86	2.6			**33.8**		1.09	1.9	U		2.5	J	
1,2-Dichlorobenzene	2.3	2.3	0.32			0.33	U		0.3	U		0.07	U		0.60	U		0.1	U		1.3			0.60	U		1.4	U		0.4	U		1.0			0.6	U		1.0	U	
1,4-Dichlorobenzene	3.1	9	0.66			0.35			0.3	U		0.07	U		0.60	U		0.1	U		1.0			0.60	U		1.4	U		0.4	U		0.4	U		0.6	U		1.0	U	
1,2,4Trichlorobenzene	0.81	1.8	0.32	U		0.22	U		0.29	U		0.07	U		0.60	U		0.1	U		0.4	U		0.60	U		***1.4***	***U***	1.70	0.4	U		0.4	U		0.6	U		***1.0***	***U***	1.25
Hexachlorobenzene	0.38	2.3	0.32	U		0.22	U		0.29	U		0.07	U		***0.60***	***U***	1.58	0.1	U		***0.4***	***U***	1.17	0.60	U		***1.4***	***U***	3.62	0.4	U		***0.4***	***U***	1.00	***0.6***	***U***	1.56	***1.0***	***U***	2.67
Dimethylphthalate	53	53	0.82	U		0.54	U		0.7	U		0.18	U		5.6	U		0.3	U		4.2	U		1.49	U		13	U		0.9	U		3.6	U		1.5	U		2.5	U	
Diethylphlhalate	61	110	1.02	U		0.72	U		0.9	U		0.23	U		5.6	U		1.3	U		4.2	U		2.0	U		13	U		1.2	U		3.6	U		1.9	U		3.3	U	

TABLE 1
DCI BASIN SEDIMENT SAMPLE[(a)] DATA SUMMARY RELATIVE TO SMS[(b)]
RI/FS INTERIM ACTION INVESTIGATION
DAKOTA CREEK SITE

Sample Identification	Sediment Quality Standards (SQS) WAC 173-204-320)	Sediment Cleanup Screening Level (CSL) WAC 173-204-520	G-1 (s')		Exceedance Ratio	G-1 (1-2')		Exceedance Ratio	G-2 (s')		Exceedance Ratio	G-2 (1.5-2.5')		Exceedance Ratio	G-3 (0-1')		Exceedance Ratio	G-3 (4-5')		Exceedance Ratio	G-4 (2-3')		Exceedance Ratio	G-4 (4-5')		Exceedance Ratio	G-5 (0-1')		Exceedance Ratio	G-5 (4-5')		Exceedance Ratio	G-6 (2-3')		Exceedance Ratio	G-6 (4-5')		Exceedance Ratio	G-7 (s')		Exceedance Ratio
Di-n-Butylphthalate	220	1,700	1.02	U		0.72	U		0.9	U		0.23	U		5.6	U		1.3	U		4.2	U		2.0	U		13	U		1.2	U		3.6	U		1.9	U		3.3	U	
Butylbenzylphthalate	4.9	64	0.82	U		0.65			0.7	U		0.18	U		1.5	U		0.3	U		1.4			3.2			3.3	U		0.9	U		0.9	U		1.5	U		2.5	U	
bis(2-Ethylhexyl)phthalate	47	78	3.21			2.4			2.2			0.23	U		15.5			24.23			36.7			**98.0**		1.257	**88.7**		1.14	1.5			11.3			1.9	U		6.8		
Di-n-octyl phthalate	58	4,500	1.02	U		0.72	U		0.9	U		0.23	U		5.6	U		1.3	U		4.2	U		2.0	U		13	U		1.2	U		3.6	U		1.9	U		3.3	U	
Dibenzofuran	15	58	2.86			0.72	U		1.0			0.38			5.6	U		3.52			9.35			2.1			13	U		1.2	U		5.9			1.9	U		3.3	U	
Hexachlorobutadiene	3.9	6.2	0.32	U		0.22	U		0.3	U		0.07	U		0.60	U		0.1	U		0.4	U		0.6	U		1.4	U		0.4	U		0.4	U		0.6	U		1.0	U	
N-Nitrosodiphenylamine	11	11	0.32	U		0.24	U		0.9	U		0.10			0.60	U		1.2	U		0.4	U		**11.9**		1.08	1.4	U		0.4	U		0.4	U		0.6	U		2.5	J	
Total PCBs mg/kg OC[(g)]	12	65	1	U		0.72	U		5.44			1.66			**14.1**		1.17	**16.8**		1.40	**26.0**		2.17	2.0	U		**37.3**		3.10	1.1	U		8.38			1.8	U		3	U	
	ug/kg dry weight																																								
Phenol	420	1,200	34			20	U		20	U		20	U		43	J		59	U		76			20	U		59	U		20	U		58	U		20	U		20	U	
2-Methylphenol	63	63	6.2	U		7.3			6.2	U		6.1	U		6.2	U		17			6.2	U		6.1	U		6.2	U		6.2	U		6.1	U		6.1	U		6.2	U	
4-Methylphenol	670	670	59			20	U		19	J		20	U		58	U		59	U		45	J		20	U		59	U		20	U		58	U		20	U		20	U	
2, 4-Dimethylphenol	29	29	6.2	U		6.1	U		6.2	U		6.1	U		6.2	U		16			**40**		**1.38**	6.1	U		6.2	U		6.2	U		6.1	U		6.1	U		6.2	U	
Pentachlorophenol	360	690	31	U		30	U		31	U		31	U		290	U		42			70			30	U		40			31	U		31	U		31	U		31	U	
Benzyl Alcohol	57	73	31	U		**70**	J1	1.228	31	U		31	U		31	U		30	U		31	U		30	U		31	U		31	U		31	U		31	U		31	U	
Benzoic Acid	650	650	200	U		200	U		200	U		200	U		580	U		590	U		580	U		200	U		590	U		200	U		580	U		200	U		200	U	

