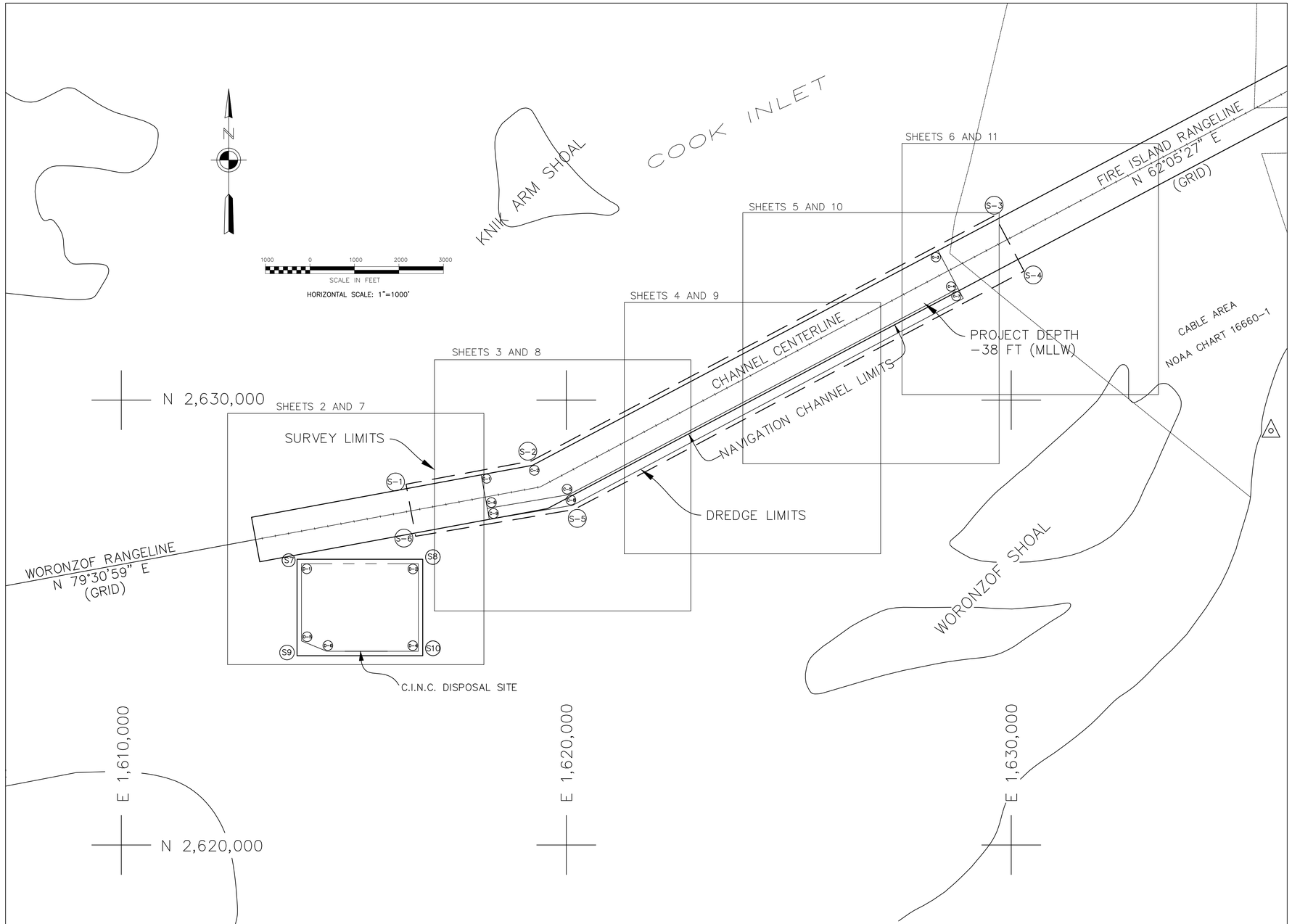

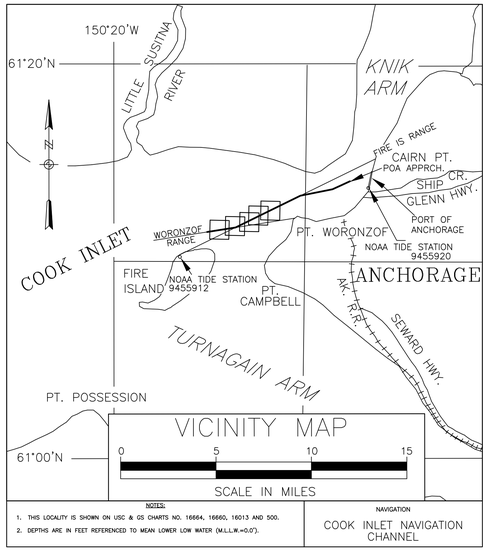

NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83 IN U.S. SURVEY FEET HOLDING USACE "TERRA 11" AS N 2,644,969.84, E 1,660,159.24.
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3. SOUNDINGS ARE IN FEET AND ARE MINUS UNLESS OTHERWISE INDICATED.
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DREDGE LIMITS AREA A		
NAME	NORTHING	EASTING
C–4	2,632,508.88	1,628,804.13
C–5	2,627,875.62	1,620,059.72
C–6	2,627,566.21	1,618,225.28
C–7	2,632,288.21	1,628,921.02
C–8	2,627,635.82	1,620,141.11
C–9	2,627,320.35	1,618,270.78

DREDGE LIMITS AREA B		
NAME	NORTHING	EASTING
C–1	2,628,320.37	1,618,085.73
C–2	2,628,534.04	1,619,240.43
C–3	2,633,360.88	1,628,352.82
C–4	2,632,508.88	1,628,804.13
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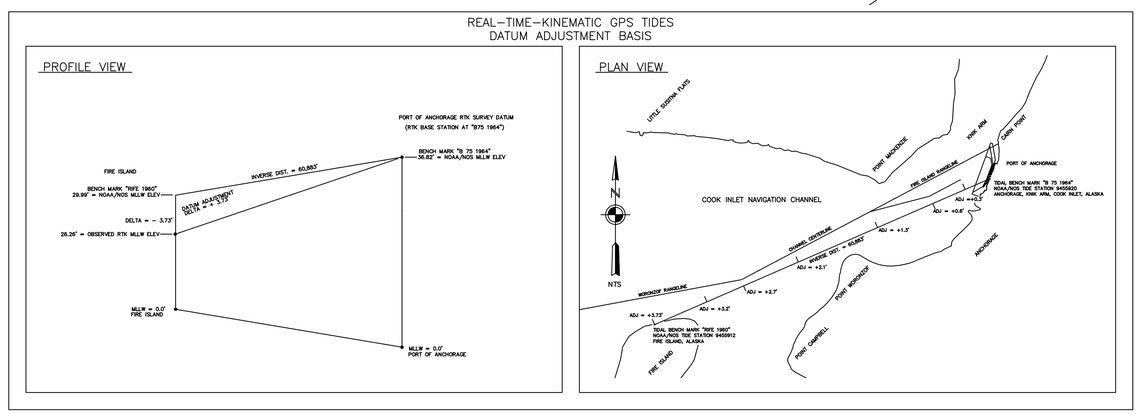
C–6	2,627,566.21	1,618,225.28

2014 SURVEY LIMITS		
NAME	NORTHING	EASTING
S–1	2,628,109.78	1,616,398.10
S–2	2,628,629.58	1,619,207.16
S–3	2,634,149.17	1,629,627.37
S–4	2,632,899.70	1,630,288.59
S–5	2,627,539.90	1,620,173.66
S–6	2,626,939.60	1,616,614.64
S–7	2,626,423.49	1,613,948.61
S–8	2,626,423.49	1,616,773.28
S–9	2,624,254.99	1,613,948.61
S–10	2,624,254.99	1,616,773.28

2014 DISPOSAL LIMITS		
NAME	NORTHING	EASTING
D–1	2,626,323.49	1,614,048.61
D–2	2,626,323.49	1,616,673.28
D–3	2,624,354.99	1,614,048.61
D–4	2,624,354.99	1,616,673.28
D–5	2,624,587.68	1,614,048.61
D–6	2,624,354.99	1,614,619.08

