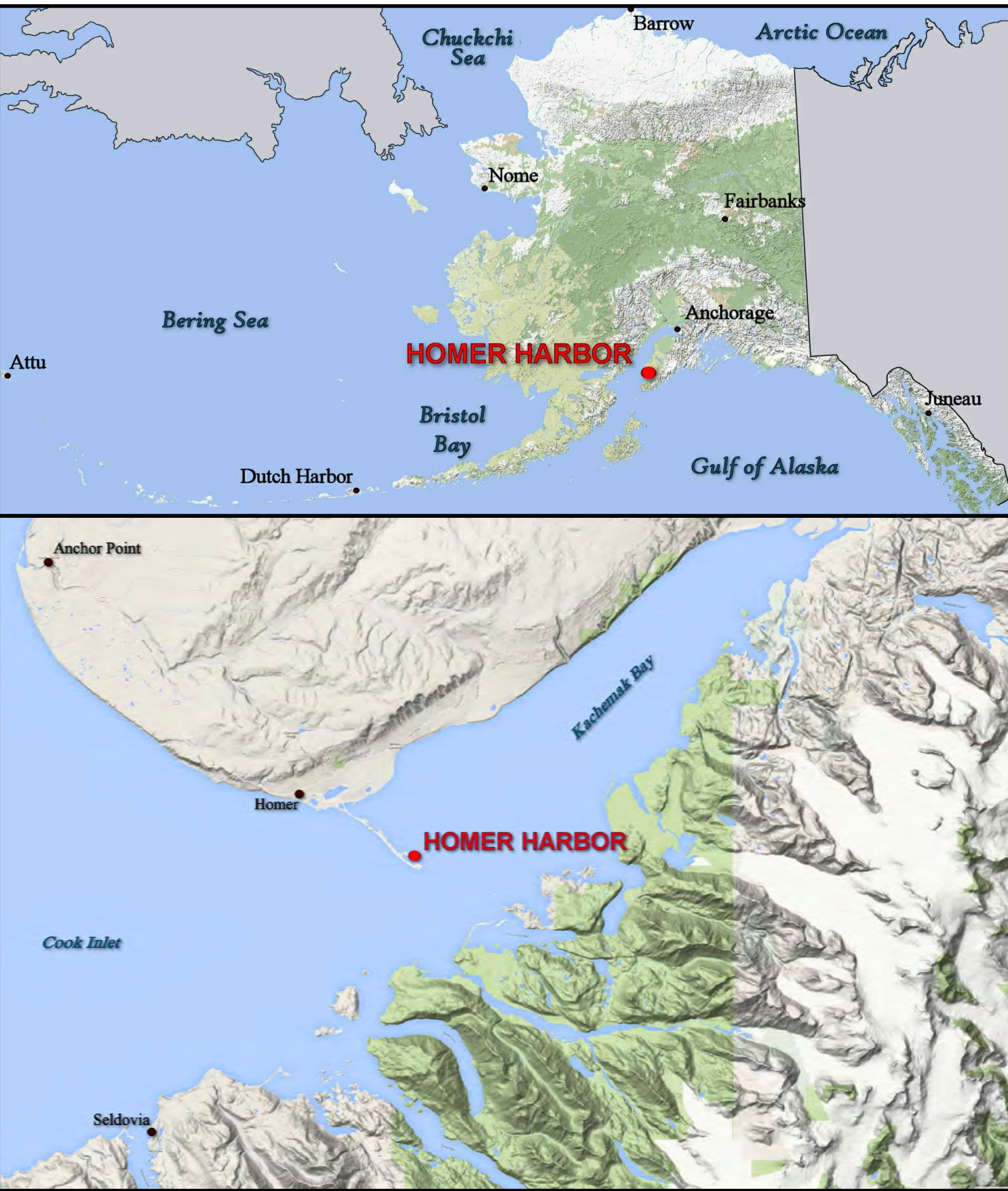


PROJECT LIMITS CURVE DATA			
CURVE	RADIUS	ARC LENGTH	DELTA ANGLE
C2	172.88'	149.28'	049°28'29.9"
C3	185.63'	338.77'	104°33'41.9"
C4	95.61'	174.50'	104°34'21.5"
C5	160.18'	208.51'	074°34'49.9"
C6	104.07'	191.44'	105°23'39.2"

