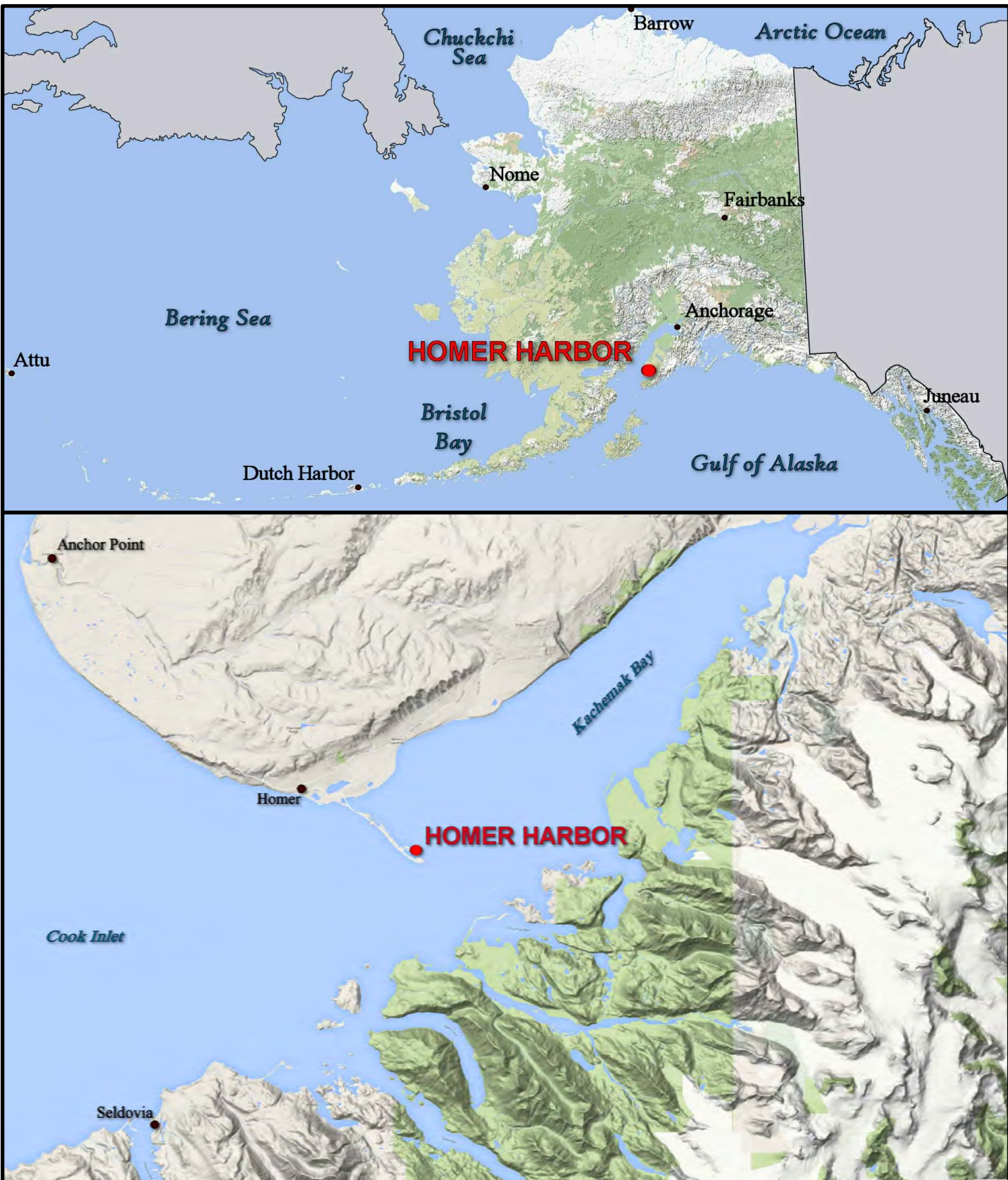


ELEVATION COLOR LEGEND			
#	MIN. ELEV.	MAX. ELEV.	COLOR
1	-105.0	-26.0	
2	-26.0	-25.0	
3	-25.0	-24.0	
4	-24.0	-23.0	
5	-23.0	-22.0	
6	-22.0	-21.0	
7	-21.0	-20.0	
8	-20.0	-19.0	
9	-19.0	-18.0	
10	-18.0	-17.0	
11	-17.0	-16.0	
12	-16.0	-15.0	
13	-15.0	-14.0	
14	-14.0	-13.0	
15	-13.0	-12.0	
16	-12.0	10.0	

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	2,049,823.34	1,377,690.34
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	2,049,385.49	1,378,903.32
CG7	2,049,396.89	1,378,818.05
CG8	2,049,526.07	1,378,748.64
PC1A	2,049,852.14	1,378,351.33
PC2A	2,049,766.26	1,378,304.02
PC3A	2,049,989.06	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	1,376,668.97
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