CONTROL DATA				
POINT ID	NORTHING	EASTING	ELEV. (MLLW)	DESCRIPTION
BM 12 1984	2,620,563.82	1,604,566.35	27.63	Brass Cap
BM 5934 F	2,655,203.73	1,655,049.51	36.48	Brass Cap
CRAIG	2,642,635.95	1,661,029.47	44.95	Brass Cap
ETRAC-1	2,646,395.57	1,660,814.72	38.34	Brass Cap
ETRAC-2	2,644,443.04	1,660,120.66	36.38	Brass Cap
MIKE	2,645,987.73	1,661,875.48	48.67	Brass Cap
NORTH END	2,646,649.84	1,660,584.80	41.56	USACE SBC 1978
PORT 1989	2,639,934.29	1,656,925.43	39.55	Almon
PORT MAC	2,655,563.46	1,654,968.22	41.51	Brass Cap
RIFE 1960	2,620,502.19	1,604,162.70	29.99	Brass Cap
SOUTH END	2,644,296.27	1,659,728.03	40.58	USACE SBC 1978
TERRA 11 ARP	2,644,969.84	1,660,159.24	80.48	Antennae Reference Point
TERRA 12 ARP	2,644,990.65	1,660,166.56	81.21	Antennae Reference Point
5920 THERMO 1 1988	2,642,784.70	1,660,183.87	37.32	Almon

VOLUME COMPUTATIONS	
DREDGE AREA A	CUBIC YARDS
VOLUME AVAILABLE ABOVE -38' MLLW	1
VOLUME AVAILABLE ABOVE -43' MLLW	92,886
DREDGE AREA B	CUBIC YARDS
VOLUME AVAILABLE ABOVE -38' MLLW	14
VOLUME AVAILABLE ABOVE -43' MLLW	243,235
DISPOSAL AREA	CUBIC YARDS
FILL VOLUME AVAILABLE BELOW -45' MLLW	2,051,247



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

STATE OF ALASKA 49TH
(Lewis J. Epps)
09/16/14
No. 3510
REGISTERED PROFESSIONAL LAND SURVEYOR

David R. Neff CH(275)

BATHYMETRY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB–14–D–0013
CONTRACTOR ETRAC INC.
CITY SAN RAFAEL STATE CA
Recommended: Approved: Date:
PRIME CONTRACTOR RESIDENT ENGINEER

Sym	Action	Description	Date	Approd

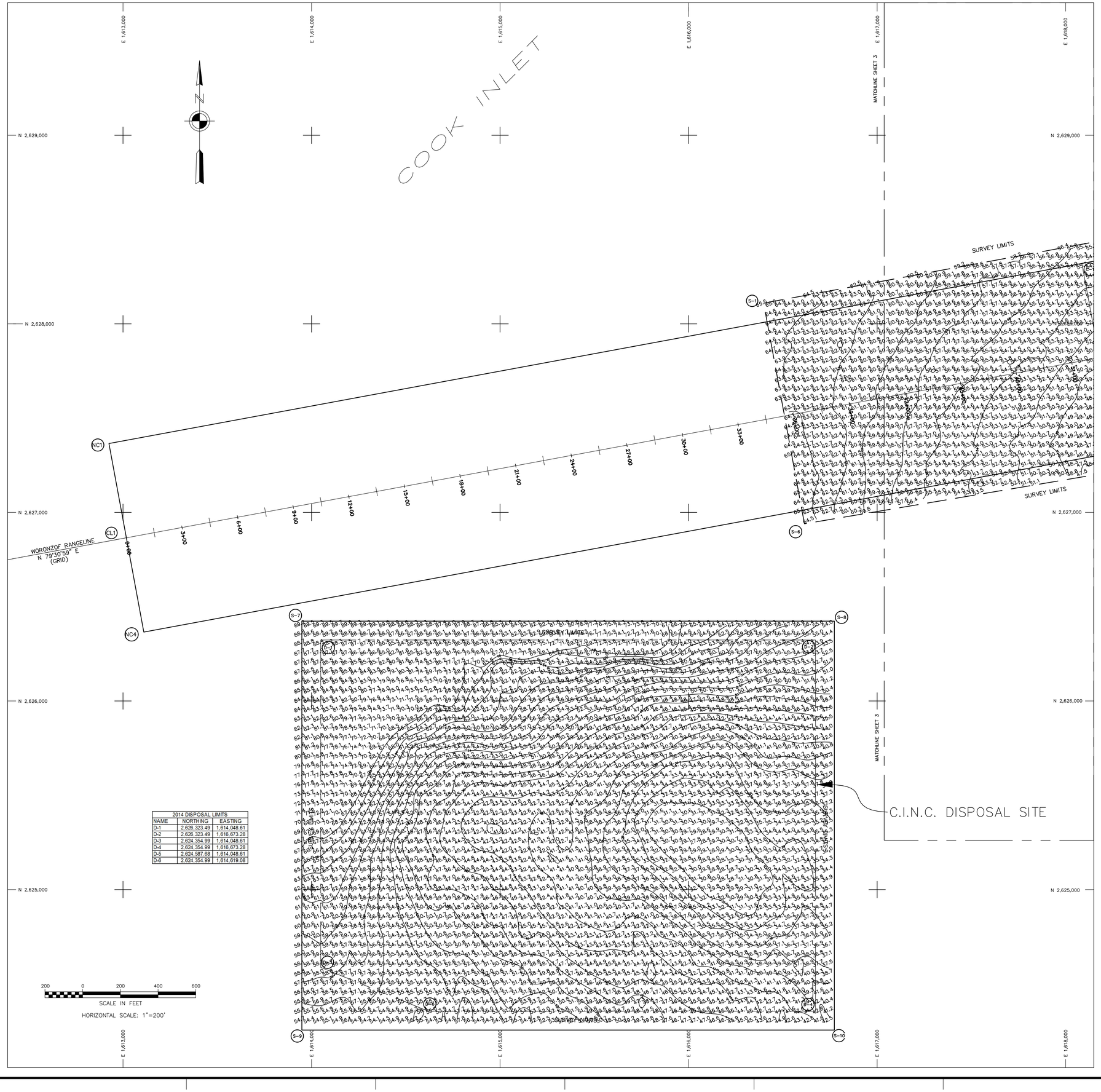
Date: 09/16/14
Dwg Scale: 1" = 1000'
Plot Scale: 1:1
File: POST_2014DRDG_TRAC.dwg

Designed: M. TENCZA
Drawn: M. TENCZA
Reviewed: J. ANDERSON
Chief Section
Submitted: A. CHURCHILL
Chief Branch
USACE Survey No: 3223–14

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

COOK INLET, ALASKA
COOK INLET NAVIGATION CHANNEL
POST–DREDGE SURVEY
AUGUST 05, 2014

Reference number:
V–101
Sheet 1 of 11



2014 DISPOSAL LIMITS		
NAME	NORTHING	EASTING
D-1	2,626,323.49	1,614,048.61
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D-3	2,624,354.99	1,614,048.61
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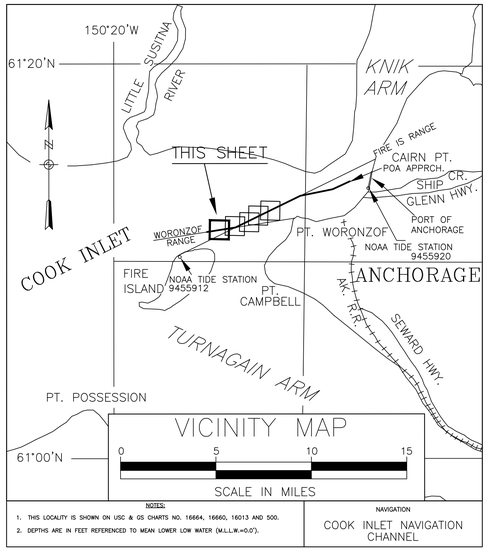

NOTES:

1. THIS LOCALITY IS SHOWN ON USC & GS CHARTS NO. 16664, 16660, 16013 AND 500.
2. DEPTHS ARE IN FEET REFERENCED TO MEAN LOWER LOW WATER (M.L.L.W.=0.0').

