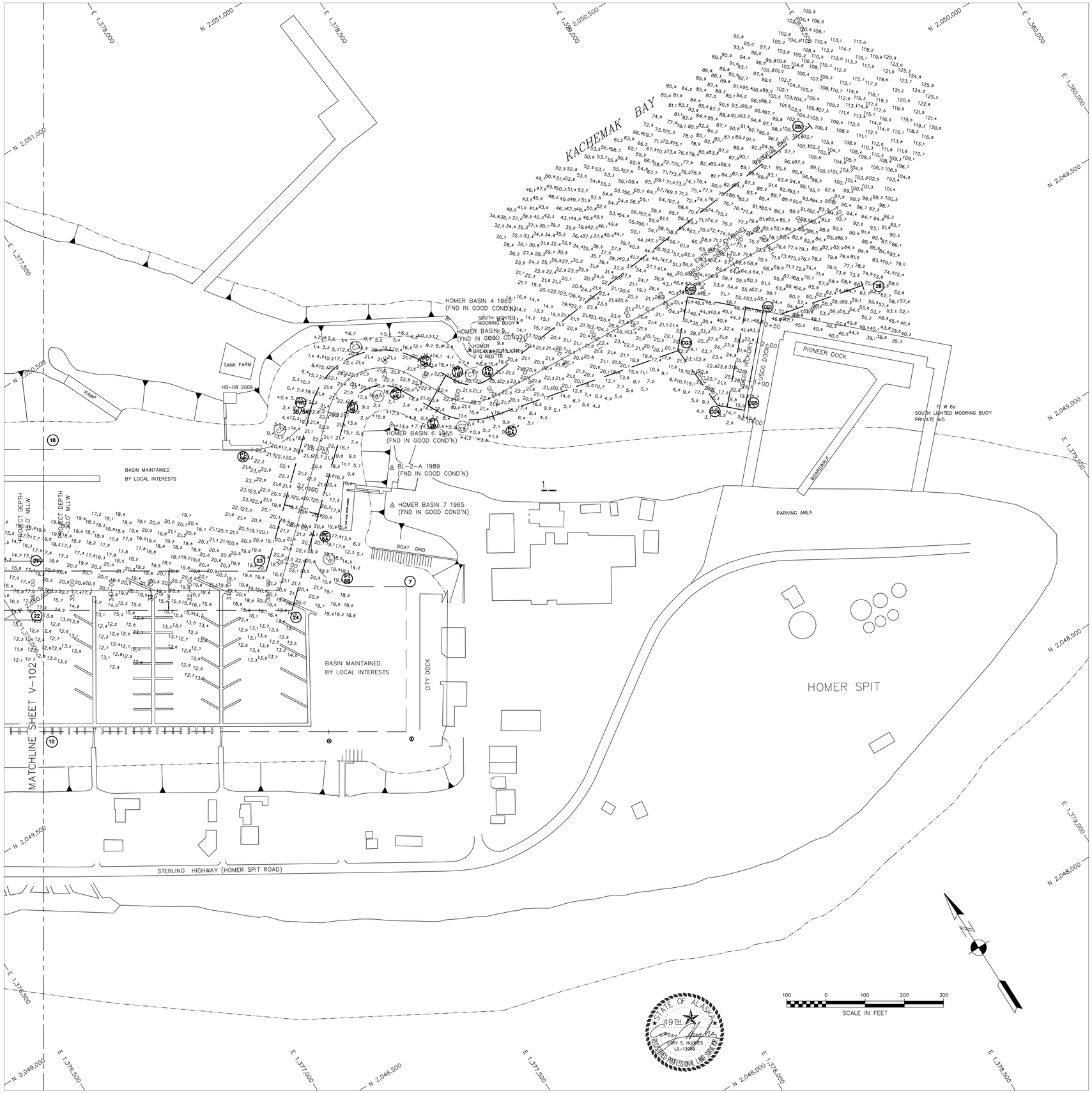
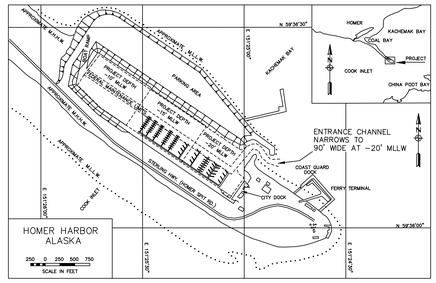
CORPS OF ENGINEERS





NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, IN FEET, NAD 83, HOLDING USACE SBC "HOMER BASIN 7" 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.
2. VERTICAL CONTROL IS IN FEET, REFERRING TO MEAN LOWER LOW WATER (MLLW=0.0'), HOLDING SBC "HOMER BASIN 7" AT 31.46".
3. SOUNDINGS ARE IN FEET AND ARE NEGATIVE UNLESS OTHERWISE INDICATED.
4. THIS DRAWING IS INDICATIVE OF CONDITIONS AT THE TIME OF SURVEY.
5. THIS PRE DREDGE SURVEY WAS CONDUCTED ON SEPTEMBER 7 & 8, 2013 BY HUGHES AND ASSOCIATES, WASILLA, AK. SOUNDINGS WERE COLLECTED USING AN ODOM ES3-M MULTIBEAM ECHO SOUNDER WITH 240 BEAMS AT 0.75 DEGREE SPACING. SPEED OF SOUND WAS DETERMINED USING AN ODOM DIGBAR PRO AND AN ODOM DIGBAR V AT THE SOUNDER HEAD. POSITIONING, HEADING, AND TIDES WERE PROVIDED IN REAL TIME USING A TRIMBLE 461 GPS RECEIVER OPERATING ON KINEMATIC CORRECTORS BROADCAST FROM A TRIMBLE R8 RTK BASE RECEIVER SET AT CONTROL STATION, "HOMER BASIN 7". VESSEL NAVIGATION, DATA COLLECTION AND PROCESSING WERE PERFORMED USING HYPACK 2013 INTEGRATED SOFTWARE.
6. THE CONTROL VALUES SHOWN ON THIS PLAT WERE VERIFIED PRIOR TO THE PRE DREDGE SURVEY AND HELD AS PUBLISHED.
7. THERE WERE NO NEW PERMANENT CONTROL MONUMENTS SET DURING THIS SURVEY.

CONTROL DATA

STATION	NORTHING	EASTING	MLLW	NAVD88	DESCRIPTION
BL-2-A 1989	2,049,793.81	1,378,015.52	32.49'	27.66'	3-1/4" USACE SBC "SURVEY MARK"
HOMER BASIN 4 1965	2,050,038.11	1,378,340.09	31.28'	26.45'	3-1/4" USACE SBC "SURVEY MARK"
HOMER BASIN 5 1965	2,049,940.32	1,378,344.30	30.87'	26.04'	4" USACE SBC "TRAVERSE STATION"
HOMER BASIN 6 1965	2,049,887.28	1,378,073.96	31.21'	26.38'	3-1/4" USACE SBC "SURVEY MARK"
HOMER BASIN 7 1965	2,049,712.22	1,377,964.36	31.46'	26.63'	3-1/4" USACE SBC "SURVEY MARK"
AUDREY	2,051,507.88	1,375,406.60	33.31'	28.48'	1-1/2" ALUMINUM CAP
BOLL 1996	2,050,682.88	1,375,195.75	35.48'	30.65'	3-1/4" FLAT BRASS CAP
HB-08 2009	2,050,150.78	1,377,830.73	31.92'	27.09'	3-1/4" DOMED ALUMINUM CAP
HB-09 2009	2,051,199.61	1,375,120.24	32.01'	27.18'	3-1/4" DOMED ALUMINUM CAP
C 103 1965	--	--	26.95'	22.12'	3-1/4" USCGS SBC "BENCH MARK"
BM NO 6 1965	--	--	27.28'	22.45'	3-1/4" USCGS SBC "BENCH MARK"

☆ NAVIGATION AIDS ☆

USCG NO.	DESCRIPTION	NORTHING	EASTING
26210	HOMER BREAKWATER LIGHT 2	2,049,940.1	1,378,350.7
26216	SOUTH LIGHTED MOORING BUOY	2,049,932.5	1,378,484.4