Notes:

(a) Sediment samples were collected March 14, 2008.

(b) This table summarizes sediment sample analytical results with reference to the Sediment Management Standards (SMS) Sediment Quality Standards (SQS) and/or Cleanup Screening Level (CSL).

(c) The listed chemical parameter criteria represent concentrations in parts per million, "normalized," or expressed, on a total organic carbon basis. To normalize to total organic carbon, the dry weight concentration for each parameter is divided by the decimal fraction representing the percent total organic carbon content of the sediment.

(d) The LPAH criterion represents the sum of the following "low molecular weight polynuclear aromatic hydrocarbon" compounds: Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, and Anthracene. The LPAH criterion is not the sum of the criteria values for the individual LPAH compounds as listed.

(e) The HPAH criterion represents the sum of the following "high molecular weight polynuclear aromatic hydrocarbon" compounds: Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Total Benzofluoranthenes, Benzo(a)pyrene, Indeno(1,2,3,-c,d)pyrene, Dibenz(a,h) anthracene, and Benzo(g,h,i)perylene. The HPAH criterion is not the sum of the criteria values for the individual HPAH compounds as listed.

(f) The benzofluoranthenes criterion represents the sum of the concentrations of the "B," and "K" isomers.

(g) PCBs = Polychlorinated biphenyl s

J= This is an estimated concentration

J1= Benzly alcohol is known to be a poor performer. Laboratory QA/QC was outside of limits. This concentration should be considered an estimate. Benzyl alcohol was not detected in the full scan.

