

San Diego Bay Environmental Restoration Fund – South

450 Montbrook Lane
Knoxville, TN 37919
Phone: (865) 691-5052

VIA Email and US Mail

March 14, 2014

David Gibson
San Diego Regional Water Quality Control Board
2375 Northside Drive, Suite 100
San Diego, California 92108

Re: February 2014, Monthly Water Column Monitoring Report Submittal
San Diego Shipyard Sediment Site – South Shipyard
Place ID 794466, Order No. R9-2013-0093

To Mr. Gibson:

The February 2014 Monthly Water Column Monitoring Report is being submitted to the San Diego Regional Water Quality Control Board by the San Diego Bay Environmental Restoration Fund – South (Attached).

Should there be any questions regarding this Monthly Report, please do not hesitate to contact me at 619-546-8377 ext. 103 or at mpalmer@demaximis.com.

Sincerely,



Michael A. Palmer
Project Coordinator

Attachment: San Diego Shipyard Sediment Site – South Shipyard (Place ID 794466, Order No. R9-2013-0093) Monthly Water Column Monitoring Report: February 2014

cc: Mike Chee, NASSCO (Via Email)
David Templeton, Anchor QEA (Via Email)
Chad Carpenter, R. E. Staite Engineering (Via Email)

CERTIFICATION STATEMENT

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

R. Thomas Dorsey
Print Name
Tom Dorsey


Signature

3/12/14
Date

TECHNICAL MEMORANDUM

To: David Gibson, San Diego Regional Water Quality Control Board **Date:** March 14, 2014

From: Chris Osuch, Adam Gale, and Elizabeth Appy, Anchor QEA **Project:** 131003-01.02

Cc: Michael Chee, National Steel and Shipbuilding Company
Michael Palmer, de maximis, inc.
David Templeton and Michael Whelan, Anchor QEA
Robert Smith, U.S. Army Corps of Engineers

Re: San Diego Shipyard Sediment Site – South Shipyard (Place ID 794466, Order No. R9-2013-0093) Monthly Water Column Monitoring Report: February 2014

INTRODUCTION

The San Diego Bay Environmental Restoration Fund – South (South Trust) is remediating contaminated sediments at the South Shipyard portion of the San Diego Shipyard Sediment Site (Site). Remediation is required to comply with Cleanup and Abatement Order (CAO) No. R9-2012-0024 issued by the San Diego Regional Water Quality Control Board (Water Board 2012a). Water column monitoring must be conducted during dredging or sand placement operations in order to comply with Waste Discharge Requirements and Section 401 Water Quality Certification (WDR/WQC; Water Board 2013). Anchor QEA was contracted by the South Trust to conduct this water column monitoring.

This technical memorandum summarizes results of water column monitoring during February 2014. During this month, sand placement was performed within Sediment Management Unit (SMU)-2 (South), -3, and -4 (Figure 1). Monitoring during sand placement was conducted on February 10, 11, 12, 17, and 25. Monitoring was performed in accordance with the WDR/WQC Section VIII(A) (Water Board 2013) and Appendix C of the Remedial Action Plan (RAP; Anchor QEA 2012). Water quality monitoring included dissolved oxygen (DO), pH, turbidity, and visual observations.

In addition to the manual water quality monitoring conducted by Anchor QEA, an automatic monitoring system was set up and monitored by Tierra Data, Inc. (TDI) in accordance with the Mitigation Monitoring and Reporting Program (MMRP; Water Board

2012b). Automatic monitoring buoys were installed by TDI on September 26, prior to commencing dredging. Buoys are located at the reference station and two early warning stations. The reference station is located 1,000 feet from the remedial footprint in the direction of the ocean. Early warning stations are located 250 feet from the construction area;¹ however, it was necessary to slightly adjust this distance to allow for vessel traffic, including barge and tugboat access. Automatic monitoring is intended to alert the contractor if early warning triggers are achieved during dredging or sand placement to allow for additional best management practices (BMPs) to be implemented to prevent an exceedance at the compliance boundary. Automatic monitoring data are not presented in this technical memorandum but are available at <http://www.wqdata.com/webdblink/buoys.php>.

MATERIAL PLACEMENT VOLUMES AND LOCATIONS

In February, 3,840 cubic yards (cy) of cover material was placed at the Site, consisting of 1,100 cy at SMU-2 (south), 1,120 cy at SMU-3, and 1,610 cy at SMU-4 (Figure 1). Daily production rates ranged from 70 to 760 cy. All placed material was obtained from the Vulcan Materials Company's Chula Vista Plant. A summary of daily material placement volumes and locations of where material was placed is presented in Table 1.

WATER QUALITY MONITORING RESULTS

This section describes water quality monitoring results, including sampling locations, water column measurements, and visual observations.

Sampling Locations

Monitoring was performed at the reference station, two early warning stations, and four compliance stations. The reference station is located 1,000 feet from the remedial footprint in the direction of the ocean and beyond the influence of construction activities (Figure 2). Early warning and compliance stations are located 250 and 500 feet from the construction area, respectively. The general layout of early warning and compliance monitoring locations for SMU-2 and SMU-4 are shown on Figures 3 and 4, respectively; however, actual locations were positioned in the field relative to the construction area. Monitoring did not occur during material placement in SMU-3, as operations in that area were only active for the final

¹ The construction area is defined as the area occupied by the dredging barge, sediment scow, sand and rock placement equipment, demolition work equipment, silt curtains, and other work.

3 working days of the reporting period. Monitoring in SMU-3 will be conducted during the next reporting period. Latitude and longitude coordinates for each monitoring location are presented in Table 2.

Water Column Measurements

DO, pH, and turbidity were measured 10 feet below the surface at each station using a Hydrolab MS5 multi-probe sonde. The instrument was calibrated prior to sampling according to the manufacturer's recommendations. Instrument calibration worksheets for each sampling event are provided in Attachment A. Water quality sample forms are provided in Attachment B. A summary of monitoring results during sand placement is presented in Table 2.

DO, pH, and turbidity results at each compliance station were compared to receiving water limitation compliance criteria. DO and pH concentrations at the compliance stations were similar to the reference station and met compliance criteria. On February 10, the turbidity concentration at one compliance station was more than 20 percent greater than the reference (5.0 Nephelometric Turbidity Units [NTU]), indicating a potential water quality issue. Visual evidence was evaluated. No discoloration, turbidity, or surface pollution was observed. Qualitative observation of the construction area indicated a tightly defined turbidity plume well contained within the silt curtain and no silt curtain breach. Concentrations at both early warning stations were within 20 percent; therefore, the elevated turbidity was likely caused by extraneous factors and not by sand placement operations.

Visual Observations

Visual observations are summarized in Table 2. No odors or visual evidence of discoloration, turbidity, or surface pollution was observed at any station. The silt curtain was in place during all sand placement operations, and no damage, dislocation, or gaps were observed.

Visual monitoring of turbidity inside and outside the silt curtains was performed in concert with water quality parameter monitoring. Attachment C provides site photographs of the silt curtains that visualize typical conditions during construction, showing an attenuating turbidity plume inside the silt curtains. These visual observations are consistent with the results presented in this technical memorandum.

SUMMARY OF NON-COMPLIANCE

Based on the results of water quality monitoring, no incidents of non-compliance were noted during February 2014. Potential exceedances were attributed to extraneous factors and not sand placement operations.

PERSONS CONTRIBUTING TO THIS REPORT

Names, affiliations, and qualifications of the persons contributing to this technical memorandum are summarized in Table 3.

REFERENCES

Anchor QEA, 2012. *Remedial Action Plan*. San Diego Shipyard Sediment Site. Revised October 2012.

Water Board (San Diego Regional Water Quality Control Board), 2012a. Cleanup and Abatement Order R9-2012-0024 for the Shipyard Sediment Site. Issued March 14, 2012.

Water Board, 2012b. Mitigation Monitoring and Reporting Program for the Shipyard Sediment Remediation Project Environmental Impact Report (SCH#2009111098). Issued on March 14, 2012.

Water Board, 2013. Waste Discharge Requirements for San Diego Shipyard Sediment Remediation Project, San Diego Bay, San Diego, California. Order No. R9-2013-0093. Issued on July 10, 2013.

