

# APPENDIX A

## Surveys and As-Built Drawings

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for double-sided printing.

# NORTHLAKE SHIPYARD SAND BLAST GRIT DREDGING INTERIM ACTION

## Multibeam Pre-Dredge Survey - Phase 1

### GENERAL NOTES:

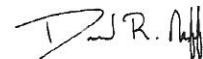
1. SURVEY DATA COLLECTED BY ETRAC INC, ON NOVEMBER 12, 2013.
2. HORIZONTAL DATUM/PROJECTION: NAD83/SPCS WA NORTH - US SURVEY FEET.
3. VERTICAL DATUM: USACE LOCKS DATUM (FEET)
4. HORIZONTAL/VERTICAL CONTROL: RTK VRS NETWORK WASHINGTON SSO WSRN.
5. POSITION AND MOTION DATA WERE COLLECTED USING AN APPLANIX POSMV.
6. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2024 MULTIBEAM SONAR.
7. BATHYMETRIC INFORMATION IS ONLY VALID FOR THE TIME IN WHICH THE SURVEY WAS CONDUCTED.
8. VOLUMES COMPUTED USING AUTOCAD CIVIL 3D v. 2012.

### SHEET INDEX:

- SHEET 1 - PROJECT INFORMATION  
SHEET 2 - MULTIBEAM IMAGERY AND CONTOURS  
SHEET 3 - MULTIBEAM IMAGERY AND SOUNDINGS

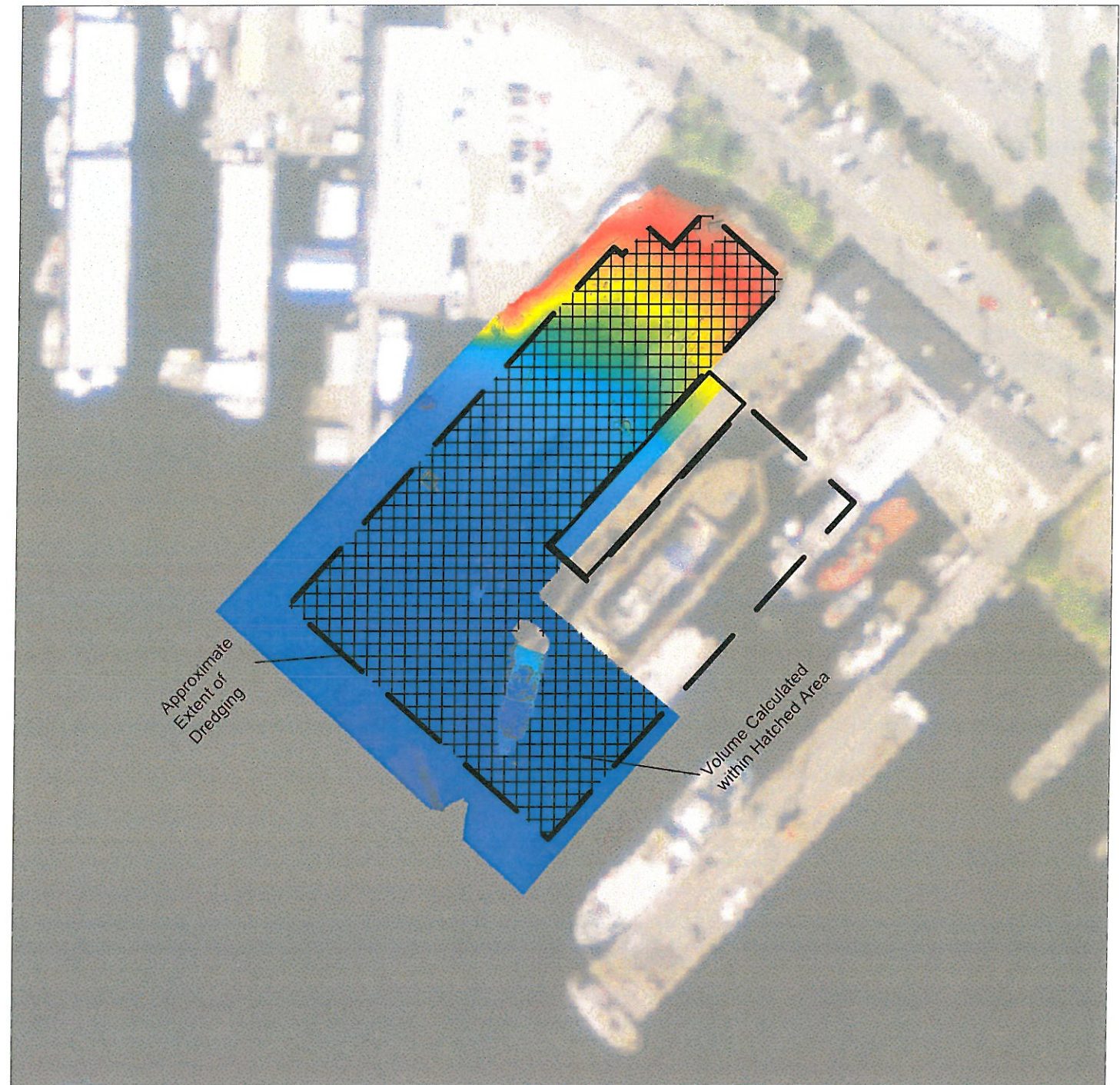
| NORTHLAKE SHIPYARD<br>DREDGING VOLUMES - AVAILABLE |       |
|--|-------|
| eTrac Inc. Survey Date: 11/12/2013                 |       |
| Available Material to Grade (CU. YD.)              | 6,730 |

THIS HYDROGRAPHIC SURVEY WAS COMPLETED UNDER THE OVERSIGHT OF AN ACSM/THOSOA CERTIFIED HYDROGRAPHER



David R. Neff C.H.(275)

Overview



not to scale



637 LINDARO STREET  
SUITE 100  
SAN RAFAEL, CA 94901  
415.462.0421  
eTracInc.com

DATE: November 12, 2013  
DESIGNED BY: JDM | CHECKED BY: DRN  
CONTRACT #:  
PERMIT #: EPISODE #:  
PROJECT NAME:  
REDS\_2013\_Northlake\_Shipyard

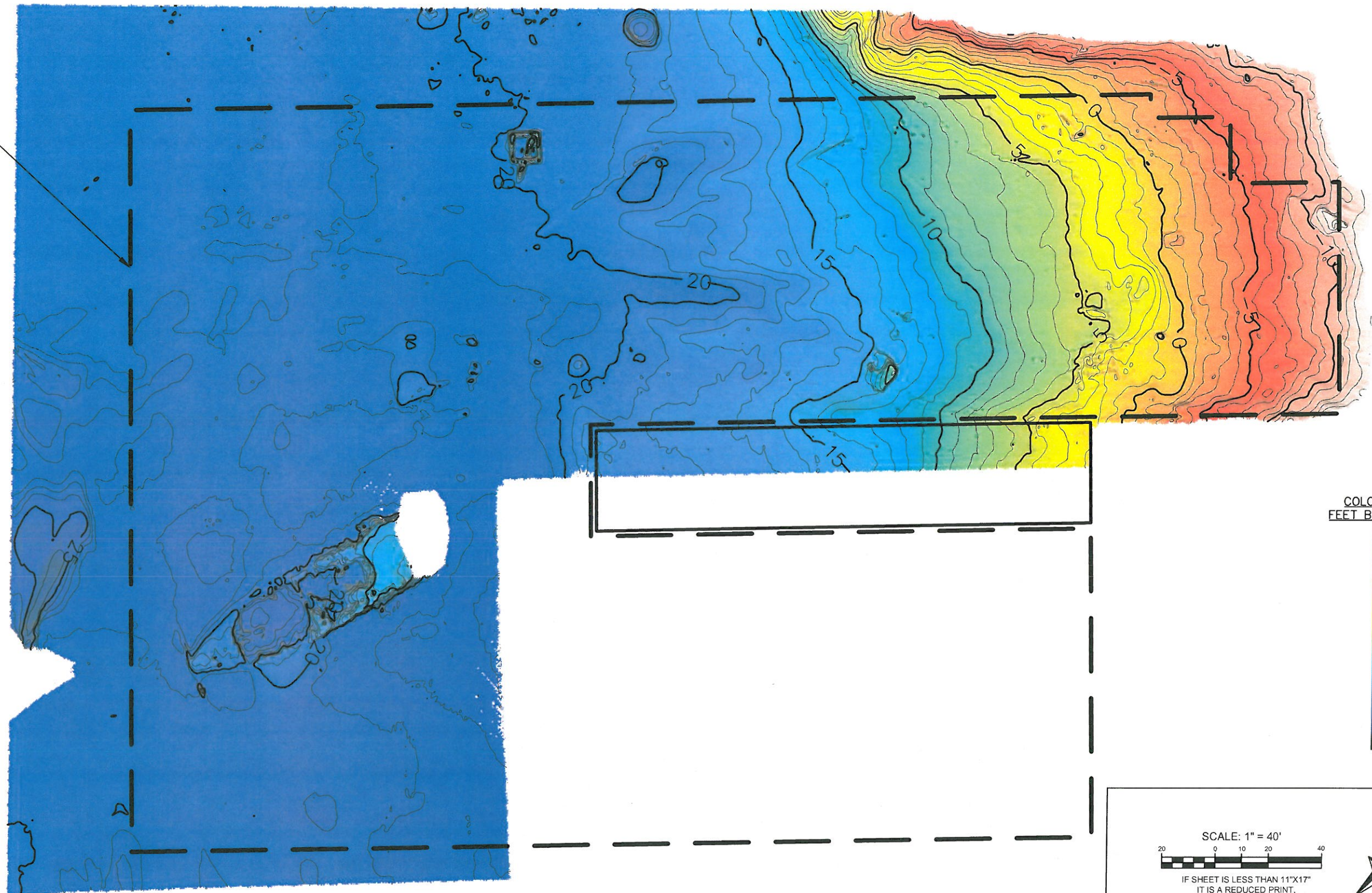
NORTHLAKE SHIPYARD  
SAND BLAST GRIT DREDGING  
INTERIM ACTION  
Project Information

Reference  
Number:

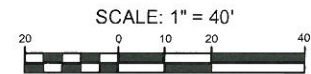
S1

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Approximate  
Extent of  
Dredging



COLOR SCALE  
FEET BELOW MLLW



SCALE: 1" = 40'