U = analyte not detected at this concentration

X = Method detection limit exceeds the SQS or CSL criteria

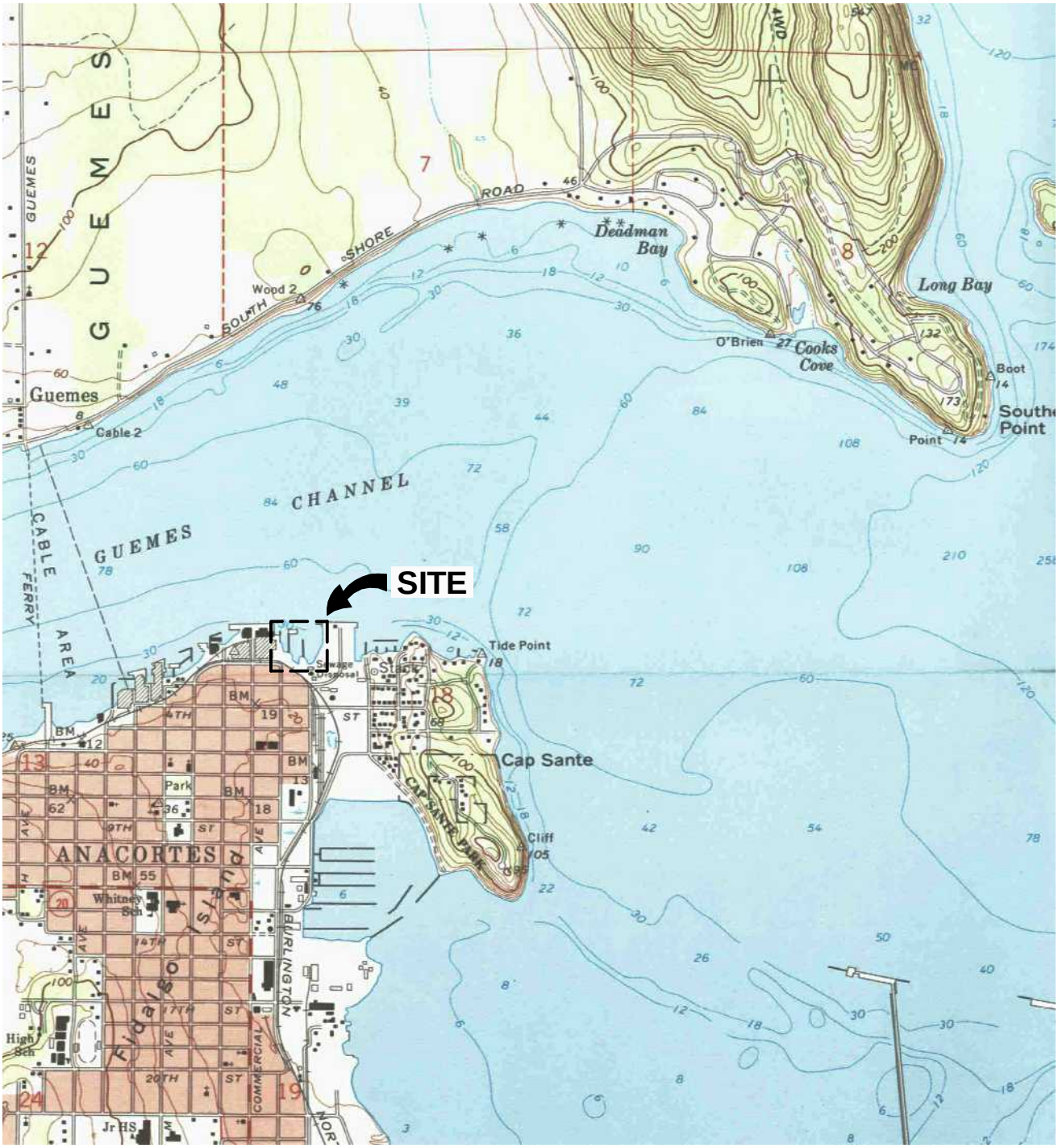
NR = "No Result" - result is pending receipt of final chemical analytical results from the analytical laboratory.

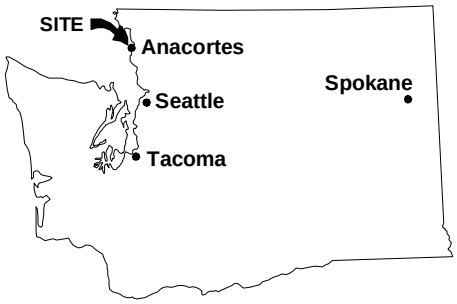
NA = not analyzed

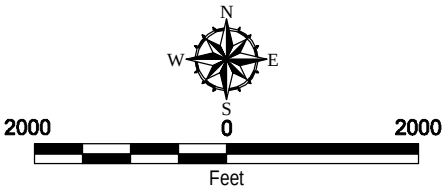
mg/kg = milligram per kilogram ug/kg = microgram per kilogram OC = organic carbon ppm = parts per million (s) = surface sample, 0-20 cm

Bold indicates concentrations greater than the SMS SQS Grey shading indicates concentrations greater than the SMS SQS and CSL *Italics* indicates elevated method detection limit greater than SQS criteria. All associated dry weight concentrations are less than the associated apparent effects thresholds (AET).