PROJECT LIMITS – HOMER SMALL BOAT HARBOR

CORNER	NORTHING	EASTING	CORNER	NORTHING	EASTING
PC-1A	2,049,852.14	1,378,351.33	13	2,050,893.93	1,375,219.67
PT-1B	2,049,896.45	1,378,269.64	14	2,051,074.98	1,375,335.41
PC-2A	2,049,766.26	1,378,304.02	15	2,051,159.30	1,375,389.23
PT-2B	2,049,855.01	1,378,189.75	16	2,051,420.46	1,375,556.10
PC-3A	2,049,989.06	1,378,221.58	17	2,050,887.56	1,376,390.12
PRC-3B/5A	2,050,041.53	1,377,932.63	18	2,050,312.15	1,377,290.69
PT-5B	2,050,025.58	1,377,739.19	19	2,050,626.40	1,376,223.25
PC-6A	2,049,758.41	1,377,752.69	20	2,050,542.13	1,376,169.40
PT-6B	2,049,593.40	1,377,766.24	21	2,050,050.99	1,377,123.83
7	2,049,519.03	1,377,882.50	22	2,049,966.75	1,377,070.00
8	2,049,207.15	1,377,683.23	23	2,049,744.77	1,377,603.08
9	2,049,313.35	1,377,517.38	24	2,049,625.13	1,377,604.67
10	2,049,705.59	1,376,903.13	25	2,049,954.10	1,379,383.98
11	2,050,281.01	1,376,002.56	26	2,049,539.77	1,379,277.46
12	2,050,544.76	1,375,589.76			

CURVE DATA – HOMER SMALL BOAT HARBOR

CURVE NO.	RADIUS	ARC LENGTH	DELTA ANGLE	TANGENT
1	82.86'	98.65'	68-13-09	56.12'
2	172.86'	149.28'	49-28-56	79.66'
3	185.62'	338.80'	104-34-53	240.08'
4	95.62'	174.53'	104-34-53	123.67'
5	160.19'	208.50'	74-34-41	121.98'
6	104.07'	191.43'	105-23-29	136.59'

PROJECT LIMITS – USCG BERTH (USCGC "HICKORY")

CORNER	NORTHING	EASTING	CORNER	NORTHING	EASTING
CG1	2,049,621.31	1,379,028.43	CG4	2,049,481.24	1,378,801.20
CG2	2,049,755.11	1,378,885.74	CG5	2,049,443.37	1,378,852.25
CG3	2,049,654.76	1,378,791.65			

VOLUME COMPUTATIONS

-20 MLLW AREA VOLUMES (STATION 10+00 to 28+12.22)	
VOLUME AVAILABLE TO PROJECT DEPTH (-20')	507 cu. yds.
VOLUME AVAILABLE TO MAX PAY LINE (-21')	1566 cu. yds.
VOLUME AVAILABLE ON SIDE SLOPES	2513 cu. yds.
TOTAL VOLUME AVAILABLE (WITHIN PROJECT LIMTS)	4079 cu. yds.
TOTAL VOLUME OVERDREDGE (BEYOND PROJECT LIMTS)	xxxx cu. yds.
-15 MLLW AREA VOLUMES (STATION 35+73.60 to 46+42.31)	
VOLUME AVAILABLE TO PROJECT DEPTH (-15')	248 cu. yds.
VOLUME AVAILABLE TO MAX PAY LINE (-16')	600 cu. yds.
VOLUME AVAILABLE ON SIDE SLOPES	74 cu. yds.
TOTAL VOLUME AVAILABLE (WITHIN PROJECT LIMTS)	674 cu. yds.
TOTAL VOLUME OVERDREDGE (BEYOND PROJECT LIMTS)	xxxx cu. yds.
COAST GUARD DOCK AREA VOLUMES	
VOLUME AVAILABLE TO PROJECT DEPTH (-22)	441 cu. yds.
VOLUME AVAILABLE TO MAX PAY LINE (-23)	642 cu. yds.
VOLUME AVAILABLE TO PROJECT DEPTH (-26)	617 cu. yds.
VOLUME AVAILABLE TO MAX PAY LINE (-27)	721 cu. yds.
VOLUME AVAILABLE TO SIDE SLOPES	1618 cu. yds.
VOLUME AVAILABLE TO MPL SIDE SLOPES	1823 cu. yds.
TOTAL VOLUME AVAILABLE (WITHIN PROJECT LIMTS)	3186 cu. yds.
TOTAL VOLUME OVERDREDGE (BEYOND PROJECT LIMTS)	xxxx cu. yds.

SURVEY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB-11-R-0040
CONTRACTOR ALASKA MARINE EXCAVATION
CITY ANCHOR POINT STATE ALASKA
Recommended: Approved: Date:
PRIME CONTRACTOR RESIDENT ENGINEER

Sym.	Action	Description	Date

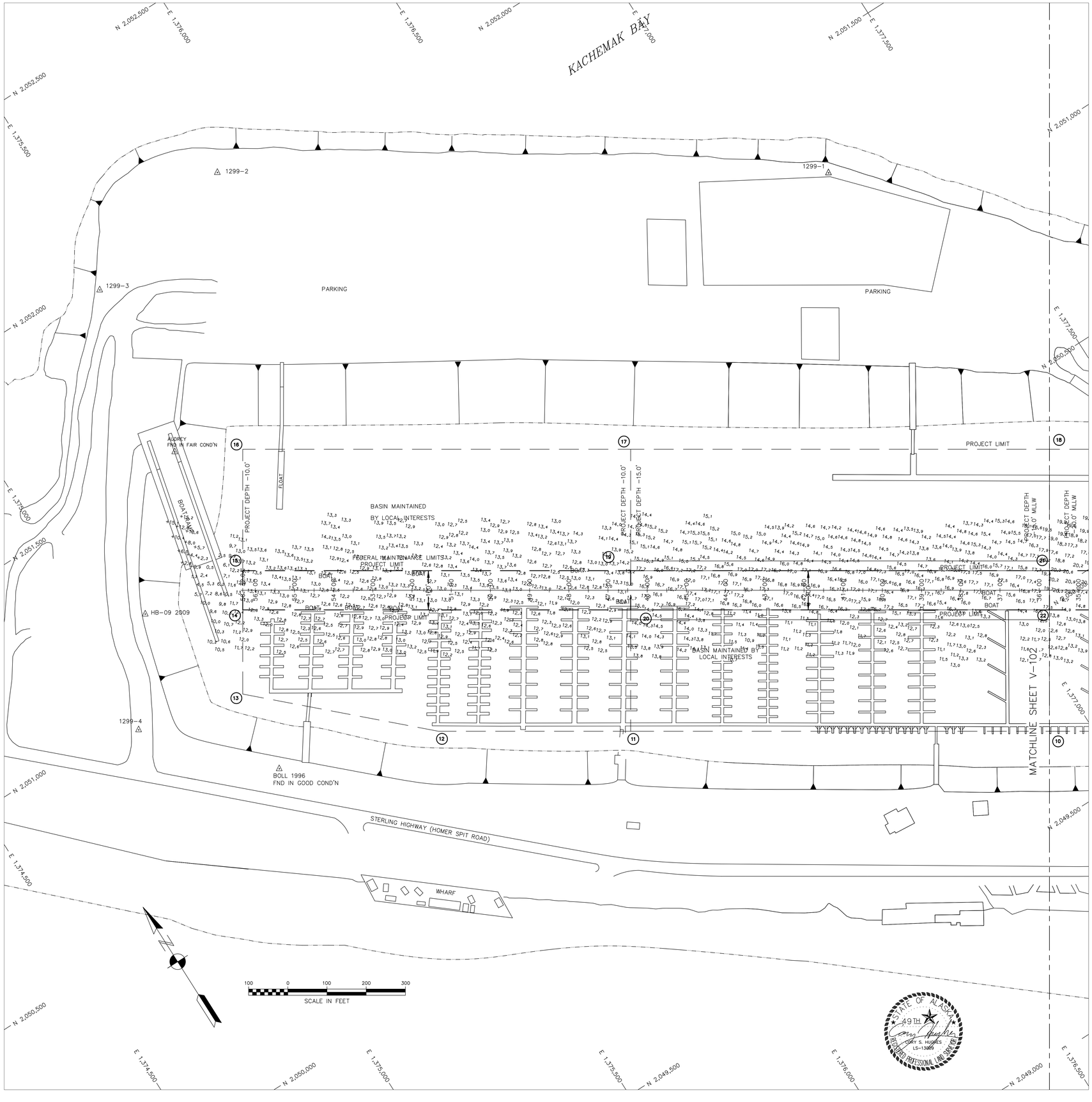
Surveyed: HUGHES & ASSOCIATES
Drawn: BTH
Reviewed: CSH
Chief: Section:
Checked: File:
Chief: Branch:
Date: 10/8/13
Dwg Scale: 1" = 100'
Plot Scale:
Plot Date:
Drawing #: 3131-13

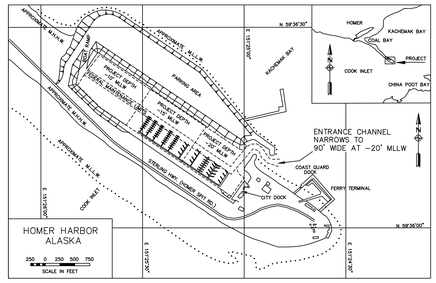
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