IF SHEET IS LESS THAN 11"x17"  
IT IS A REDUCED PRINT,  
SCALE ACCORDINGLY



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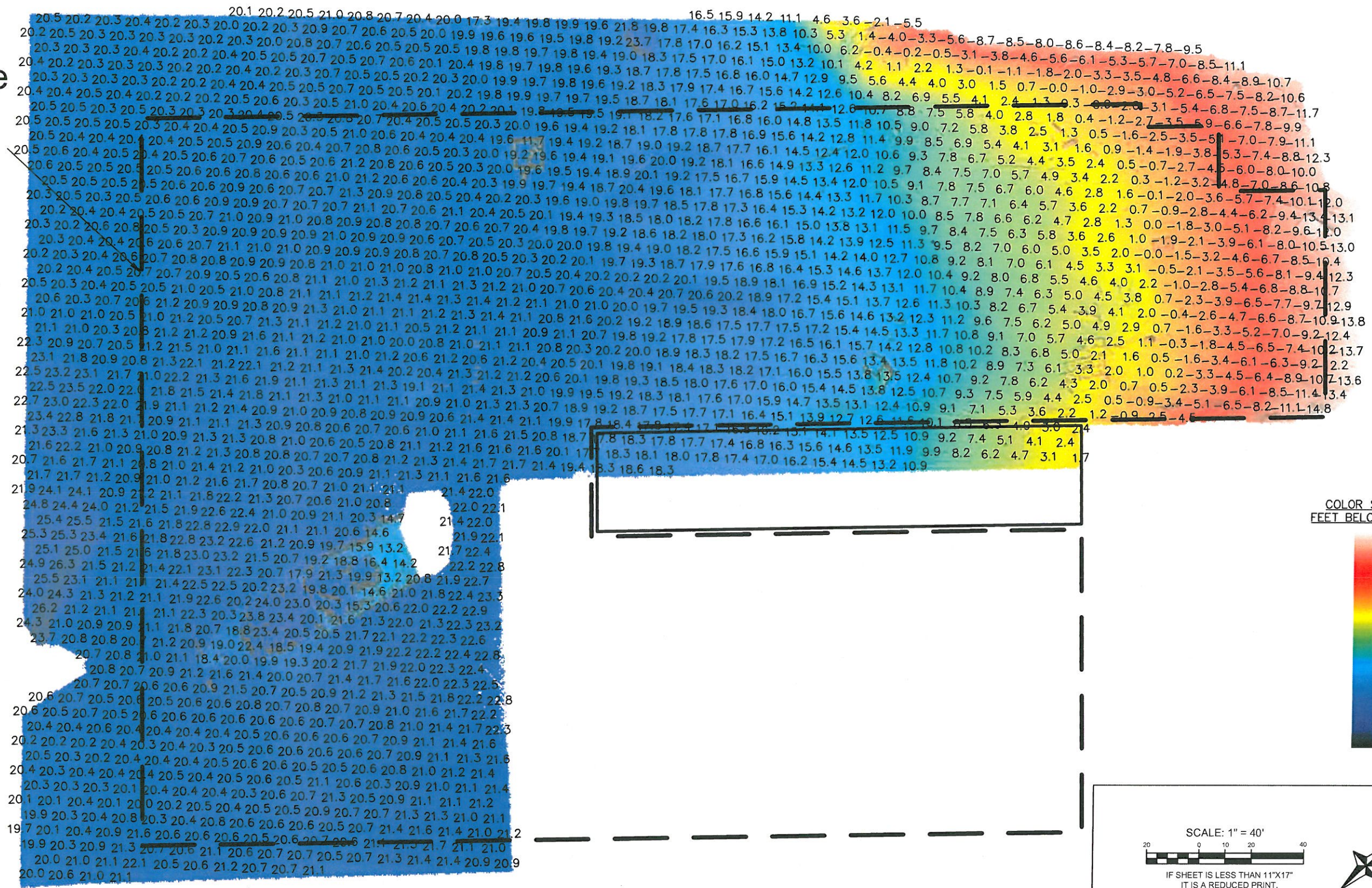
DATE: November 12, 2013  
DESIGNED BY: JDM | CHECKED BY: DRN  
CONTRACT #:  
PERMIT #: EPISODE #:  
PROJECT NAME:  
REDS\_2013\_Northlake\_Shipyard

NORTHLAKE SHIPYARD  
SAND BLAST GRIT DREDGING  
INTERIM ACTION  
Multibeam Imagery and Contours

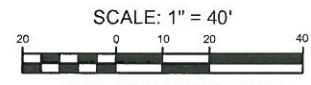
Reference  
Number:  
**S2**

This page is intentionally left blank for double-sided printing.

Approximate  
Extent of  
Dredging



COLOR SCALE  
FEET BELOW MLLW



SCALE: 1" = 40'

IF SHEET IS LESS THAN 11"x17"  
IT IS A REDUCED PRINT,  
SCALE ACCORDINGLY



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415.462.0421  
eTracInc.com

DATE: November 12, 2013  
DESIGNED BY: JDM | CHECKED BY: DRN  
CONTRACT #:  
PERMIT #: EPISODE #:  
PROJECT NAME:  
REDS\_2013\_Northlake\_Shipyard

NORTHLAKE SHIPYARD  
SAND BLAST GRIT DREDGING  
INTERIM ACTION  
Soundings

Reference  
Number:  
**S3**

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# NORTHLAKE SHIPYARD SAND BLAST GRIT DREDGING INTERIM ACTION

## Multibeam Pre-Dredge Survey - Phase 2

### GENERAL NOTES:


1. SURVEY DATA COLLECTED BY ETRAC INC, ON JANUARY 23 2014.
2. HORIZONTAL DATUM/PROJECTION: NAD83/SPCS WA NORTH - US SURVEY FEET.
3. VERTICAL DATUM: USACE LOCKS DATUM (FEET)
4. HORIZONTAL/VERTICAL CONTROL: RTK VRS NETWORK WASHINGTON SSSH WSRN.
5. POSITION AND MOTION DATA WERE COLLECTED USING AN APPLANIX POSMV.
6. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2024 MULTIBEAM SONAR.
7. BATHYMETRIC INFORMATION IS ONLY VALID FOR THE TIME IN WHICH THE SURVEY WAS CONDUCTED.
8. VOLUMES COMPUTED USING AUTOCAD CIVIL 3D v. 2012.

### SHEET INDEX:

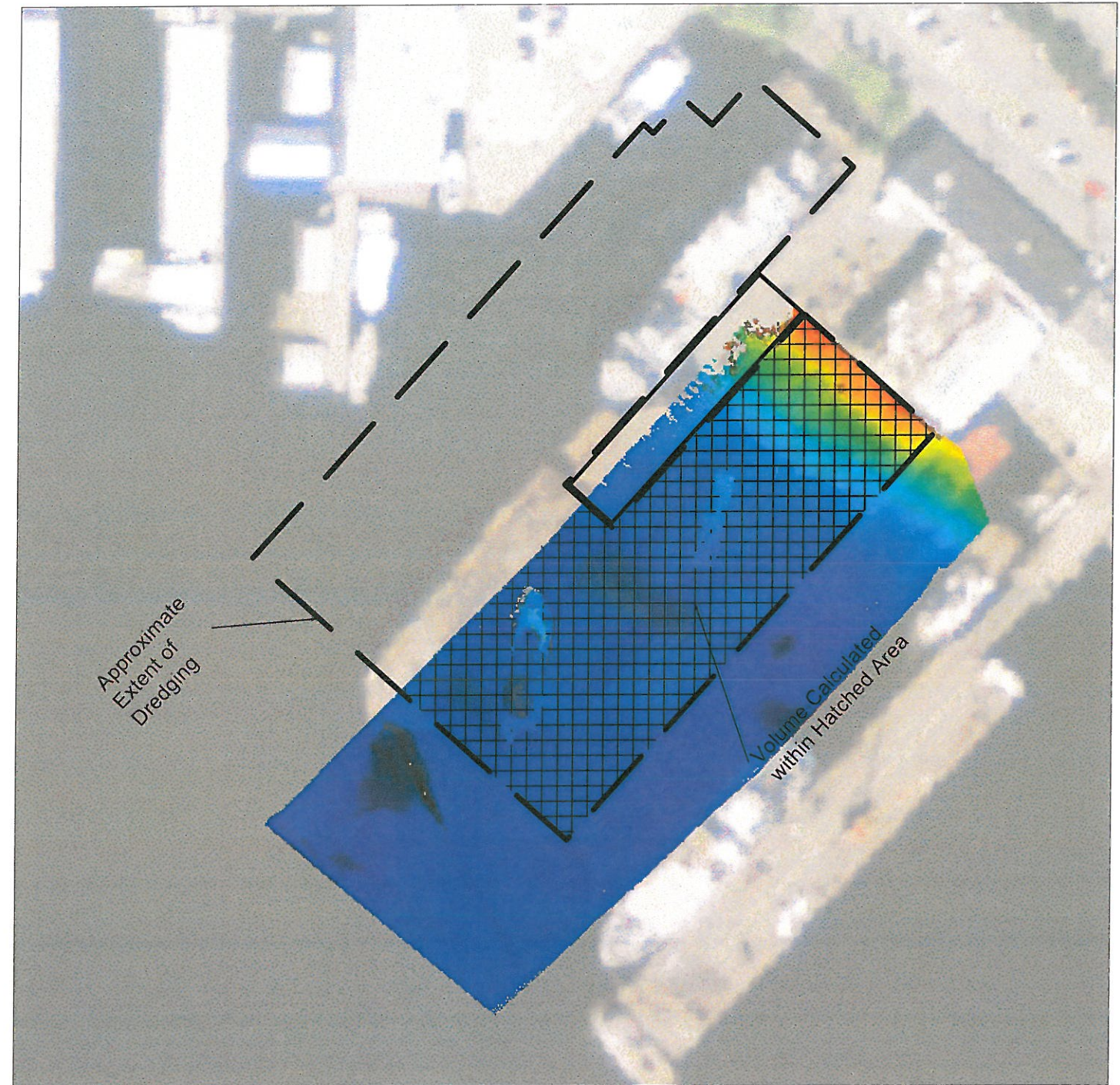
- SHEET 1 - PROJECT INFORMATION
- SHEET 2 - MULTIBEAM IMAGERY AND CONTOURS
- SHEET 3 - MULTIBEAM IMAGERY AND SOUNDINGS

| NORTHLAKE SHIPYARD<br>DREDGING VOLUMES - AVAILABLE |       |
|--|-------|
| eTrac Inc. Survey Date: 01/23/2014                 |       |
| Available Material to Grade (CU. YD.)              | 4,109 |

THIS HYDROGRAPHIC SURVEY WAS COMPLETED UNDER THE OVERSIGHT OF AN ACSM/THOSOA CERTIFIED HYDROGRAPHER

  
David R. Neff C.H.(275)

