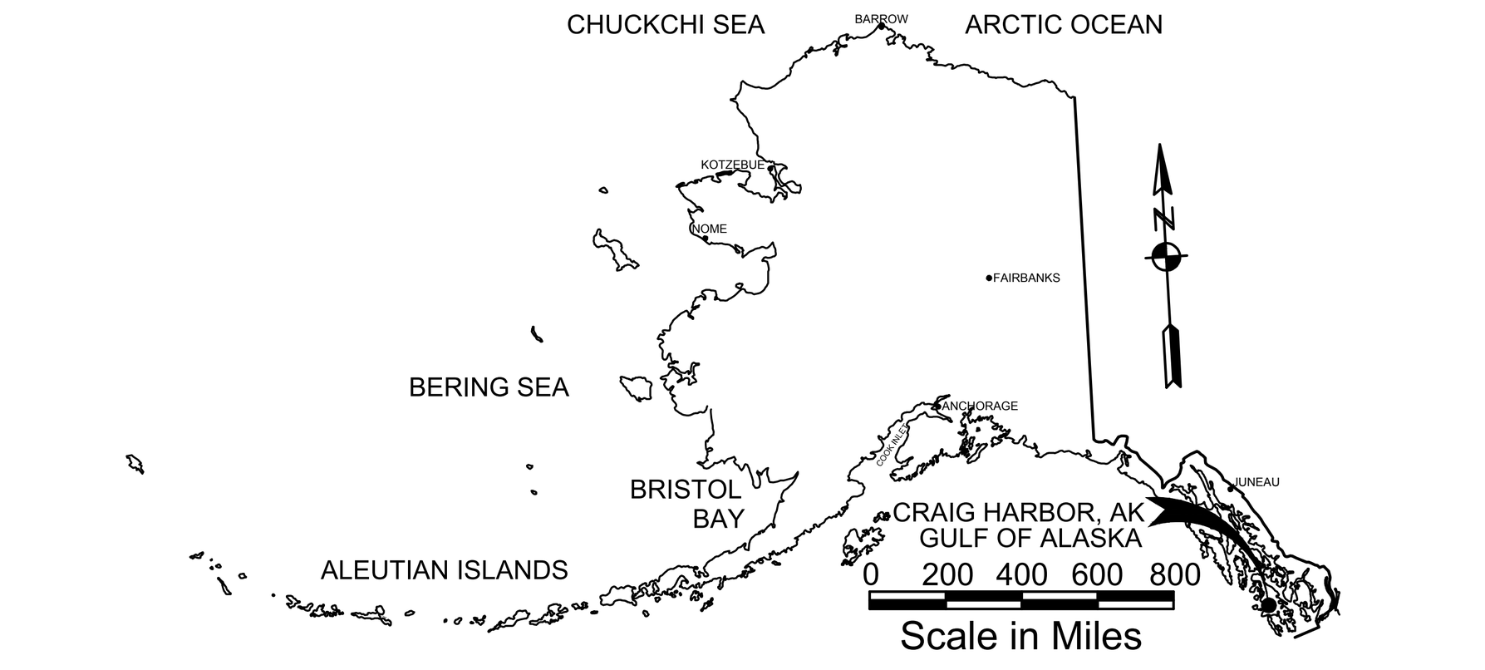