PROJECT LIMITS		
CORNER#	NORTHING	EASTING
7	2,049,519.03	1,377,882.50
8	2,049,207.15	1,377,683.23
9	2,049,313.35	1,377,517.38
10	2,049,705.59	1,376,903.13
11	2,050,281.01	1,376,002.56
12	2,050,544.76	1,375,589.76
13	2,050,893.93	1,375,219.67
14	2,051,074.98	1,375,335.41
15	2,051,159.30	1,375,389.23
16	2,051,420.46	1,375,556.10
17	2,050,887.56	1,376,390.12
18	2,050,312.15	1,377,290.69
19	2,050,626.40	1,376,223.25
20	2,050,542.13	1,376,169.40
21	2,050,096.16	1,377,152.69
22	2,050,011.48	1,377,098.58
23	2,049,957.99	1,377,876.49
24	2,049,707.99	1,377,696.69
25	2,049,954.10	1,379,383.98
26	2,049,539.77	1,379,277.46
CG1	2,049,621.31	1,379,028.43
CG2	2,049,755.11	1,378,885.74
CG3	2,049,654.76	1,378,791.65
CG4	2,049,481.24	1,378,801.18
CG5	2,049,433.37	1,378,852.25
CG6	2,049,396.89	1,378,903.32
CG7	2,049,396.89	1,378,818.05
CG8	2,049,526.07	1,378,746.64
PC1A	2,049,852.14	1,378,351.33
PC2A	2,049,766.26	1,378,304.02
PC3A	2,049,989.05	1,378,221.58
PC4A	2,049,947.63	1,378,141.68
PC6A	2,049,758.41	1,377,752.69
PL-32	2,050,341.61	1,378,668.97
PL-33	2,050,254.64	1,376,619.37
PRC3B/5A	2,050,041.53	1,377,932.63
PT1B	2,049,896.45	1,378,269.64
PT2B	2,049,855.01	1,378,189.75
PT4B	2,049,974.64	1,377,992.85
PT5B	2,050,025.58	1,377,739.19
PT6B	2,049,593.40	1,377,766.24

VOLUME COMPUTATIONS		
AREA A: OUTER ENTRANCE CHANNEL	MLLW (FT)	CU.YD
REMOVED TO DREDGE DEPTH (DD)	-20.0	75
REMOVED BETWEEN DD AND MAX PAY DEPTH (MP)	-21.0	643
REMOVED SIDE SLOPES (SS) AT 3:1 (H:V) & 25' WIDE	VARIES	128
AREA B: USCG BASIN AREA		
REMOVED TO DD	-22 TO -26	215
REMOVED BETWEEN DD AND MP	-23 TO -27	80
REMOVED SS	VARIES	864
AREA C: INNER CHANNEL AREA		
REMOVED TO DD	-20.0	643
REMOVED BETWEEN DD AND MP	-21.0	672
REMOVED SS	VARIES	2081
AREA D: MANEUVERING AREA (NOT DREDGED)		
AREA E: MANEUVERING AREA (NOT DREDGED)		
AREA F: MANEUVERING AREA (NOT DREDGED)		
TOTAL MAXIMUM VOLUME REMOVED (MP + SS)	VARIES	5401
DREDGED AREA OVERDREDGE (AREA A, B, & C)	VARIES	2479
SIDE SLOPE AREA OVERDREDGE (AREA A, B, & C)	VARIES	1003