Overview




**eTrac Inc.**  
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415.462.0421  
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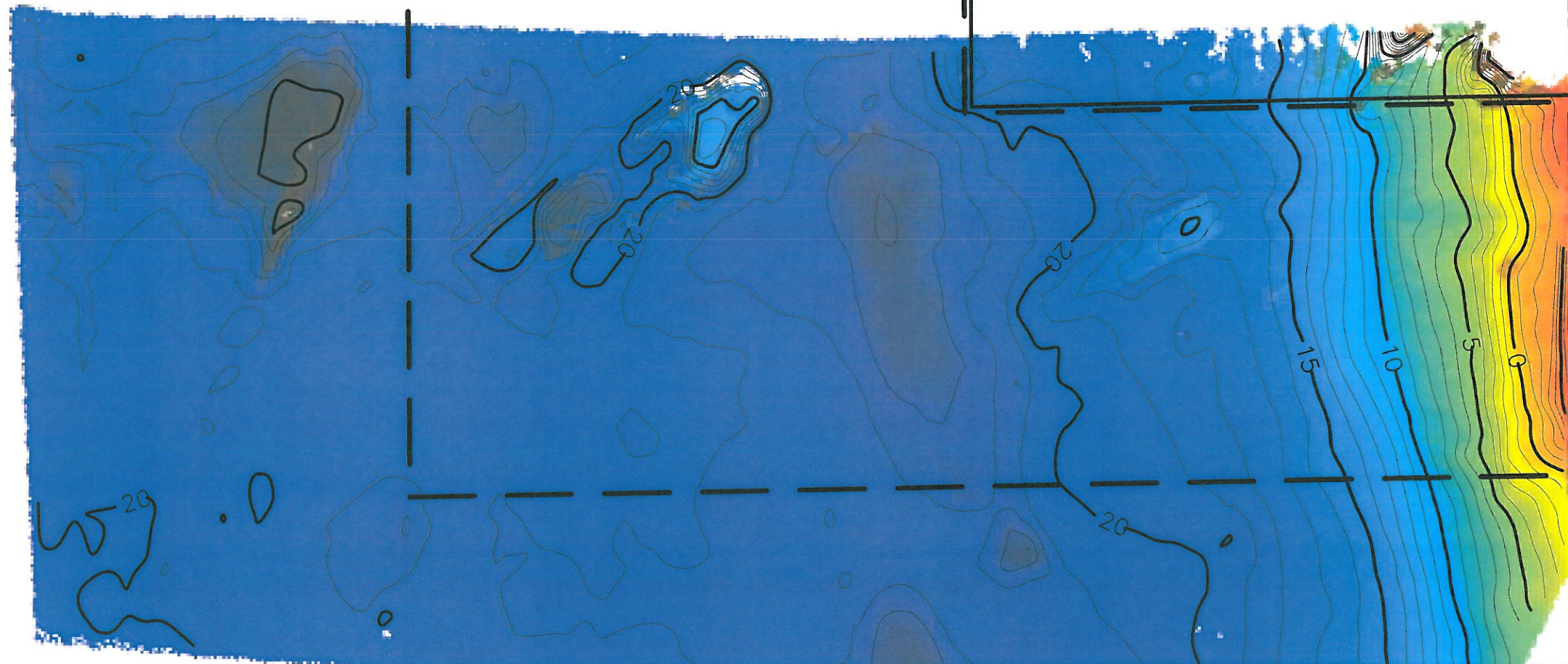
DATE: January 24, 2014  
DESIGNED BY: NPJG | CHECKED BY: DRN  
CONTRACT #:  
PERMIT #: EPISODE #:  
PROJECT NAME:  
REDS\_2013\_Northlake\_Shipyard

NORTHLAKE SHIPYARD  
SAND BLAST GRIT DREDGING  
INTERIM ACTION  
Project Information

Reference Number:  
**S1**

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Approximate  
Extent of  
Dredging



COLOR SCALE  
FEET BELOW MLLW



SCALE: 1" = 40'  
IF SHEET IS LESS THAN 11"X17"  
IT IS A REDUCED PRINT.  
SCALE ACCORDINGLY



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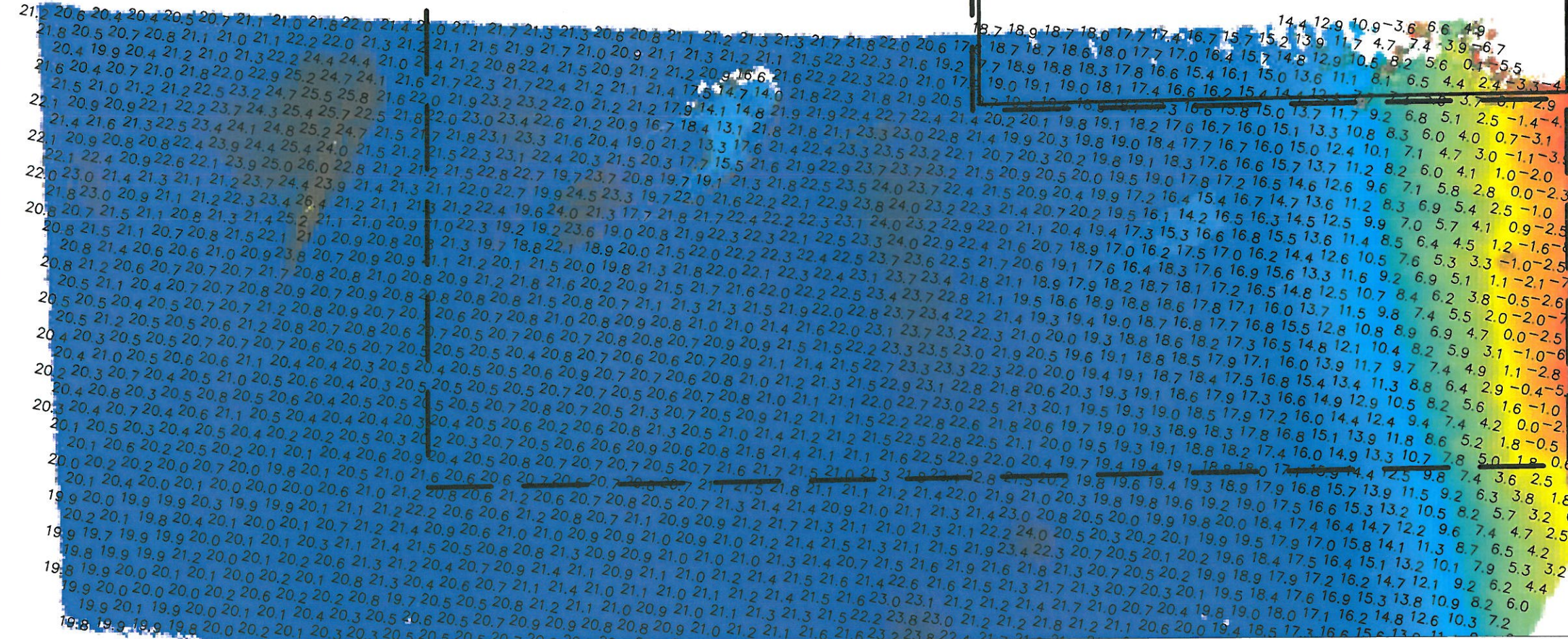
DATE: January 24, 2014  
DESIGNED BY: NPJG | CHECKED BY: DRN  
CONTRACT #:  
PERMIT #: EPISODE #:  
PROJECT NAME:  
REDS\_2013\_Northlake\_Shipyard

NORTHLAKE SHIPYARD  
SAND BLAST GRIT DREDGING  
INTERIM ACTION  
Multibeam Imagery and Contours

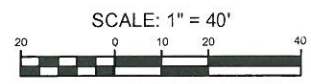
Reference  
Number:  
**S2**

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Approximate  
Extent of  
Dredging



COLOR SCALE  
FEET BELOW MLLW



SCALE: 1" = 40'  
IF SHEET IS LESS THAN 11"x17"  
IT IS A REDUCED PRINT.  
SCALE ACCORDINGLY



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eTracInc.com

DATE: January 24, 2014  
DESIGNED BY: NPJG | CHECKED BY: DRN  
CONTRACT #:  
PERMIT #: EPISODE #:  
PROJECT NAME:  
REDS\_2013\_Northlake\_Shipyard

**NORTHLAKE SHIPYARD  
SAND BLAST GRIT DREDGING  
INTERIM ACTION**  
Soundings

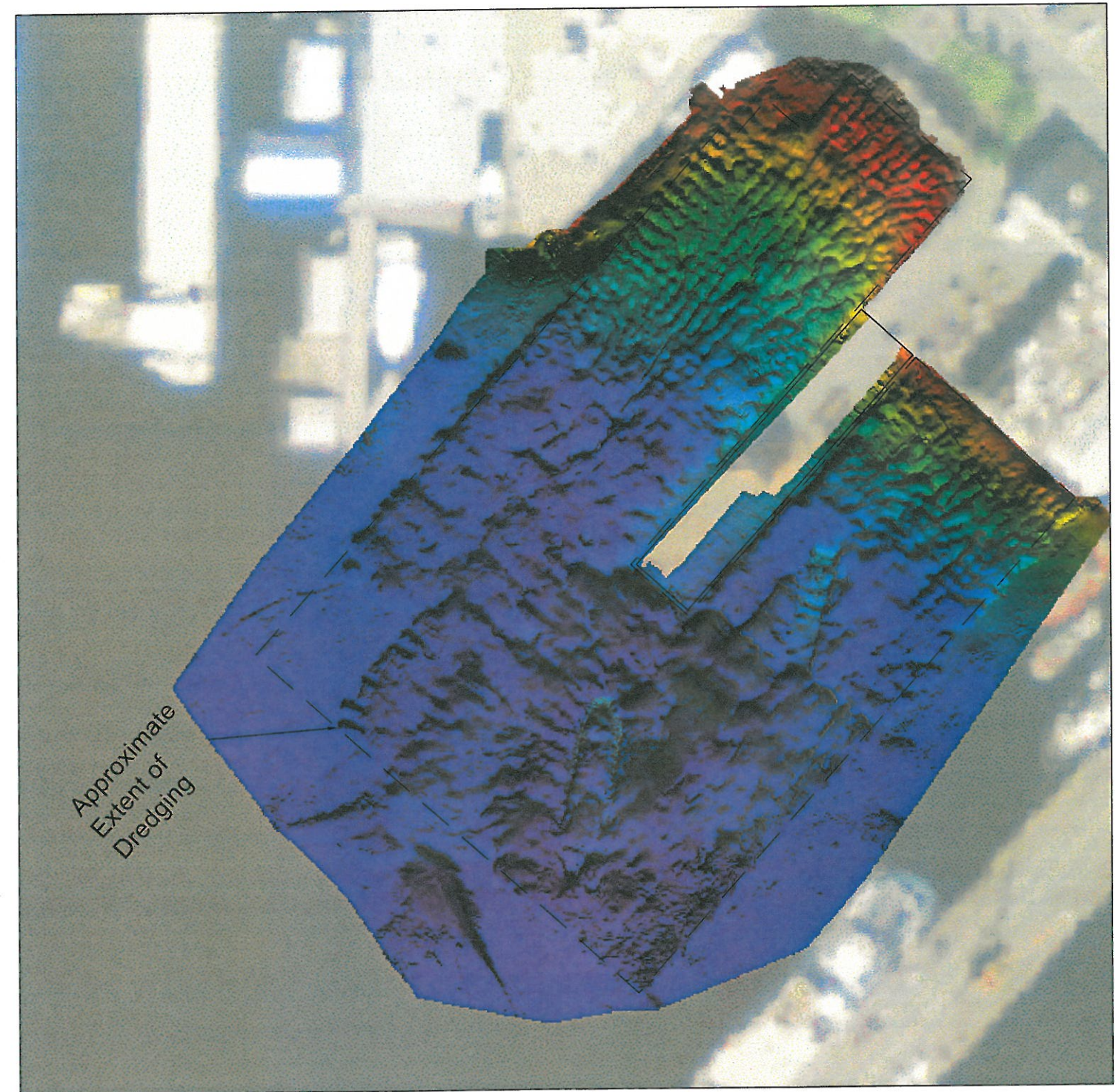
Reference  
Number:  
**S3**

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# NORTHLAKE SHIPYARD SAND BLAST GRIT DREDGING INTERIM ACTION

## Multibeam Post-Dredge Survey

Overview



not to scale

### GENERAL NOTES:

1. SURVEY DATA COLLECTED BY ETRAC INC, ON MARCH 5 AND MARCH 22, 2014.
2. HORIZONTAL DATUM/PROJECTION: NAD83/SPCS WA NORTH - US SURVEY FEET.
3. VERTICAL DATUM: USACE LOCKS DATUM (FEET)
4. HORIZONTAL/VERTICAL CONTROL: RTK VRS NETWORK WASHINGTON SSO WSRN.
5. POSITION AND MOTION DATA WERE COLLECTED USING AN APPLANIX POSMV.
6. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2024 MULTIBEAM SONAR.
7. BATHYMETRIC INFORMATION IS ONLY VALID FOR THE TIME IN WHICH THE SURVEY WAS CONDUCTED.
8. VOLUMES COMPUTED USING AUTOCAD CIVIL 3D v. 2012.