TABLES

Table 1
Material Placement Volumes and Locations for February 2014

Date	Estimated Material Placement (cy)	Material Placement Location
2/10/2014	100	SMU-4
2/11/2014	100	SMU-4
2/12/2014	160	SMU-4
2/13/2014	160	SMU-4
2/14/2014	450	SMU-4
2/17/2014	80	SMU-4
2/18/2014	360	SMU-4
2/19/2014	200	SMU-4
2/20/2014	160	SMU-2 (South)
2/21/2014	90	SMU-2 (South)
2/22/2014	190	SMU-2 (South)
2/24/2014	340	SMU-2 (South)
2/25/2014	260	SMU-2 (South)
2/25/2014	100	SMU-3
2/26/2014	70	SMU-2 (South)
2/26/2014	260	SMU-3
2/27/2014	760	SMU-3
Total	3,840	-

Notes:

cy = cubic yard

SMU = Sediment Management Unit

1 Placed material was obtained from the Vulcan Materials Company's Chula Vista Plant.

Table 2
Water Quality Monitoring Results During Material Placement - February 1 through 28, 2014

Date	Time	Station Type	Station ID	Latitude ¹	Longitude ¹	Water Quality Measurements			Visual Observations		
						DO (mg/L)	pH	Turbidity (NTU)	Odor	Surface Pollution	Discoloration or Turbidity
2/10/2014	15:15:58	Reference	P-BG-140210	32.69110	-117.15015	8.0	8.0	1.0	No	No	No
2/10/2014	15:45:42	Early Warning	P-EWN-140210	32.68756	-117.14026	8.3	8.1	0.2	No	No	No
2/10/2014	15:50:50	Compliance	P-CNN-140210	32.68915	-117.14019	8.2	8.1	0.9	No	No	No
2/10/2014	15:56:24	Compliance	P-CON-140210	32.68755	-117.14120	8.2	8.1	0.7	No	No	No
2/10/2014	16:02:49	Early Warning	P-EWS-140210	32.68682	-117.13981	8.2	8.1	1.0	No	No	No
2/10/2014	16:16:10	Compliance	P-CNS-140210	32.68638	-117.13772	7.8	8.1	5.0 ²	No	No	No
2/10/2014	16:28:51	Reference	P-BG-140210	32.69121	-117.15018	8.1	8.1	0.9	No	No	No
2/10/2014	16:45:18	Compliance	P-CNS-140210	32.68641	-117.13783	8.0	8.1	4.2 ²	No	No	No
2/10/2014	16:59:45	Compliance	P-COS-140210	32.68651	-117.14025	8.1	8.1	1.4 ³	No	No	No
2/10/2014	17:07:09	Reference	P-BG-140210	32.69126	-117.15037	8.0	8.1	1.5	No	No	No
2/10/2014	17:13:49	Compliance	P-COS-1402103	32.68668	-117.14078	8.0	8.1	1.4	No	No	No
2/11/2014	12:29:43	Reference	P-BG-140211	32.69161	-117.15054	8.0	8.0	1.5	No	No	No
2/11/2014	12:46:53	Compliance	P-CON-140211	32.68700	-117.14193	8.0	8.0	0.4	No	No	No
2/11/2014	12:55:34	Compliance	P-COS-140211	32.68598	-117.14035	8.0	8.0	0.7	No	No	No
2/11/2014	13:13:55	Early Warning	P-EWN-140211	32.68734	-117.14062	7.9	8.0	1.3	No	No	No
2/11/2014	13:25:52	Compliance	P-CNN-140211	32.68892	-117.14074	7.7	8.0	2.4 ³	No	No	No
2/11/2014	13:40:42	Reference	P-BG-140211	32.69125	-117.15032	8.1	8.0	2.3	No	No	No
2/11/2014	13:55:18	Compliance	P-CNN-140211	32.68897	-117.14081	7.6	8.0	2.5	No	No	No
2/11/2014	14:01:13	Early Warning	P-EWS-140211	32.68645	-117.13947	7.8	8.0	2.8 ⁴	No	No	No
2/11/2014	14:05:38	Compliance	P-CNS-140211	32.68647	-117.13755	7.8	8.0	1.1	No	No	No
2/12/2014	13:17:54	Reference	P-BG-140212	32.69137	-117.15037	7.9	8.0	0.7	No	No	No
2/12/2014	13:34:17	Compliance	P-CON-140212	32.68669	-117.14164	7.8	8.1	0.8	No	No	No
2/12/2014	14:00:01	Early Warning	P-EWN-140212	32.68758	-117.14074	7.6	8.0	8.4 ⁴	No	No	No
2/12/2014	14:05:05	Compliance	P-CNN-140212	32.68900	-117.14095	7.6	8.0	0.5	No	No	No
2/12/2014	14:13:43	Early Warning	P-EWS-140212	32.68684	-117.13956	7.7	8.0	1.0 ⁴	No	No	No
2/12/2014	14:18:26	Compliance	P-CNS-140212	32.68646	-117.13772	7.7	8.0	0.8	No	No	No
2/12/2014	14:27:10	Compliance	P-COS-140212	32.68584	-117.13925	7.8	8.0	0.8	No	No	No
2/17/2014	13:43:28	Reference	P-BG-140217	32.69153	-117.15070	8.1	7.9	0.9	No	No	No
2/17/2014	14:07:05	Early Warning	P-EWN-140217	32.68759	-117.14047	7.9	7.9	0.3	No	No	No
2/17/2014	14:19:46	Compliance	P-CNN-140217	32.68956	-117.14041	7.9	7.9	1.0	No	No	No
2/17/2014	14:27:48	Compliance	P-CON-140217	32.68764	-117.14120	7.8	8.0	1.0	No	No	No

Table 2
Water Quality Monitoring Results During Material Placement - February 1 through 28, 2014

Date	Time	Station Type	Station ID	Latitude ¹	Longitude ¹	Water Quality Measurements			Visual Observations		
						DO (mg/L)	pH	Turbidity (NTU)	Odor	Surface Pollution	Discoloration or Turbidity
2/17/2014	14:32:35	Early Warning	P-EWS-140217	32.68682	-117.13987	7.9	8.0	0.6	No	No	No
2/17/2014	14:36:11	Compliance	P-COS-140217	32.68602	-117.13933	7.9	8.0	0.7	No	No	No
2/17/2014	14:40:24	Compliance	P-CNS-140217	32.68635	-117.13776	8.0	8.0	0.2	No	No	No
2/25/2014	11:47:58	Reference	P-BG-140225	32.69178	-117.15048	8.0	7.9	0.9	No	No	No
2/25/2014	12:11:17	Early Warning	P-EWS-140225	32.68876	-117.13881	8.0	7.9	1.0	No	No	No
2/25/2014	12:15:17	Compliance	P-CNS-140225	32.68817	-117.13842	8.0	8.0	0.5	No	No	No
2/25/2014	12:19:04	Compliance	P-COS-140225	32.68804	-117.13910	8.0	8.0	0.7	No	No	No
2/25/2014	12:23:03	Compliance	P-CON-140225	32.68852	-117.14045	7.7	7.9	0.9	No	No	No
2/25/2014	12:25:41	Compliance	P-CNN-140225	32.68966	-117.14046	7.8	7.9	0.7	No	No	No
2/25/2014	12:31:05	Early Warning	P-EWN-140225	32.68865	-117.13932	7.9	8.0	1.0	No	No	No

Notes:
 Receiving water limitation compliance criteria: DO shall not be depressed more than 10 percent from the reference (BG); pH shall not be changed more than 0.2 unit from reference (BG); pH shall not be depressed below 7.0 nor raised above 9.0; turbidity must not exceed 20 percent of reference (BG; if natural turbidity from 0 to 50 NTU).

DO = dissolved oxygen

mg/L = milligrams per liter

NTU = Nephelometric Turbidity Units

- 1 Latitude and longitude coordinates in decimal degrees, North American Datum 1983 (NAD83)
- 2 Compliance station potentially exceeded receiving water limitation compliance criterion for turbidity. Measurements were re-taken at the reference station and compliance station to confirm the exceedance. The turbidity concentration was greater than 20 percent of the second reference measurement; therefore, the initial result was confirmed. Visual observations indicated a tightly defined turbidity plume well contained within the silt curtain (and no silt curtain breach) and concentrations at both early warning stations were within 20 percent. Therefore, the elevated turbidity was likely caused by extraneous factors.
- 3 Compliance station potentially exceeded receiving water limitation compliance criterion for turbidity. Measurements were re-taken at the reference and compliance stations to confirm the exceedance. Turbidity concentrations were within 20 percent of the reference; therefore, compliance criteria were not exceeded.
- 4 Early warning station results exceeded the receiving water limitation criterion for turbidity. These results were used as an early indicator of a potential water quality issue. Results at the compliance stations met the criterion; therefore, compliance criteria were not exceeded.