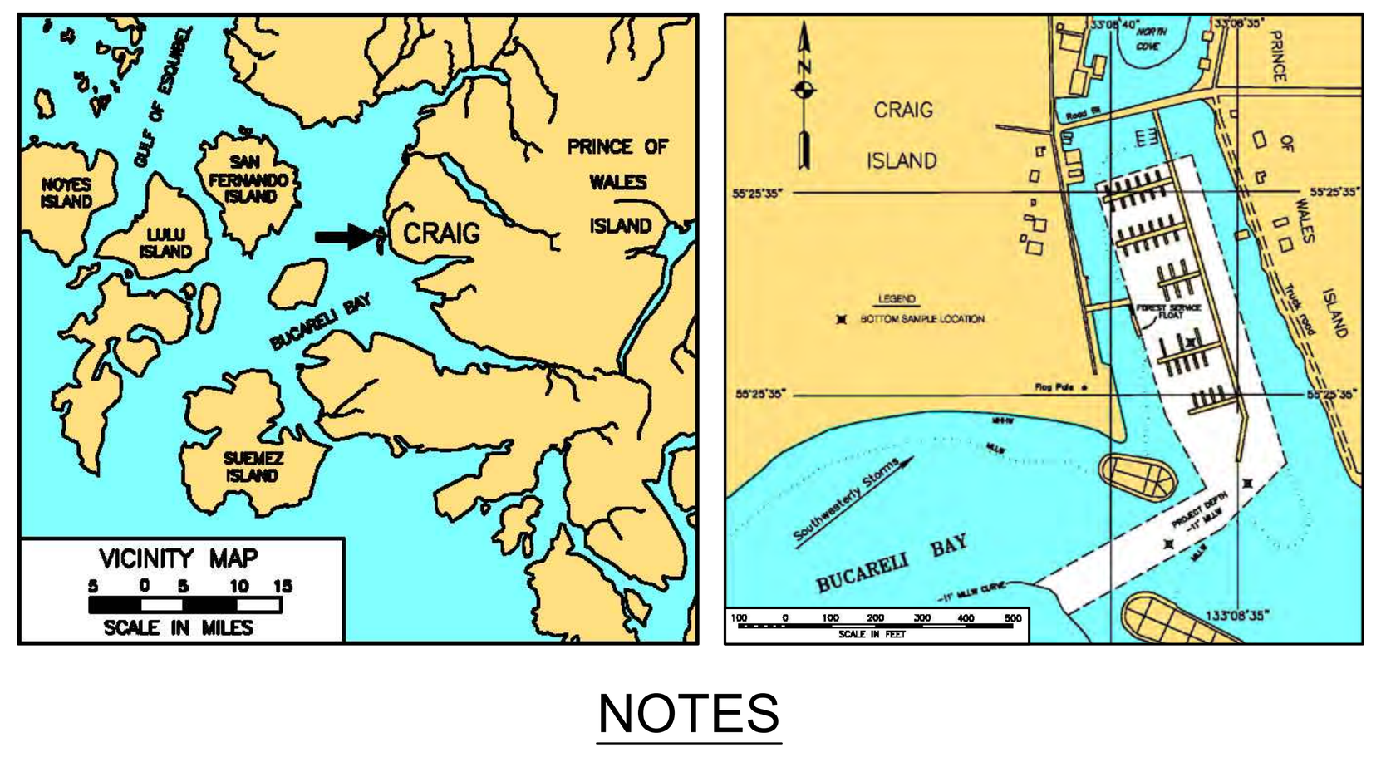