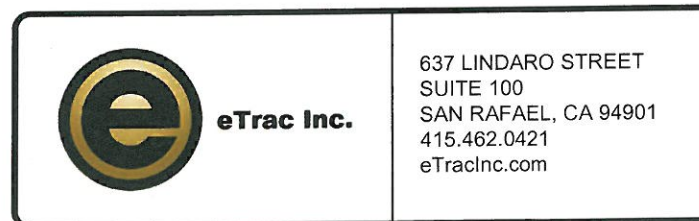
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- SHEET 3 - MULTIBEAM IMAGERY AND SOUNDINGS

|   |
|---|
| NORTHLAKE SHIPYARD<br>DREDGING VOLUMES - REMOVED                                      |
| SURFACE TO SURFACE COMPARISON   |
| PRE-DREDGE SURVEY: 11/12/13 AND 01/23/14<br>POST-DREDGE SURVEY: 03/05/14 AND 03/22/14 |
| MATERIAL REMOVED: 8,320 CYDS  |

THIS HYDROGRAPHIC SURVEY WAS COMPLETED  
UNDER THE OVERSIGHT OF AN ACSM/THOSOA  
CERTIFIED HYDROGRAPHER

David R. Neff C.H.(275)



DATE: March 5 and March 22, 2014  
DESIGNED BY: DRN | CHECKED BY: JAA  
CONTRACT #:  
PERMIT #: EPISODE #:  
PROJECT NAME:  
REDS\_2013\_Northlake\_Shipyard

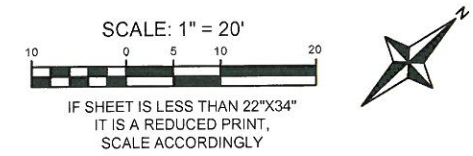
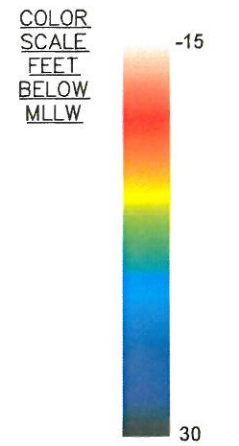
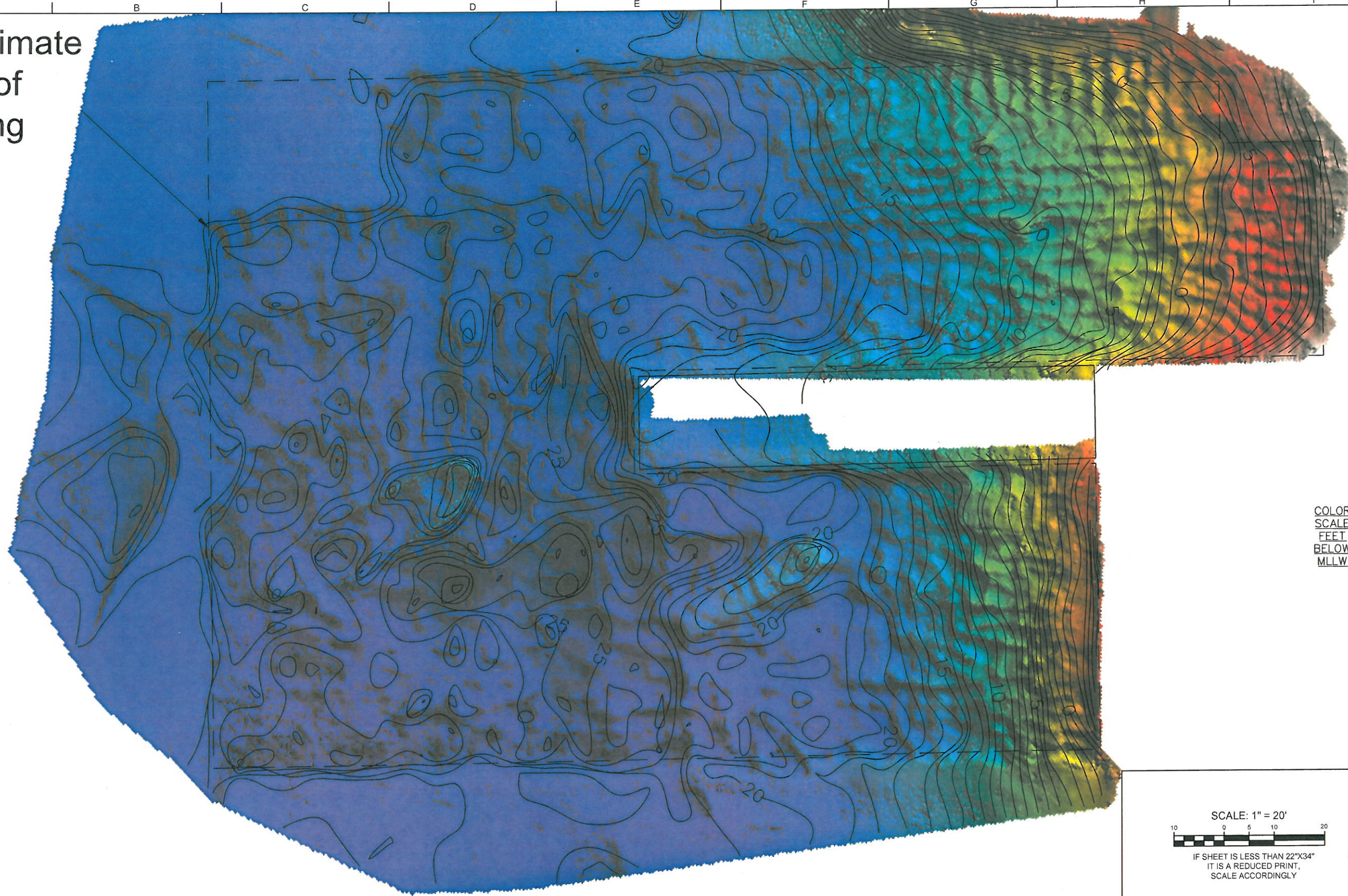
NORTHLAKE SHIPYARD  
SAND BLAST GRIT DREDGING  
INTERIM ACTION  
Project Information

Reference  
Number:  
**S1**

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Approximate  
Extent of  
Dredging



**redside**  
construction

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SUITE 100  
SAN RAFAEL, CA 94901  
415.462.0421  
eTracInc.com

DATE: March 5 and March 22, 2014  
DESIGNED BY: DRN | CHECKED BY: JAA  
CONTRACT #:  
PERMIT #: EPISODE #:  
PROJECT NAME:  
REDS\_2013\_Northlake\_Shipyard

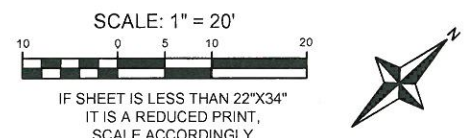
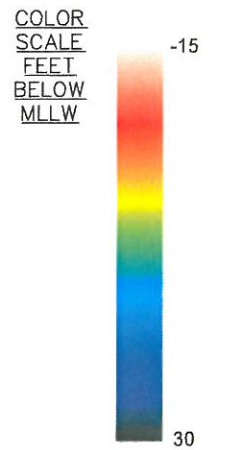
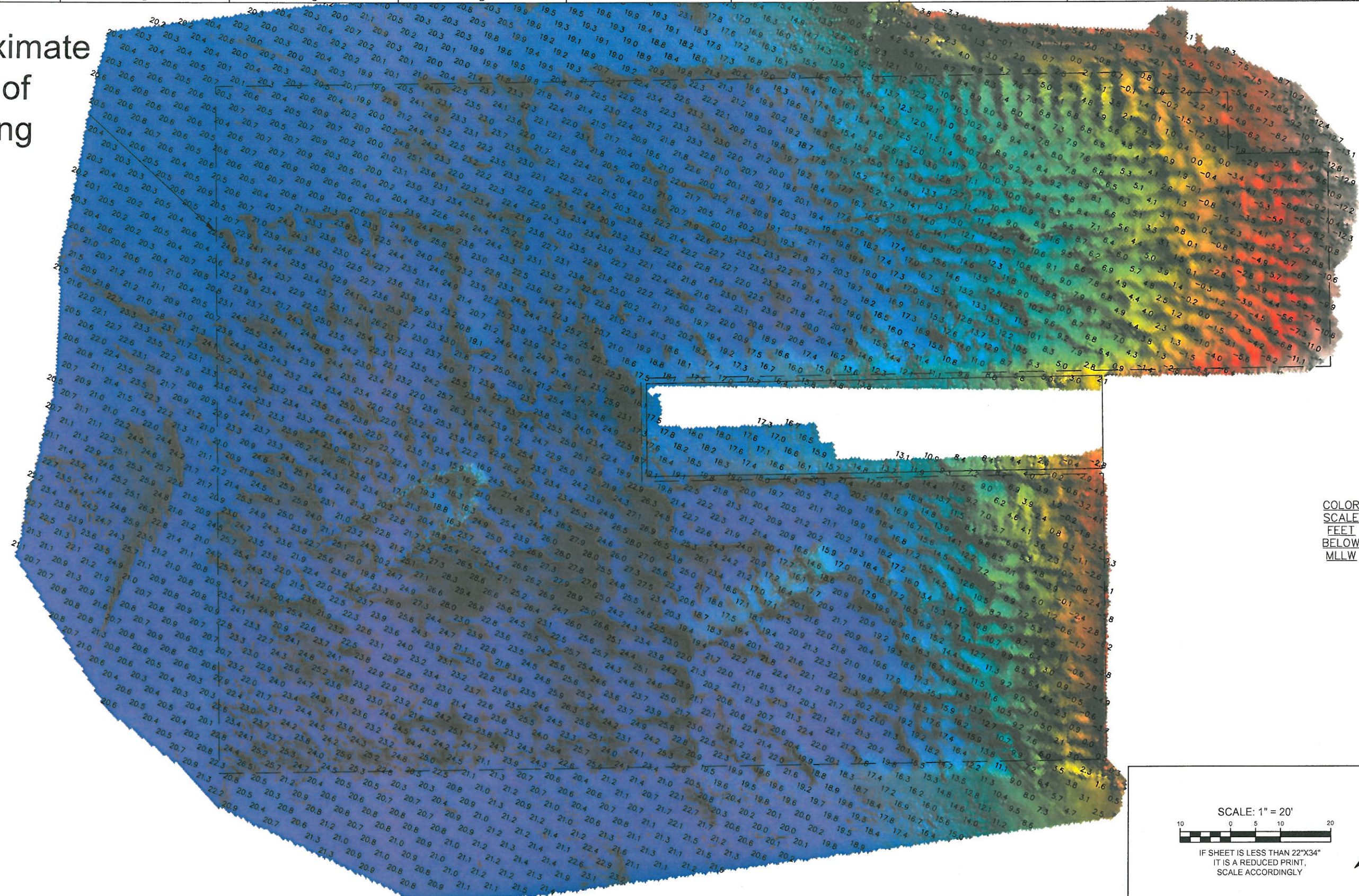
**NORTHLAKE SHIPYARD  
SAND BLAST GRIT DREDGING  
INTERIM ACTION**