- NOTES**
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  - LOCAL PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83, IN US SURVEY FEET HOLDING MONUMENT "HOMER BASIN 7 1965" AS N 2,049,712.22, E 1,377,964.36 AND USACE SBC "BL-2-A" AS N 2,049,765.61, E 1,378,015.52.
  - VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD88 ELEVATIONS HOLDING USACE STANDARD BRASS CAP "HOMER BASIN 7 1965" (PID BBDX21) AS 26.08'.
  - SOUNDINGS ARE IN U.S. SURVEY FEET AND ARE NEGATIVE UNLESS OTHERWISE INDICATED.
  - BATHYMETRY WAS COLLECTED SEPTEMBER 15, 2019. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2022 MULTIBEAM ECHOSOUNDER OPERATING AT 400 KHZ. SOUND VELOCITY THROUGH THE WATER COLUMN WAS DETERMINED WITH AN AML BASE X2 SOUND VELOCITY PROBE. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLINK POS MV SYSTEM. RTK CORRECTIONS WERE BROADCAST FROM A LOCAL BASE STATION OCCUPYING HOMER "BL-2-A". POST PROCESSING KINEMATICS CORRECTIONS USING POSPAC MM58.3 SOFTWARE WERE APPLIED TO DATA FOLLOWING ACQUISITION. DATA WAS COLLECTED AND PROCESSED USING HYDRAC 2019 SOFTWARE. HORIZONTAL CONTROL AND VERTICAL CONTROL WAS VERIFIED DURING THE PRE SURVEY. TIDE ELEVATIONS WERE MEASURED USING A TRIMBLE R8 RTK SYSTEM.
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  - MAP SOUNDINGS, CONTOURS AND COLOR RELIEF ARE BINNED AT 15 FEET AND ARE SHOAL-BASED ON CELL CENTER. VOLUME SOUNDINGS ARE BINNED AT 3 FEET AND ARE MEAN VALUE SOUNDINGS ON CELL CENTER.

SURVEY CONTROL DATA				
STATION	NORTHING	EASTING	MLLW	DESCRIPTION
AUDREY	2,051,507.88	1,375,406.60	33.1	1-1/2 IN ALUMINUM CAP (FOUND)
BL-2-A 1989	2,049,793.81	1,378,015.52	32.35	USACE SBC (FOUND)
BM NO 6 1965			27.07	US&GC SBC (NOT FOUND)
BOLL 1996	2,050,682.88	1,375,195.75	35.3	3-1/4 IN FLAT BRASS CAP (FOUND)
C 103 1965			26.69	US&GC SBC (NOT FOUND)
HB-08 2009	2,050,150.78	1,377,830.73	31.7	3-1/4 IN DOMED ALUMINUM CAP (FOUND)
HB-09 2009	2,051,199.61	1,375,120.24	31.8	3-1/4 IN DOMED ALUMINUM CAP (FOUND)
HOMER BASIN 4 1965	2,050,038.11	1,378,340.09	31.1	USACE SBC (NOT SEARCH)
HOMER BASIN 5 1965	2,049,940.32	1,378,344.30	30.9	USACE SBC (FOUND, NOT GPS SUITABLE)
HOMER BASIN 6 1965	2,049,887.28	1,378,073.96	31.0	USACE SBC (FOUND)
HOMER BASIN 7 1965	2,049,712.22	1,377,964.36	31.31	USACE SBC (FOUND)

NAVIGATION AIDS			
USCG NO.	NORTHING	EASTING	DESCRIPTION
26210	2,049,940	1,378,351	HOMER BREAKWATER LIGHT 2
26216	2,049,932	1,378,484	SOUTH LIGHTED MOORING BUOY

OBSTRUCTION IDENTIFIED IN 2015 SURVEY				
POINT	NORTHING	EASTING	APPROXIMATE DIMENSIONS	ELEVATION [FT MLLW]
OBST-1	2,049,999.55	1,378,206.74	7.0'x 3.7'x2.8'	-18
OBST-2	2,050,060.01	1,377,988.53	5.4'x 4.5'x1.7'	-19.7
OBST-3	2,049,935.22	1,378,201.00	4.9'x 2.8'x2.1'	-20.2
OBST-4	2,049,977.06	1,378,080.24	4.8'x 3.2'x2.6'	-16.9