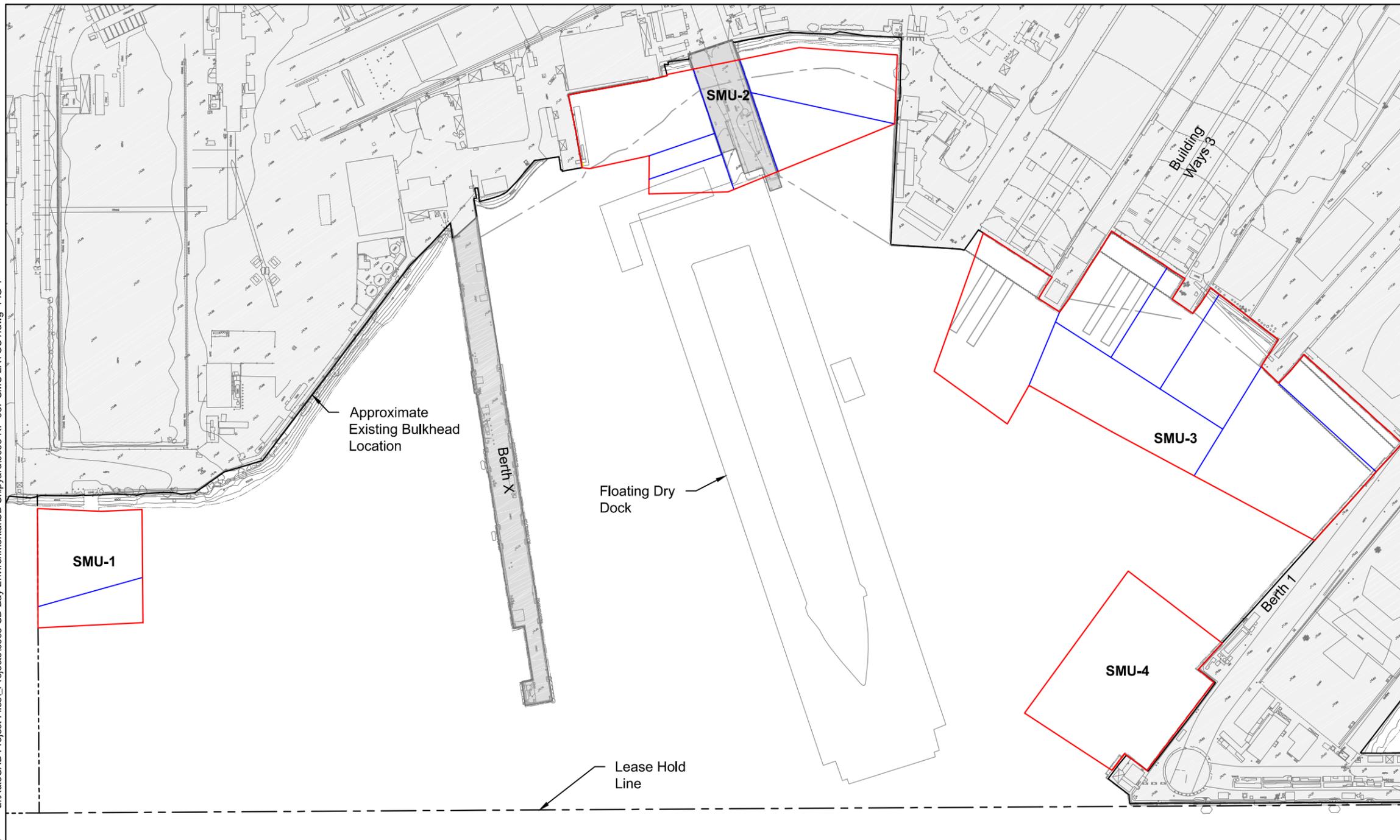
Table 3
Persons Contributing to this Report

Name	Title	Affiliation	Qualifications
Chris Osuch	Senior Scientist	Anchor QEA	University of California, Santa Barbara, B.A., Environmental Studies, 1998 Environmental scientist with more than 14 years of professional experience Experienced with collecting and measuring water quality parameters
Adam Gale	Senior Planner	Anchor QEA	University of Washington, Certificate Program in Geographic Information Systems, 2007; California Polytechnic State University, San Luis Obispo, B.S., Ecology and Systematic Biology, 2004 Planner with more than 8 years of professional experience Experienced with implementing water quality monitoring programs for remediation projects
Elizabeth Appy	Managing Scientist	Anchor QEA	Colby College, B.A., Biology, 1994; Oregon State University, M.S., Marine Resource Management, 2000 Managing scientist with more than 15 years of professional experience Experienced with implementing water quality monitoring programs for remediation projects
Brittany Geisler	Environmental Scientist	Anchor QEA	University of California, Irvine, B.A., Social Ecology, 2006 Environmental scientist with more than 5 years of professional experience Experienced with collecting and measuring water quality parameters

FIGURES

L:\AutoCAD Project Files\Projects\0995-SD Bay Environmental\SD Shipyard\0995-RP-037 SMU LAYOUT.dwg FIG 1

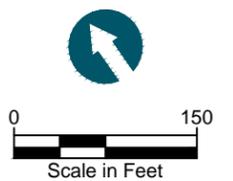
Nov 07, 2013 10:43am mpratschner



LEGEND:

- Remediation Boundary
- Sub-SMU Boundary

SOURCE: Upland topography from Digital Mapping Inc., dated September 2009, and supplemented by Environmental Data Solutions survey dated April 13, 2013.
HORIZONTAL DATUM: California State Plane, Zone 6, NAD83, U.S. Feet.



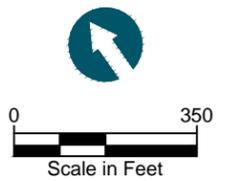
L:\AutoCAD Project Files\Projects\0995-SD Bay Environmental\SD Shipyard\0995-RP-027 REF SAMP 2.dwg FIG 2

Nov 07, 2013 10:04am mpratschner

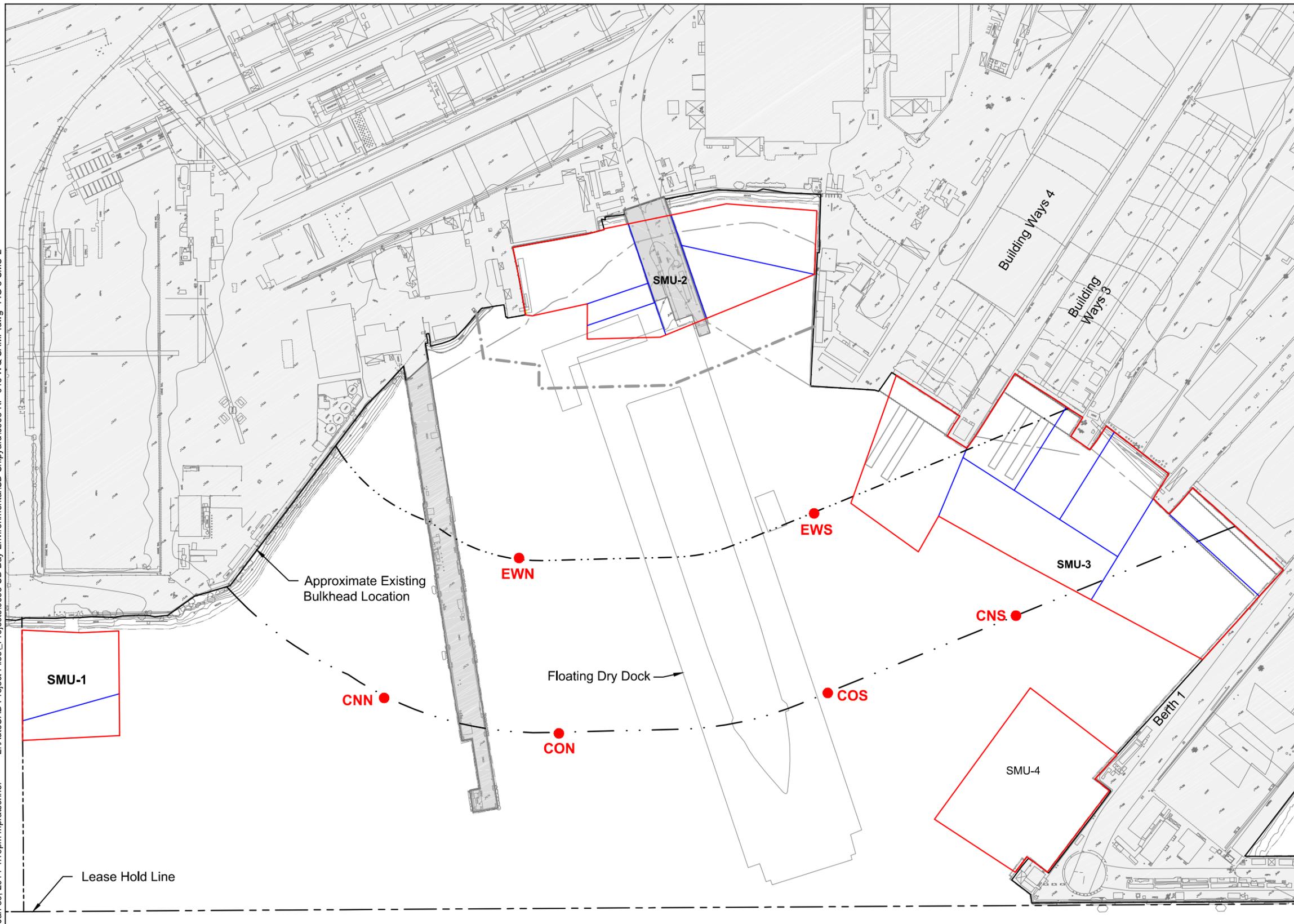


SOURCE: Aerial from ESRI base maps. Upland topography from Digital Mapping Inc., dated September 2009, and supplemented by Environmental Data Solutions survey dated April 13, 2013.
HORIZONTAL DATUM: California State Plane, Zone 6, NAD83, U.S. Feet.