Multibeam Imagery and Contours

Reference  
Number:  
**S2**

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Approximate  
Extent of  
Dredging



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eTracInc.com

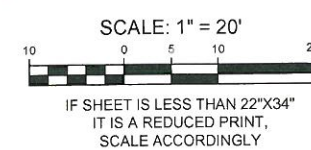
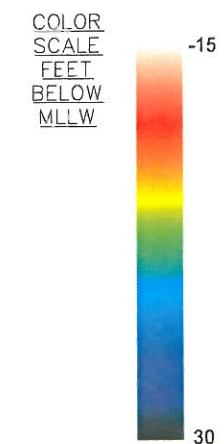
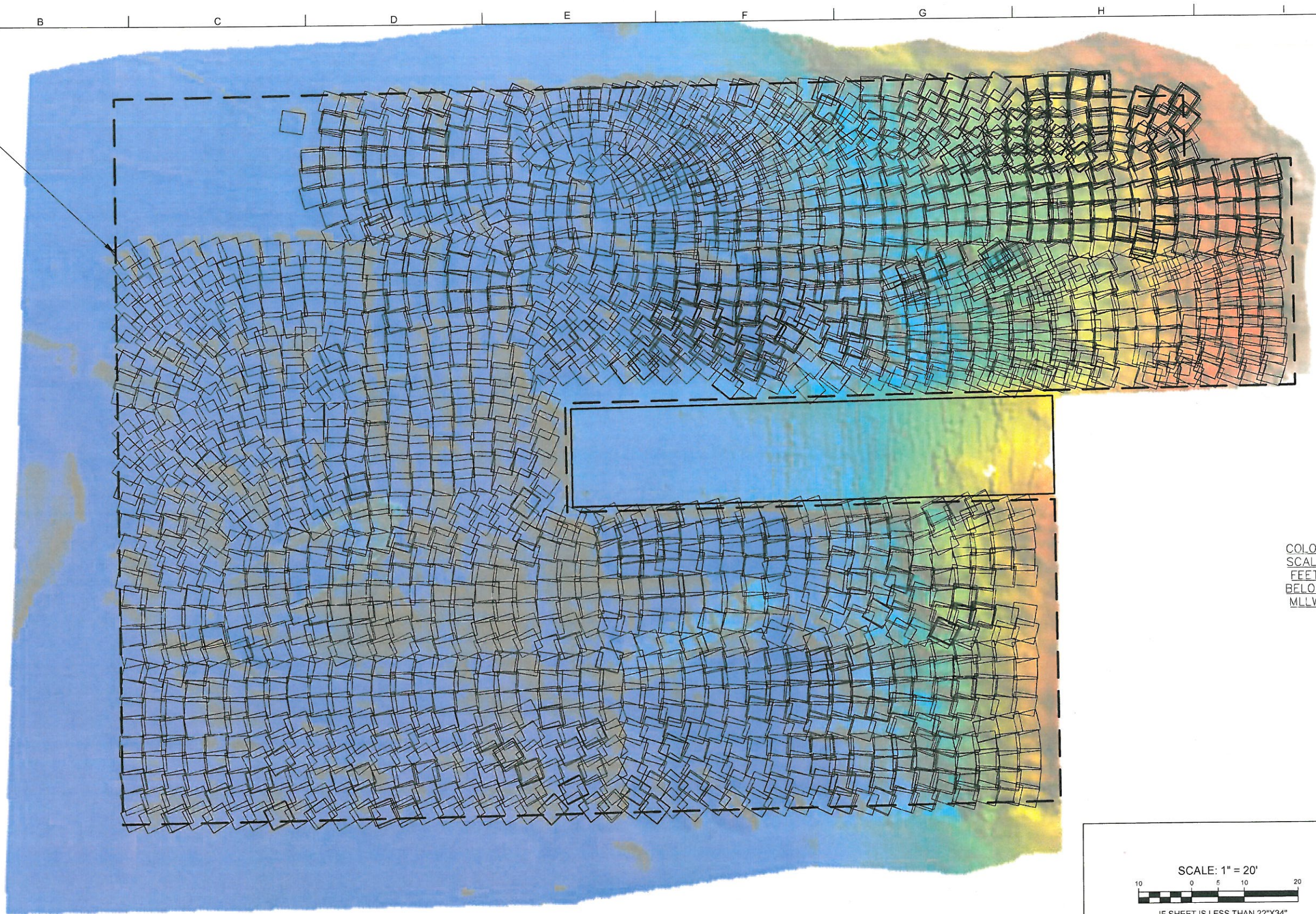
DATE: March 5 and March 22, 2014  
DESIGNED BY: DRN | CHECKED BY: JAA  
CONTRACT #:  
PERMIT #: EPISODE #:  
PROJECT NAME:  
REDS\_2013\_Northlake\_Shipyard

NORTHLAKE SHIPYARD  
SAND BLAST GRIT DREDGING  
INTERIM ACTION  
Soundings

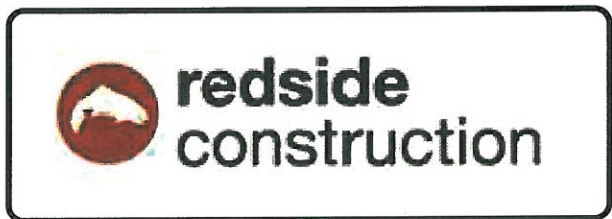
Reference Number:  
**S3**

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Approximate  
Extent of  
Dredging



Note: Density of "bucket prints" is not necessarily representative of dredged depth.



DATE: April 8, 2014  
DESIGNED BY: JAK | CHECKED BY: DRN  
CONTRACT #:  
PERMIT #: EPISODE #:  
PROJECT NAME:  
REDS\_2013\_Northlake\_Shipyard

NORTHLAKE SHIPYARD  
SAND BLAST GRIT DREDGING  
INTERIM ACTION  
Multibeam Imagery and Bucket Prints

Reference  
Number:

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# NORTHLAKE SHIPYARD SAND BLAST GRIT DREDGING INTERIM ACTION

## Multibeam Post-Cap Survey

### GENERAL NOTES:

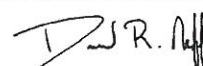
1. SURVEY DATA COLLECTED BY ETRAC INC, ON MARCH 27, 2014.
2. HORIZONTAL DATUM/PROJECTION: NAD83/SPCS WA NORTH - US SURVEY FEET.
3. VERTICAL DATUM: USACE LOCKS DATUM (FEET)
4. HORIZONTAL/VERTICAL CONTROL: RTK VRS NETWORK WASHINGTON SSO WSRN.
5. POSITION AND MOTION DATA WERE COLLECTED USING AN APPLANIX POSMV.
6. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2024 MULTIBEAM SONAR.
7. BATHYMETRIC INFORMATION IS ONLY VALID FOR THE TIME IN WHICH THE SURVEY WAS CONDUCTED.
8. VOLUMES COMPUTED USING AUTOCAD CIVIL 3D v. 2012.

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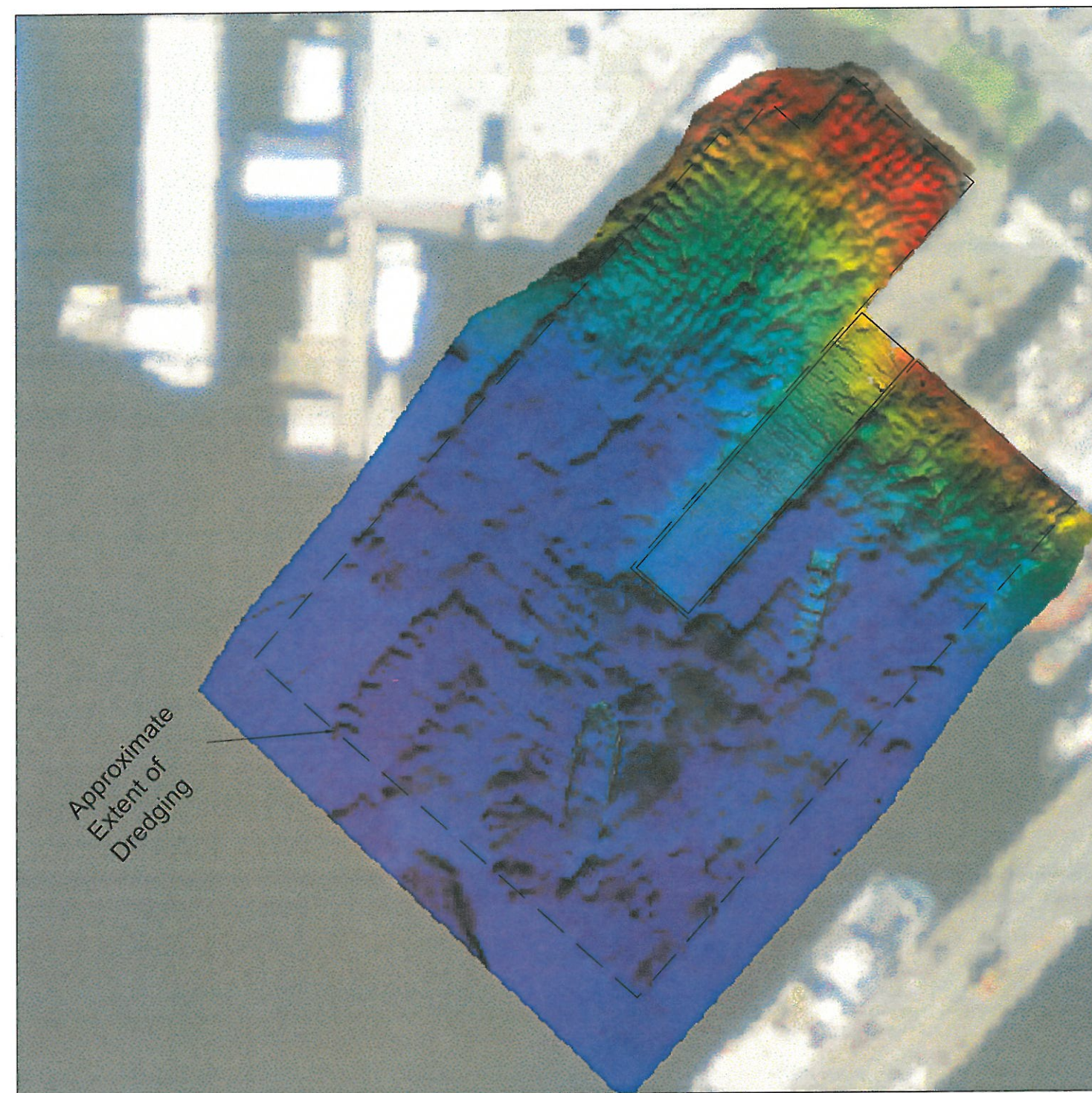
|  |
|--|
| NORTHLAKE SHIPYARD<br>DREDGING VOLUMES - PLACED                        |
| SURFACE TO SURFACE COMPARISON  |
| POST-DREDGE SURVEY: 03/05/14 AND 03/22/14<br>POST-CAP SURVEY: 03/27/14 |
| MATERIAL PLACED: 1,342 CYDS  |