HOMER, ALASKA
HOMER HARBOR
PRE DREDGE SURVEY
SEPTEMBER 7 & 8, 2013

Reference number:
V-101
Sheet 1 of 10

CORPS OF ENGINEERS





NOTES

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☆ NAVIGATION AIDS ☆

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VOLUME COMPUTATIONS

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VOLUME AVAILABLE TO MAX PAY LINE (–21')	1566 cu. yds.
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TOTAL VOLUME AVAILABLE (WITHIN PROJECT LIMTS)	674 cu. yds.
TOTAL VOLUME OVERDREDGE (BEYOND PROJECT LIMTS)	xxxx cu. yds.
COAST GUARD DOCK AREA VOLUMES	
VOLUME AVAILABLE TO PROJECT DEPTH (–22)	441 cu. yds.
VOLUME AVAILABLE TO MAX PAY LINE (–23)	642 cu. yds.
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VOLUME AVAILABLE TO MAX PAY LINE (–27)	721 cu. yds.
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TOTAL VOLUME AVAILABLE (WITHIN PROJECT LIMTS)	3186 cu. yds.
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SURVEY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB–11–R–0040
CONTRACTOR ALASKA MARINE EXCAVATION
CITY ANCHOR POINT STATE ALASKA
Recommended: Approved: Date:
PRIME CONTRACTOR RESIDENT ENGINEER

Sym.	Action	Description	Date

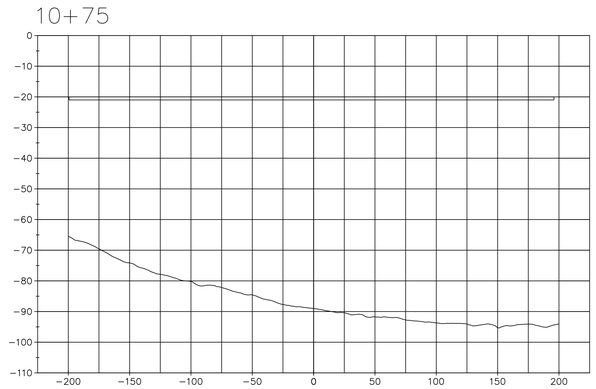
Surveyed: HUGHES & ASSOCIATES
Drawn: BTH
Reviewed: CSH
Chief:
Submitted:
Chief:
Date: 10/8/13
Dwg Scale: 1" =100'
Plot Scale:
File:
Drawing #:
Section
Branch
3131–13

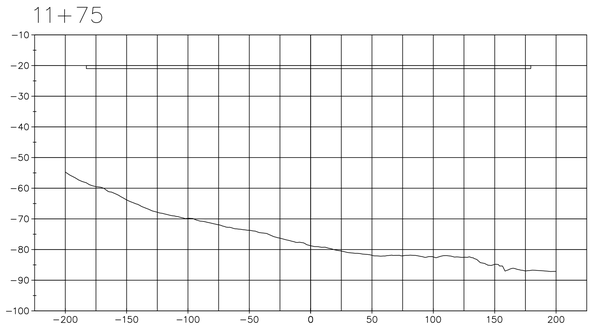
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

