


- ### NOTES
- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 5, NAD83 (CORS96), IN US SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE 2003 EPOCH VALUES OF OPUS DB DERIVED STATIONS: "PLH-S 2005" (PID BBBL01) AS N 1,416,517.22', E 1,860,997.72', "1240-EE 1985" (PID BBBL10) AS N 1,416,211.66', E 1,861,730.35.
 - LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 5, NAD83, IN US SURVEY FEET HOLDING USACENAOA TIDAL BENCH MARK "7391" C 2009' (PID BBBL13/VM19374) AS N 1,416,645.58, E 1,860,946.03.
 - VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0'), BASED ON THE NOAA/NOA TIDAL BENCH MARK LIST: "945 7391 PORT LIONS, KODIAK ISLAND, ALASKA" PUBLISHED 06/04/2010. THIS TIDAL DATUM IS BASED ON THE 1985-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA/NOA TIDAL BENCH MARK "7391" C 2009' (PID BBBL13/VM19374) AS 10.70 AND NOAA/NOA TIDAL BENCH MARK "7391" A 2009' (PID BBBL10/VM19377) AS 8.30'.
 - VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD83 (GEOID12A) ELEVATIONS HOLDING NOAA/USACE TIDAL BENCH MARK "7391" C 2009' (PID BBBL13/VM19374) AS 8.65'.
 - SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
 - BATHYMETRY WAS COLLECTED SEPTEMBER 05-06, 2014. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2022 MULTIBEAM ECHOSOUNDER OPERATING AT 200 KHZ. SOUND VELOCITY THOUGH THE WATER COLUMN WAS DETERMINED WITH A MINOS BASE X SOUND VELOCITY PROBE. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLIX POSIMV WAVEMASTER V5 SYSTEM. DATA WAS COLLECTED AND PROCESSED USING QINSY 8.1 SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING STATIC GNSS EQUIPMENT AND TECHNIQUES. VERTICAL CONTROL WAS SURVEYED USING DIFFERENTIAL LEVELING TECHNIQUES.
 - THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
 - MAP SOUNDINGS ARE BINNED AT 24 FEET AND ARE SHOAL-BIASED. CONTOURS ARE BASED ON 12 FEET BINNED SHOAL-BIASED SOUNDINGS. VOLUME SOUNDINGS ARE BINNED AT 3 FEET AND ARE MEAN VALUE SOUNDINGS.

SURVEY CONTROL DATA				
STATION	NORTHING	EASTING	MLLW	DESCRIPTION
1240-83-EE	1,416,211.66	1,861,730.35	21.55	3-1/2 INCH DOMED USACE BM
1240-83-WV	1,416,623.51	1,861,130.22	21.82	3-1/2 INCH DOMED USACE BM
7391 A 2009			8.30	3-1/2 INCH FLAT NOAA/USACE BM
7391 B 2009			8.83	3-1/2 INCH FLAT NOAA/USACE BM
7391 C 2009	1,416,645.58	1,860,946.03	10.70	3-1/2 INCH FLAT NOAA/USACE BM
7391 D 2009	1,416,644.36	1,861,101.85	7.73	3-1/2 INCH FLAT NOAA/USACE BM
A-5 1973	1,416,048.67	1,862,912.79		USACE SBC
B-2 1973	1,417,372.85	1,861,416.87		USACE SBC
PLH-1 1998	1,416,445.59	1,861,141.89	19.89	3 INCH DOMED SBC
PLH-3 2002	1,416,410.03	1,861,424.43	22.69	3 INCH DOMED SBC
PLH-4 2002	1,416,555.85	1,862,522.49		USACE SBC
PLH-5 2005	1,416,517.02	1,860,997.67	21.82	3 INCH DOMED SBC
PLH-6 2005	1,416,774.59	1,861,046.45	20.51	3 INCH DOMED SBC