THIS HYDROGRAPHIC SURVEY WAS COMPLETED UNDER THE OVERSIGHT OF AN ACSM/THOSOA CERTIFIED HYDROGRAPHER



David R. Neff C.H.(275)

Overview



not to scale



|   |
|---|
| DATE: March 27, 2014                          |
| DESIGNED BY: DRN   CHECKED BY: JAA            |
| CONTRACT #:                                   |
| PERMIT #: EPISODE #:                          |
| PROJECT NAME:<br>REDS_2013_Northlake_Shipyard |

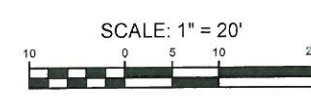
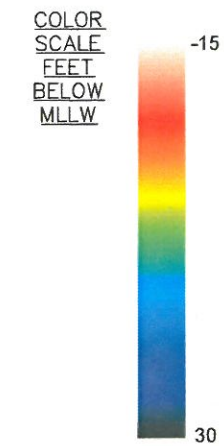
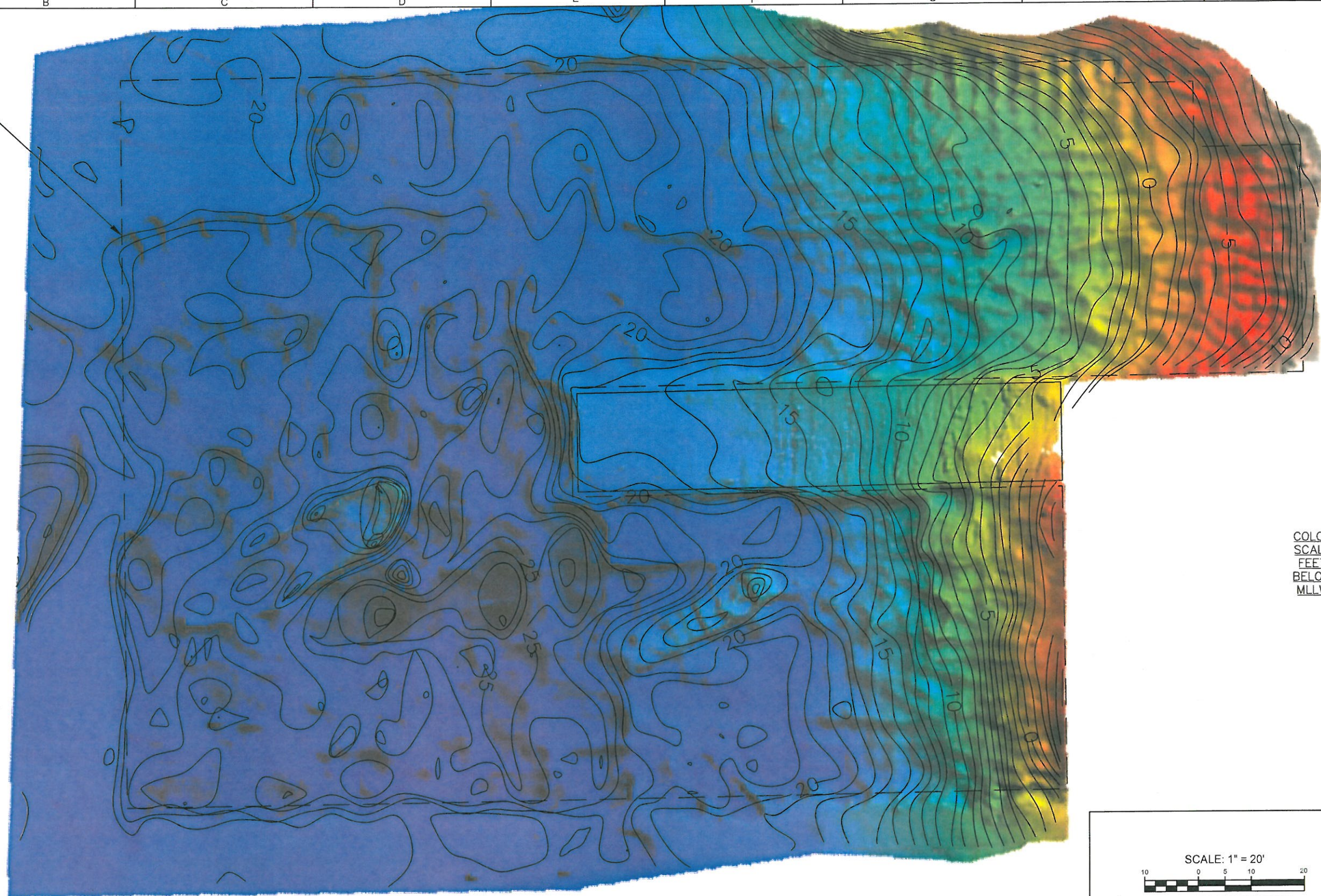
|  |
|--|
| NORTHLAKE SHIPYARD<br>SAND BLAST GRIT DREDGING<br>INTERIM ACTION |
| Project Information  |

|                                   |
|-----------------------------------|
| Reference<br>Number:<br><b>S1</b> |
|-----------------------------------|

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Approximate  
Extent of  
Dredging



IF SHEET IS LESS THAN 22"x34"  
IT IS A REDUCED PRINT,  
SCALE ACCORDINGLY

**redside**  
construction

**eTrac Inc.**  
637 LINDARO STREET  
SUITE 100  
SAN RAFAEL, CA 94901  
415.462.0421  
eTracInc.com

DATE: March 27, 2014  
DESIGNED BY: DRN | CHECKED BY: JAA  
CONTRACT #:  
PERMIT #: EPISODE #:  
PROJECT NAME:  
REDS\_2013\_Northlake\_Shipyard

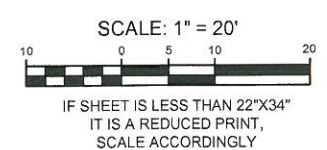
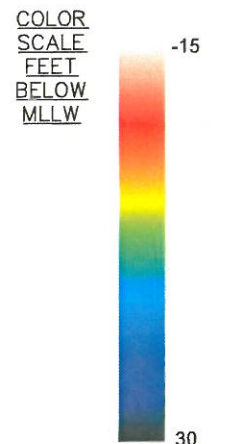
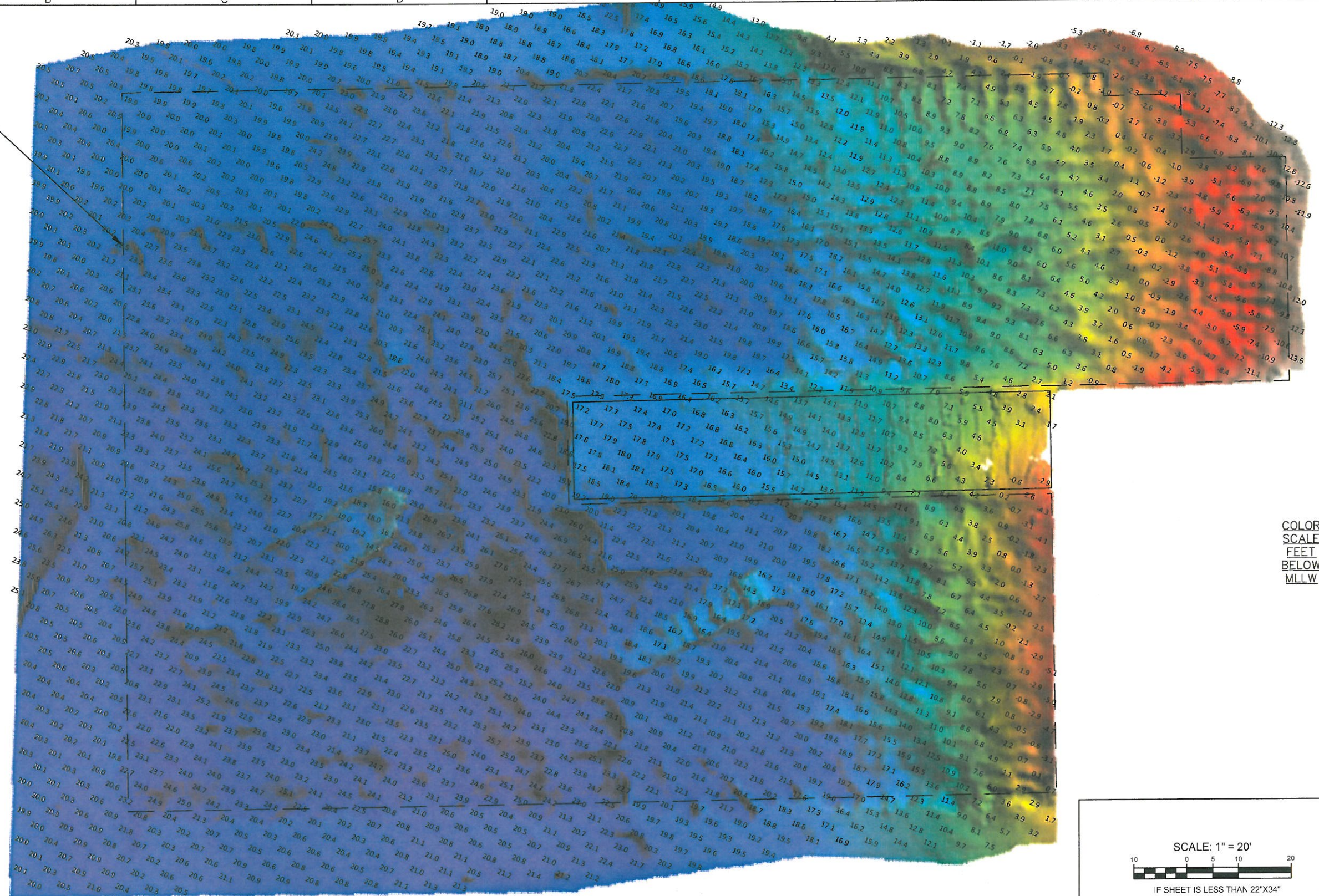
**NORTHLAKE SHIPYARD  
SAND BLAST GRIT DREDGING  
INTERIM ACTION**

Multibeam Imagery and Contours

Reference  
Number:  
**S2**

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Approximate  
Extent of  
Dredging



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SUITE 100  
SAN RAFAEL, CA 94901  
415.462.0421  
eTracInc.com

DATE: March 27, 2014  
DESIGNED BY: DRN | CHECKED BY: JAA  
CONTRACT #:  
PERMIT #: EPISODE #:  
PROJECT NAME:  
REDS\_2013\_Northlake\_Shipyard

NORTHLAKE SHIPYARD  
SAND BLAST GRIT DREDGING  
INTERIM ACTION  
Soundings

Reference  
Number:  
**S3**

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APPENDIX B  
Selected Site Photographs

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for double-sided printing.



