

- ### NOTES
- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 7, NAD83 (CORS), IN US SURVEY FEET BASED ON A STATIC GPS NETWORK HOLDING NGS P10 CORE'S 1 PHASE CENTER VALUES FOR "COLD BAY WAAS 8 CORS ARP" (NGS PID DL6500), "PORT HEIDEN AK 2007 CORS ARP" (NGS PID DL6447) AND "PILOT POINT AK 2007 CORS ARP" (NGS PID DL7671).
 - LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 7, NAD83, IN US SURVEY FEET HOLDING USACE SBCNOAA TIDAL BENCHMARK "1293-1 1984" AS N 489,768.32, E 1,952,169.16.
 - VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0), BASED ON THE NOAA'S TIDAL BENCH MARK LIST "945 9450, SAND POINT, POPOF ISLAND, ALASKA" PUBLISHED 10/06/2011. THIS TIDAL DATUM IS BASED ON THE 1983-2001 TIDAL EPOCH AND IS REFERENCED BY HOLDING NOAA'S TIDAL BENCH MARK "9450 R 1991" AS 15.07' AND NOAA'S TIDAL BENCH MARK "9450 S 1991" AS 15.06'.
 - VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD83 (GEOID 12A) ELEVATIONS HOLDING NOAA/USACE TIDAL BENCHMARK "1293-1 1984" (PID BBB50/VM13744) AS 10.77'.
 - SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
 - BATHYMETRY WAS COLLECTED JULY 22-23, 2014. SOUNDINGS WERE COLLECTED USING AN RBSONIC 2022 MULTIBEAM ECHOSOUNDER OPERATING AT 200 KHZ. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH A MINOS BASE X SOUND VELOCITY PROBE. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLIX POSMV WAVEMASTER VS 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
1293-1 1984	489,768.32	1,952,169.16	11.69	3.5 INCH USACE SBCNOAA TIDAL BM
1293-4 1984	490,766.47	1,952,699.10	13.44	3.5 INCH USACE DOMED BC
1293-5 1984	490,597.90	1,952,475.17	13.67	3.5 INCH USACE DOMED BC
1293-6 1984	489,883.97	1,952,475.01	13.50	3.5 INCH USACE DOMED BC
HH-1 1998	490,247.56	1,953,658.37	12.57	3.25 INCH USACE DOMED SBC
HH-3 2002	491,398.99	1,953,218.02	23.71	3.5 INCH USACE DOMED SAC
SP-1 2010	489,659.03	1,951,793.61	15.53	3 INCH USACE DOMED SBC
SP-2 2010	488,718.34	1,951,677.49	15.29	3 INCH USACE DOMED SBC

NAVIGATION AIDS


USCG NO.	NORTHING	EASTING	DESCRIPTION
27105	489,849	1,951,999	HUMBOLDT HARBOR BREAKWATER LIGHT 2
27110	489,895	1,952,476	HUMBOLDT HARBOR BREAKWATER LIGHT 3
UNKNOWN	489,711	1,952,228	FUTURE NAVIGATION AID

CORNER#	NORTHING	EASTING
1	489,664.04	1,952,427.28
2	490,033.95	1,953,280.10
3	490,169.94	1,953,456.10
4	490,258.88	1,953,500.31

CORNER#	NORTHING	EASTING
5	489,802.04	1,952,446.30
6	490,044.08	1,952,118.33
7	489,908.08	1,952,097.30
8	489,761.55	1,952,295.44

VOLUME COMPUTATIONS

AVAILABLE TO PROJECT DEPTH (-18.0)	739 CU. YD.
AVAILABLE TO MAXIMUM PAY (-18.5)	1,056 CU. YD.
TOTAL AVAILABLE	1,795 CU. YD.



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

D.R.

David R. Neff C.H. (275)