- NOTES**
- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83 IN US SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE PUBLISHED NAD83(CORS) 2003.00 EPOCH VALUES OF NGS CORS STATIONS: "KENAI 5 CORS ARP" (KENS - PID DJ3029), "ANCHORAGE CORS ARP" (TSEA - PID A09952).
  - 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 2,049,793.81, E 1,378,015.52.
  - VERTICAL CONTROL IS MEAN LOWER LOW WATER (MLLW=0.0'), BASED ON THE NOAA/NOGS TIDAL BENCH MARK LIST FOR STATION: "945 5555, COAL POINT, KACHEMAK BAY, ALASKA, PUBLISHED 04/10/2019". THIS TIDAL DATUM IS BASED ON THE 2012-2016 TIDAL EPOCH AND IS REFERENCED BY HOLDING SBC "BM NO 6 1965" AS 27.07'.
  - VERTICAL TIES TO THE NATIONAL SPATIAL REFERENCE SYSTEM ARE BASED ON PUBLISHED NAVD83 ELEVATIONS HOLDING USACE STANDARD BRASS CAP "HOMER BASIN 7 1965" (PID B80X21) AS 26.08'.
  - SOUNDINGS ARE IN U.S. SURVEY FEET AND ARE NEGATIVE UNLESS OTHERWISE INDICATED.
  - BATHYMETRY WAS COLLECTED AUGUST 28, 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. POSITION AND VESSEL ORIENTATION WERE MEASURED USING AN APPLIX POS MV SYSTEM. RTK CORRECTIONS WERE BROADCAST FROM A LOCAL BASE STATION OCCUPYING HOMER "BL-2-A". DATA WAS COLLECTED AND PROCESSED USING HYPACK 2019 SOFTWARE. HORIZONTAL CONTROL WAS SURVEYED USING RTK GNSS EQUIPMENT AND TECHNIQUES. TIDE ELEVATIONS WERE MEASURED USING A TRIMBLE R6 RTK SYSTEM.
  - THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.

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	USC&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	USC&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. W19H01C-0007  
DRAWING NO. 2-HOM-92-07-69  
DATE: 28 AUG 2019  
BY: [Signature]  
CHECKED BY: [Signature]  
APPROVED BY: [Signature]