NAVIGATION AIDS			
USCG NO.	NORTHING	EASTING	DESCRIPTION
26530	1,416,169	1,862,075	SETTLER COVE DAYBEACON 1
26535	1,416,217	1,861,726	SETTLER COVE BREAKWATER LIGHT 2

PROJECT LIMITS			PROJECT LIMITS		
CORNER#	NORTHING	EASTING	CORNER#	NORTHING	EASTING
1	1,416,500.00	1,862,136.00	5	1,415,959.15	1,861,148.03
2	1,416,065.00	1,861,960.00	6	1,416,005.49	1,861,580.85
3	1,415,860.00	1,861,631.00	7	1,416,166.67	1,861,839.53
4	1,415,810.00	1,861,164.00	8	1,416,556.81	1,861,999.17

VOLUME COMPUTATIONS			
ENTRANCE CHANNEL			
AVAILABLE TO PROJECT DEPTH (-14.0)		15 CU. YD.	
AVAILABLE TO MAXIMUM PAY (-15.0)		1,502 CU. YD.	
TOTAL AVAILABLE		1,517 CU. YD.	



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

David R. Neff


David R. Neff C.H. (275)

PORT LIONS, KODIAK ISLAND, ALASKA
PORT LIONS HARBOR
PROJECT CONDITION SURVEY
SEPTEMBER 02-07, 2014

SHEET IDENTIFICATION

5-PLT-92-07-08

Sheet 1 of 2



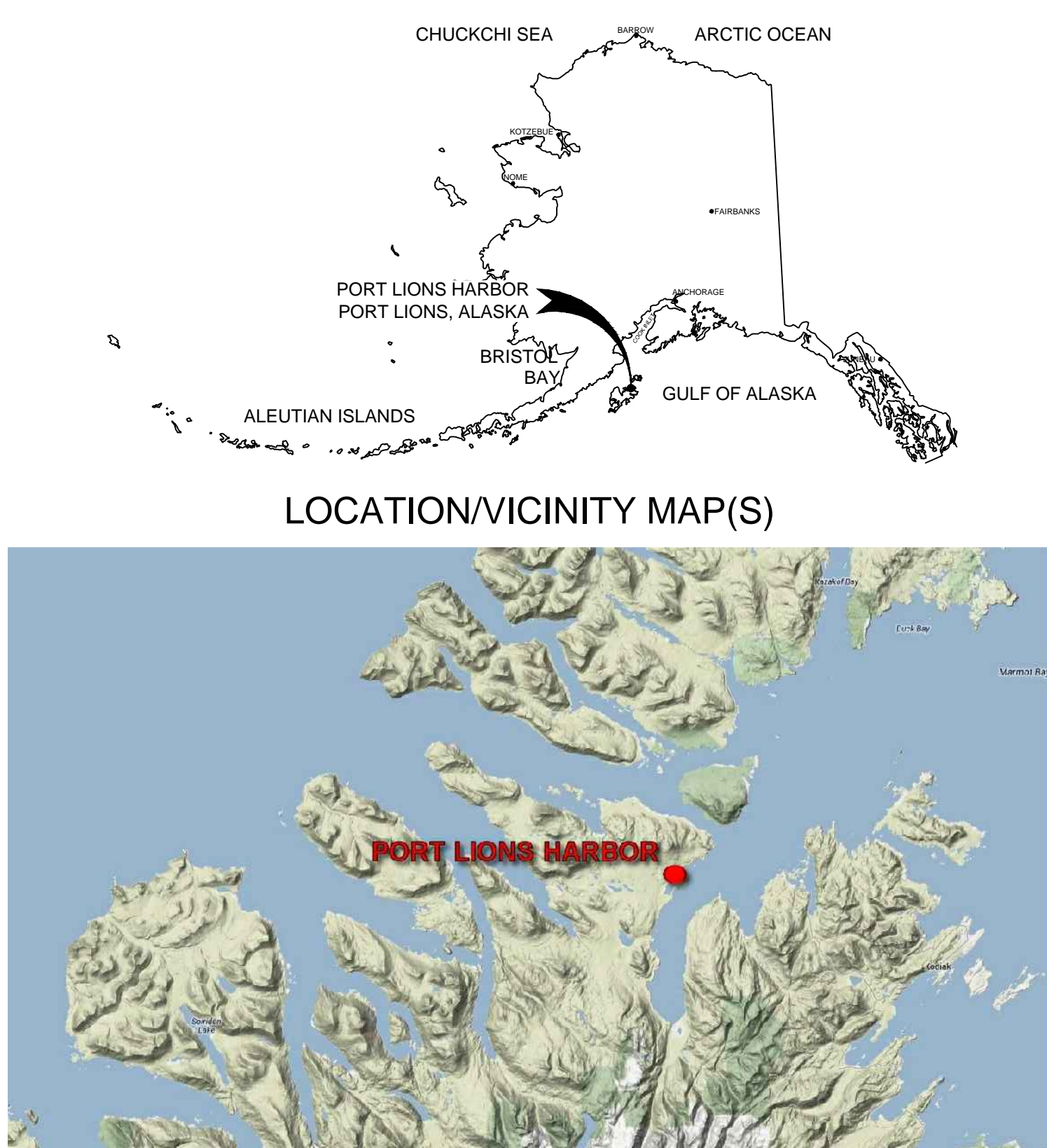
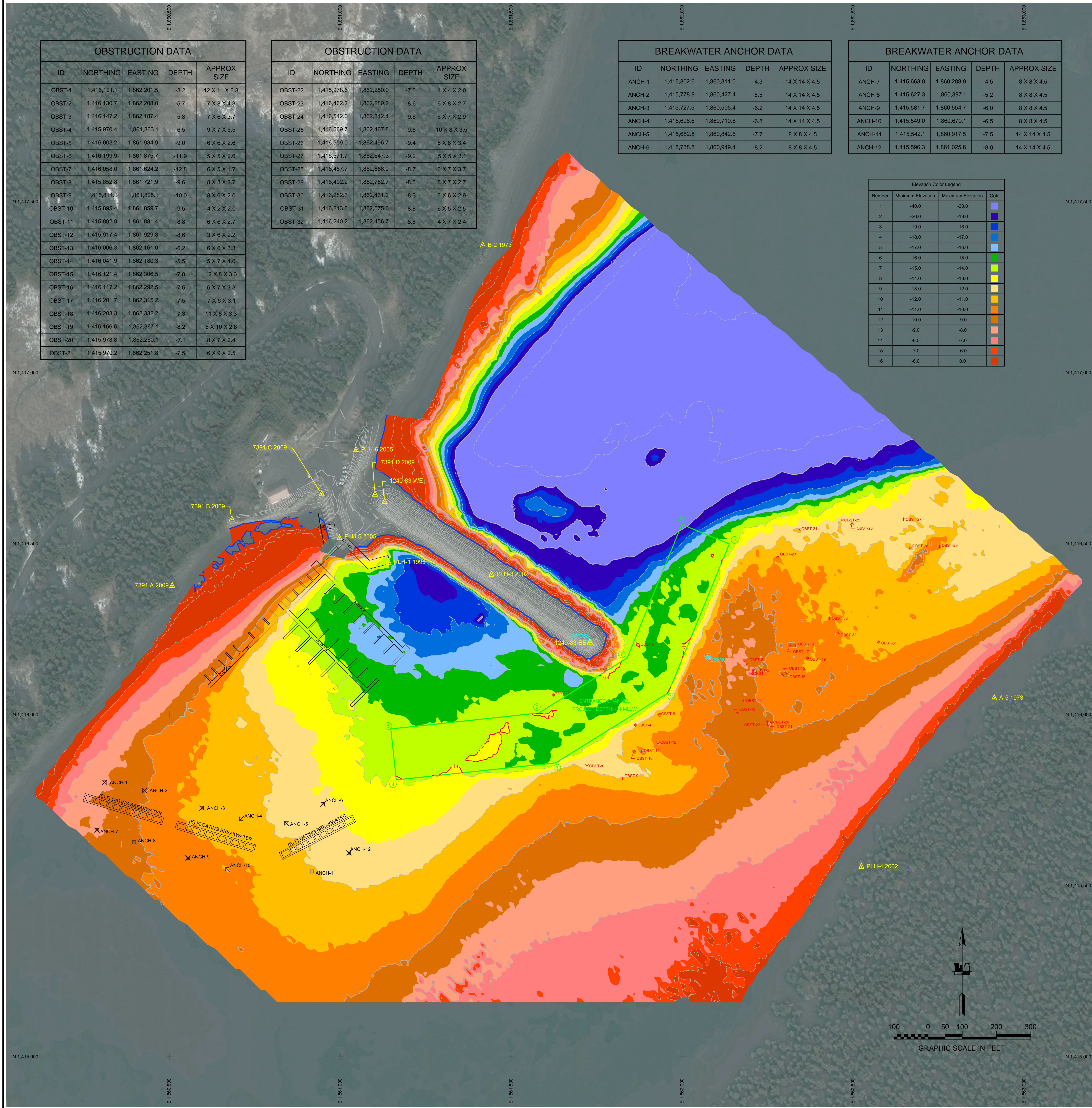
US Army Corps of Engineers
ALASKA DISTRICT