NAVIGATION

COOK INLET NAVIGATION CHANNEL

NOTES

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DREDGE LIMITS AREA A		
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VOLUME COMPUTATIONS	
DREDGE AREA A	CUBIC YARDS
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STATE OF ALASKA 49TH
(Lewis J. Epps)
09/16/14
No. 3510
REGISTERED PROFESSIONAL LAND SURVEYOR

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

David R. Neff CH(275)

BATHYMETRY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB–14–D–0013
CONTRACTOR ETRAC INC.
CITY SAN RAFAEL STATE CA
Recommended: Approved: Date:
PRIME CONTRACTOR RESIDENT ENGINEER

Symbol	Action	Description	Date	Approval

Date: 09/16/14
Dwg Scale: 1" = 200'
Plot Scale: 1:1
File: POST_2014_0805_FINAL.dwg

Designed: M. TENCZA
Drawn: M. TENCZA
Reviewed: J. ANDERSON
Chief Section
Submitted: A. CHURCHILL
Chief Branch

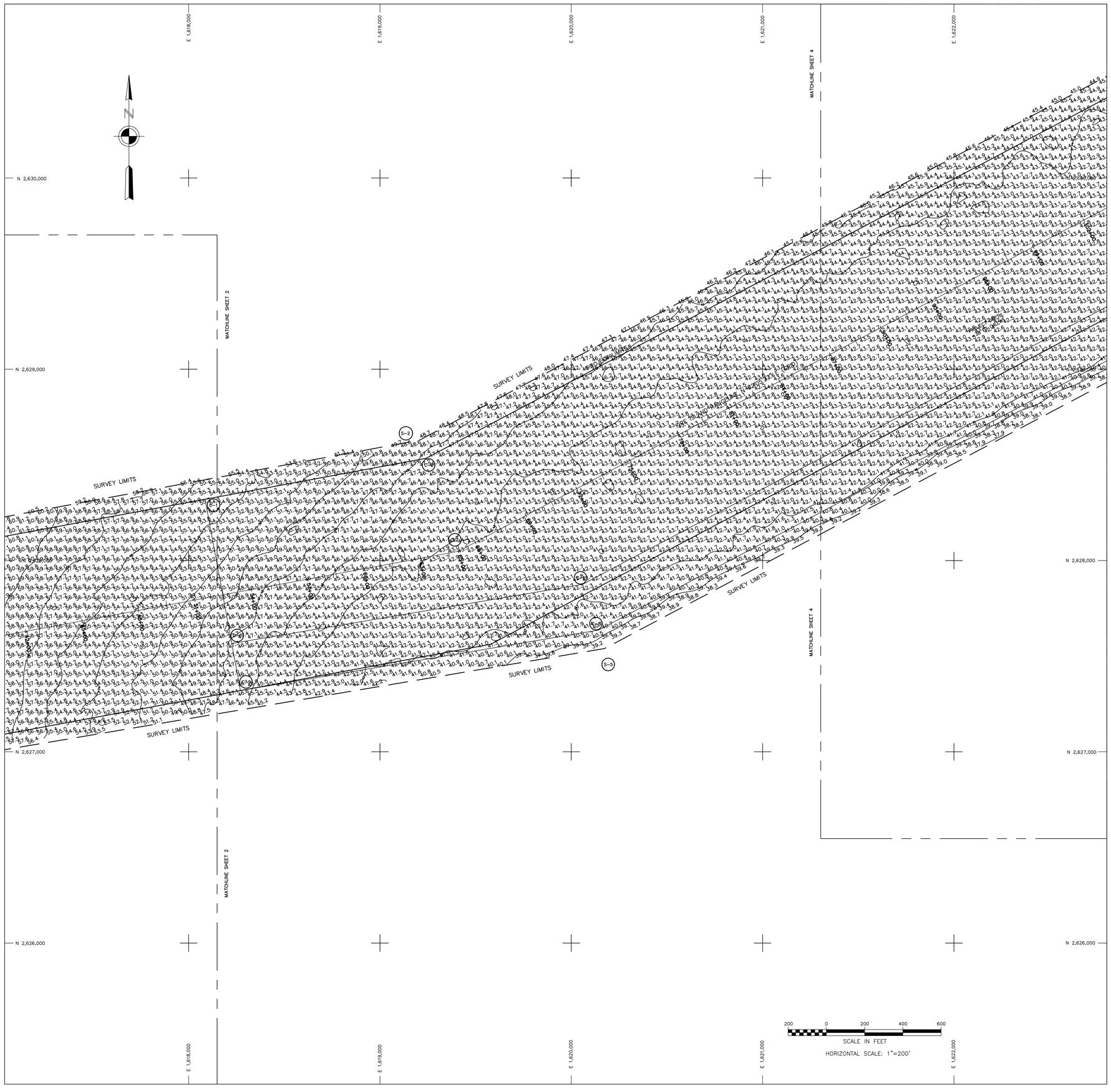
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

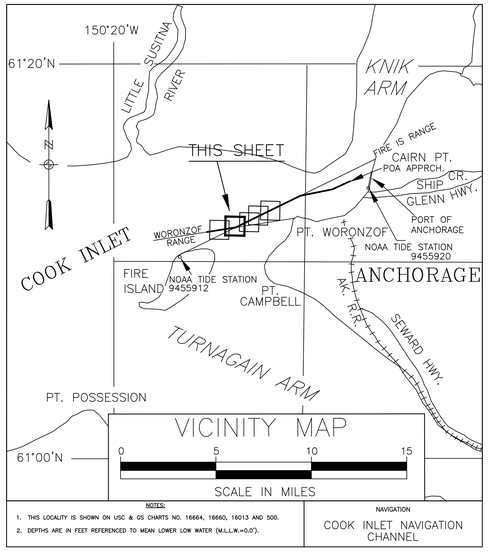
USACE Survey No: 3223–14

COOK INLET, ALASKA
COOK INLET NAVIGATION CHANNEL
POST–DREDGE SURVEY
AUGUST 05, 2014

Reference number:
V–102
Sheet 2 of 11

CORPS OF ENGINEERS





NOTES:
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NAVIGATION
COOK INLET NAVIGATION CHANNEL

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NAME	NORTHING	EASTING
C–4	2,632,508.88	1,628,804.13
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VOLUME AVAILABLE ABOVE -38' MLLW	1
VOLUME AVAILABLE ABOVE -43' MLLW	92,886
DREDGE AREA B	**CUBIC YARDS**
VOLUME AVAILABLE ABOVE -38' MLLW	14
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09/16/14
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CONTRACT NO. W911KB–14–D–0013
CONTRACTOR ETRAC INC.
CITY SAN RAFAEL STATE CA
Recommended: Approved: Date:
PRIME CONTRACTOR REVIEWING ENGINEER

Sym	Action	Description	Date	Approd

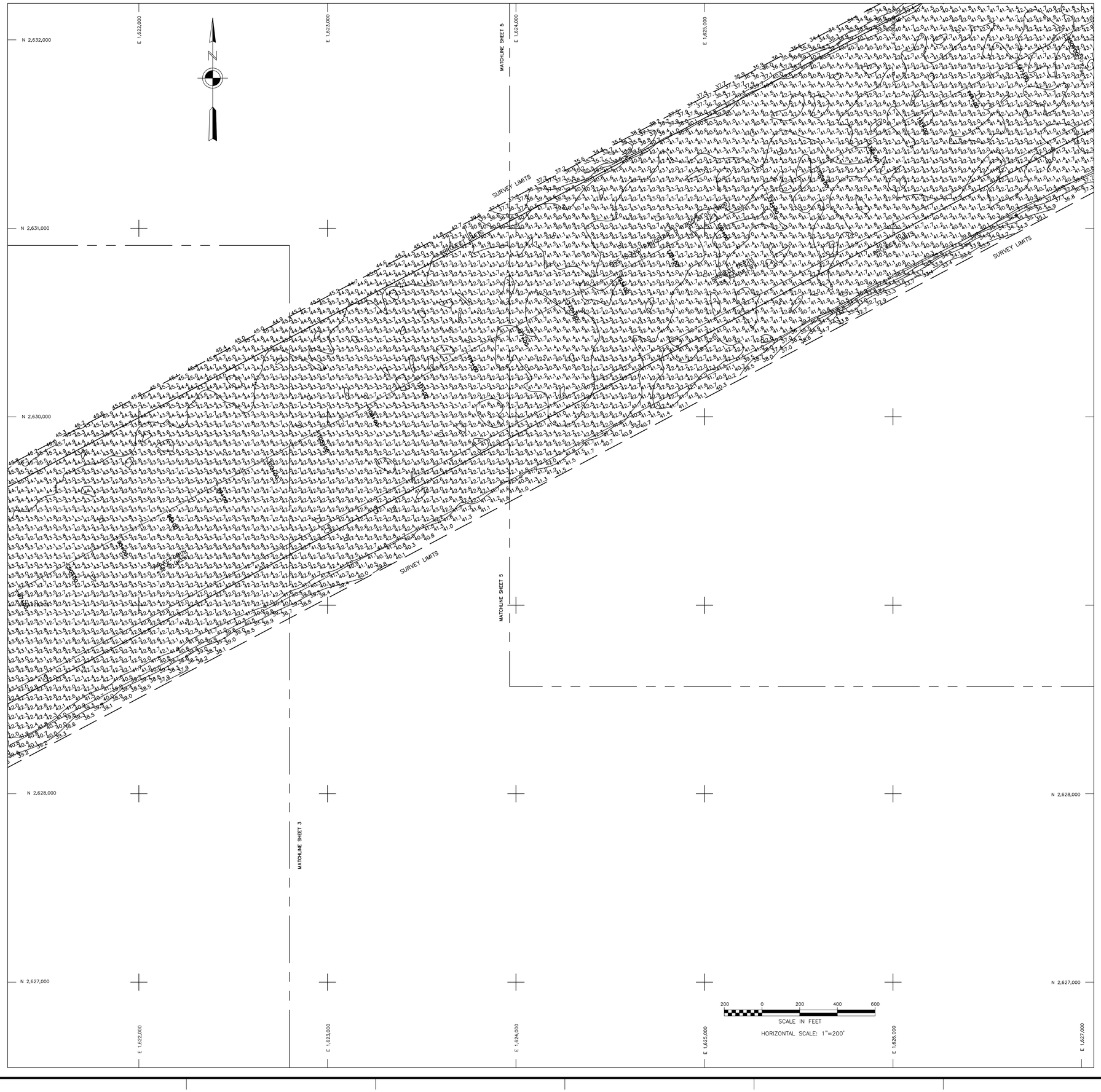
Date: 09/16/14
Dwg Scale: 1" = 200'
Plot Scale: 1:1
File: POST_DIT-H2805_TRAC.dwg
Designed: M. TENCZA
Drawn: M. TENCZA
Reviewed: J. ANDERSON
Chief Section
Submitted: A. CHURCHILL
Chief Branch
USACE Survey No: 3223–14