NOTES:
 Reference Sampling Location BG
 Latitude: 32° 41.4970'
 Longitude: 117° 09.0185'



L:\AutoCAD Project Files\Projects\0995-SD Bay Environmental\SD Shipyard\0995-RP-046 WQ SAMP.dwg FIG 3 SMU-2
 Jan 30, 2014 4:19pm mpraichner

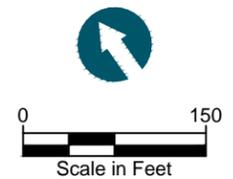


LEGEND:

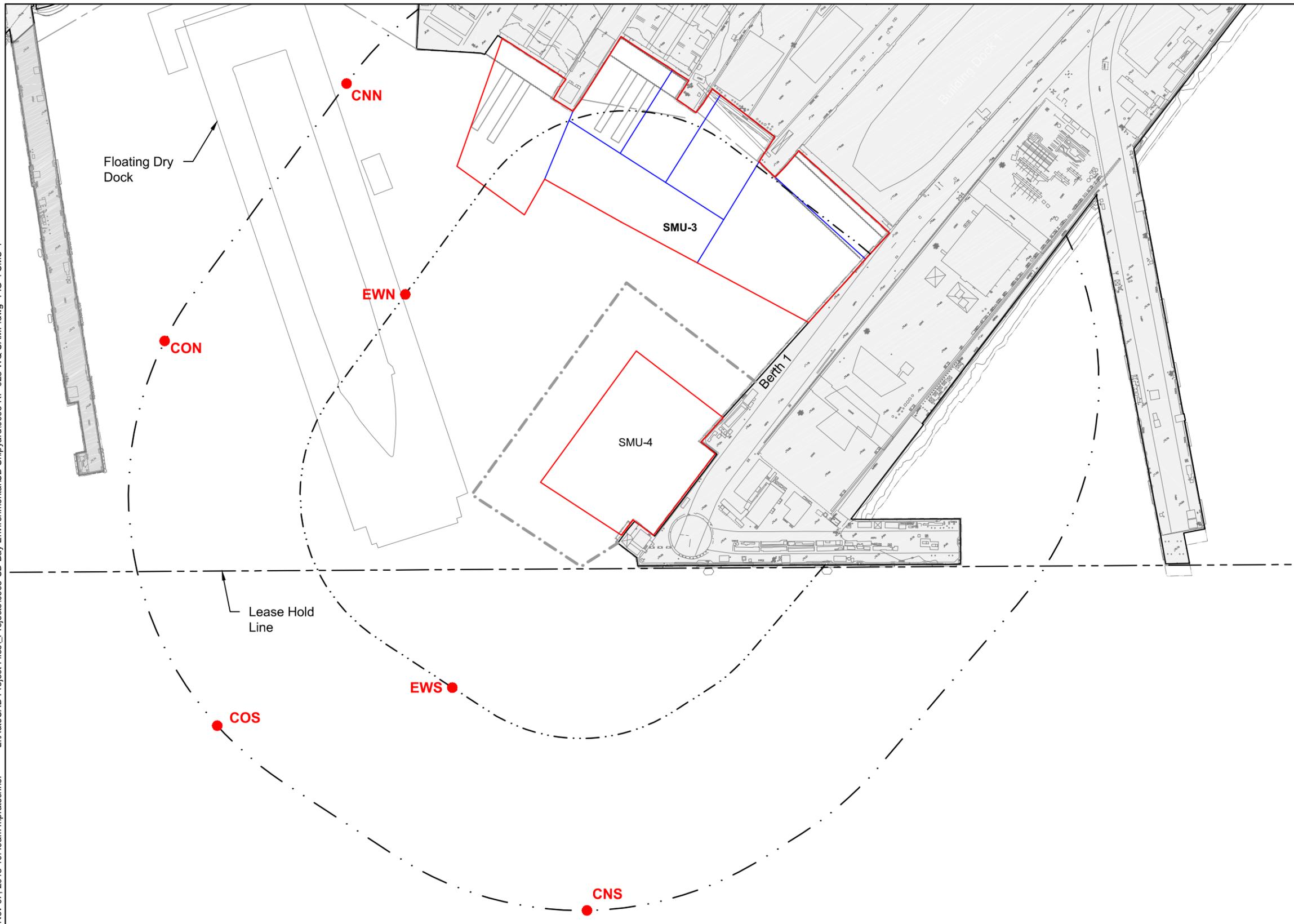
	Remediation Boundary
	Sub-SMU Boundary
	250 ft from Construction Area
	500 ft from Construction Area
	Sampling Location
	Silt Curtain
EWN	Early Warning North
EWS	Early Warning South
CNN	Compliance Nearshore North
CNS	Compliance Nearshore South
CON	Compliance Offshore North
COS	Compliance Offshore North

SOURCE: Upland topography from Digital Mapping Inc., dated September 2009, and supplemented by Environmental Data Solutions survey dated April 13, 2013.
HORIZONTAL DATUM: California State Plane, Zone 6, NAD83, U.S. Feet.

NOTE: Actual sampling locations determined in the field based on the location of the construction area.



L:\AutoCAD Project Files\Projects\0995-SD Bay Environmental\SD Shipyard\0995-RP-023 WQ SAMP.dwg FIG 4 SMU-4
Nov 07, 2013 10:49am mpratschner

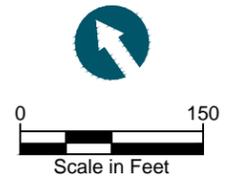


- LEGEND:**
- Remediation Boundary
 - Sub-SMU Boundary
 - - - 250 ft from Construction Area
 - . - 500 ft from Construction Area
 - XXX ● Sampling Location
 - - - Silt Curtain

 - EWN Early Warning North
 - EWS Early Warning South
 - CNN Compliance Nearshore North
 - CNS Compliance Nearshore South
 - CON Compliance Offshore North
 - COS Compliance Offshore South

SOURCE: Upland topography from Digital Mapping Inc., dated September 2009, and supplemented by Environmental Data Solutions survey dated April 13, 2013.
HORIZONTAL DATUM: California State Plane, Zone 6, NAD83, U.S. Feet.

NOTE: Actual sampling locations determined in the field based on the location of the construction area.



ATTACHMENT A
CALIBRATION LOGS

HYDROLAB CALIBRATION WORKSHEET

PROJECT(S): San Diego Shipyards

PROJECT #: 131003-01.02

REMINDER: ALLOW TWO MINUTES WARMUP BEFORE CALIBRATION OR USE.

Calib by:	Date	Time (24 Hr)	DO				pH					REDOX		
			Temp. (°C)	BP (mm Hg)	Initial DO (mg/L)	Final DO (mg/L)	Initial pH 7.0	Final pH 7.0	Temp. (°C)	Initial pH: 10.0	Final pH: 10.0	Initial (mV)	Final (mV)	Temp. (°C)
DF	2.10.14	0900	25.5	775	8.1	8.3	6.99	7.00	25.5	10.07	10.01			

Calib by:	Date	Time (24 Hr)	CONDUCTIVITY					TURBIDITY				
			Initial 0 µs/cm	Final 0 µs/cm	Temp. (°C)	Initial 1412 µs/cm	Final 1412 µs/cm	Initial 0 NTU	Final 0 NTU	Temp. (°C)	Initial 40 NTU	Final 40 NTU
DF	2.10.14	0900	0.1	0.0	23.7	1390	1412	0.4	0.0	25.4	42.9	40.0

Dissolved Oxygen Method (circle one):

Air Saturated Water Winkler Titration

Source of Barometric Pressure Surveyor

Turb. Std. (40 NTU)
 Lot# A3280 Exp. 10/15

Turbidity Std (40 NTU)

Lot# A8347 Exp. Date: 12/10

Conductivity Stds: Calibration: 1412 µs/cm

Lot # A3262 Exp. Date: 9/14

Verification: _____ µs/cm

Lot # _____ Exp. Date: _____

pH Buffers:

pH 7.0 Lot # A3046 Exp. Date: 2/15

pH 10 Lot# A3042 Exp. Date: 2/14

pH 4 Lot# A3042 Exp. Date: 2/14

4.2 @ 25.4

Redox Standard:

428 mV ± @ 25 °C (Zobell's)

4.01

Lot# _____ Exp. Date: _____

NOTES:

HYDROLAB CALIBRATION WORKSHEET

PROJECT(S): San Diego Shipyards

PROJECT #: 131003-01.02

REMINDER: ALLOW TWO MINUTES WARMUP BEFORE CALIBRATION OR USE.

Calib by:	Date	Time (24 Hr)	DO				pH					REDOX		
			Temp. (°C)	BP (mm Hg)	Initial DO (mg/L)	Final DO (mg/L)	Initial pH 7.0	Final pH 7.0	Temp. (°C)	Initial pH: 10.0	Final pH: 10.0	Initial (mV)	Final (mV)	Temp. (°C)
DF	2.11.14	0700	23.5	760	8.7	8.5	7.1	7.00	23.4	10.2	10.03			

Calib by:	Date	Time (24 Hr)	CONDUCTIVITY					TURBIDITY				
			Initial 0 µs/cm	Final 0 µs/cm	Temp. (°C)	Initial 1412 µs/cm	Final 1412 µs/cm	Initial 0 NTU	Final 0 NTU	Temp. (°C)	Initial 40 NTU	Final 40 NTU
DF	2.11.14	0700	0.1	0.0	21.9	1407	1412	0.0	0.0	23.4	36.3	40.0

Dissolved Oxygen Method (circle one):

Air Saturated Water Winkler Titration

Source of Barometric Pressure Surveyor

Turb. Std. (40 NTU)
Lot # A3280 Exp. 10/15

Turbidity Std (40 NTU)

Lot# A8347 Exp. Date: 12/10

Conductivity Stds: Calibration: 1412 µs/cm

Lot # A3262 Exp. Date: 9/14

Verification: _____ µs/cm

Lot # _____ Exp. Date: _____

pH Buffers:

pH 7.0 Lot # A3040 Exp. Date: 2/15

pH 10 Lot# A3042 Exp. Date: 2/14

pH 4 Lot# A3042 Exp. Date: 2/14 4.4 @ 23.3

Redox Standard:

428 mV ± @ 25 °C (Zobell's)

Lot# _____ Exp. Date: _____

4.01

NOTES:

HYDROLAB CALIBRATION WORKSHEET

PROJECT(S): San Diego Shipyards

PROJECT #: 131003-01.02

REMINDER: ALLOW TWO MINUTES WARMUP BEFORE CALIBRATION OR USE.