SEAT:\5\5147006\00\Finals\5147-006-00Sed data table2008_tsd.xls







Vicinity Map

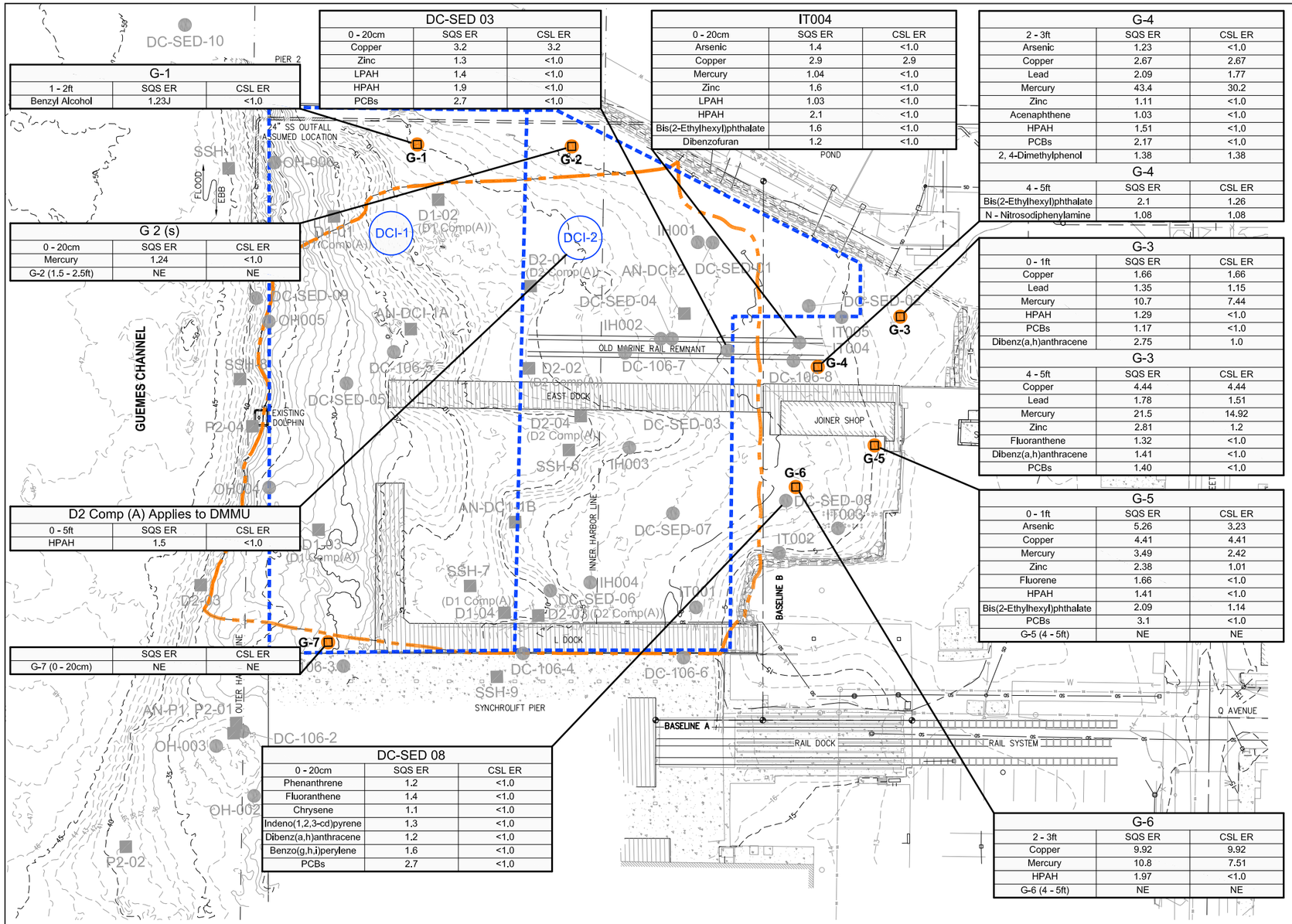
Port of Anacortes - Dakota Creek Industries
Anacortes, Washington