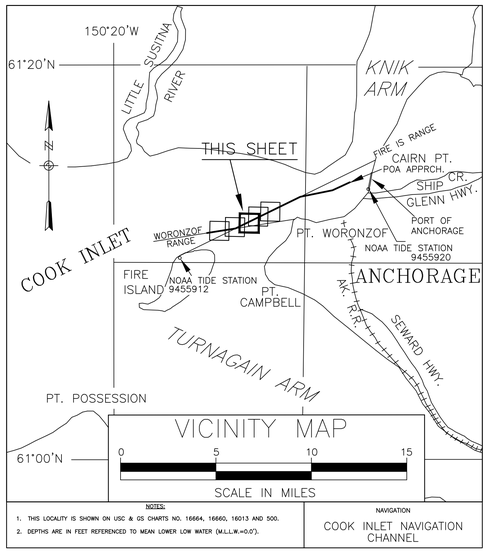
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

COOK INLET, ALASKA
COOK INLET NAVIGATION CHANNEL
POST–DREDGE SURVEY
AUGUST 05, 2014

Reference number:
V–103
Sheet 3 of 11

CORPS OF ENGINEERS





NOTES:

1. THIS LOCALITY IS SHOWN ON USC & GS CHARTS NO. 16664, 16660, 16013 AND 500.
2. DEPTHS ARE IN FEET REFERENCED TO MEAN LOWER LOW WATER (M.L.L.W.=0.0').

NOTES

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2. VERTICAL CONTROL: ELEVATIONS ARE MEAN LOWER LOW WATER (MLLW) TIDAL DATUM EPOCH 1983–2001, EXPRESSED IN US SURVEY FEET. PRELIMINARY ELEVATIONS WERE ACQUIRED IN REFERENCE TO A SINGLE BENCHMARK HOLDING USACE "TERRA 11" AS 80.48 FEET MLLW. FINAL DATA WERE ADJUSTED BASED ON THE C.I.N.C. CUSTOM MLLW PLANE DETERMINED FROM THE DOWL C.I.N.C. CONTROL SURVEY CONDUCTED IN FEBRUARY, 2013.
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4. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.
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6. VESSEL POSITIONING, HEADING, ATTITUDE, AND RTK TIDES WERE PROVIDED IN REAL TIME USING AN APPLANIX POSMV WAVEMASTER GPS/INERTIAL POSITIONING SYSTEM RECEIVING RTK CORRECTIONS FROM A TRIMBLE SPS855 RECIEVER SET AT CONTROL STATION "TERRA 11" LOCATED ATOP THE PORT OFFICE BUILDING. POST–PROCESS KINEMATIC CORRECTIONS USING POSPAC MMS 5.4 SOFTWARE WERE APPLIED TO DATA FOLLOWING ACQUISITION. VESSEL NAVIGATION, DATA ACQUISITION AND PROCESSING WERE PERFORMED USING QPS INTEGRATED SOFTWARE.

DREDGE LIMITS AREA A		
NAME	NORTHING	EASTING
C–4	2,632,508.88	1,628,804.13
C–5	2,627,875.62	1,620,059.72
C–6	2,627,566.21	1,618,225.28
C–7	2,632,288.21	1,628,921.02
C–8	2,627,635.82	1,620,141.11
C–9	2,627,320.35	1,618,270.78

DREDGE LIMITS AREA B		
NAME	NORTHING	EASTING
C–1	2,628,320.37	1,618,085.73
C–2	2,628,534.04	1,619,240.43
C–3	2,633,360.88	1,628,352.82
C–4	2,632,508.88	1,628,804.13
C–5	2,627,875.62	1,620,059.72
C–6	2,627,566.21	1,618,225.28

2014 SURVEY LIMITS		
NAME	NORTHING	EASTING
S–1	2,628,109.78	1,616,398.10
S–2	2,628,629.58	1,619,207.16
S–3	2,634,149.17	1,629,627.37
S–4	2,632,899.70	1,630,288.59
S–5	2,627,539.90	1,620,173.66
S–6	2,626,939.60	1,616,614.64
S–7	2,626,423.49	1,613,948.61
S–8	2,626,423.49	1,616,773.28
S–9	2,624,254.99	1,613,948.61
S–10	2,624,254.99	1,616,773.28

2014 DISPOSAL LIMITS		
NAME	NORTHING	EASTING
D–1	2,626,323.49	1,614,048.61
D–2	2,626,323.49	1,616,673.28
D–3	2,624,354.99	1,614,048.61
D–4	2,624,354.99	1,616,673.28
D–5	2,624,587.68	1,614,048.61
D–6	2,624,354.99	1,614,619.08

CONTROL DATA				
POINT ID	NORTHING	EASTING	ELEV. (MLLW)	DESCRIPTION
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BM 5934 F	2,655,203.73	1,655,049.51	36.48	Brass Cap
CRAIG	2,642,635.95	1,661,029.47	44.95	Brass Cap
ETRAC-1	2,646,395.57	1,660,814.72	38.34	Brass Cap
ETRAC-2	2,644,443.04	1,660,120.66	36.38	Brass Cap
MIKE	2,645,987.73	1,661,875.48	48.67	Brass Cap
NORTH END	2,646,649.84	1,660,584.80	41.56	USACE SBC 1978
PORT 1989	2,639,934.29	1,656,925.43	39.55	Almon
PORT MAC	2,655,563.46	1,654,968.22	41.51	Brass Cap
RIFE 1960	2,620,502.19	1,604,162.70	29.99	Brass Cap
SOUTH END	2,644,296.27	1,659,728.03	40.58	USACE SBC 1978
TERRA 11 ARP	2,644,969.84	1,660,159.24	80.48	Antennae Reference Point
TERRA 12 ARP	2,644,990.65	1,660,166.56	81.21	Antennae Reference Point
5920 THERMO 1 1988	2,642,784.70	1,660,183.87	37.32	Almon

VOLUME COMPUTATIONS	
DREDGE AREA A	CUBIC YARDS
VOLUME AVAILABLE ABOVE -38' MLLW	1
VOLUME AVAILABLE ABOVE -43' MLLW	92,886
DREDGE AREA B	CUBIC YARDS
VOLUME AVAILABLE ABOVE -38' MLLW	14
VOLUME AVAILABLE ABOVE -43' MLLW	243,235
DISPOSAL AREA	CUBIC YARDS
FILL VOLUME AVAILABLE BELOW -45' MLLW	2,051,247

STATE OF ALASKA 49TH
(Lewis J. Epps)
09/16/14
No. 3510
REGISTERED PROFESSIONAL LAND SURVEYOR

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

David R. Neff CH(275)

BATHYMETRY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB–14–D–0013
CONTRACTOR ETRAC INC.
CITY SAN RAFAEL STATE CA
Recommended: Approved: Date:
PRIME CONTRACTOR REVIEWING ENGINEER