Calib by:	Date	Time (24 Hr)	DO				pH					REDOX		
			Temp. (°C)	BP (mm Hg)	Initial DO (mg/L)	Final DO (mg/L)	Initial pH 7.0	Final pH 7.0	Temp. (°C)	Initial pH: 10.0	Final pH: 10.0	Initial (mV)	Final (mV)	Temp. (°C)
DF	2.12.14	0700	23.4	767	22.6 ⁸	8.6	7.03	7.0	23.9	10.3	10.02			
					8.7									

Calib by:	Date	Time (24 Hr)	CONDUCTIVITY				TURBIDITY					
			Initial 0 µs/cm	Final 0 µs/cm	Temp. (°C)	Initial 1412 µs/cm	Final 1412 µs/cm	Initial 0 NTU	Final 0 NTU	Temp. (°C)	Initial 40 NTU	Final 40 NTU
DF	2.12.14	0700	0.1	0.0	22.6	1405	1412	0.2	0.0	23.8	41.2	40.0

Dissolved Oxygen Method (circle one):

Air Saturated Water Winkler Titration

Source of Barometric Pressure Surveyor
 Turb. STD. (40 NTU)
 Lot # A3280 Exp. 10/15

Turbidity Std (40 NTU)

Lot# A8347 Exp. Date: 12/10

Conductivity Stds: Calibration: 1412 µs/cm

Lot # A3262 Exp. Date: 9/14

Verification: _____ µs/cm

Lot # _____ Exp. Date: _____

pH Buffers:

pH 7.0 Lot # A3046 Exp. Date: 2/15

pH 10 Lot# A3042 Exp. Date: 2/14

pH 4 Lot# A3042 Exp. Date: 2/14

4.3 @ 23.8
4.01

Redox Standard:

428 mV ± @ 25 °C (Zobell's)

Lot# _____ Exp. Date: _____

NOTES:

HYDROLAB CALIBRATION WORKSHEET

PROJECT(S): San Diego Shipyards

PROJECT #: 131003-01.02

REMINDER: ALLOW TWO MINUTES WARMUP BEFORE CALIBRATION OR USE.

Calib by:	Date	Time (24 Hr)	DO				pH					REDOX		
			Temp. (°C)	BP (mm Hg)	Initial DO (mg/L)	Final DO (mg/L)	Initial pH 7.0	Final pH 7.0	Temp. (°C)	Initial pH: 10.0	Final pH: 10.0	Initial (mV)	Final (mV)	Temp. (°C)
DF	2.17.14	0730	23.5	760	8.2	8.4	6.9	7.0	23.2	10.2	10.03			

Calib by:	Date	Time (24 Hr)	CONDUCTIVITY					TURBIDITY				
			Initial 0 µs/cm	Final 0 µs/cm	Temp. (°C)	Initial 1412 µs/cm	Final 1412 µs/cm	Initial 0 NTU	Final 0 NTU	Temp. (°C)	Initial 40 NTU	Final 40 NTU
DF	2.17.14	0730	0.0	0.0	21.4	1414	1412	0.3	0.0	23.4	41.3	40

Dissolved Oxygen Method (circle one):

Air Saturated Water Winkler Titration

Source of Barometric Pressure Surveyor

Turb. Std (40 NTU)
Lot# A3280 Exp. 10/15

Turbidity Std (40 NTU)

Lot# A8347 Exp. Date: 12/10

Conductivity Stds:

Lot # A3262

Verification:

Lot # _____

pH Buffers:

pH 7.0 Lot # A3046

pH 10 Lot# A3042

pH 4 Lot# A3042

Redox Standard:

428 mV ± @ 25 °C (Zobell's)

Lot# _____

Calibration:

1412 µs/cm
Exp. Date: 9/14

µs/cm

Exp. Date: _____

Exp. Date: 2/15

Exp. Date: 2/14

Exp. Date: 2/14

Exp. Date: _____

NOTES:

HYDROLAB CALIBRATION WORKSHEET

PROJECT(S): SD Shipyard

PROJECT #: 131003-01.02

REMINDER: ALLOW TWO MINUTES WARMUP BEFORE CALIBRATION OR USE.

Calib by:	Date	Time (24 Hr)	DO				pH					REDOX		
			Temp. (°C)	BP (mm Hg)	Initial DO (mg/L)	Final DO (mg/L)	Initial pH 7.0	Final pH 7.0	Temp. (°C)	Initial pH: 10	Final pH: 10	Initial (mV)	Final (mV)	Temp. (°C)
BG	2.25.14	0630	23.5	758	8.4	8.5	7.0	7.0	23.3	10.2	10.0			

Calib by:	Date	Time (24 Hr)	CONDUCTIVITY				TURBIDITY					
			Initial 0 µs/cm	Final 0 µs/cm	Temp. (°C)	Initial 1412 µs/cm	Final 1412 µs/cm	Initial 0 NTU	Final 0 NTU	Temp. (°C)	Initial 40 NTU	Final 40 NTU
BG	2.25.14	0630	0.0	0.0	21.4	1388	1412	0.0	0.0	22.5	14.2	40.0

Dissolved Oxygen Method (circle one):
 Air Saturated Water Winkler Titration

Source of Barometric Pressure Surveyor

Turbidity (40 NTU)

Lot# A3316

Exp. 11/15

Turbidity Std (20.1 NTU)

Lot# A2347

Exp. Date: 12/14

Conductivity Stds: Calibration: 1412 µs/cm

Lot # A3354 Exp. Date: 12/14

Verification: _____ µs/cm

Lot # _____ Exp. Date: _____

pH Buffers:

pH 7.0 Lot # A3044 Exp. Date: 2/15

pH 10 Lot# A3042 Exp. Date: 2/14

pH 4 Lot# A3042 Exp. Date: 2/17

4.1 @ 23.5°
4.0 @ 23.4°

Redox Standard:

428 mV ± @ 25 °C (Zobell's)

Lot# _____ Exp. Date: _____

NOTES:

ATTACHMENT B
WATER QUALITY SAMPLE FORMS



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, K. King		Date: 2.10.14	Tide: <u>Flood</u> / Ebb / Slack	
Station ID: P-BG- 141002 ^{DP} 140210			Water Depth (ft): 32.1	
Coordinates				
Latitude/Northing: 32°41'27.9540		Longitude/Easting: 117°09'00.5400		
Weather and Wind Conditions: Partly cloudy, moderate breeze				
Predominant Current Direction: SE				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
15:15:58	10	8.0	8.0	1-0
16:28:51	10	8.1	8.1	0.9
17:07:09	10	8.0	8.1	1.5
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y/ <u>N</u>			Photograph(s) Taken <u>Y</u> N	
Discoloration or Turbidity: Y/ <u>N</u>			Recorded by: K. KING	
Comments:				
2ND ROUND COORD:		3RD ROUND COORD:		
N 32°41'28.3440		N: 32°41'28.5420		
E 117°09'00.6420		E: 117°09'01.3320		