LOCATION/VICINITY MAP(S)



NOTES

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3. THE SURVEY WAS CONDUCTED ON JULY 15 - 21, 2012. HYDROGRAPHIC SOUNDING DATA WAS COLLECTED USING AN ODOM ES3 MULTI-BEAM ECHOSOUNDER (200KHZ, 120-DEGREE SWATH-WIDTH WITH 120, 0.75 DEGREE BEAMS). POSITIONING AND VESSEL ATTITUDE WERE PROVIDED IN REAL TIME USING A TRIMBLE 461 RTK GPS RECEIVER OPERATING ON KINEMATIC CORRECTORS BROADCAST FROM A TRIMBLE 5700 RTK BASE RECEIVER SET AT CONTROL STATION, "CH-2 1999". SOUND VELOCITY PROFILE WAS PROVIDED USING AN ODOM DIGI-BAR PRO, AND WAS PROVIDED IN REAL TIME AT THE SOUNDER HEAD USING AN ODOM DIGI-BAR V. DATA COLLECTION AND NAVIGATION WERE PERFORMED USING HYPACK HYSWEEP (2012) SOFTWARE. MULTI-BEAM SURVEY DATA WAS POST-PROCESSED USING HYPACK HYSWEEP (2012) SOFTWARE.

4. PLAN VIEW SOUNDING SELECTION IS THE POINT NEAREST CENTER IN A 12 FOOT BINNED MATRIX. CONTOUR AND VOLUME SOUNDING SELECTION IS THE AVERAGE VALUE IN A 3 FOOT BINNED MATRIX

5. CONTROL MONUMENT "CRG -2 WAS NOT UPDATED DUE TO INACCESSIBILITY.

6. SOUNDING VALUES SHOWN ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.

7. THIS DRAWING IS INDICATIVE OF GENERAL SEAFLOOR CONDITIONS ON THE DATES OF SURVEY.

8. THIS SURVEY WAS CONDUCTED BY HUGHES AND ASSOCIATES, WASILLA, AK.

SURVEY CONTROL DATA

STATION	NORTHING	EASTING	MLLW ELEV	DESCRIPTION
CAR	1,329,448.28	2,794,713.87	12.32	USACE SBC, FOUND IN GOOD COND
CH-1 1999	1,329,901.44	2,794,838.60	18.58	10 INCH BRIDGE SPIKE, FGC
CH-2 1999	1,330,825.85	2,794,490.12	18.50	NOS BENCH MARK, FGC
CH-3 2003	1,330,103.64	2,793,964.90	14.64	USCGS BENCH MARK, FGC
CH-4 2003	1,330,793.29	2,794,184.08	18.06	USACE SBC, FOUND IN GOOD COND
CRG-2	1,330,164.04	2,794,800.87	12.97	INACESSABLE NOT UPDATED
CRG-5	1,330,674.23	2,794,600.62	17.22	USACE SBC, FOUND IN GOOD COND
N-BR-7 1981	1,330,028.18	2,794,366.73	20.10	USACE SBC, FOUND IN GOOD COND
N-BR-8 1981	1,330,008.78	2,794,431.28	20.04	DESTROYED
N-BR-9 1983	1,330,002.16	2,794,460.92	20.08	USACE SBC, FOUND IN GOOD COND
S-BR-9 1981	1,329,721.02	2,794,428.66	20.63	USACE SBC, FOUND IN GOOD COND
S-BR-10 1981	1,329,641.10	2,794,610.69	20.89	USACE SBC, FOUND IN GOOD COND
USLM-1429	1,330,079.61	2,794,388.44	15.48	USACE SBC, FOUND IN GOOD COND

NAVIGATION AIDS

USCG NO.	NORTHING	EASTING	DESCRIPTION
24485	1,329,721.00	2,794,432.30	BREAKWATER LIGHT 2
24490	1,330,162.40	2,794,798.80	ENTRANCE RANGE FRONT DAYBEACON
24495	1,330,230.50	2,794,885.50	ENTRANCE RANGE REAR DAYBEACON

PROJECT LIMITS

CORNER#	NORTHING	EASTING
1	1,329,800.00	2,794,256.36
2	1,329,975.92	2,794,548.41
3	1,330,115.81	2,794,464.15
4	1,330,641.33	2,794,299.17

PROJECT LIMITS

CORNER#	NORTHING	EASTING
5	1,330,714.02	2,794,514.18
6	1,330,038.46	2,794,723.44
7	1,329,890.25	2,794,600.01
8	1,329,714.34	2,794,307.96

DISPOSAL AREA

CORNER#	NORTHING	EASTING
91	1,328,918.48	2,792,419.07
92	1,328,915.11	2,791,958.00

DISPOSAL AREA

CORNER#	NORTHING	EASTING
93	1,327,849.80	2,791,965.78
94	1,327,853.18	2,792,426.88

VOLUME COMPUTATIONS

PROJECT DEPTH -11.0'	
AVAILABLE TO PROJECT DEPTH (-11.0')	326 cy
AVAILABLE BETWEEN PROJECT DEPTH (-10.0') AND MAX PAY DEPTH (-12.0')	643 cy
AVAILABLE ALONG SIDE SLOPES (3 : 1)	4,172 cy
TOTAL MATERIAL AVAILABLE	5,141 cy