Sym	Action	Description	Date	Approv

Date: 09/16/14
Dwg Scale: 1" = 200'
Plot Scale: 1:1
File: POST_2014DRDG_FINAL.dwg

Designed: M. TENCZA
Drawn: M. TENCZA
Reviewed: J. ANDERSON
Chief, Section
Submitted: A. CHURCHILL
Chief, Branch

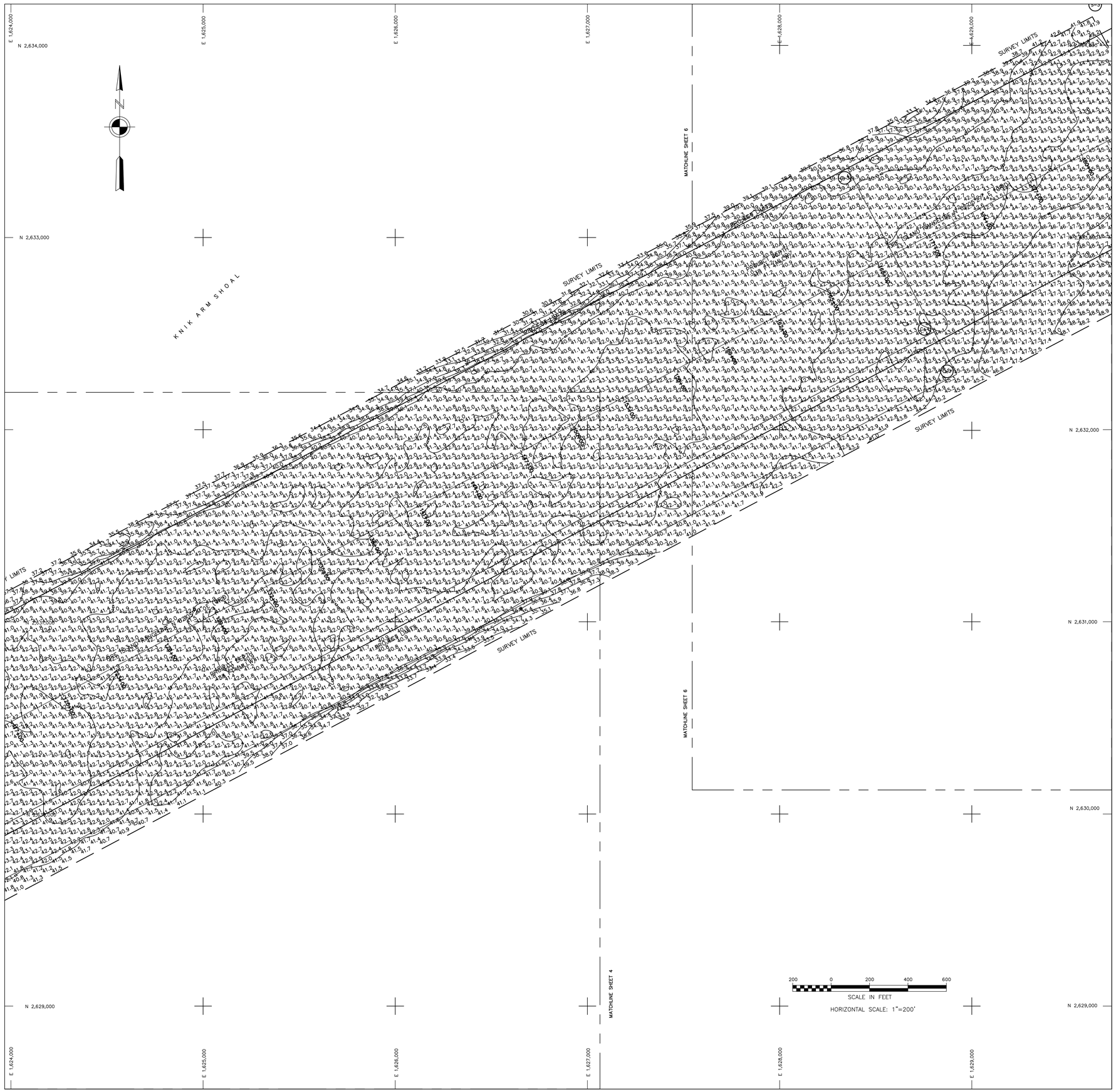
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

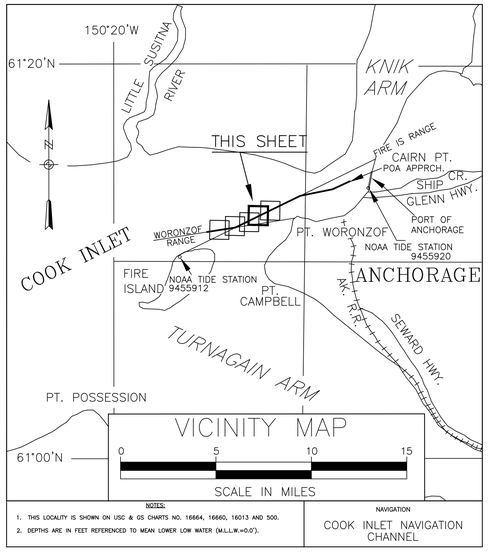
USACE Survey No: 3223–14

COOK INLET, ALASKA
COOK INLET NAVIGATION CHANNEL
POST–DREDGE SURVEY
AUGUST 05, 2014

Reference number:
V–104
Sheet 4 of 11

CORPS OF ENGINEERS





NOTES

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VOLUME COMPUTATIONS

DREDGE AREA A	CUBIC YARDS
VOLUME AVAILABLE ABOVE -38' MLLW	1
VOLUME AVAILABLE ABOVE -43' MLLW	92,886
DREDGE AREA B	**CUBIC YARDS**
VOLUME AVAILABLE ABOVE -38' MLLW	14
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DISPOSAL AREA	**CUBIC YARDS**
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STATE OF ALASKA 49TH
(Lewis J. Epps)
09/16/14
No. 3510
REGISTERED PROFESSIONAL LAND SURVEYOR

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

David R. Neff CH(275)

BATHYMETRY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB–14–D–0013
CONTRACTOR ETRAC INC.
CITY SAN RAFAEL STATE CA
Recommended: Approved: Date:
PRIME CONTRACTOR REVIEWER ENGINEER

Sym	Action	Description	Date	Approd

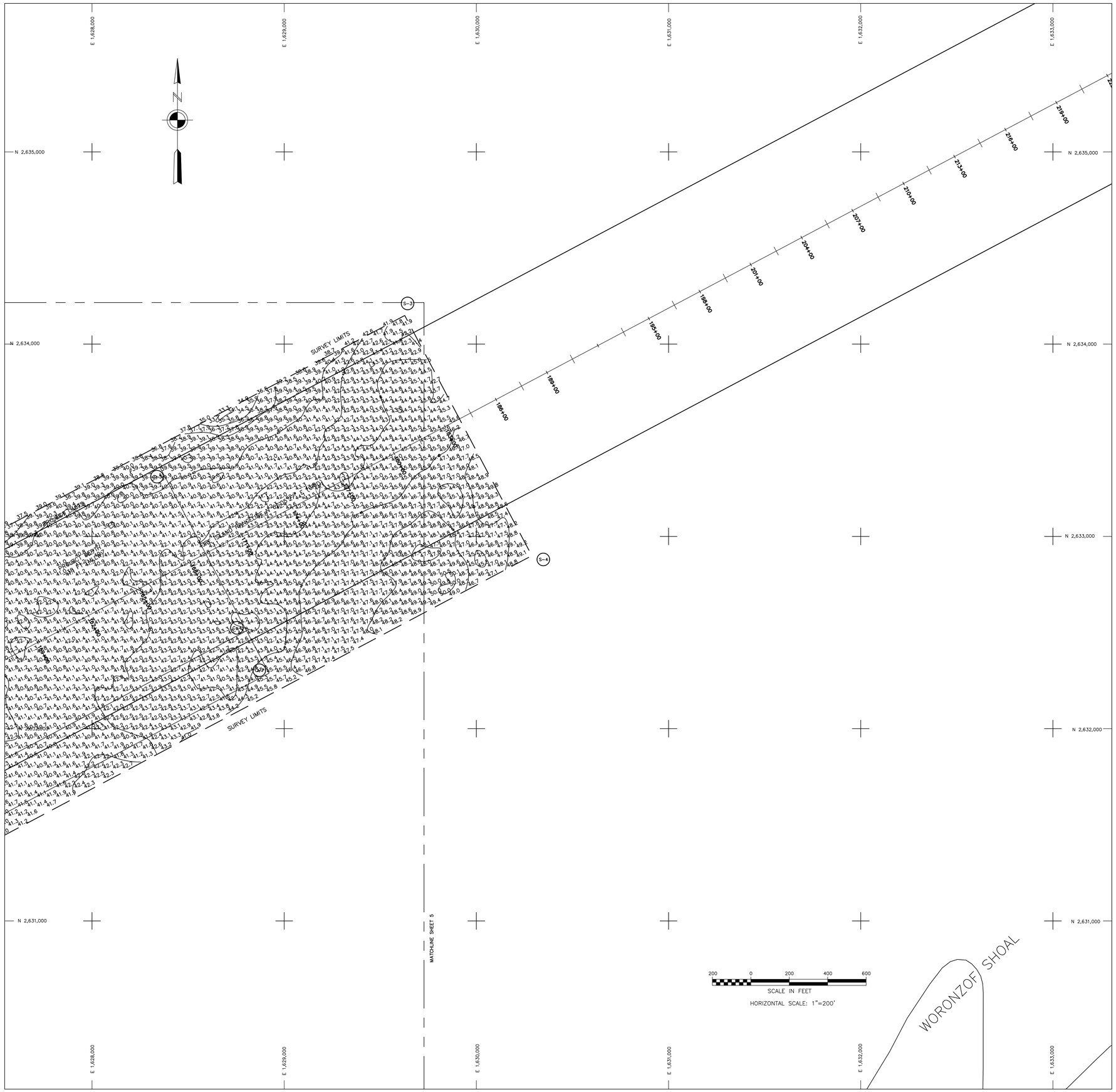
Date: 09/16/14
Dwg Scale: 1" = 200'
Plot Scale: 1:1
File: POST_DIT-H2805_FINAL.dwg
Section
Branch
Designed: M. TENCZA
Drawn: M. TENCZA
Reviewed: J. ANDERSON
Chief
Submitted: A. CHURCHILL
Chief
USACE Survey No: 3223–14