Photograph 1 – Pre-construction conditions and contractor mobilization at the Northlake Shipyard Site (Dec 4, 2013).



Photograph 2 – Preparing deployment water quality controls at the beginning of construction (Dec 4, 2013).



Photograph 3 – Deploying water quality controls at the beginning of construction (Dec 4, 2013).

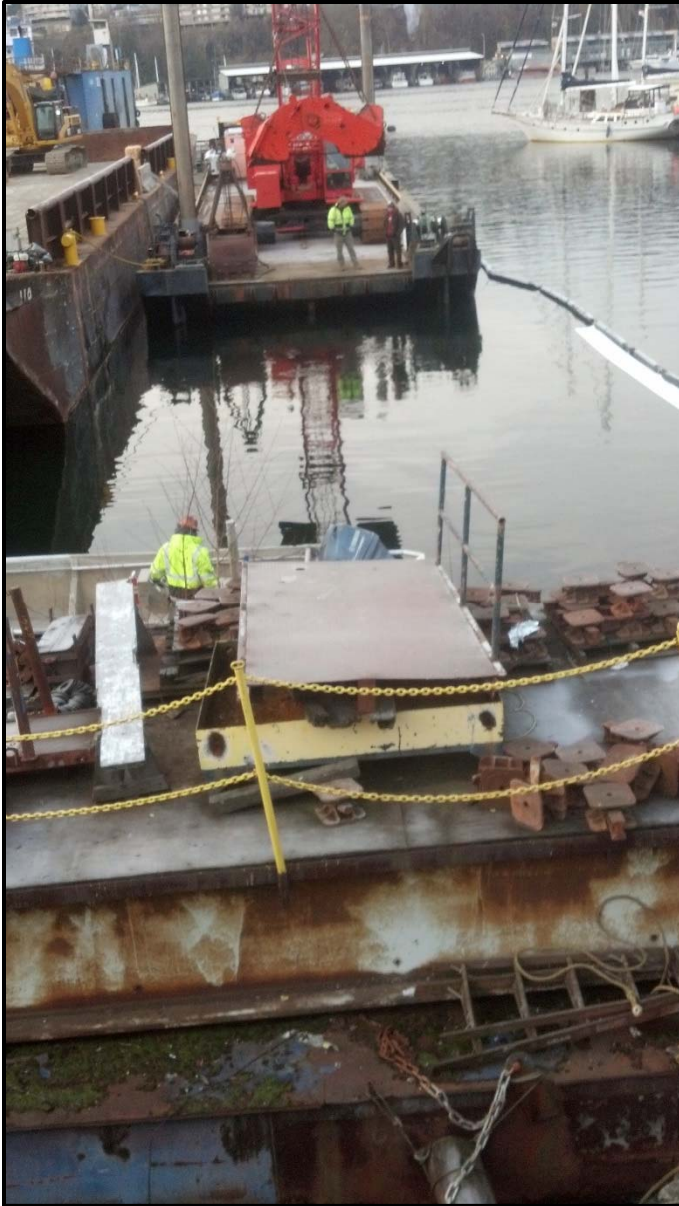




Photograph 4 – Water quality monitoring buoy in place (January 15, 2013).



Photograph 5 – Contractor crew member taking manual background turbidity readings (February 7, 2014).



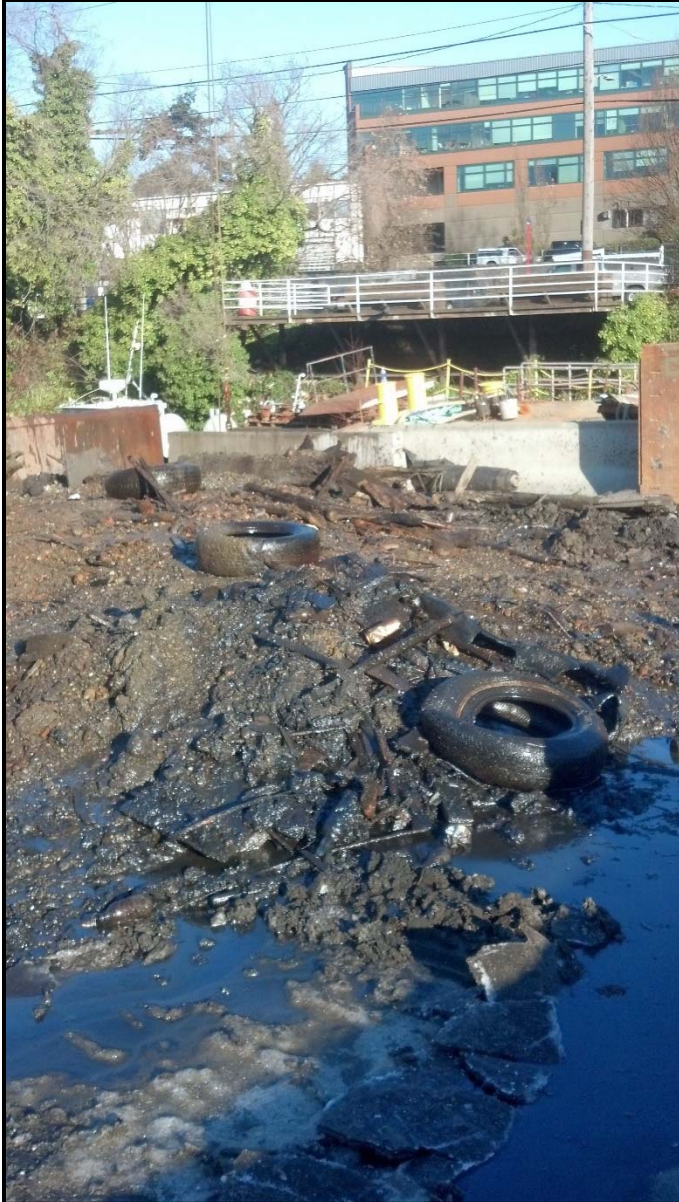
Photograph 6 – Contractor placing absorbent pads along the edges of the turbidity curtain (December 4, 2013).



Photograph 7 – Dredging operations begin (December 5, 2013).



Photograph 8 – Northlake Shipyard site press event, KOMO news on site (December 5, 2013).



Photograph 9 – Example of dredge spoils and debris recovered from Waterway 21 (December 5, 2013).



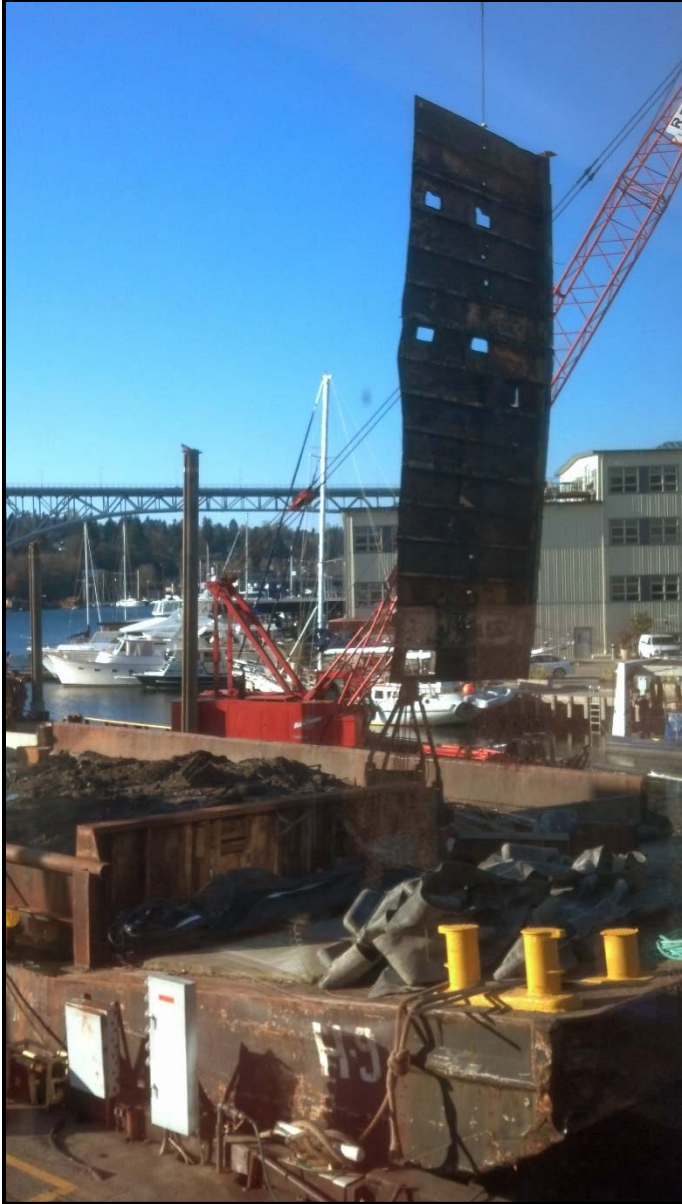
Photograph 10 – Dredge spoils and debris recovered from Waterway 21 (December 9, 2013).



Photograph 11 – Example of sandblast grit in the dredge spoils (December 9, 2013).



Photograph 12 – Compacted sandblast grit in dredge spoils (January 27, 2014).



Photograph 13 – Large piece of scrap steel recovered from Waterway 21 (December 5, 2013).





Photograph 14 – Large piece of steel recovered during dredging operations (December 27, 2013).