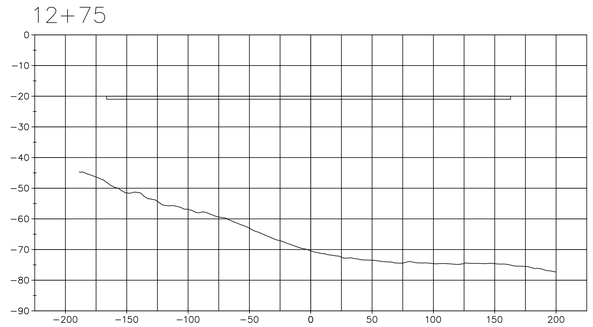
HOMER, ALASKA
HOMER HARBOR
PRE DREDGE SURVEY
SEPTEMBER 7 & 8, 2013

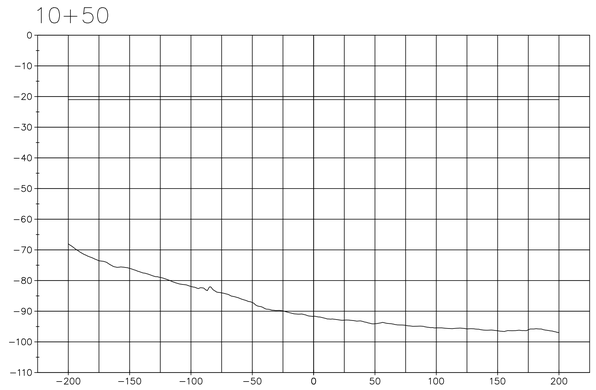
Reference number:
V–102
Sheet 2 of 10

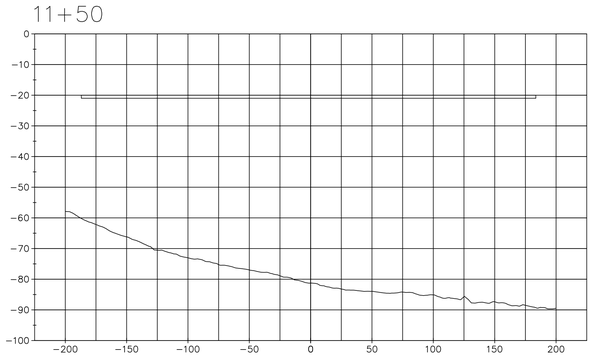
CORPS OF ENGINEERS

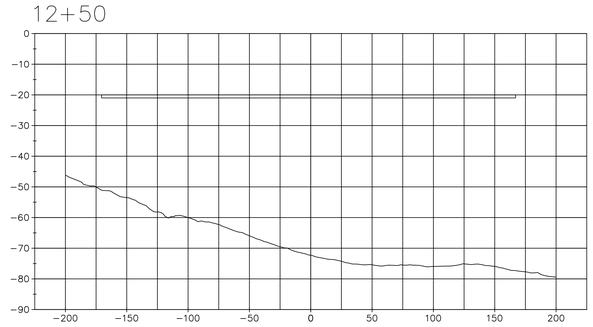


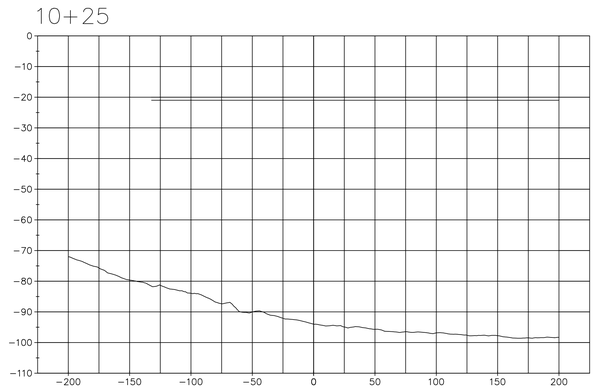


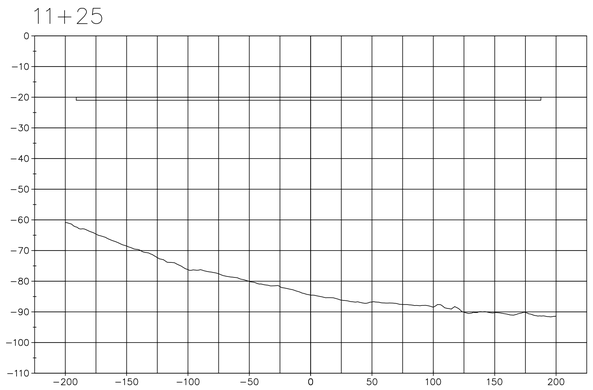


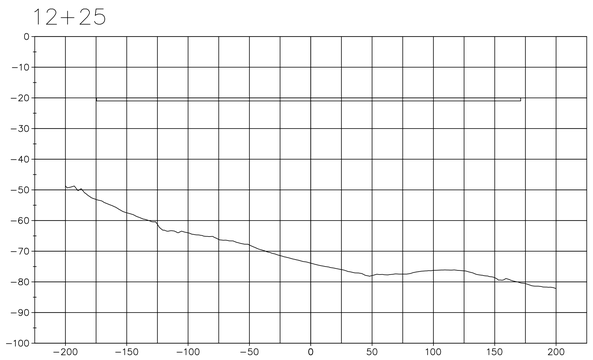


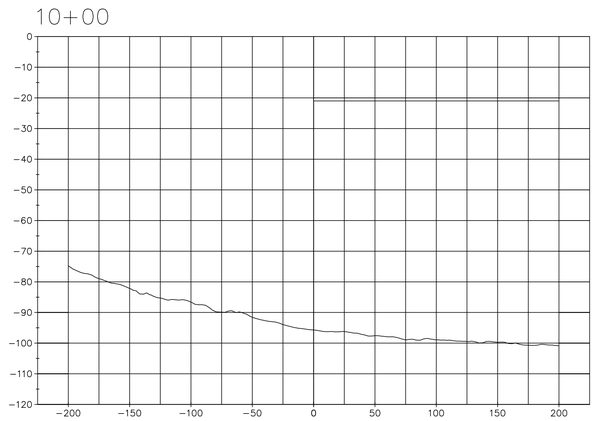


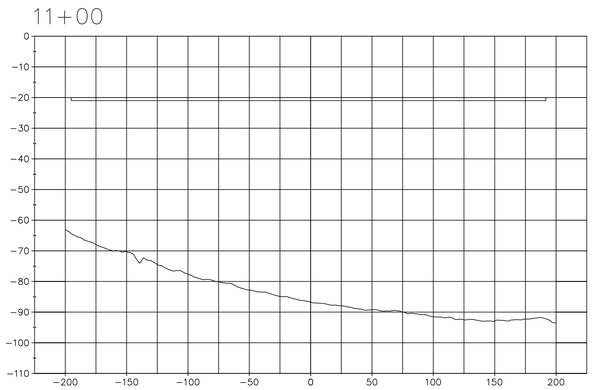


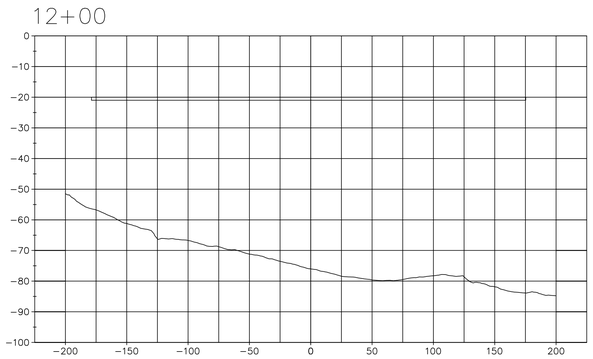












PRE-DREDGE SURVEY
Sept. 7 & 8, 2013

POST-DREDGE SURVEY
Sept, NA, 2013

SCALE
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 20'

STATE OF ALASKA
49TH
CORY S. HUGHES
LS-13089
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB-11-R-0040
CONTRACTOR ALASKA MARINE EXCAVATION
CITY ANCHOR POINT STATE ALASKA
Recommended: Approved: Date:
PRIME CONTRACTOR RESIDENT ENGINEER

Sym.	Action	Description	Date

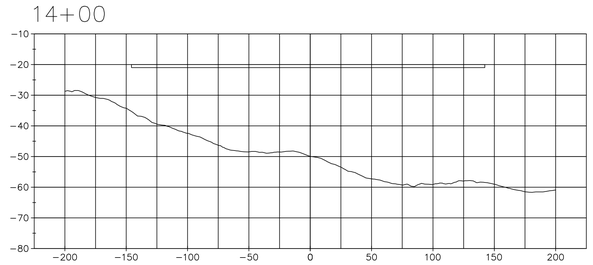
Surveyed: HUGHES & ASSOCIATES Date: 10/8/13
Drawn: BTH Dwg Scale:
Reviewed: CSH Plot Scale:
Chief: Section
Submitted: File:
Chief: Branch Drawing #: 3131-13

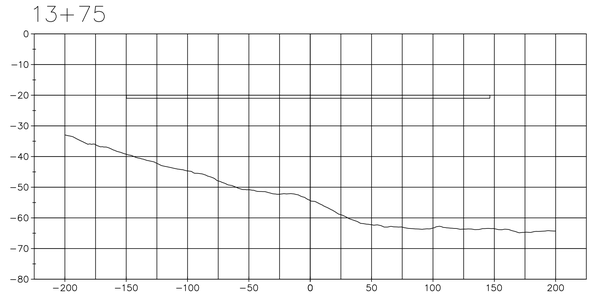
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