OBSTRUCTION IDENTIFIED IN 2017 SURVEY				
POINT	NORTHING	EASTING	APPROXIMATE DIMENSIONS	ELEVATION [FT MLLW]
OBST-5	2,050,408.82	1,376,457.46	8.4'x 3.0'x1.6'	-14.2
OBST-6	2,050,281.55	1,376,791.11	9.2'x 7.1'x2.7'	-12.1
OBST-7	2,049,908.41	1,377,315.59	7.1'x3.2'x1.6'	-18.4
OBST-8	2,049,972.34	1,377,366.67	11.2'x 6.0'x.9'	-18.6
OBST-9	2,051,079.04	1,375,309.96	3.8'x 3.8'x2.6'	-9.3
OBST-10	2,050,751.35	1,375,979.40	3.8'x 2.7'x1.1'	-11.6
OBST-11	2,050,671.74	1,376,070.56	6.0'x 3.0'x1.7'	-10.9
OBST-12	2,049,862.17	1,378,295.83	8.4'x 5.7'x3.5'	-17.9
OBST-13	2,049,739.30	1,378,817.19	4.7'x 2.0'x2.6'	-17.5
OBST-14	2,049,827.53	1,378,786.35	7.3'x4.8'x3.4'	-17
OBST-15	2,050,655.65	1,376,121.46	3.5'x3.1'x1.2'	-11.7