US Army Corps of Engineers
ALASKA DISTRICT

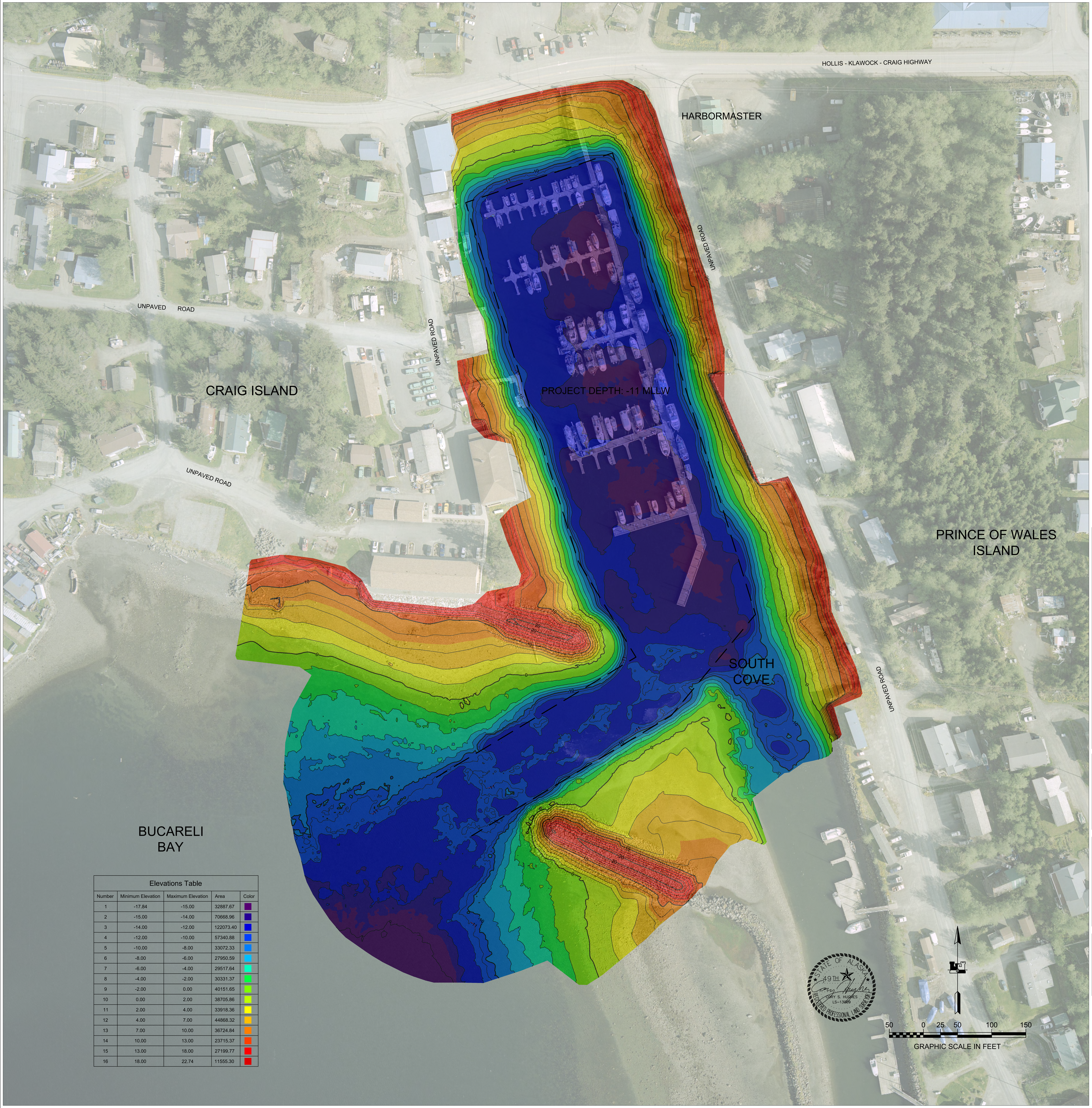
U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT
P.O. BOX 6898
JBER, ALASKA 99506-0898