GeoEngineers

Figure 1

Reference: USGS 7.5' topographic quadrangle map "(Anacortes North, Wash.," photoinspected 1978).

P:\15\14700600\CADD\14700600F1.DWG\TAB:F1 MODIFIED BY TMICHAUD ON FEB 25, 2008 - 13:43



G-1		
1 - 2ft	SQS ER	CSL ER
Benzyl Alcohol	1.23J	<1.0

G 2 (s)		
0 - 20cm	SQS ER	CSL ER
Mercury	1.24	<1.0
G-2 (1.5 - 2.5ft)	NE	NE

D2 Comp (A) Applies to DMMU		
0 - 5ft	SQS ER	CSL ER
HPAH	1.5	<1.0

	SQS ER	CSL ER
G-7 (0 - 20cm)	NE	NE

DC-SED 03		
0 - 20cm	SQS ER	CSL ER
Copper	3.2	3.2
Zinc	1.3	<1.0
LPAH	1.4	<1.0
HPAH	1.9	<1.0
PCBs	2.7	<1.0

IT004		
0 - 20cm	SQS ER	CSL ER
Arsenic	1.4	<1.0
Copper	2.9	2.9
Mercury	1.04	<1.0
Zinc	1.6	<1.0
LPAH	1.03	<1.0
HPAH	2.1	<1.0
Bis(2-Ethylhexyl)phthalate	1.6	<1.0
Dibenzofuran	1.2	<1.0

G-4		
2 - 3ft	SQS ER	CSL ER
Arsenic	1.23	<1.0
Copper	2.67	2.67
Lead	2.09	1.77
Mercury	43.4	30.2
Zinc	1.11	<1.0
Acenaphthene	1.03	<1.0
HPAH	1.51	<1.0
PCBs	2.17	<1.0
2, 4-Dimethylphenol	1.38	1.38
G-4		
4 - 5ft	SQS ER	CSL ER
Bis(2-Ethylhexyl)phthalate	2.1	1.26
N - Nitrosodiphenylamine	1.08	1.08

G-3		
0 - 1ft	SQS ER	CSL ER
Copper	1.66	1.66
Lead	1.35	1.15
Mercury	10.7	7.44
HPAH	1.29	<1.0
PCBs	1.17	<1.0
Dibenz(a,h)anthracene	2.75	1.0
G-3		
4 - 5ft	SQS ER	CSL ER
Copper	4.44	4.44
Lead	1.78	1.51
Mercury	21.5	14.92
Zinc	2.81	1.2
Fluoranthene	1.32	<1.0
Dibenz(a,h)anthracene	1.41	<1.0
PCBs	1.40	<1.0

G-5		
0 - 1ft	SQS ER	CSL ER
Arsenic	5.26	3.23
Copper	4.41	4.41
Mercury	3.49	2.42
Zinc	2.38	1.01
Fluorene	1.66	<1.0
HPAH	1.41	<1.0
Bis(2-Ethylhexyl)phthalate	2.09	1.14
PCBs	3.1	<1.0
G-5 (4 - 5ft)	NE	NE

G-6		
2 - 3ft	SQS ER	CSL ER
Copper	9.92	9.92
Mercury	10.8	7.51
HPAH	1.97	<1.0
G-6 (4 - 5ft)	NE	NE

DC-SED 08		
0 - 20cm	SQS ER	CSL ER
Phenanthrene	1.2	<1.0
Fluoranthene	1.4	<1.0
Chrysene	1.1	<1.0
Indeno(1,2,3-cd)pyrene	1.3	<1.0
Dibenz(a,h)anthracene	1.2	<1.0
Benzo(g,h,i)perylene	1.6	<1.0
PCBs	2.7	<1.0

Legend

Existing and Historical Site Features

- Elevation contour
- DCI-2 — Dredge Material Management Unit (DMMU) Designation
- DMMU boundaries

NE = Concentration of chemicals of concern did not exceed the SQS or CSL criteria.