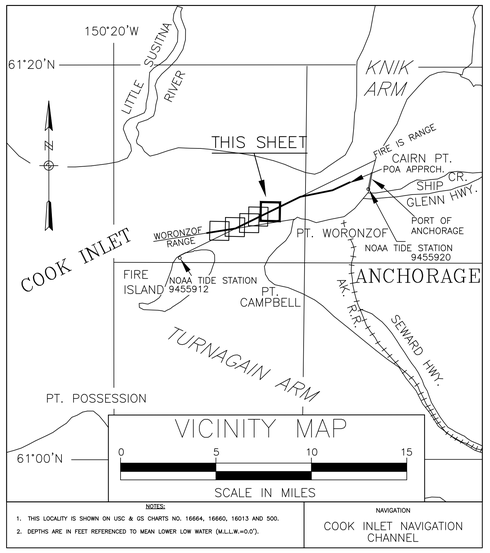
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

COOK INLET, ALASKA
COOK INLET NAVIGATION CHANNEL
POST–DREDGE SURVEY
AUGUST 05, 2014

Reference number:
V–105
Sheet 5 of 11

CORPS OF ENGINEERS





NOTES:
1. THIS LOCALITY IS SHOWN ON USC & GS CHARTS NO. 16664, 16660, 16013 AND 500.
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NAVIGATION
COOK INLET NAVIGATION CHANNEL

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CONTRACT NO. W911KB–14–D–0013
CONTRACTOR ETRAC INC.
CITY SAN RAFAEL STATE CA
Recommended: Approved: Date:
PRIME CONTRACTOR RESIDENT ENGINEER

Sym	Action	Description	Date	Appvd

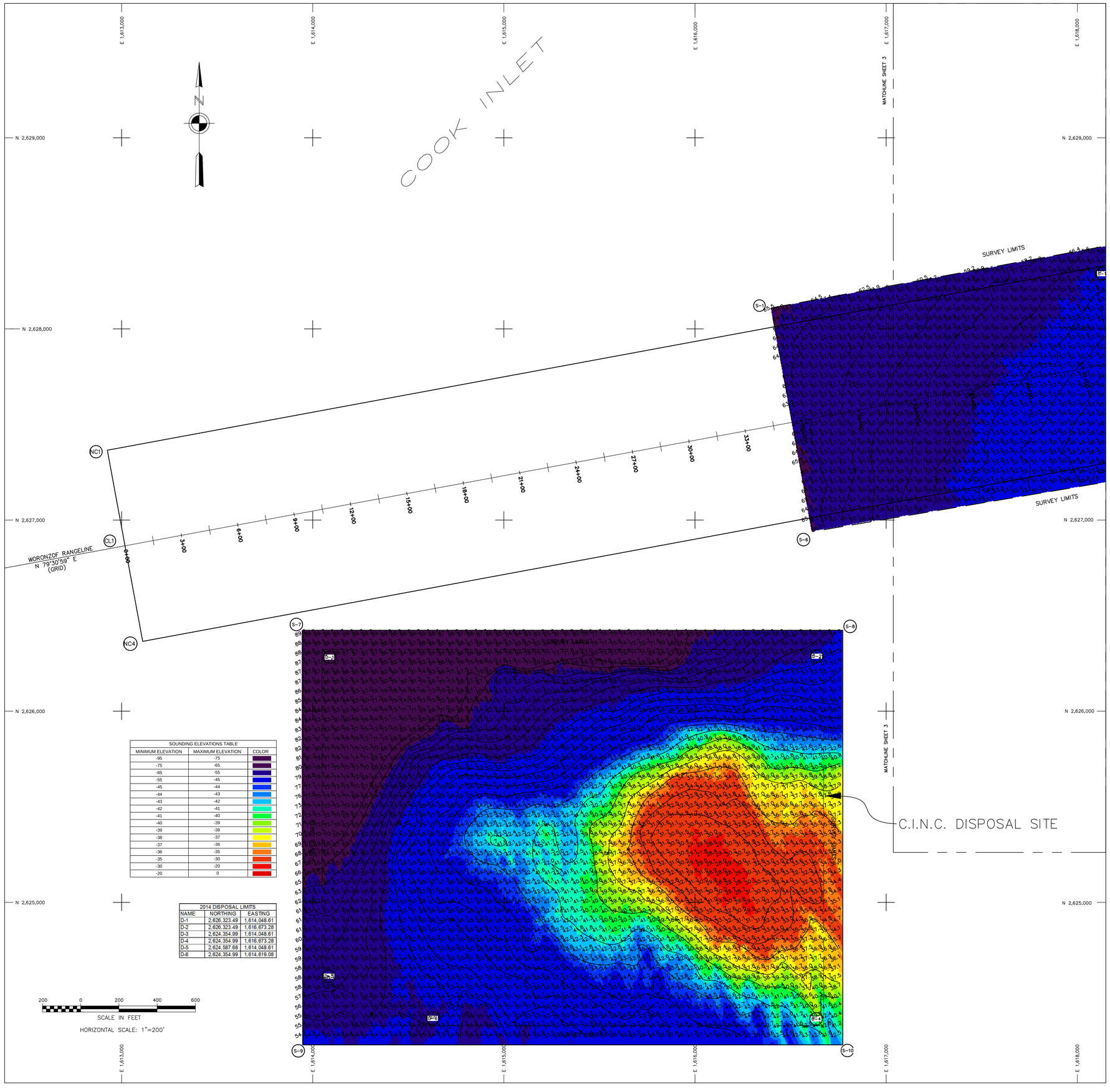
Date: 09/16/14
Dwg Scale: 1" = 200'
Plot Scale: 1:1
File: POST_DR14080S_TRAC.dwg
Section
Branch
USACE Survey No: 3223–14

Designed: M. TENCZA
Drawn: M. TENCZA
Reviewed: J. ANDERSON
Chief: —
Submitted: A. CHURCHILL
Chief: —

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

COOK INLET, ALASKA
COOK INLET NAVIGATION CHANNEL
POST–DREDGE SURVEY
AUGUST 05, 2014

Reference number:
V–106
Sheet 6 of 11



SOUNDING ELEVATIONS TABLE		
MINIMUM ELEVATION	MAXIMUM ELEVATION	COLOR
-95	-75	
-75	-65	
-65	-55	
-55	-45	
-45	-44	
-44	-43	
-43	-42	
-42	-41	
-41	-40	
-40	-39	
-39	-38	
-38	-37	
-37	-36	
-36	-35	
-35	-30	
-30	-20	
-20	0	