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D.Fellers, K. King		Date: 2-10-14	Tide: <u>Flood</u> / Ebb / Slack	
Station ID: P-EWN-140210			Water Depth (ft): 33.6	
Coordinates				
Latitude/Northing: 32°41'15.2100		Longitude/Easting: 117°08'24.9480		
Weather and Wind Conditions: Partly cloudy, moderate breeze				
Predominant Current Direction:				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
15:45:42	10	8.3	8.1	0.2
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y/ <u>N</u>			Photograph(s) Taken: <u>Y</u> /N	
Discoloration or Turbidity: Y/ <u>N</u>			Recorded by: <u>IL KING</u>	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, K. King		Date: 2.10.14	Tide: <u>Flood</u> / Ebb / Slack	
Station ID: P- ^{CNV (K)} EW 5-402 10'			Water Depth (ft): 39.9	
Coordinates				
Latitude/Northing: 32°41'20.9520		Longitude/Easting: 117°08'24.6720		
Weather and Wind Conditions: Partly cloudy, moderate breeze.				
Predominant Current Direction: SE				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
15:50:50	10	8.2	8.1	0.9
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y/ <u>N</u>			Photograph(s) Taken: <u>Y</u> / <u>N</u>	
Discoloration or Turbidity: Y/ <u>N</u>			Recorded by: K. KING	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, K. King		Date: 2-10-14	Tide: <u>Flood</u> / Ebb / Slack	
Station ID: P-CON-140210		Water Depth (ft): 32.8		
Coordinates				
Latitude/Northing: 32°41'15.1860		Longitude/Easting: 117°08'28.3200		
Weather and Wind Conditions: PARTLY CLOUDY, MODERATE BREEZE				
Predominant Current Direction: SE				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
15:56:24	10	8.2	8.1	0.7
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y <u>(N)</u>			Photograph(s) Taken: Y <u>(N)</u>	
Discoloration or Turbidity: Y <u>(N)</u>			Recorded by: K. KING	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. PELLERS, K. KING		Date: 2.10.14	Tide: <u>Flood</u> / Ebb / Slack	
Station ID: P- 6105 6106 140210			Water Depth (ft): 33.2	
Coordinates				
Latitude/Northing: 32°41'12.5640		Longitude/Easting: 117°08'23.3160		
Weather and Wind Conditions: PARTLY CLOUDY, MODERATE BREEZE				
Predominant Current Direction: SE				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
16:02:49	10	8.2	8.1	1.0
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y/ <u>N</u>			Photograph(s) Taken <u>Y/N</u>	
Discoloration or Turbidity: Y/ <u>N</u>			Recorded by: K. KING	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. FENWICK, K. KING		Date: 2.10.14	Tide: <u>Flood</u> / Ebb / Slack	
Station ID: P-CNS-140210		Water Depth (ft): 32.5		
Coordinates				
Latitude/Northing: 32°41'10.9680		Longitude/Easting: 117°08'15.7860		
Weather and Wind Conditions: PARTLY CLOUDY, MODERATE BREEZE				
Predominant Current Direction: SE				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
16:16:10	10	7.8	8.1	5.0
16:45:18	10	8.0	8.1	4.2
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y/ <u>N</u>			Photograph(s) Taken: Y/ <u>N</u>	
Discoloration or Turbidity: Y/ <u>N</u>			Recorded by: K. KING	
Comments: Turbidity too high. RESAMPLE REFERENCE (0.9) Called Travis to let him know of exceedence. STATION 2ND ATTEMPT N 32°41'11.0820 E 117°08'16.1880				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. FEUGAS, K. KING		Date: 2.10.14	Tide: <u>Flood</u> / Ebb / Slack	
Station ID: P-COS-140210			Water Depth (ft): 33.2, 33.4	
Coordinates				
Latitude/Northing: 32°41' 11.4360		Longitude/Easting: 117°08' 24.8880		
Weather and Wind Conditions: PARTLY CLOUDY, MODERATE BREEZE				
Predominant Current Direction: SE				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
16:59:45	10	8.1	8.1	1.4
17:13:49	10	8.0	8.1	1.4
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y / <u>N</u>			Photograph(s) Taken: <u>Y</u> / N	
Discoloration or Turbidity: Y / <u>N</u>			Recorded by: K. KING	
Comments: OVER 10% RECHECK BACKGROUND. 2ND ATTEMPT: N: 32°41'12.0540 S: 117°08'26.8200				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Feilers, B. Geisler		Date: 2.11.14	Tide: Flood / <u>Ebb</u> / Slack	
Station ID: P-BG-140211			Water Depth (ft): 32.4 / 32.7	
Coordinates				
Latitude/Northing: 32° 41' 29.784"		Longitude/Easting: 117° 09' 01.926"		
Weather and Wind Conditions: Sunny, light wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
12:29:43	10	8.0	8.0	1.2 1.5
13:40:42	10	8.1	8.0	2.3
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y / <u>N</u>			Photograph(s) Taken: <u>Y</u> N 1	
Discoloration or Turbidity: Y / <u>N</u>			Recorded by: B Geisler	
Comments: Turbidity exceedance at CNN. Monitored at BG a second time. 2nd sample 32° 41' 28.512" 117° 09' 01.152"				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geister		Date: 2-11-14	Tide: Flood / <u>Ebb</u> / Slack	
Station ID: P-CON-140211			Water Depth (ft): 32.9	
Coordinates				
Latitude/Northing: 32° 41' 13.182"		Longitude/Easting: 117° 08' 30.948"		
Weather and Wind Conditions: Sunny, mod. to strong wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
12:46:53	10	8.0	8.0	0.4
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y/ <u>N</u>			Photograph(s) Taken <u>(X)</u> N	
Discoloration or Turbidity: Y/ <u>N</u>			Recorded by: B. Geister	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geisler		Date: 2.11.14	Tide: Flood / <u>Ebb</u> / Slack	
Station ID: P-COS-140211		Water Depth (ft): 31.2		
Coordinates				
Latitude/Northing: 32° 0 41' 09.516"		Longitude/Easting: 117° 08' 25.248"		
Weather and Wind Conditions: Sunny, moderate to strong wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
12:55:34	10	8.0	8.0	0.7
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y / <u>N</u>			Photograph(s) Taken <u>Y</u> / N	
Discoloration or Turbidity: Y / <u>N</u>			Recorded by: B. Geisler	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geister		Date: 2.11.14	Tide: Flood / <input checked="" type="radio"/> Ebb / Slack	
Station ID: P-EWN-140211		Water Depth (ft): 33.4		
Coordinates				
Latitude/Northing: 32°41'14.412"		Longitude/Easting: 117°08'26.238"		
Weather and Wind Conditions: <i>Sunny - Mod. Wind</i>				
Predominant Current Direction: <i>NW</i>				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
13:13:55	10	7.9	8.0	1.3
Odor: <input checked="" type="radio"/> none slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y / <input checked="" type="radio"/> N		Photograph(s) Taken: <input checked="" type="radio"/> Y / N		
Discoloration or Turbidity: Y / <input checked="" type="radio"/> N		Recorded by: <i>B. Geister</i>		
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geisler		Date: 2.11.14	Tide: Flood <input checked="" type="radio"/> Ebb <input type="radio"/> Slack	
Station ID: P-CNN - 140211			Water Depth (ft): 28.2/28.1	
Coordinates				
Latitude/Northing: 32° 41' 20.118"		Longitude/Easting: 117° 08' 26.952"		
Weather and Wind Conditions: sunny, moderate wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
13:25:52	10	7.7	8.0	2.4 *
13:55:18	10	7.6	8.0	2.5
Odor: <input checked="" type="radio"/> none slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y/ <input checked="" type="radio"/> N			Photograph(s) Taken <input checked="" type="radio"/> Y/ <input type="radio"/> N	
Discoloration or Turbidity: Y/ <input checked="" type="radio"/> N			Recorded by: B. Geisler	
Comments: 2nd Attempt 32° 41' 20.292" 117° 08' 26.916"				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geisler		Date: 2.11.14	Tide: <u>Flood</u> / Ebb / Slack	
Station ID: P-EWS-140211			Water Depth (ft): 32.8	
Coordinates				
Latitude/Northing: 32° 41' 11.208"		Longitude/Easting: 117° 03' 22.080"		
Weather and Wind Conditions: sunny, moderate wind				
Predominant Current Direction: NW _{SE} SE				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
14:01:13	10	7.8	8.0	2.8
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y _{SE} <u>N</u>			Photograph(s) Taken: <u>Y</u> / N	
Discoloration or Turbidity: Y / <u>N</u>			Recorded by: B. Geisler	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geister		Date: 2.11.14	Tide: <u>Flood</u> / Ebb / Slack	
Station ID: P-CNS-140211		Water Depth (ft): 31.3		
Coordinates				
Latitude/Northing: 32° 41' 11.290"		Longitude/Easting: 117° 08' 15.192"		
Weather and Wind Conditions: <u>Sunny, light wind</u>				
Predominant Current Direction: <u>SE</u>				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
14:05:38	10	7.8	8.0	1.1 2.0
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y/N <u>N</u>			Photograph(s) Taken: Y/N <u>Y</u>	
Discoloration or Turbidity: Y/N <u>N</u>			Recorded by: <u>B. Geister</u>	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: KK, DF		Date: 2/22/14	Tide: Flood ^{KK} Ebb / Slack	
Station ID: P-BG-140212			Water Depth (ft): 32.5	
Coordinates				
Latitude/Northing: 32°41'28.9320		Longitude/Easting: 117°09'01.3500		
Weather and Wind Conditions: 74°F, SE WIND				
Predominant Current Direction: SOUTHEAST				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
13:17:54	10	7.9	8.0	0.7
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y <u>(N)</u>			Photograph(s) Taken: <u>(Y)</u> N	
Discoloration or Turbidity: Y <u>(N)</u>			Recorded by: KK	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: KK, DR		Date: 2/12/14	Tide: Flood / <input checked="" type="radio"/> Ebb / <input type="radio"/> Slack	
Station ID: P-CON-140212			Water Depth (ft): 32.5	
Coordinates				
Latitude/Northing: 32° 41' 12.0840		Longitude/Easting: 117° 08' 29.9100		
Weather and Wind Conditions: 74°F, SE WIND				
Predominant Current Direction: SOUTHEAST				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
13:34:17	10	7.8	8.1	0.8
Odor: <input checked="" type="radio"/> none slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y / <input checked="" type="radio"/> N			Photograph(s) Taken: <input checked="" type="radio"/> Y / <input type="radio"/> N	
Discoloration or Turbidity: Y / <input checked="" type="radio"/> N			Recorded by: KK	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: KK, DF		Date: 2/12/14	Tide: Flood / <input checked="" type="radio"/> Ebb / <input type="radio"/> Slack	
Station ID: P-EWN - 140212			Water Depth (ft): 34.2	
Coordinates				
Latitude/Northing: 32°41'15.2700		Longitude/Easting: 117°08'26.6500		
Weather and Wind Conditions: 74°F, SE WIND				
Predominant Current Direction: SOUTHEAST				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
14:00.01	10	7.6	8.0	8.4
Odor: <input checked="" type="radio"/> none <input type="radio"/> slight <input type="radio"/> moderate <input type="radio"/> strong <input type="radio"/> H ₂ S <input type="radio"/> petroleum <input type="radio"/> septic				
Presence of Surface Pollution: Y / <input checked="" type="radio"/> N			Photograph(s) Taken: <input checked="" type="radio"/> Y / <input type="radio"/> N	