HUGHES & ASSOCIATES, INC.
2970 COTTLE LOOP
WASILLA, ALASKA

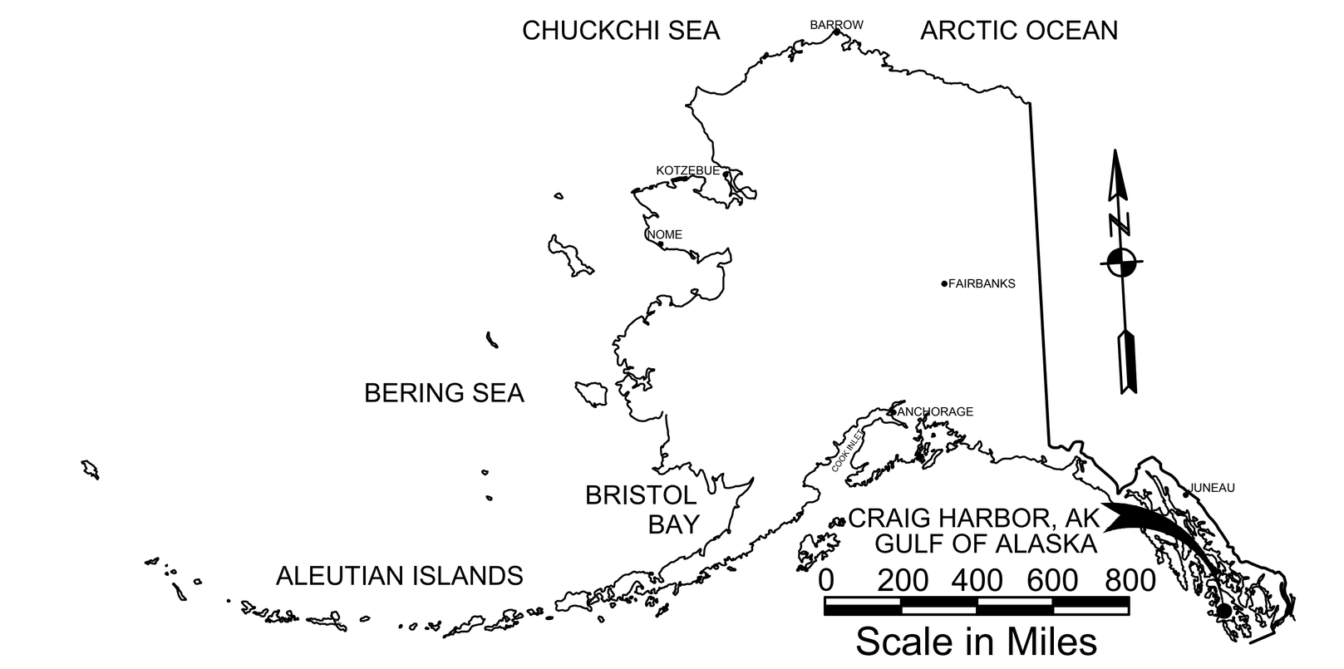
SURVEYED BY: ANL/BTH
DRAWN BY: CSH
CHECKED BY: JSH
DATE: 31 January 2013
SURVEY NO.: 3060-13

CRAIG, ALASKA
CRAIG HARBOR (SOUTH COVE)
PROJECT CONDITION SURVEY PLAN VIEW
JULY 17-21, 2012

SHEET IDENTIFICATION
V-101
Sheet 1 of 2



Elevations Table				
Number	Minimum Elevation	Maximum Elevation	Area	Color
1	-17.84	-15.00	32887.67	
2	-15.00	-14.00	70668.96	
3	-14.00	-12.00	122073.40	
4	-12.00	-10.00	57340.88	
5	-10.00	-8.00	33072.33	
6	-8.00	-6.00	27950.59	
7	-6.00	-4.00	29517.64	
8	-4.00	-2.00	30331.37	
9	-2.00	0.00	40151.65	
10	0.00	2.00	38705.86	
11	2.00	4.00	33918.36	
12	4.00	7.00	44868.32	
13	7.00	10.00	36724.84	
14	10.00	13.00	23715.37	
15	13.00	18.00	27199.77	
16	18.00	22.74	11555.30	