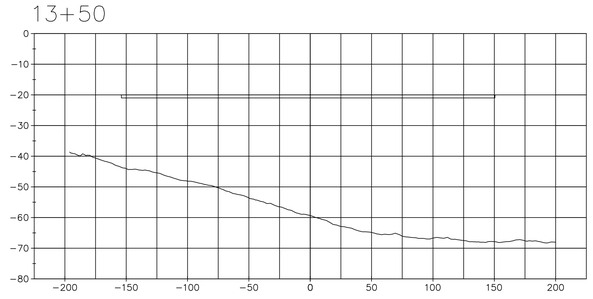
HOMER, ALASKA
HOMER HARBOR
PRE DREDGE SURVEY
SEPTEMBER 7 & 8, 2013

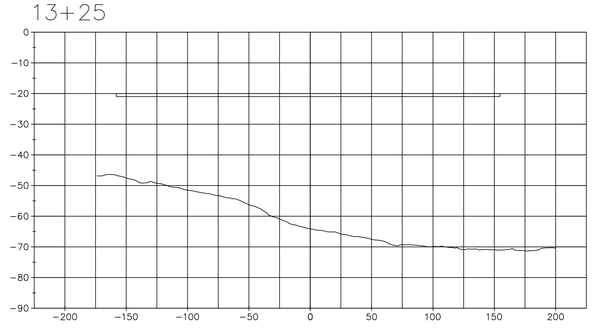
Reference number:
V-103
Sheet 3 of 10

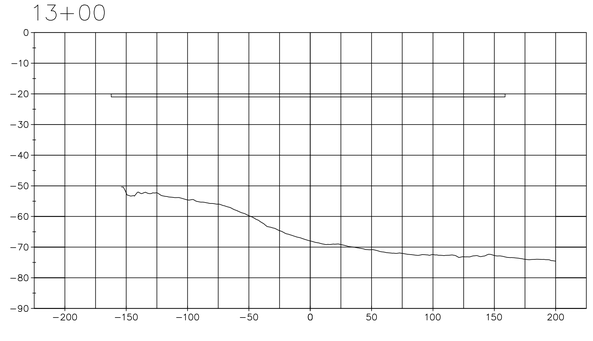
CORPS OF ENGINEERS

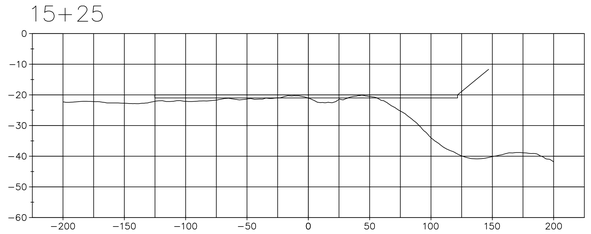


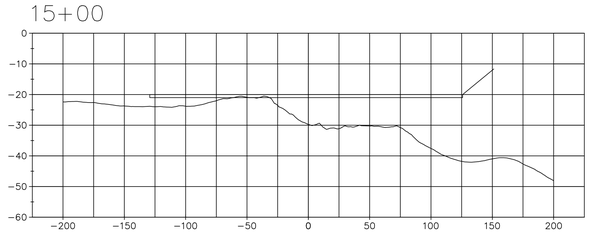


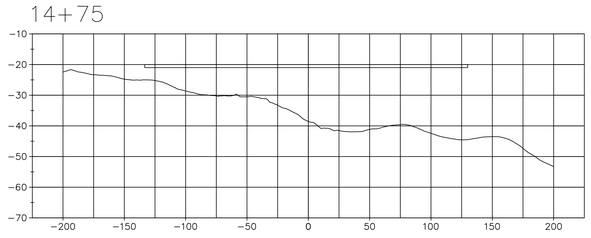


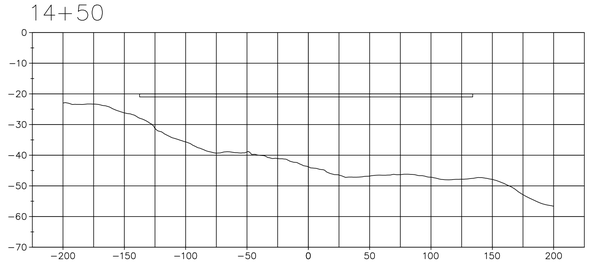


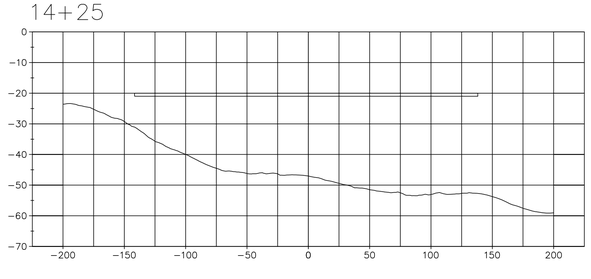


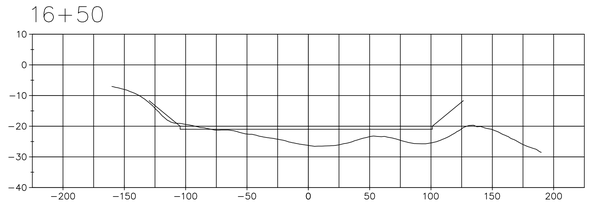


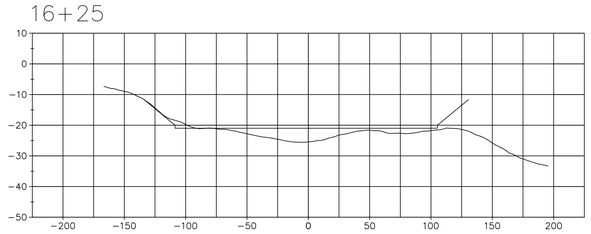


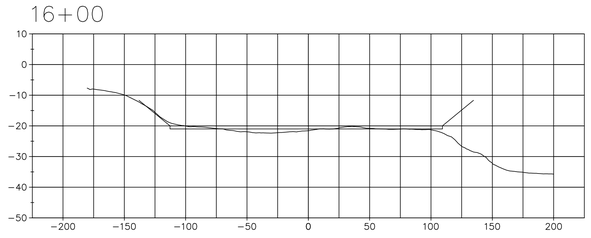


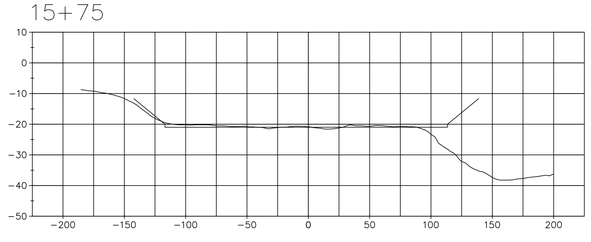


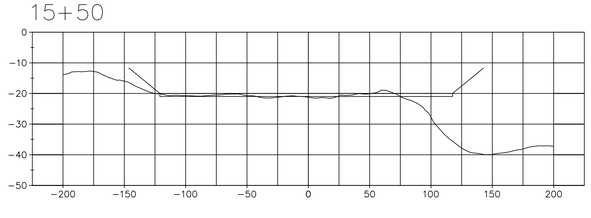












PRE-DREDGE SURVEY
Sept. 7 & 8, 2013

POST-DREDGE SURVEY
Sept, NA, 2013

SCALE
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 20'

STATE OF ALASKA
49TH
CORY S. HUGHES
LS-13089
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB-11-R-0040
CONTRACTOR ALASKA MARINE EXCAVATION
CITY ANCHOR POINT STATE ALASKA
Recommended: Approved: Date:
PRIME CONTRACTOR RESIDENT ENGINEER

Sym.	Action	Description	Date

Surveyed: HUGHES & ASSOCIATES
Drawn: BTH
Reviewed: CSH
Submitted:
Chief: Section
Chief: Branch
Date: 10/8/13
Dwg Scale:
Plot Scale:
File:
Drawing #: 3131-13

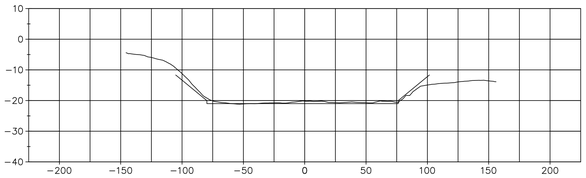
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

HOMER, ALASKA
HOMER HARBOR
PRE DREDGE SURVEY
SEPTEMBER 7 & 8, 2013

Reference number:
V-104
Sheet 4 of 10

CORPS OF ENGINEERS

18+00



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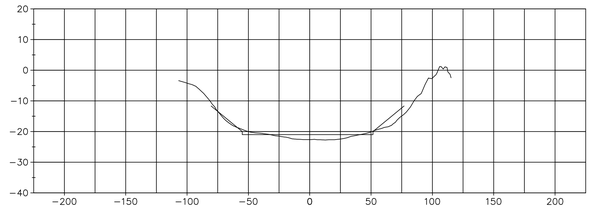

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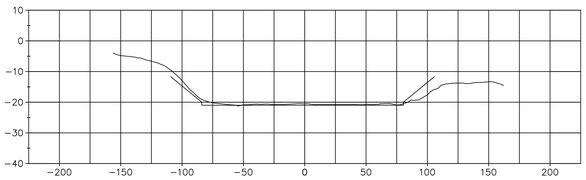

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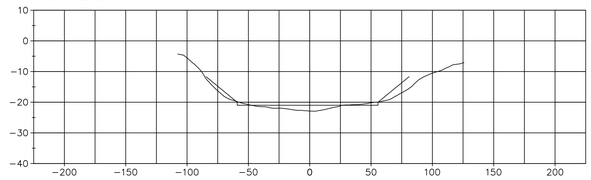

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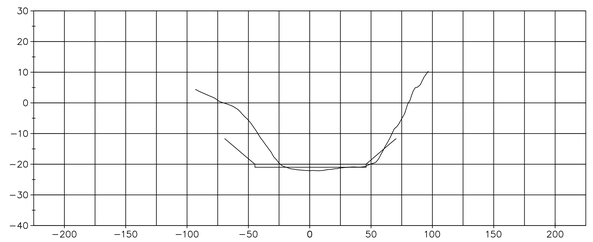

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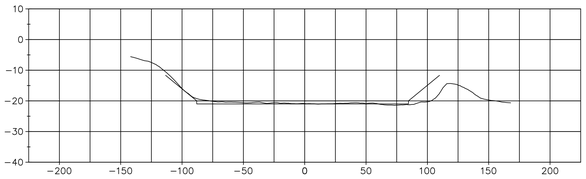

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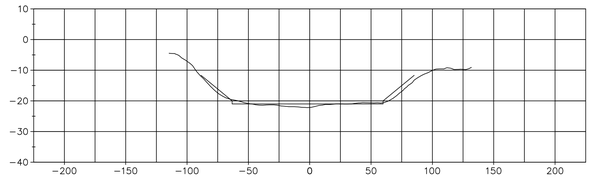

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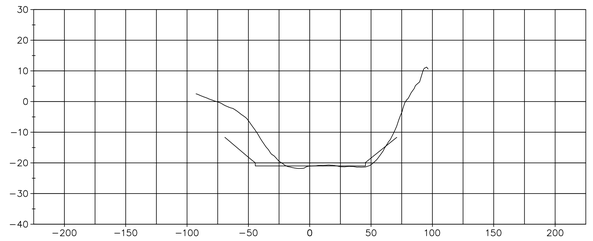

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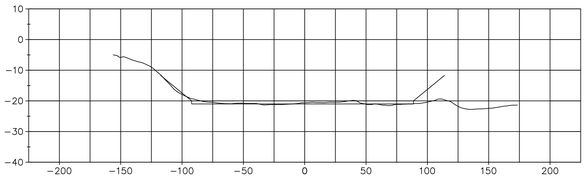

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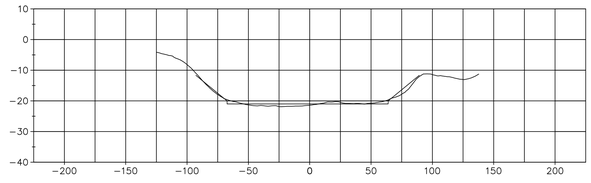

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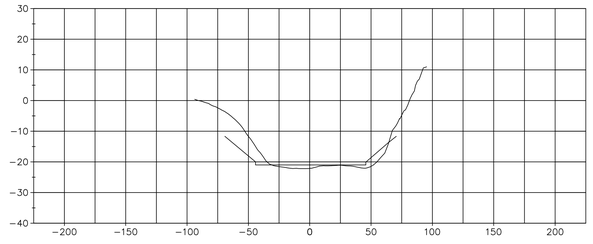

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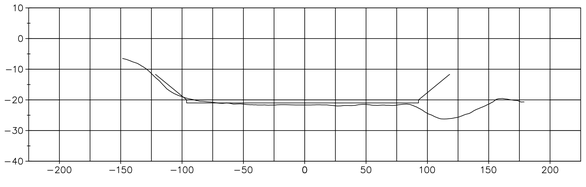

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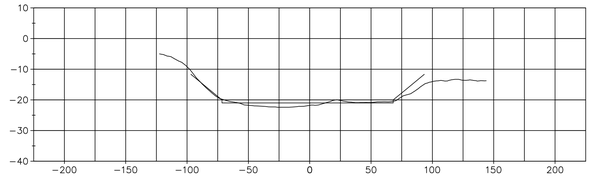

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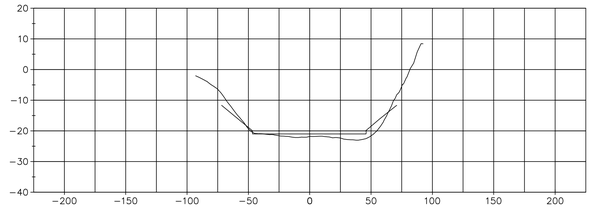