Discoloration or Turbidity: Y / <input checked="" type="radio"/> N			Recorded by: KK	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: KK, DF		Date: 2/12/14	Tide: Flood / <input checked="" type="radio"/> Ebb / <input type="radio"/> Slack	
Station ID: P-CNN-140212		Water Depth (ft): 29.7		
Coordinates				
Latitude/Northing: 32°41'20.3820		Longitude/Easting: 117°08'27.4140		
Weather and Wind Conditions: 74°F, SE WIND				
Predominant Current Direction: SOUTHEAST				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
14:05:05	10	7.6	8.0	0.5
Odor: <input checked="" type="radio"/> none <input type="radio"/> slight <input type="radio"/> moderate <input type="radio"/> strong <input type="radio"/> H ₂ S <input type="radio"/> petroleum <input type="radio"/> septic				
Presence of Surface Pollution: Y / <input checked="" type="radio"/> N			Photograph(s) Taken: <input checked="" type="radio"/> Y / <input type="radio"/> N	
Discoloration or Turbidity: Y / <input checked="" type="radio"/> N			Recorded by: KK	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: KK, DF		Date: 2/12/14	Tide: Flood (Ebb) Slack	
Station ID: P-EWS-140212			Water Depth (ft): 33.8	
Coordinates				
Latitude/Northing: 32° 11' 12.6120		Longitude/Easting: 117° 08' 22.4220		
Weather and Wind Conditions: 74°F, SE WIND				
Predominant Current Direction: SOUTHEAST				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
14:13:43	10	7.7	8.0	1.0
Odor: <input checked="" type="radio"/> none slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y <input checked="" type="radio"/> N			Photograph(s) Taken <input checked="" type="radio"/> Y <input type="radio"/> N	
Discoloration or Turbidity: Y <input checked="" type="radio"/> N			Recorded by: KK	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: KK, DE		Date: 2/12/14	Tide: Flood / <u>Ebb</u> / Slack	
Station ID: P-CNS-140212			Water Depth (ft): 25.1	
Coordinates				
Latitude/Northing: 32°41'11.2440		Longitude/Easting: 117°08'15.7860		
Weather and Wind Conditions: 74°F, SE WIND				
Predominant Current Direction: <u>SOUTHEAST</u>				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
14:18:26	10	7.7	8.0	0.8
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y / <u>N</u>			Photograph(s) Taken <u>Y</u> / N	
Discoloration or Turbidity: Y / <u>N</u>			Recorded by: KK	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: KK, DE		Date: 2/12/14	Tide: Flood / <input checked="" type="radio"/> Ebb / <input type="radio"/> Slack	
Station ID: P-COS-140212		Water Depth (ft): 31.5		
Coordinates				
Latitude/Northing: 32°41'09.0180		Longitude/Easting: 117°08'21.3120		
Weather and Wind Conditions: 74°F, SE WIND				
Predominant Current Direction: SOUTHEAST				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
14:27:10	10	7.8	8.0	0.8
Odor: <input checked="" type="radio"/> none <input type="radio"/> slight <input type="radio"/> moderate <input type="radio"/> strong <input type="radio"/> H ₂ S <input type="radio"/> petroleum <input type="radio"/> septic				
Presence of Surface Pollution: Y / <input checked="" type="radio"/> N		Photograph(s) Taken: <input checked="" type="radio"/> Y / <input type="radio"/> N		
Discoloration or Turbidity: Y / <input checked="" type="radio"/> N		Recorded by: KK		
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geisler		Date: 2.17.14	Tide: Flood / <u>Ebb</u> / Slack	
Station ID: P-BG-140213		Water Depth (ft): 35.1		
Coordinates				
Latitude/Northing: 32° 37' 33" ⁸⁶ 32° 41' 29.514"		Longitude/Easting: 117° 09' 02.514"		
Weather and Wind Conditions: Sunny, moderate wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
13:43:28	10	8.1	7.9	0.9
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y / <u>N</u>			Photograph(s) Taken: <u>Y</u> / N	
Discoloration or Turbidity: Y / <u>N</u>			Recorded by: B. Geisler	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geisler		Date: 2.17.14	Tide: Flood <input checked="" type="radio"/> Ebb <input checked="" type="radio"/> Slack	
Station ID: P-EWN-140217			Water Depth (ft): 36.7	
Coordinates				
Latitude/Northing: 32° 41' 15.330"		Longitude/Easting: 117° 08' 25.686"		
Weather and Wind Conditions: Sunny, moderate wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
14:07:05	10	7.9	7.9	0.3
Odor: <input checked="" type="radio"/> none slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y/ <input checked="" type="radio"/> N			Photograph(s) Taken: <input checked="" type="radio"/> Y/ <input type="radio"/> N	
Discoloration or Turbidity: Y/ <input checked="" type="radio"/> N			Recorded by: _____	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geisler		Date: 2.17.14	Tide: Flood / <u>Ebb</u> / Slack	
Station ID: P-CON-140213		Water Depth (ft): 33.1		
Coordinates				
Latitude/Northing: 32° 41' 15.510"		Longitude/Easting: 117° 08' 28.308"		
Weather and Wind Conditions: Sunny, moderate wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
14:27:48	10	7.8	8.0	1.0
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y / <u>N</u>		Photograph(s) Taken: <u>Y</u> / N 1		
Discoloration or Turbidity: Y / <u>N</u>		Recorded by: B. Geisler		
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geisler		Date: 2.17.14	Tide: Flood (Ebb) / Slack	
Station ID: P-EWS-140213			Water Depth (ft): 33.2	
Coordinates				
Latitude/Northing: 32°41'12.564"		Longitude/Easting: 117°08'23.544"		
Weather and Wind Conditions: Sunny, light wind.				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
14:32:35	10	7.9	8.0	0.6
Odor: <input checked="" type="radio"/> none slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y <input checked="" type="radio"/> N			Photograph(s) Taken: Y <input checked="" type="radio"/> N 1	
Discoloration or Turbidity: Y <input checked="" type="radio"/> N			Recorded by: B. Geisler	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geisler		Date: 2.17.14	Tide: Flood / <input checked="" type="radio"/> Ebb / Slack	
Station ID: P-COS-140217			Water Depth (ft): 33.5	
Coordinates				
Latitude/Northing: 32° 41' 09.684"		Longitude/Easting: 117° 08' 21.588"		
Weather and Wind Conditions: Sunny, moderate wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
14:36:11	10	7.9	8.0	0.7
Odor: <input checked="" type="radio"/> none slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y/ <input checked="" type="radio"/> N			Photograph(s) Taken: <input checked="" type="radio"/> Y / N	
Discoloration or Turbidity: Y/ <input checked="" type="radio"/> N			Recorded by: B. Geisler	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geisler		Date: 2.17.14	Tide: Flood / <input checked="" type="radio"/> Ebb / Slack	
Station ID: P-CNS-140217		Water Depth (ft): 34.3		
Coordinates				
Latitude/Northing: 32° 41' 10.866"		Longitude/Easting: 117° 08' 15.930"		
Weather and Wind Conditions: Sunny, light to moderate wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
14:40:24	10	8.0	8.0	0.2
Odor: <input checked="" type="radio"/> none slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y / <input checked="" type="radio"/> N			Photograph(s) Taken: <input checked="" type="radio"/> Y / N	
Discoloration or Turbidity: Y / <input checked="" type="radio"/> N			Recorded by: B. Ge	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geisler		Date: 2.25.14	Tide: Flood / <u>Ebb</u> / Slack	
Station ID: P-BG-140225			Water Depth (ft): 32.7	
Coordinates				
Latitude/Northing: 32° 41' 30.396"		Longitude/Easting: 117° 09' 01.716"		
Weather and Wind Conditions: sunny, moderate to strong wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
11:47:58	10	8.0	7.9	0.9
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y / <u>N</u>			Photograph(s) Taken: Y / <u>N</u>	
Discoloration or Turbidity: Y / <u>N</u>			Recorded by: <u>B. Geisler</u>	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geisler		Date: 2.25.14	Tide: Flood / <u>Ebb</u> / Slack	
Station ID: P-EWS-140225			Water Depth (ft): 21.1	
Coordinates				
Latitude/Northing: 32° 41' 19.548"		Longitude/Easting: 117° 08' 19.704"		
Weather and Wind Conditions: Sunny, light wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
12:11:17	10	8.0	7.9	10
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y / <u>N</u>			Photograph(s) Taken: <u>Y</u> / N	
Discoloration or Turbidity: Y / <u>N</u>			Recorded by: <u>B. Ge</u>	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D.Fellers, B.Geisler		Date: 2.25.14	Tide: Flood <u>Ebb</u> Slack	
Station ID: P-CNS-140225		Water Depth (ft): 29.9		
Coordinates				
Latitude/Northing: 32° 41' 17.400"		Longitude/Easting: 117° 08' 18.312"		
Weather and Wind Conditions: Sunny, mod. wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
12:15:17	10	8.0	8.0	0.5
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y/ <u>N</u>		Photograph(s) Taken: <u>Y</u> N		
Discoloration or Turbidity: Y/ <u>N</u>		Recorded by: B Ge		
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D.Fellers, B.Geisler		Date: 2.25.14	Tide: Flood / <u>Ebb</u> / Slack	
Station ID: P-COS-140225		Water Depth (ft): 23.1		
Coordinates				
Latitude/Northing: 32° 41' 16.950"		Longitude/Easting: 117° 08' 20.742"		
Weather and Wind Conditions: Sunny, mod. wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
12:19:04	10	8.0	8.0	0.7
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y/ <u>N</u>		Photograph(s) Taken <u>Y</u> /N		
Discoloration or Turbidity: Y/ <u>N</u>		Recorded by: <u>B. Geisler</u>		
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geisler		Date: 2.25.14	Tide: Flood <input checked="" type="radio"/> Ebb / Slack	
Station ID: P-CON-140225		Water Depth (ft): 39.9		
Coordinates				
Latitude/Northing: 32° 41' 18.660"		Longitude/Easting: 117° 08' 25.608"		
Weather and Wind Conditions: Sunny, moderate wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
12:23:03	10	7.7	7.9	0.9
Odor: <input checked="" type="radio"/> none slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y / <input checked="" type="radio"/> N		Photograph(s) Taken: <input checked="" type="radio"/> Y / <input type="radio"/> N		
Discoloration or Turbidity: Y / <input checked="" type="radio"/> N		Recorded by: B. Geisler		
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geisler		Date: 2.25.14	Tide: Flood / <u>Ebb</u> / Slack	
Station ID: P-CNN-140225		Water Depth (ft): 32.1		
Coordinates				
Latitude/Northing: 32° 41' 22.776"		Longitude/Easting: 117° 08' 25.662"		
Weather and Wind Conditions: Sunny, moderate wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
12:25:41	10	7.8	8 7.9 86	0.7
Odor: <u>none</u> slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y / <u>N</u>			Photograph(s) Taken: <u>Y</u> / N	
Discoloration or Turbidity: Y / <u>N</u>			Recorded by: <u>B. Ge</u>	
Comments:				