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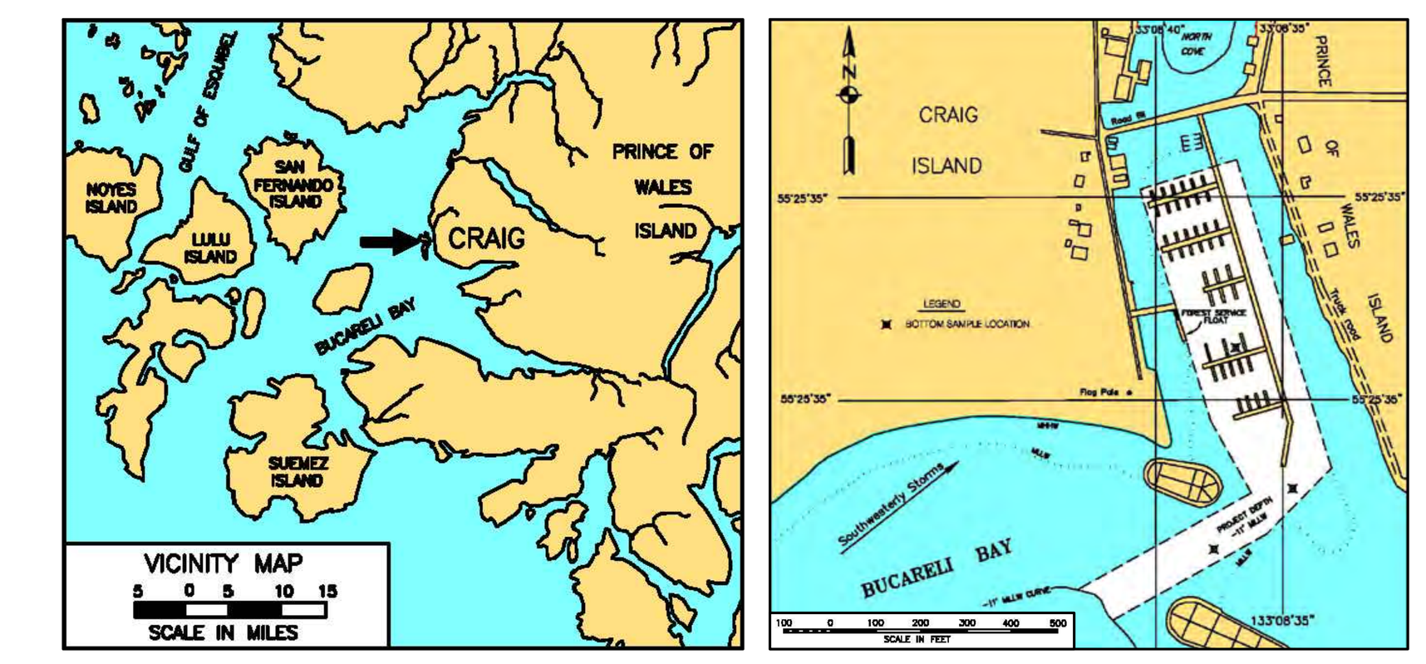

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HUGHES & ASSOCIATES, INC.
2970 COTTLE LOOP
WASILLA, ALASKA

SURVEYED BY: ANL/BTH	DATE: 31 January 2013
DRAWN BY: CSH	CHECKED BY: JSH
SURVEY NO.: 3060-13	APPROVED BY:
CONTRACT NO.: W911KB-10-D-0005	SCALE: 1" = 50'
PLOT DATE: 1/31/13	CWIS or UPC & (P2) #'s: 87246, 876666, 13804
SIZE: ANSI E	FILE NAME: CRAIG HARBOR 2012 PCS - FINAL 1_31_13.DWG

REVISION | DATE

CRAIG, ALASKA
CRAIG HARBOR (SOUTH COVE)
PROJECT CONDITION SURVEY PLAN VIEW
JULY 17-21, 2012

SHEET IDENTIFICATION

V-102