US Army Corps of Engineers - ALASKA DISTRICT

CONTRACT NO. W11H617-C-0007

CONTINUATION: ALASKA MARINE ELEVATION

CITY: ANCHORAGE

STATE: ALASKA

APPROVED: \_\_\_\_\_

DATE: \_\_\_\_\_

U.S. ARMY CORPS OF ENGINEERS

ALASKA DISTRICT

JBER, ALASKA 99504-0888

HUGHES & ASSOCIATES

1000 E. COTTELOP

WASILLA, ALASKA 99654

HOMER, ALASKA

HOMER HARBOR

POST DREDGE SURVEY

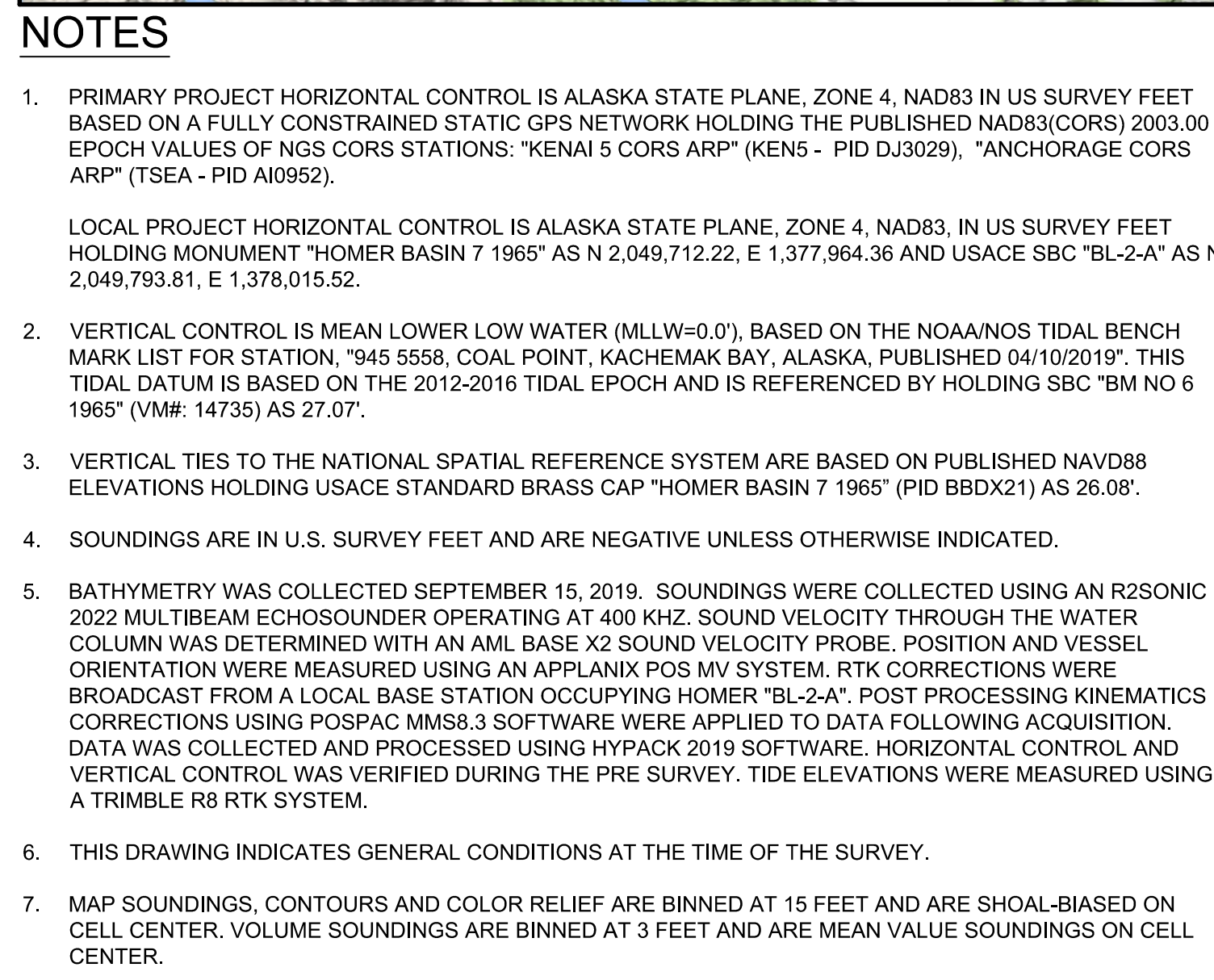
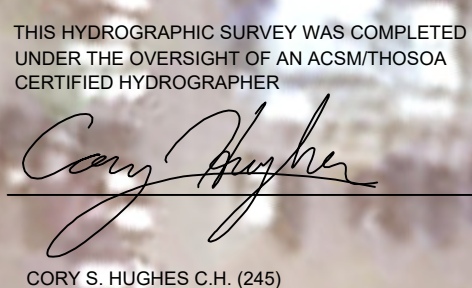
SEPTEMBER 15, 2019