SHEET IDENTIFICATION

5-SAN-92-07-18

Sheet 1 of 2

US Army Corps of Engineers - ALASKA DISTRICT

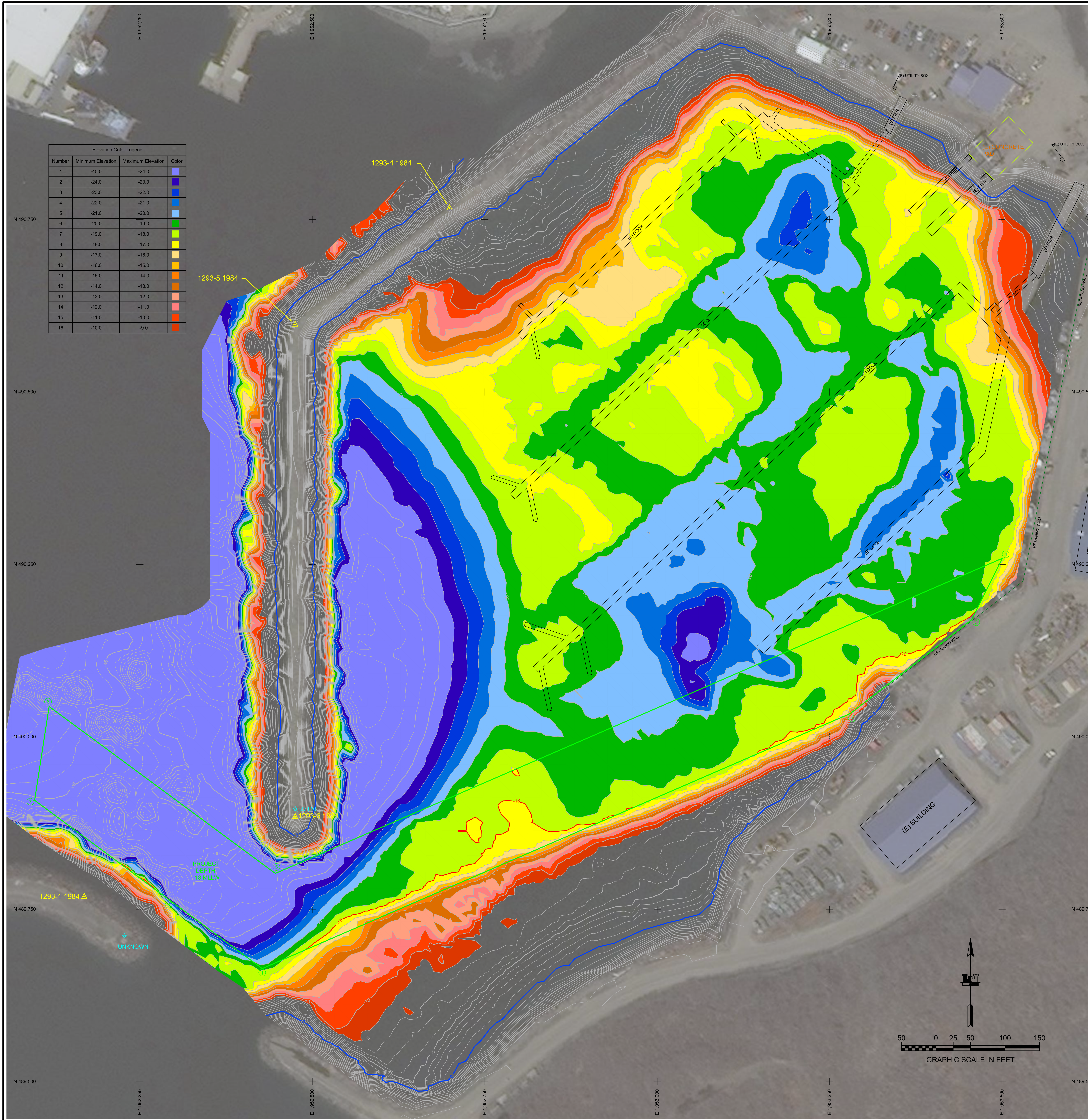
CONTRACT NO. W1199-H-0003
 DRAWING NO. ETRAC INC.
 CITY: SAN RAFAEL STATE: CALIFORNIA
 PROJECT: HUMBOLDT HARBOR SAND POINT, ALASKA
 DATE: 09/15/2014
 SHEET: 07 OF 18