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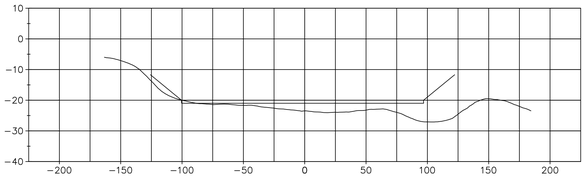

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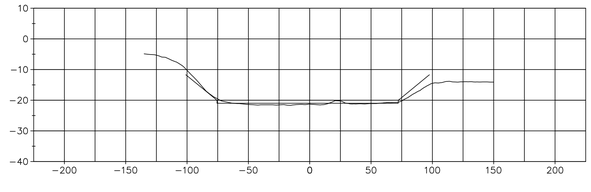

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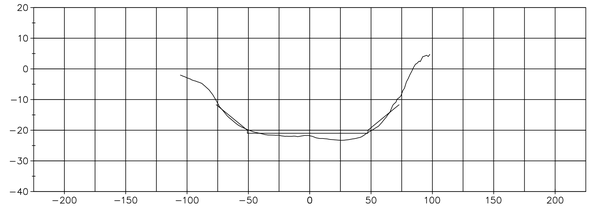


PRE-DREDGE SURVEY
Sept. 7 & 8, 2013

POST-DREDGE SURVEY
Sept. NA, 2013

SCALE
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 20'

STATE OF ALASKA
49TH
CORY S. HUGHES
LS-13069
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB-11-R-0040
CONTRACTOR ALASKA MARINE EXCAVATION
CITY ANCHOR POINT STATE ALASKA
Recommended: PRIME CONTRACTOR
Approved: RESIDENT ENGINEER
Date:

Sym.	Action	Description	Date

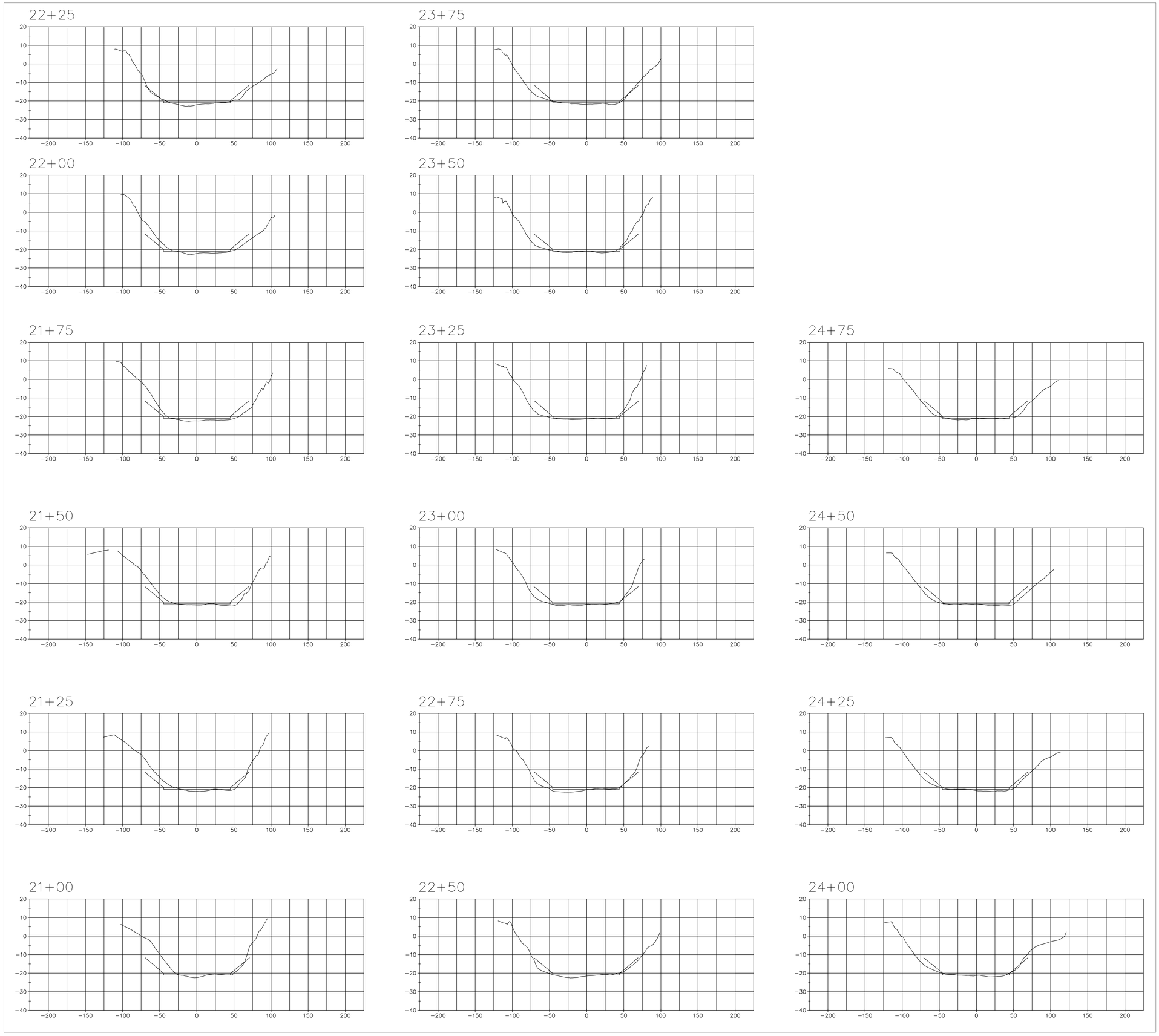
Surveyed: HUGHES & ASSOCIATES
Drawn: BTH
Reviewed: CSH
Chief:
Submitted:
Chief:
Date: 10/8/13
Dwg Scale:
Plot Scale:
Section:
File:
Branch:
Drawing #: 3131-13

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

HOMER, ALASKA
HOMER HARBOR
PRE DREDGE SURVEY
SEPTEMBER 7 & 8, 2013

Reference number:
V-105
Sheet 5 of 10

CORPS OF ENGINEERS



PRE-DREDGE SURVEY
Sept. 7 & 8, 2013

POST-DREDGE SURVEY
Sept, NA, 2013

SCALE
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 20'

STATE OF ALASKA
49TH
CORY S. HUGHES
LS-13009
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB-11-R-0040
CONTRACTOR ALASKA MARINE EXCAVATION
CITY ANCHOR POINT STATE ALASKA
Recommended: PRIME CONTRACTOR
Approved: RESIDENT ENGINEER
Date:

Sym	Action	Description	Date

Surveyed: HUGHES & ASSOCIATES
Drawn: BTH
Reviewed: CSH
Chief, Section
Submitted:
Chief, Branch
Date: 10/8/13
Dwg Scale:
Plot Scale:
File:
Drawing #:
3131-13

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

HOMER, ALASKA
HOMER HARBOR
PRE DREDGE SURVEY
SEPTEMBER 7 & 8, 2013

Reference number:
V-106
Sheet 6 of 10

CORPS OF ENGINEERS

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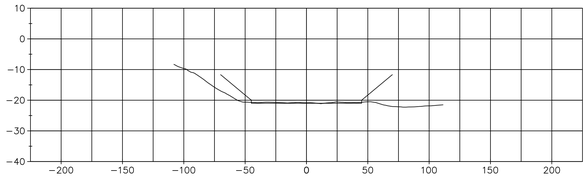

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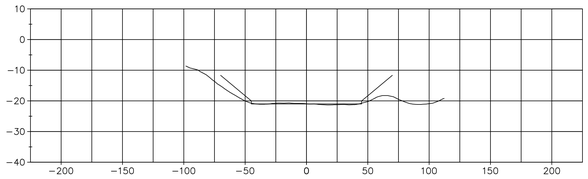

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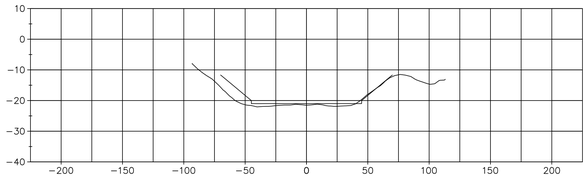

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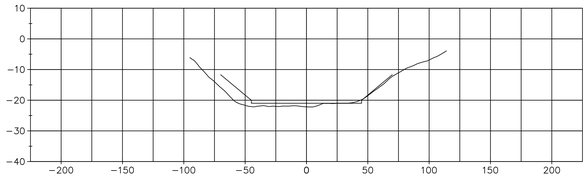

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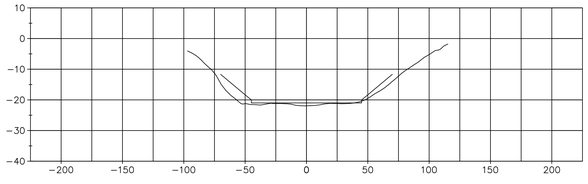