SQS ER = Ratio of analytical result to sediment quality standard criteria.

CSL ER = Ratio of analytical result to cleanup screening level.

Historical Sediment Sample Location and Type

- Subsurface sediment core
- Surface sediment grab

Future Redevelopment Feature

- Planned project Pier 1 dredge boundary

2008 RI/FS Sample Locations and Type

- G-7 — Sediment core sample and surface sample location (March 2008)

N E S W

100 0 100

FEET

NOTES:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: AutoCAD drawing entitled "Existing Conditions and Project Control", file name 064065.01-1.14.dwg, by PND Engineers, Inc., dated September 2007; and PDF of Figure 1.1 "Sediment Sampling Locations" from the Sediment Sampling Data Report by Floyd Snider, dated 1/3/2007.

SURVEY NOTES

1) THIS DRAWING BASED ON SURVEY BY LEONARD, BOUDINOT, SKODJE INC. NOV. 2006

2) HORIZONTAL DATUM = BETWEEN THE MONUMENT AT THE INTERSECTION OF "R" AVENUE AND 4TH STREET AND THE MONUMENT AT THE INTERSECTION OF "T" AVENUE AND 4TH STREET, BEARS S 88°06'27" E, AS CALCULATED FROM COORDINATES SHOWN ON RECORD OF SURVEY, "A SURVEY OF ANACORTES HARBOR LINES IN T.35 N., R.1 E., AND T.34 N., & 35 N., R.2 E., W.M.", AS RECORDED UNDER AUDITOR'S FILE NUMBER 200110030106, RECORDS OF SKAGIT COUNTY, WASHINGTON.

3) VERTICAL DATUM = STANDARD DISK, STAMPED "5 1922", SET VERTICALLY IN THE EAST END OF NORTH FACE OF CONCRETE FOUNDATION OF GREAT NORTHERN RAILWAY STATION ON EAST SIDE OF R" AVENUE AT SEVENTH STREET. IT IS 3 1/2 FEET WEST OF THE NORTHEAST CORNER OF BUILDING, 3/4 FOOT ABOVE BRICK SIDEWALK, AND 26 FEET WEST OF THE WEST RAIL OF RAILROAD TRACK. ELEVATION = 16.98 FEET ABOVE MEAN LOWER LOW WATER (MLLW).

6) THIS DRAWING REPRESENTS THE EXISTING CONDITIONS AS FOUND ON THE DATE OF SURVEY: NOV. 2006. F.B.#651, PGS. 68-70.

7) THE UTILITIES SHOWN HEREON REPRESENT WHAT WAS FOUND BY FIELD INVESTIGATION ON THE DATE OF THE SURVEY. THE 1-800 UTILITY LOCATE SERVICE WAS USED. OTHER UNDERGROUND UTILITIES DO EXIST IN THIS AREA. THIS MAP IS REPRESENTING SOME UTILITIES THAT WERE NOT APPARENT ON THE GROUND.

8) CONTOURS AND SURFACE FEATURES AS REPRESENTED HEREON ARE IN CONFORMANCE WITH ACCEPTED INDUSTRY PRACTICE. CONTOUR INTERVAL: 1 FOOT.

Summary of SQS and CSL Exceedances

Port of Anacortes - Dakota Creek Industries
Anacortes, Washington

GeoEngineers

Figure 2

W:\SEATTLE\PROJECTS\15\15\47006\02\CAD\15\I4700602F2.DWG\TAB:F2 MODIFIED BY PRPENDLETON ON MAY 15, 2008 - 12:33