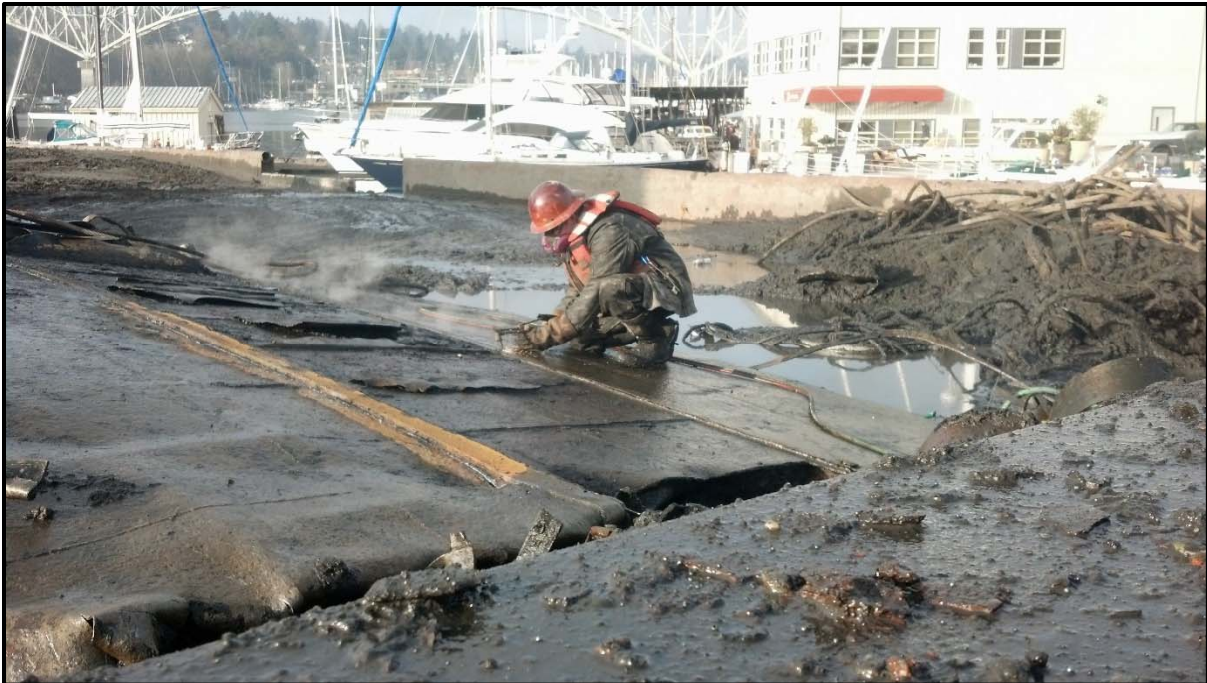
Photograph 15 – Example of scrap steel recovered during dredging operations (January 13, 2014).



Photograph 16 – Example of timber pile recovered during dredging operations (December 5, 2013).



Photograph 17 – Example of gas cylinder recovered during dredging operations (December 27, 2014).



Photograph 18 – Contractor processing recovered scrap steel for off-site disposal (January 15, 2014).



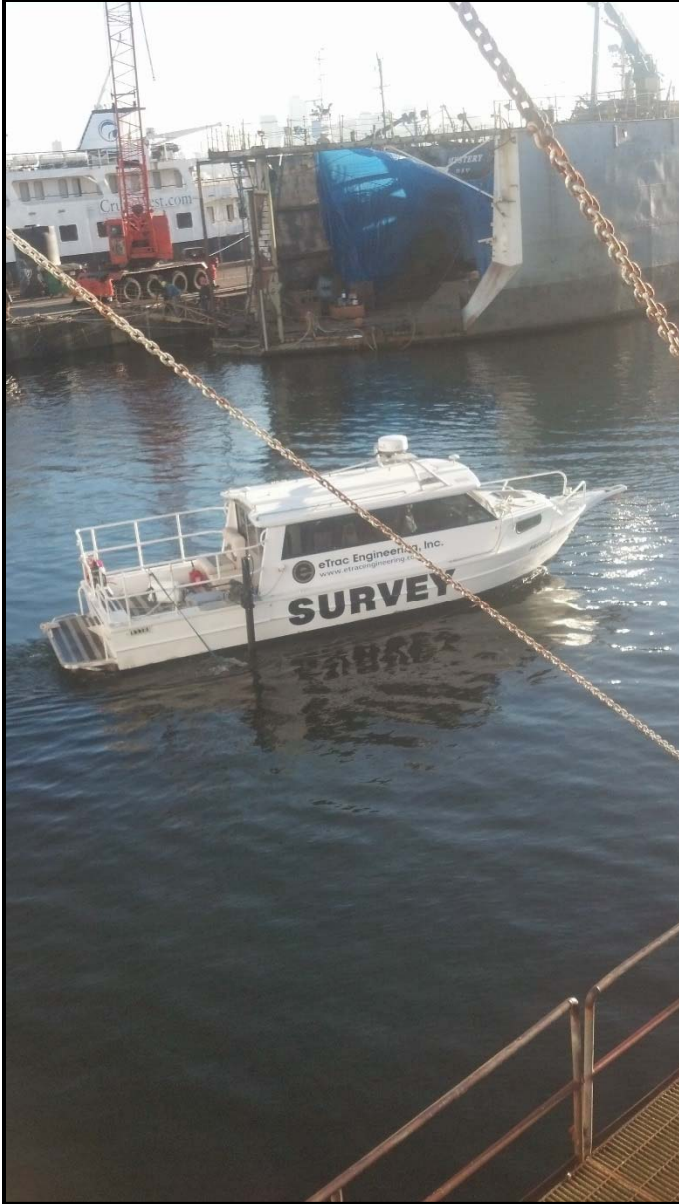
Photograph 19 – Contractor processing recovered timber piles for off-site disposal (January 10, 2014).



Photograph 20 – Transloading material for off-site disposal (December 20, 2014).



Photograph 21 – Northlake Shipyard relocating Dry Dock 9 to allow dredging operations to begin on the east side of the pier (January 23, 2014).



Photograph 22 – Pre-dredge survey Phase II, performed by eTrac (January 23, 2014).



Photograph 23 – Water quality controls during Phase II dredging operations (January 31, 2014).

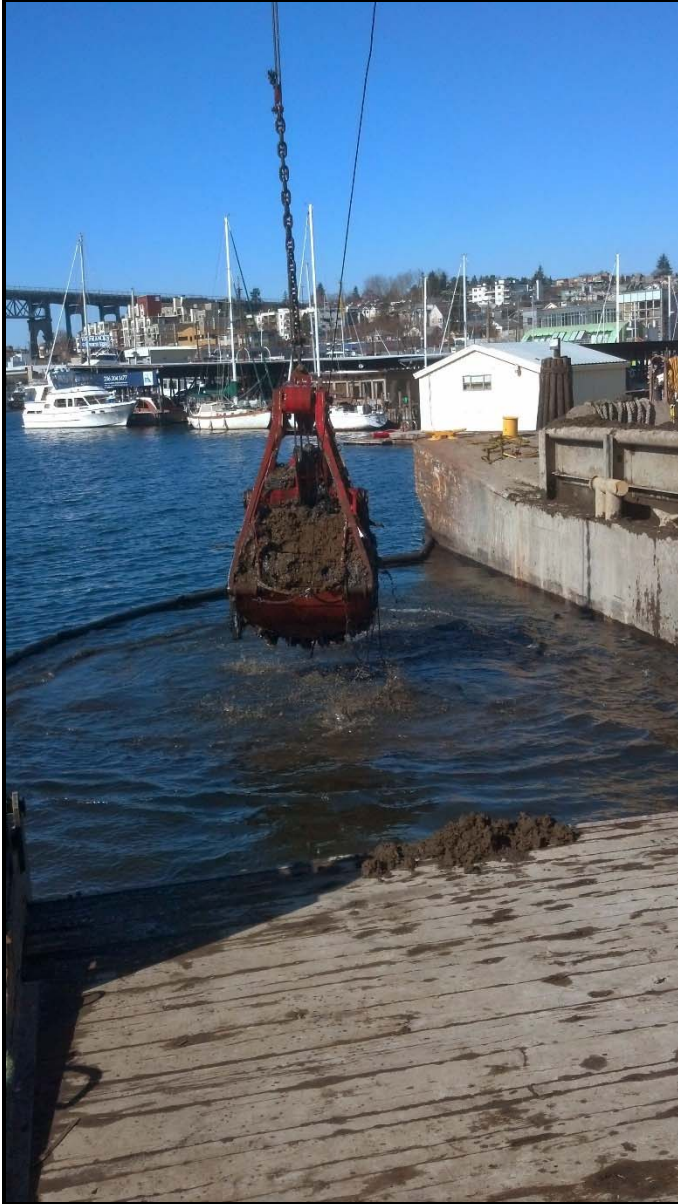




Photograph 24 – Contractor changing batteries on the water quality monitoring buoy (January 8, 2014).



Photograph 25 – Documentation sampling (February 7, 2014).



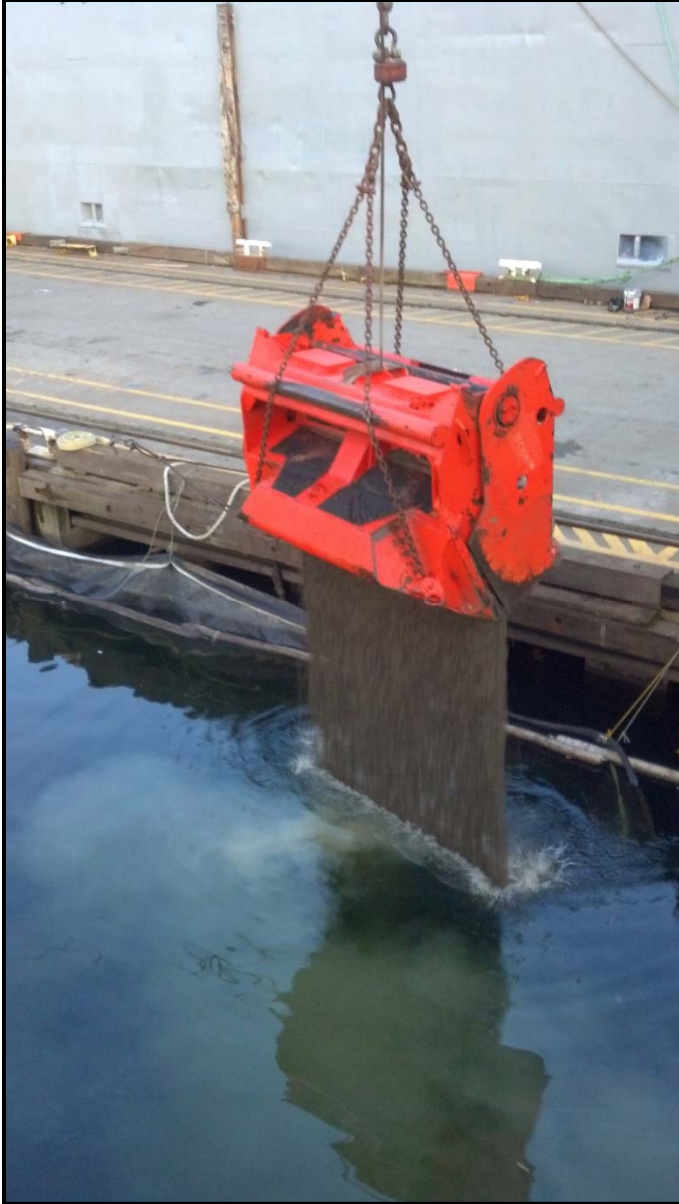
Photograph 26 – Example of dredge spoils containing native material (February 28, 2014).



Photograph 27 – Cleaning the barge in preparation for thin-layer cap placement (March 6, 2014).



Photograph 28 – Contractor receiving a barge full of thin-layer capping material (March 10, 2014).



Photograph 29 – Contractor placing thin-layer capping material (March 13, 2014).



Photograph 30 – Final day of thin-layer placement (March 25, 2014).