**SAND POINT, ALASKA
HUMBOLDT HARBOR
PROJECT CONDITION SURVEY
JULY 22-23, 2014**

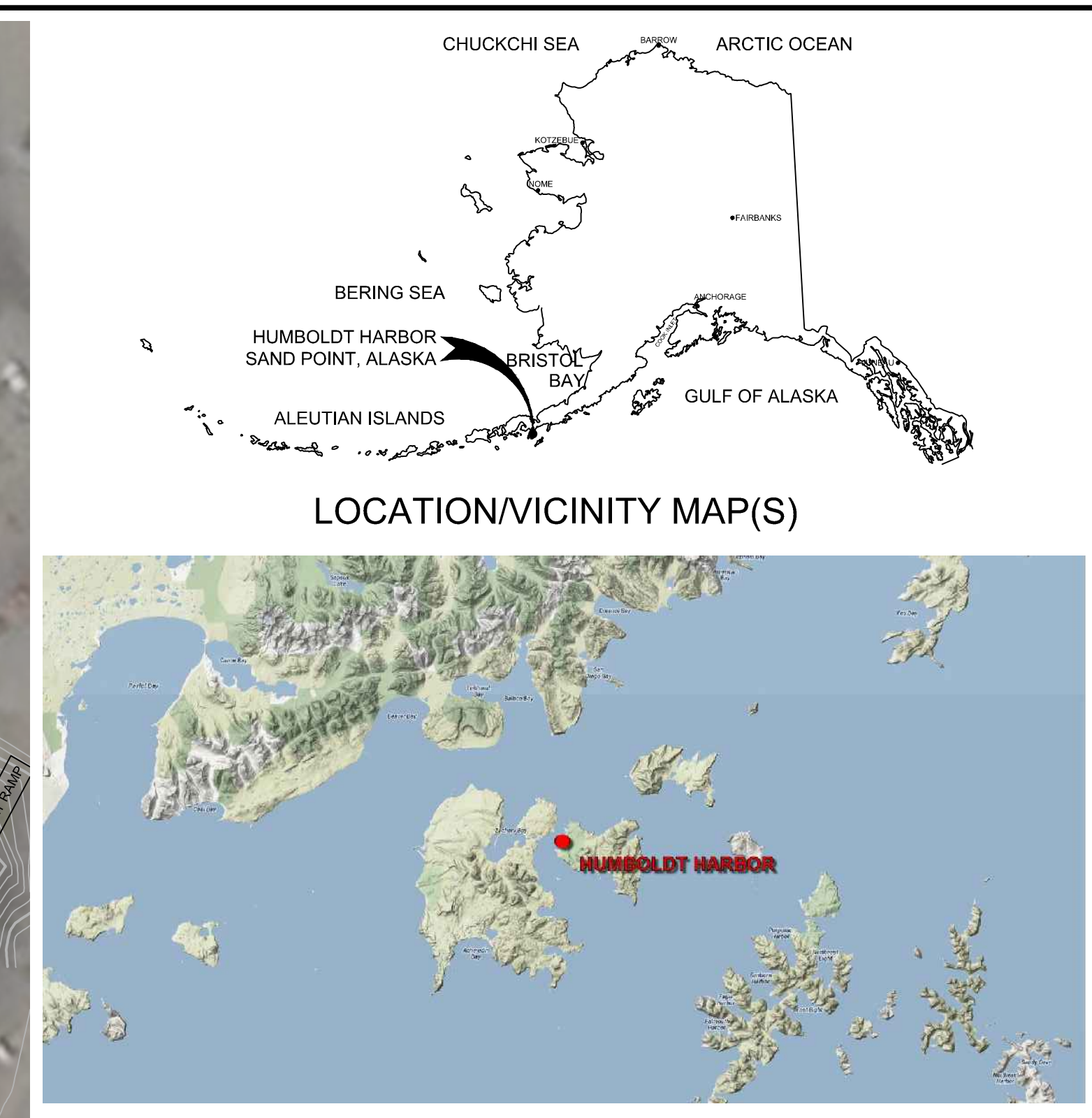
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5-SAN-92-07-18

Sheet 1 of 2



Elevation Color Legend			
Number	Minimum Elevation	Maximum Elevation	Color
1	-40.0	-24.0	Blue
2	-24.0	-23.0	Light Blue
3	-23.0	-22.0	Light Green
4	-22.0	-21.0	Light Yellow
5	-21.0	-20.0	Yellow
6	-20.0	-19.0	Light Orange
7	-19.0	-18.0	Orange
8	-18.0	-17.0	Light Red
9	-17.0	-16.0	Red
10	-16.0	-15.0	Light Purple
11	-15.0	-14.0	Purple
12	-14.0	-13.0	Dark Purple
13	-13.0	-12.0	Dark Blue
14	-12.0	-11.0	Blue
15	-11.0	-10.0	Light Blue
16	-10.0	-9.0	Lightest Blue



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**SAND POINT, ALASKA
HUMBOLDT HARBOR
PROJECT CONDITION SURVEY
JULY 22-23, 2014**

SHEET IDENTIFICATION
5-SAN-92-07-18
Sheet 2 of 2

**US Army Corps of Engineers
ALASKA DISTRICT**

CONTRACT NO. W11H9-14-0003
DRAWING NO. ETRAC INC.
CITY: SAN RAFAEL STATE: CALIFORNIA
DATE: 08/15/2014
APPROVED: MICHAEL E. JAEHLER THOMAS A. BLOOM
DESIGNED: JEFFREY W. BLOOM
CHECKED: JEFFREY W. BLOOM
DATE: 08/15/2014
SCALE: 1" = 100'
FILE NAME: 5-SAN-92-07-18.dwg
JOB NO.: 5-SAN-92-07-18

DATE: 08/15/2014
DRAWN BY: JEFFREY W. BLOOM
CHECKED BY: JEFFREY W. BLOOM
DATE: 08/15/2014
SCALE: 1" = 100'
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