2-HOM-92-07-69  
Sheet 4 of 6







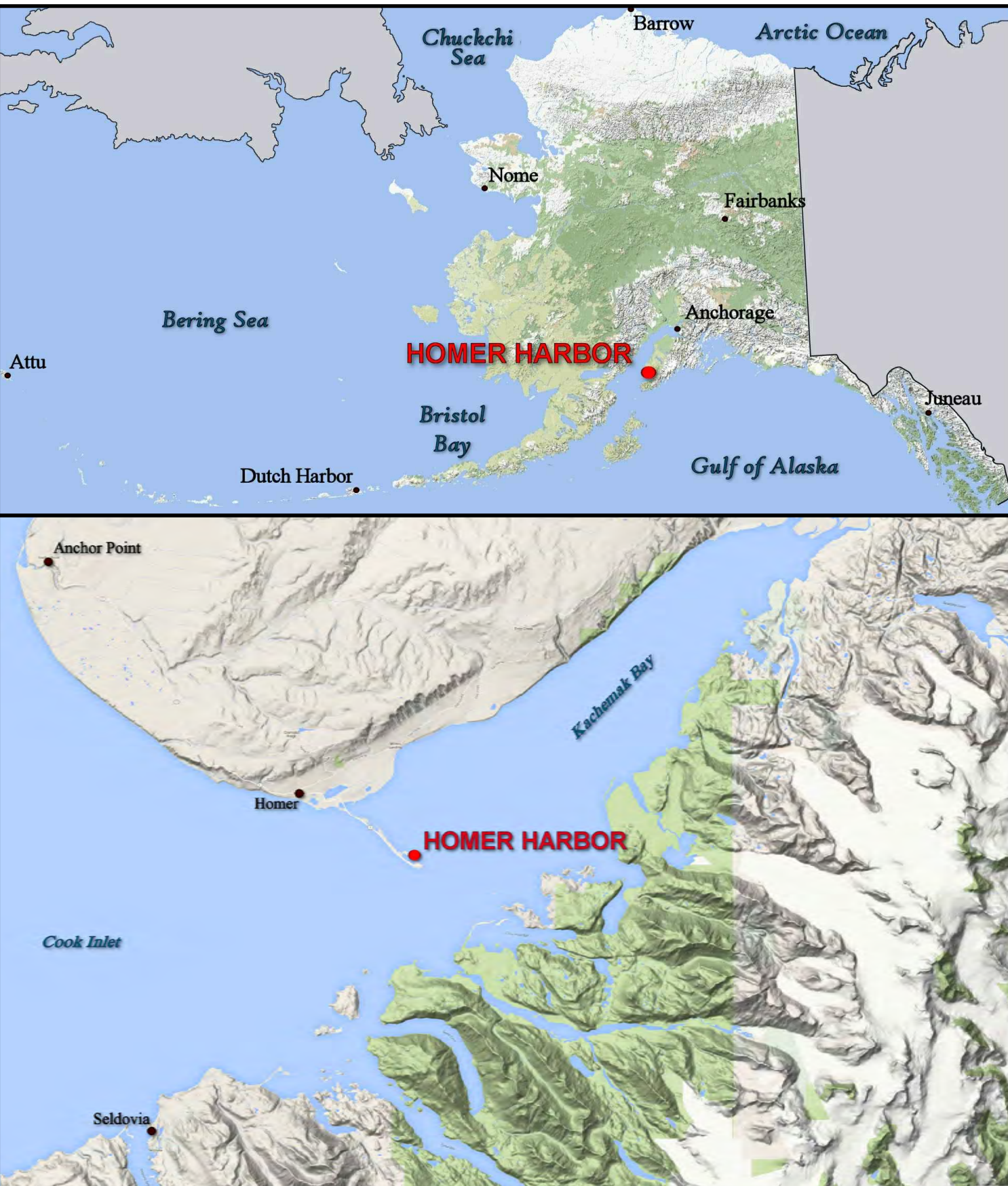


#	MIN. ELEV.	MAX. ELEV.	COLOR
1	-105.0	-26.0	
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3	-25.0	-24.0	
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8	-20.0	-19.0	
9	-19.0	-18.0	
10	-18.0	-17.0	
11	-17.0	-16.0	
12	-16.0	-15.0	
13	-15.0	-14.0	
14	-14.0	-13.0	
15	-13.0	-12.0	
16	-12.0	10.0	

VOLUME COMPUTATIONS		
AREA A: OUTER ENTRANCE CHANNEL	MLLW (FT)	CU.YD
AVAILABLE TO DREDGE DEPTH (DD)	-20.0	82
AVAILABLE BETWEEN DD AND MAX PAY DEPTH (MP)	-21.0	769
AVAILABLE SIDE SLOPES (SS) AT 3:1 (H:V) & 25' WIDE	VARIES	379
AREA B: USCG BASIN AREA		
AVAILABLE TO DD	-22 TO -26	241
AVAILABLE BETWEEN DD AND MP	-23 TO -27	197
AVAILABLE SS	VARIES	1360
AREA C: INNER CHANNEL AREA		
AVAILABLE TO DD	-20.0	649
AVAILABLE BETWEEN DD AND MP	-21.0	709
AVAILABLE SS	VARIES	3425
AREA D: MANEUVERING AREA		
AVAILABLE TO DD	-20.0	133
AVAILABLE BETWEEN DD AND MP	-21.0	1500
AVAILABLE SS	VARIES	13
AREA E: MANEUVERING AREA		
AVAILABLE TO DD	-15.0	136
AVAILABLE BETWEEN DD AND MP	-16.0	615
AVAILABLE SS	VARIES	59
AREA F: MANEUVERING AREA		
AVAILABLE TO DD	-10.0	8
AVAILABLE BETWEEN DD AND MP	-11.0	19
AVAILABLE SS	VARIES	0
TOTAL MAXIMUM VOLUME AVAILABLE (MP + SS)	VARIES	10294

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

*Corby Hughes*  
CORBY B. HUGHES CHN (246)



- ### NOTES
- PRIMARY PROJECT HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83, IN US SURVEY FEET BASED ON A FULLY CONSTRAINED STATIC GPS NETWORK HOLDING THE PUBLISHED NAVD83(CORS) 2003.00 EPOCH VALUES OF NGS CORS STATIONS: \*KENAI 5 CORS ARP\* (KEN5 - PID DJ3029), \*ANCHORAGE CORS ARP\* (TSEA - PID A10952).
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  - THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
  - MAP SOUNDINGS, CONTOURS AND COLOR RELIEF ARE BINNED AT 15 FEET AND ARE SHOAL-BIASED ON CELL CENTER. VOLUME SOUNDINGS ARE BINNED AT 3 FEET AND ARE MEAN VALUE SOUNDINGS ON CELL CENTER.

SURVEY CONTROL DATA				
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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. W01H017-0-0007

CONTRACTOR: ALASKA MARINE EXCAVATION

CITY: ANCHORAGE

STATE: ALASKA

APPROVED: [Signature]

DATE: [Date]

NO.	DESCRIPTION	DATE
1	ISSUED FOR CONSTRUCTION	08/27/2019

U.S. ARMY CORPS OF ENGINEERS  
ALASKA DISTRICT  
JBER, ALASKA 99504-0888

HUGHES & ASSOCIATES  
3001 E. COTLE LOOP  
WASILLA, ALASKA 99654

13 September 2019

U.S. ARMY CORPS OF ENGINEERS  
ALASKA DISTRICT  
JBER, ALASKA 99504-0888

HUGHES & ASSOCIATES  
3001 E. COTLE LOOP  
WASILLA, ALASKA 99654

FILE NAME: 2-HOM-92-07-69  
SIZE: 11" x 17"

DATE: 08/27/2019

U.S. ARMY CORPS OF ENGINEERS  
ALASKA DISTRICT  
JBER, ALASKA 99504-0888

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FILE NAME: 2-HOM-92-07-69  
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HOMER, ALASKA  
HOMER HARBOR  
PRE DREDGE SURVEY  
AUGUST 27 - 28, 2019

SHEET IDENTIFICATION  
2-HOM-92-07-69  
Sheet 6 of 6