CONTRACT NO. W11H16-1-0003
DRAWING NO. ETRAC INC.
CITY, STATE, ZIP
SAN RAFAEL, CA 94901
DATE: 10/08/2014
APPROVED: MICHAEL E. JEWELL
THOMAS A. SCOTT
JAMES C. BROWN

DATE: 10/08/2014
CHECKED BY: JEFFREY A. BROWN
DRAWN BY: JEFFREY A. BROWN
SCALE: 1"=100'
FILE NAME: 5-PLT-92-07-08.DWG

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
JEFEE, ALASKA 99506-0989

ETRAC INC.
627 LINDSEY DRIVE
SAN RAFAEL, CA 94901



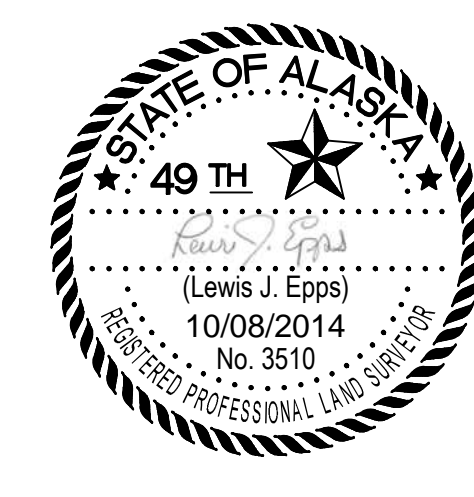
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David R. Neff

David R. Neff C.H. (275)

CONTRACT NO. W11H9-14-0003
CONTRACTOR: ETRAC INC.
CITY: SAN RAFAEL
STATE: CALIFORNIA
DATE: 10/08/2014
APPROVED: MICHAEL E. JUEHLER
THOMAS A. BLON
JAMES C. JUEHLER
JAMES C. JUEHLER

DATE: 10/08/2014
CHECKED BY: J. JUEHLER
DRAWN BY: J. JUEHLER
SCALE: 1"=100'
FILE NAME: 5-PTL-92-07-08
SIZE: 11x17

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
JBER, ALASKA 99506-0988
ETRAC INC.
627 LILAC AVE. #100
SAN RAFAEL, CA 94901

PORT LIONS, KODIAK ISLAND, ALASKA
PORT LIONS HARBOR
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Sheet 2 of 2