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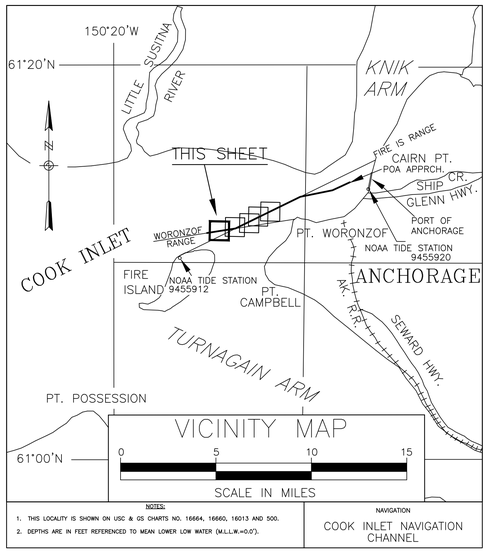
200 0 200 400 600

SCALE IN FEET

HORIZONTAL SCALE: 1"=200'



NOTES

1. HORIZONTAL CONTROL IS ALASKA STATE PLANE, ZONE 4, NAD83 IN U.S. SURVEY FEET HOLDING USACE "TERRA 11" AS N 2,644,969.84, E 1,660,159.24.
2. VERTICAL CONTROL: ELEVATIONS ARE MEAN LOWER LOW WATER (MLLW) TIDAL DATUM EPOCH 1983–2001, EXPRESSED IN US SURVEY FEET. PRELIMINARY ELEVATIONS WERE ACQUIRED IN REFERENCE TO A SINGLE BENCHMARK HOLDING USACE "TERRA 11" AS 80.48 FEET MLLW. FINAL DATA WERE ADJUSTED BASED ON THE C.I.N.C. CUSTOM MLLW PLANE DETERMINED FROM THE DOWL C.I.N.C. CONTROL SURVEY CONDUCTED IN FEBRUARY, 2013.
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DREDGE LIMITS AREA A		
NAME	NORTHING	EASTING
C–4	2,632,508.88	1,628,804.13
C–5	2,627,875.62	1,620,059.72
C–6	2,627,566.21	1,618,225.28
C–7	2,632,288.21	1,628,921.02
C–8	2,627,635.82	1,620,141.11
C–9	2,627,320.35	1,618,270.78

DREDGE LIMITS AREA B		
NAME	NORTHING	EASTING
C–1	2,628,320.37	1,618,085.73
C–2	2,628,534.04	1,619,240.43
C–3	2,633,360.88	1,628,352.82
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2014 SURVEY LIMITS		
NAME	NORTHING	EASTING
S–1	2,628,109.78	1,616,398.10
S–2	2,628,629.58	1,619,207.16
S–3	2,634,149.17	1,629,627.37
S–4	2,632,899.70	1,630,288.59
S–5	2,627,539.90	1,620,173.66
S–6	2,626,939.60	1,616,614.64
S–7	2,626,423.49	1,613,948.61
S–8	2,626,423.49	1,616,773.28
S–9	2,624,254.99	1,613,948.61
S–10	2,624,254.99	1,616,773.28

2014 DISPOSAL LIMITS		
NAME	NORTHING	EASTING
D–1	2,626,323.49	1,614,048.61
D–2	2,626,323.49	1,616,673.28
D–3	2,624,354.99	1,614,048.61
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CONTROL DATA				
POINT ID	NORTHING	EASTING	ELEV. (MLLW)	DESCRIPTION
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BM 5934 F	2,655,203.73	1,655,049.51	36.48	Brass Cap
CRAIG	2,642,635.95	1,661,029.47	44.95	Brass Cap
ETRAC-1	2,646,395.57	1,660,814.72	38.34	Brass Cap
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NORTH END	2,646,649.84	1,660,584.80	41.56	USACE SBC 1978
PORT 1989	2,639,934.29	1,656,925.43	39.55	Almon
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RIFE 1960	2,620,502.19	1,604,162.70	29.99	Brass Cap
SOUTH END	2,644,296.27	1,659,728.03	40.58	USACE SBC 1978
TERRA 11 ARP	2,644,969.84	1,660,159.24	80.48	Antennae Reference Point
TERRA 12 ARP	2,644,990.65	1,660,166.56	81.21	Antennae Reference Point
5920 THERMO 1 1988	2,642,784.70	1,660,183.87	37.32	Almon

VOLUME COMPUTATIONS	
DREDGE AREA A	CUBIC YARDS
VOLUME AVAILABLE ABOVE -38' MLLW	1
VOLUME AVAILABLE ABOVE -43' MLLW	92,886
DREDGE AREA B	CUBIC YARDS
VOLUME AVAILABLE ABOVE -38' MLLW	14
VOLUME AVAILABLE ABOVE -43' MLLW	243,235
DISPOSAL AREA	CUBIC YARDS
FILL VOLUME AVAILABLE BELOW -45' MLLW	2,051,247

STATE OF ALASKA 49TH
(Lewis J. Epps)
09/16/14
No. 3510
REGISTERED PROFESSIONAL LAND SURVEYOR

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

David R. Neff CH(275)

BATHYMETRY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB–14–D–0013
CONTRACTOR ETRAC INC.
CITY SAN RAFAEL STATE CA
Recommended: Approved: Date:
PRIME CONTRACTOR RESIDENT ENGINEER

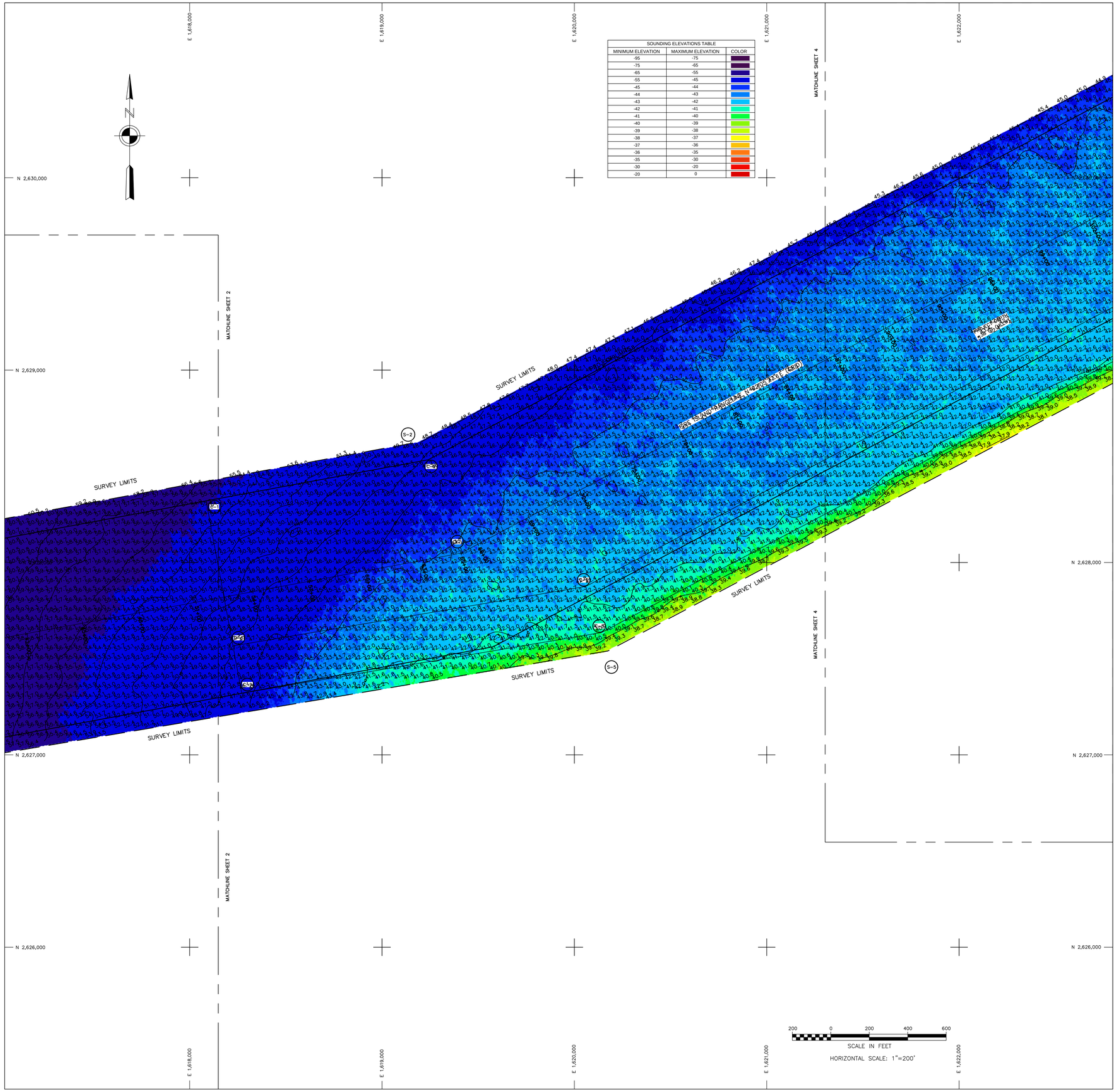
Sym	Action	Description	Date	Approd

Date: 09/16/14
Dwg Scale: 1" = 200'
Plot Scale: 1:1
File: POST_2014DBDS_FINAL.dwg
Section
Branch
Designed: M. TENCZA
Drawn: M. TENCZA
Reviewed: J. ANDERSON
Chief
Submitted: A. CHURCHILL
Chief
USACE Survey No: 3223–14