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Water Quality Sample Form

Project Name: San Diego Shipyard Sediment Site		Project Number: 131003-01.02		
Field Personnel: D. Fellers, B. Geislar		Date: 2.25.14	Tide: Flood / <input checked="" type="radio"/> Ebb / Slack	
Station ID: P-EWN-140225		Water Depth (ft): 51.2		
Coordinates				
Latitude/Northing: 32° 41' 19.128"		Longitude/Easting: 117° 08' 21.552"		
Weather and Wind Conditions: Sunny light wind				
Predominant Current Direction: NW				
Field Parameters				
Sample Time (hh:mm:ss)	Sample Depth (ft)	DO (mg/L)	pH	Turbidity (NTU)
12:31:05	10	7.9	8.0	1.0
Odor: <input checked="" type="radio"/> none slight moderate strong H ₂ S petroleum septic				
Presence of Surface Pollution: Y / <input checked="" type="radio"/> N		Photograph(s) Taken: <input checked="" type="radio"/> Y / N		
Discoloration or Turbidity: Y / <input checked="" type="radio"/> N		Recorded by: B. Ge		
Comments:				

ATTACHMENT C
PHOTOGRAPHS



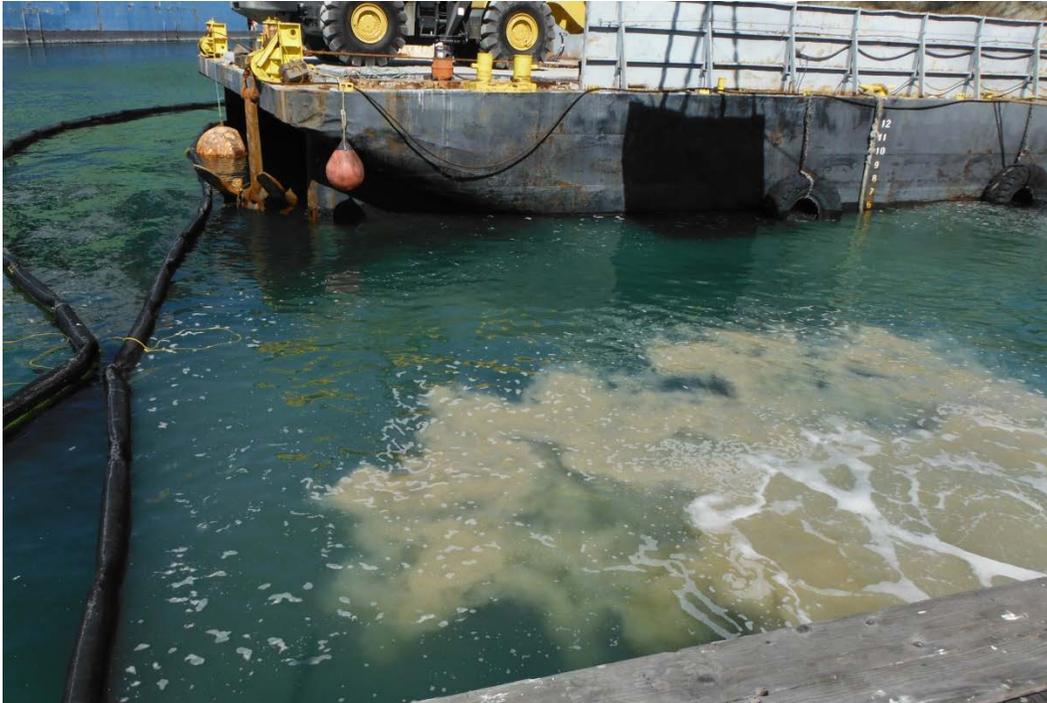
View southeast of silt curtain at SMU-4, February 10, 2014



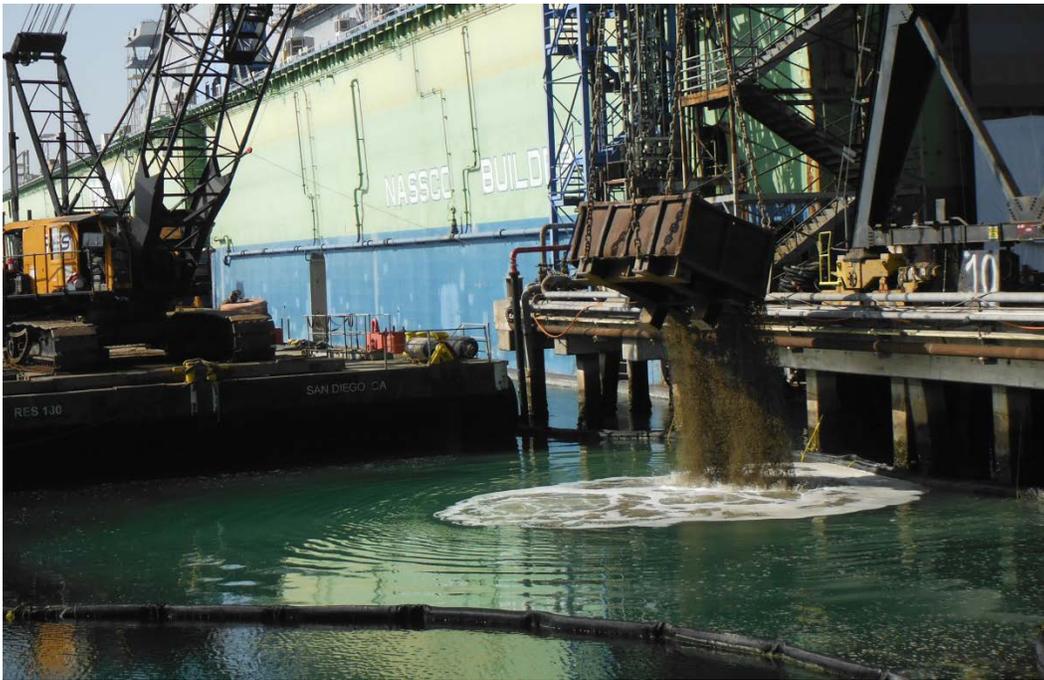
View east of silt curtain at SMU-4, February 11, 2014



View west of silt curtain at SMU-4, February 12, 2014



View northwest of silt curtains at SMU-4, February 17, 2014



View southwest of silt curtain at SMU-2, February 25, 2014