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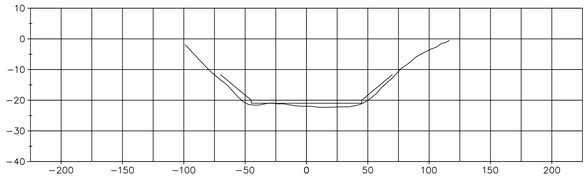

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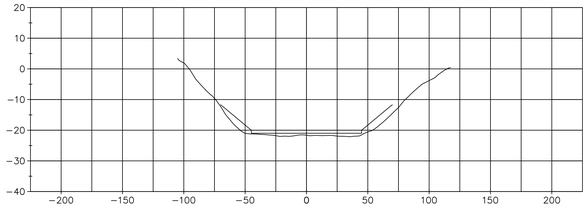

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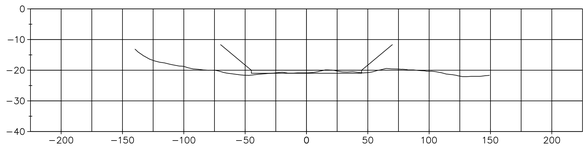

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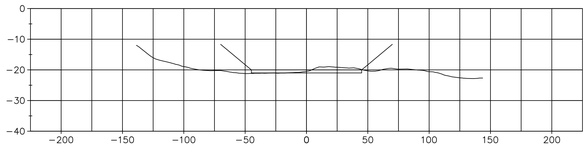

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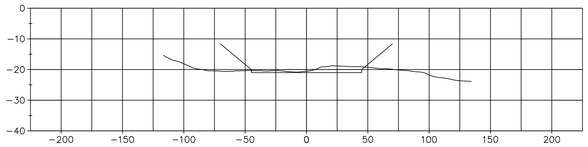

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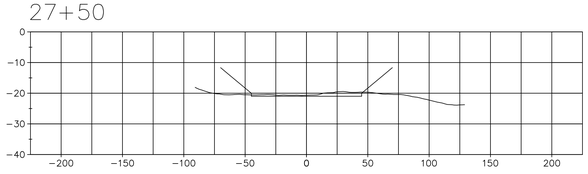

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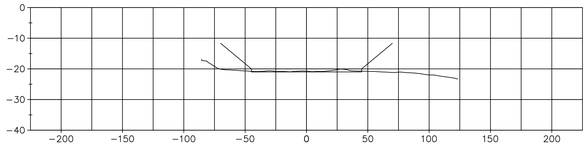

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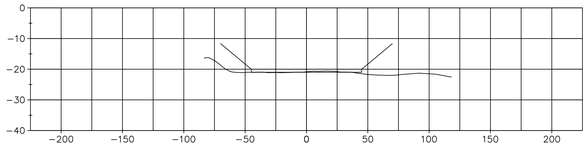

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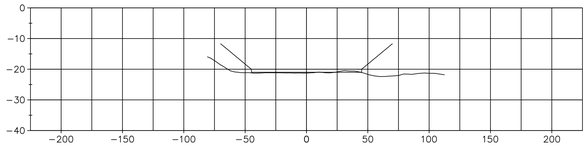


PRE-DREDGE SURVEY
Sept. 7 & 8, 2013

POST-DREDGE SURVEY
Sept, NA, 2013

SCALE
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 20'

STATE OF ALASKA
49TH
JAY S. HUGHES
LS-13889
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB-11-R-0040
CONTRACTOR ALASKA MARINE EXCAVATION
CITY ANCHOR POINT STATE ALASKA
Recommended: Approved: Date:
PRIME CONTRACTOR RESIDENT ENGINEER

Sym.	Action	Description	Date

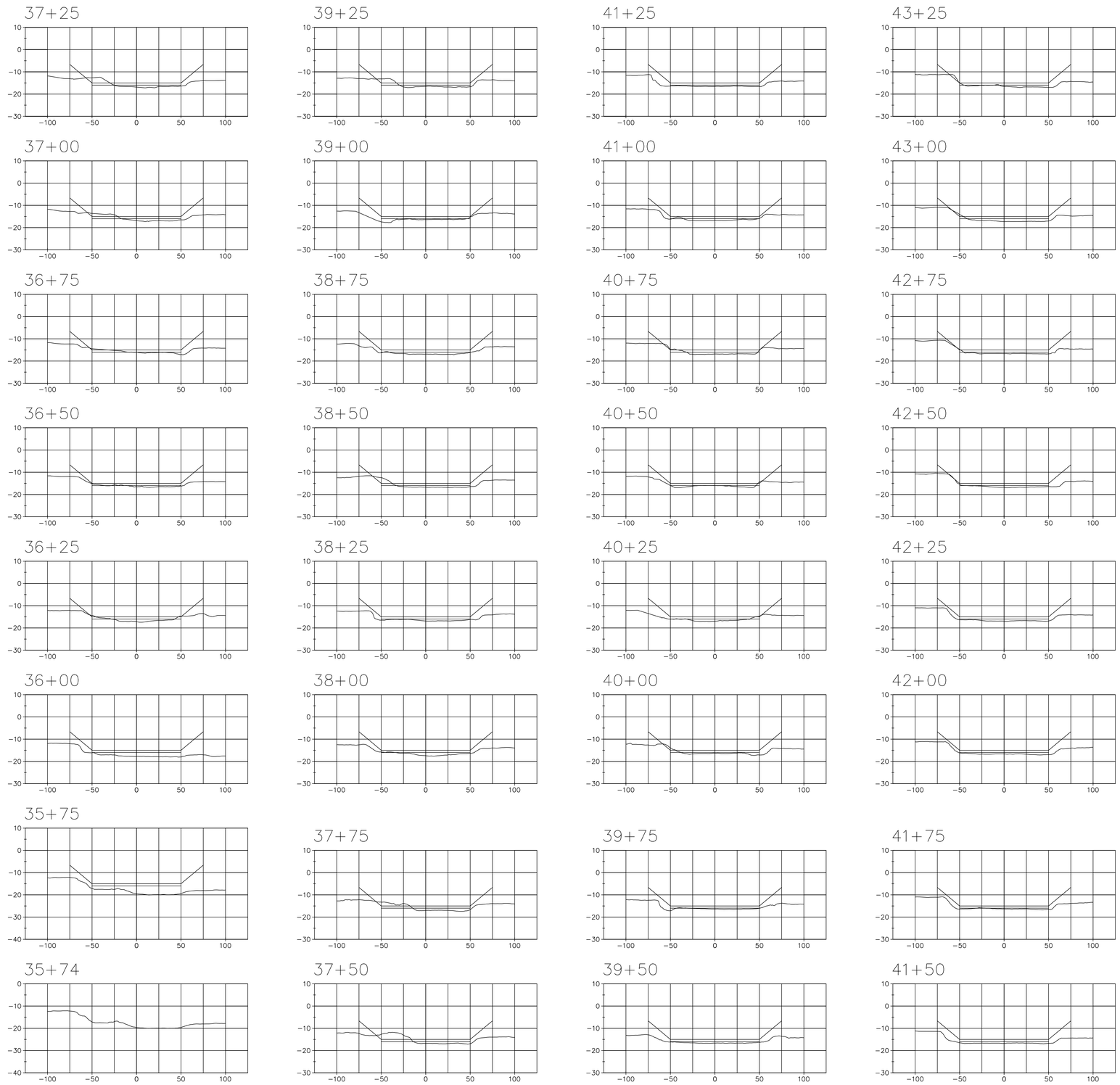
Surveyed: HUGHES & ASSOCIATES
Drawn: BTH
Reviewed: CSH
Chief: Section
Submitted: Branch
Chief:
Date: 10/8/13
Dwg Scale:
Plot Scale:
File:
Drawing #: 3131-13

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

HOMER, ALASKA
HOMER HARBOR
PRE DREDGE SURVEY
SEPTEMBER 7 & 8, 2013

Reference number:
V-107
Sheet 7 of 10

CORPS OF ENGINEERS



PRE-DREDGE SURVEY
Sept. 7 & 8, 2013

POST-DREDGE SURVEY
Sept, NA, 2013

SCALE
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 20'

STATE OF ALASKA
49TH
GARY S. HUGHES
LS-13069
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB-11-R-0040
CONTRACTOR ALASKA MARINE EXCAVATION
CITY ANCHOR POINT STATE ALASKA
Recommended: Approved: Date:
PRIME CONTRACTOR RESIDENT ENGINEER

Sym.	Action	Description	Date

Surveyed: HUGHES & ASSOCIATES Date: 10/8/13
Drawn: BTH Dwg Scale:
Reviewed: CSH Plot Scale:
Chief: Section: File:
Submitted: Branch: Drawing #:
Chief:

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

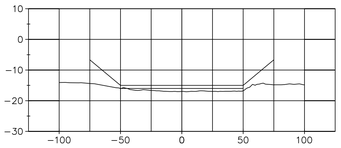
3131-13

HOMER, ALASKA
HOMER HARBOR
PRE DREDGE SURVEY
SEPTEMBER 7 & 8, 2013

Reference number:
V-108
Sheet 8 of 10

CORPS OF ENGINEERS

45+25



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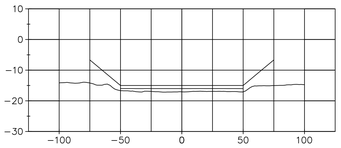

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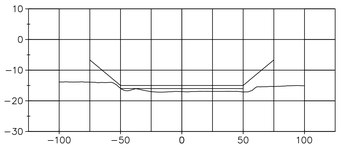

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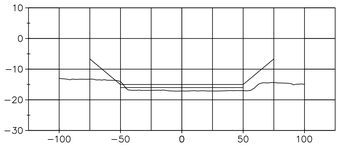

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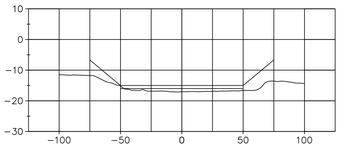

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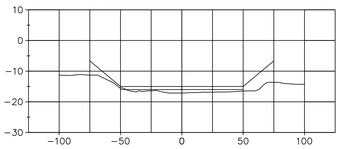

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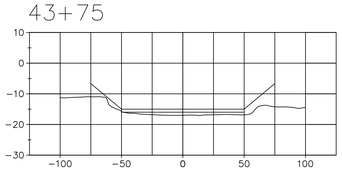

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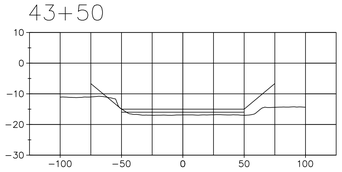

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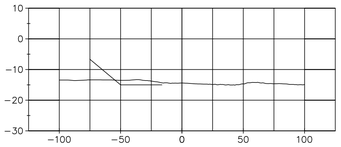

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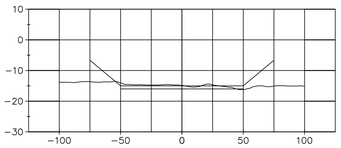

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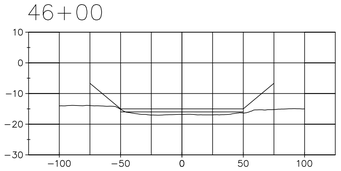

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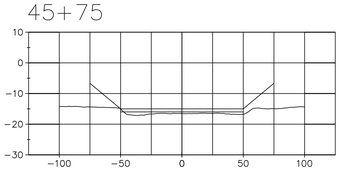

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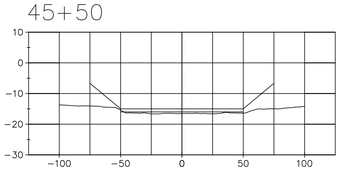


_____ PRE–DREDGE SURVEY
Sept. 7 & 8, 2013

_____ POST–DREDGE SURVEY
Sept, NA, 2013

SCALE
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 20'

SURVEY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB–11–R–0040
CONTRACTOR ALASKA MARINE EXCAVATION
CITY ANCHOR POINT STATE ALASKA
Recommended: Approved: Date:
PRIME CONTRACTOR RESIDENT ENGINEER

Sym.	Action	Description	Date

Surveyed: HUGHES & ASSOCIATES Date: 10/8/13
Drawn: BTH Dwg Scale:
Reviewed: CSH Plot Scale:
Chief: Section File:
Submitted: Branch Drawing #:
Chief:

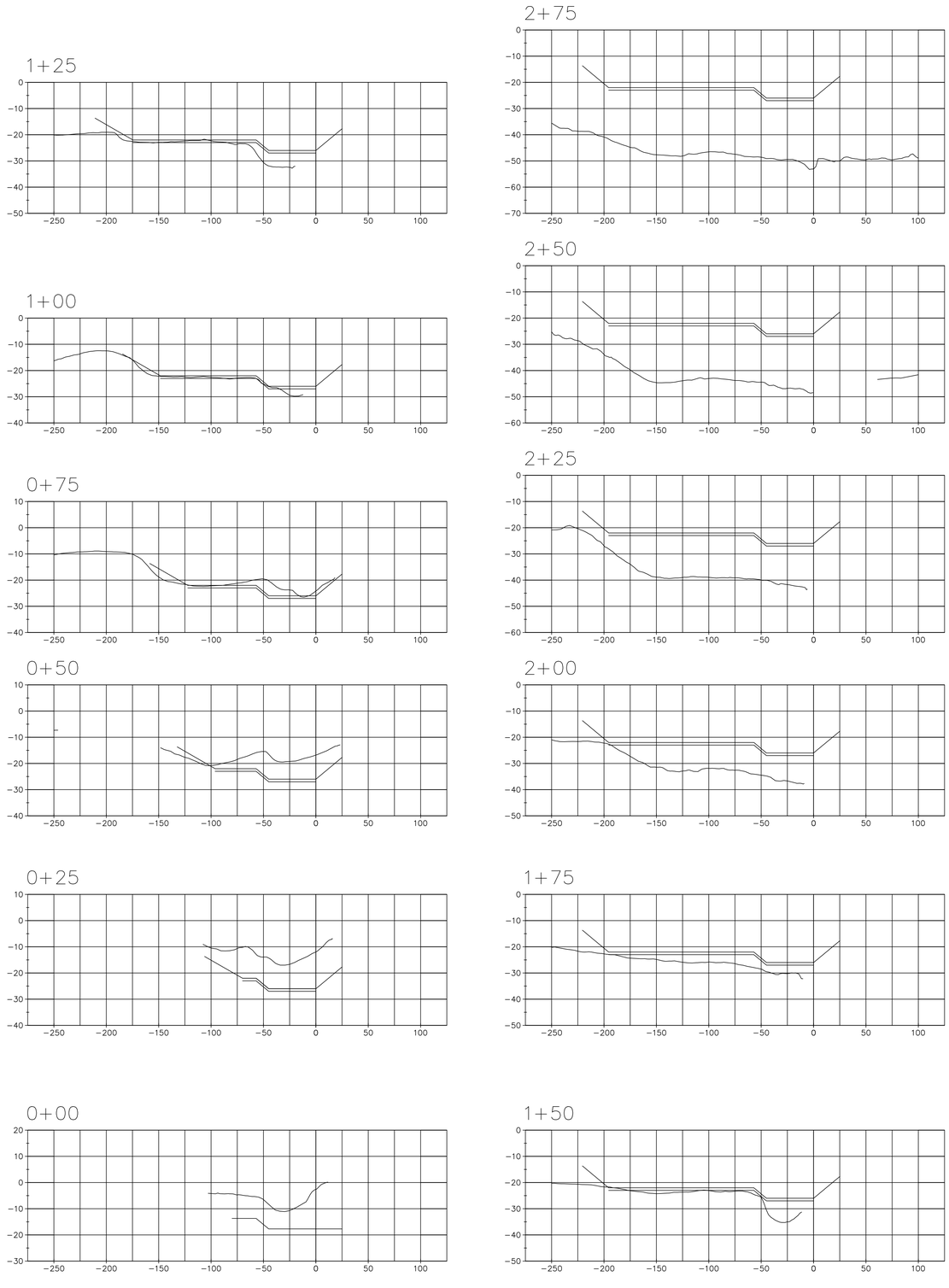
3131–13

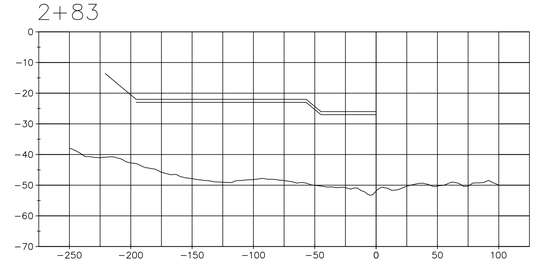
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

HOMER, ALASKA
HOMER HARBOR
PRE DREDGE SURVEY
SEPTEMBER 7 & 8, 2013

Reference number:
V–109
Sheet 9 of 10

CORPS OF ENGINEERS





PRE-DREDGE SURVEY
Sept. 7 & 8, 2013

POST-DREDGE SURVEY
Sept, NA, 2013

SCALE
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 20'

STATE OF ALASKA
49TH
CORY S. HUGHES
LS-13009
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB-11-R-0040
CONTRACTOR ALASKA MARINE EXCAVATION
CITY ANCHOR POINT STATE ALASKA
Recommended: PRIME CONTRACTOR
Approved: RESIDENT ENGINEER
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Surveyed: HUGHES & ASSOCIATES
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Date: 10/8/13
Dwg Scale:
Plot Scale:
File:
Drawing #:
3131-13

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

HOMER, ALASKA
HOMER HARBOR
PRE DREDGE SURVEY
SEPTEMBER 7 & 8, 2013

Reference number:
V-110
Sheet 10 of 10