SHEET IDENTIFICATION

2-HOM-92-07-70

Sheet 1 of 6



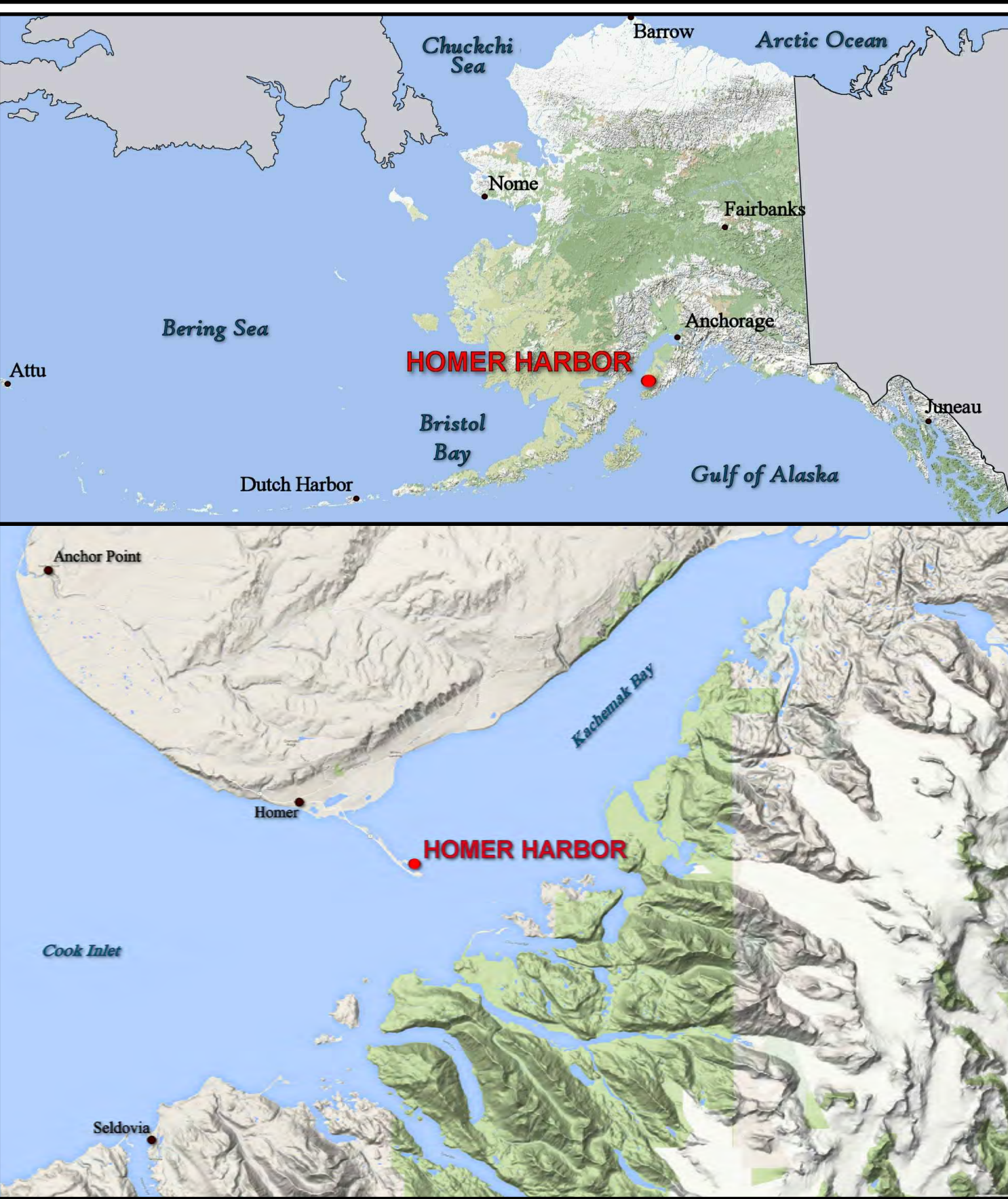


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OBSTRUCTION IDENTIFIED IN 2015 SURVEY				
POINT	NORTHING	EASTING	APPROXIMATE DIMENSIONS	ELEVATION [FT MLWL]
OBST-1	2,049,999.55	1,378,206.74	7.0' x 3.7' x 8"	-18
OBST-2	2,050,060.01	1,377,988.53	5.4' x 4.5' x 1.7'	-19.7
OBST-3	2,049,935.22	1,378,201.00	4.9' x 2.8' x 2.1'	-20.2
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US Army Corps of Engineers - ALASKA DISTRICT

CONTRACT NO. W01H017-C-0007

CONTINGENT ALASKA MARINE ENGINEERING

CITY ANCHORAGE

STATE ALASKA

APPROVED: \_\_\_\_\_

DATE: \_\_\_\_\_

RECOMMENDED: \_\_\_\_\_

DATE: \_\_\_\_\_

REVISIONS

NO.	DATE	DESCRIPTION
1	10/09/2019	ISSUED FOR DESIGN

U.S. ARMY CORPS OF ENGINEERS

ALASKA DISTRICT

JBER, ALASKA 99504-0888

HUGHES & ASSOCIATES

3000 E. CATTLE LOOP

WASILLA, ALASKA 99654

HOMER, ALASKA

HOMER HARBOR

POST DREDGE SURVEY

SEPTEMBER 15, 2019

SHEET IDENTIFICATION

2-HOM-92-07-70

Sheet 3 of 6