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

COOK INLET, ALASKA
COOK INLET NAVIGATION CHANNEL
POST–DREDGE SURVEY
AUGUST 05, 2014

Reference number:
V–107
Sheet 7 of 11



SOUNDING ELEVATIONS TABLE		
MINIMUM ELEVATION	MAXIMUM ELEVATION	COLOR
-95	-75	
-75	-65	
-65	-55	
-55	-45	
-45	-44	
-44	-43	
-43	-42	
-42	-41	
-41	-40	
-40	-39	
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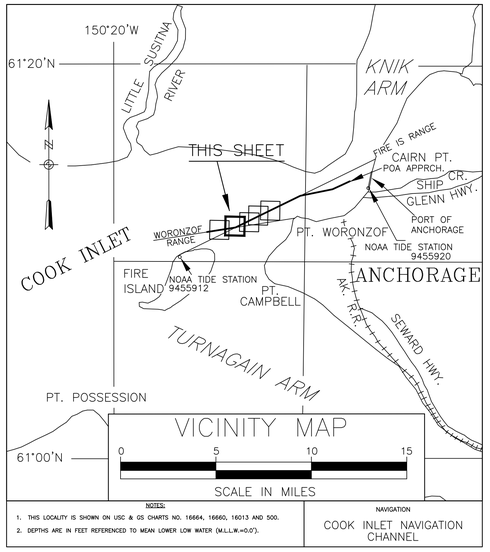

NOTES:

1. THIS LOCALITY IS SHOWN ON USC & GS CHARTS NO. 16664, 16660, 16013 AND 500.
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David R. Neff CH(275)

BATHYMETRY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB–14–D–0013
CONTRACTOR ETRAC INC.
CITY SAN RAFAEL STATE CA
Recommended: Approved: Date:
PRIME CONTRACTOR RESIDENT ENGINEER

Sym	Action	Description	Date	Approval

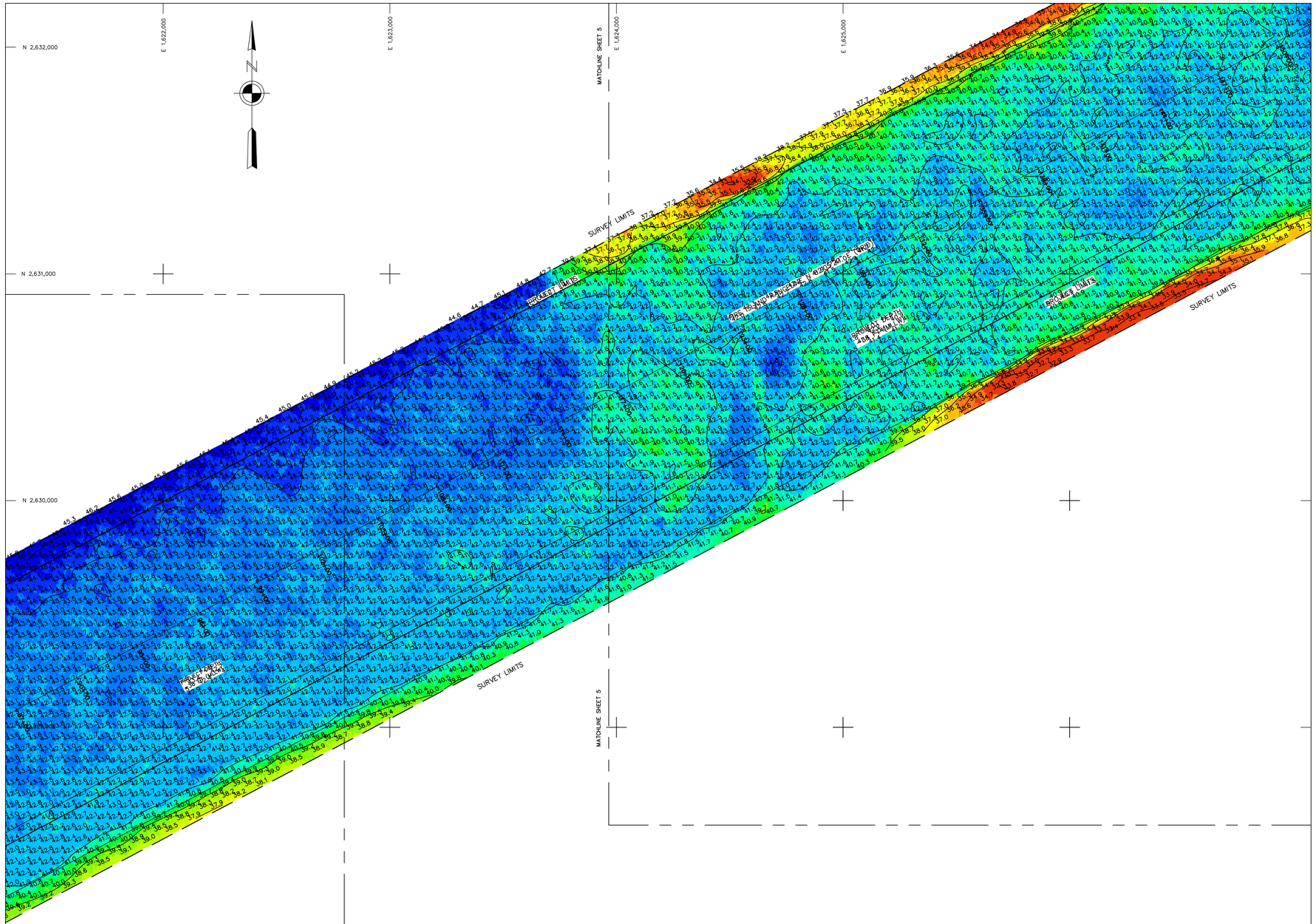
Date: 09/16/14
Dwg Scale: 1" = 200'
Plot Scale: 1:1
File: POST_2014DRDG_TRACK.dwg
Designed: M. TENCZA
Drawn: M. TENCZA
Reviewed: J. ANDERSON
Chief
Section
Submitted: A. CHURCHILL
Chief
Branch
USACE Survey No: 3223–14

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

COOK INLET, ALASKA
COOK INLET NAVIGATION CHANNEL
POST–DREDGE SURVEY
AUGUST 05, 2014

Reference number:
V–108
Sheet 8 of 11

CORPS OF ENGINEERS



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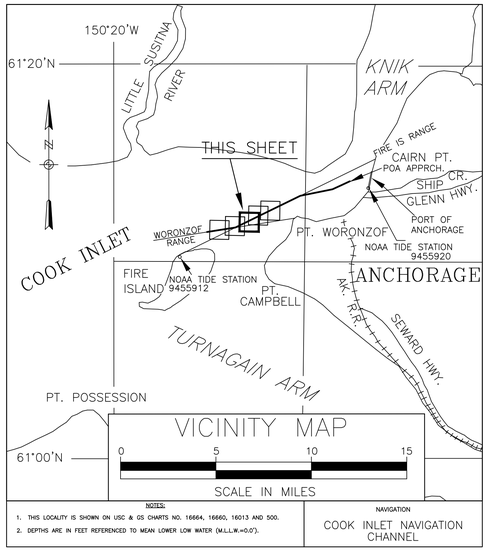
-37	-36	
-36	-35	
-35	-30	
-30	-20	
-20	0	

200 0 200 400 600

SCALE IN FEET

HORIZONTAL SCALE: 1"=200'



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NAVIGATION

COOK INLET NAVIGATION CHANNEL

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Drawn: M. TENCZA
Reviewed: J. ANDERSON
Chief Section
Submitted: A. CHURCHILL
Chief Branch
USACE Survey No: 3223–14

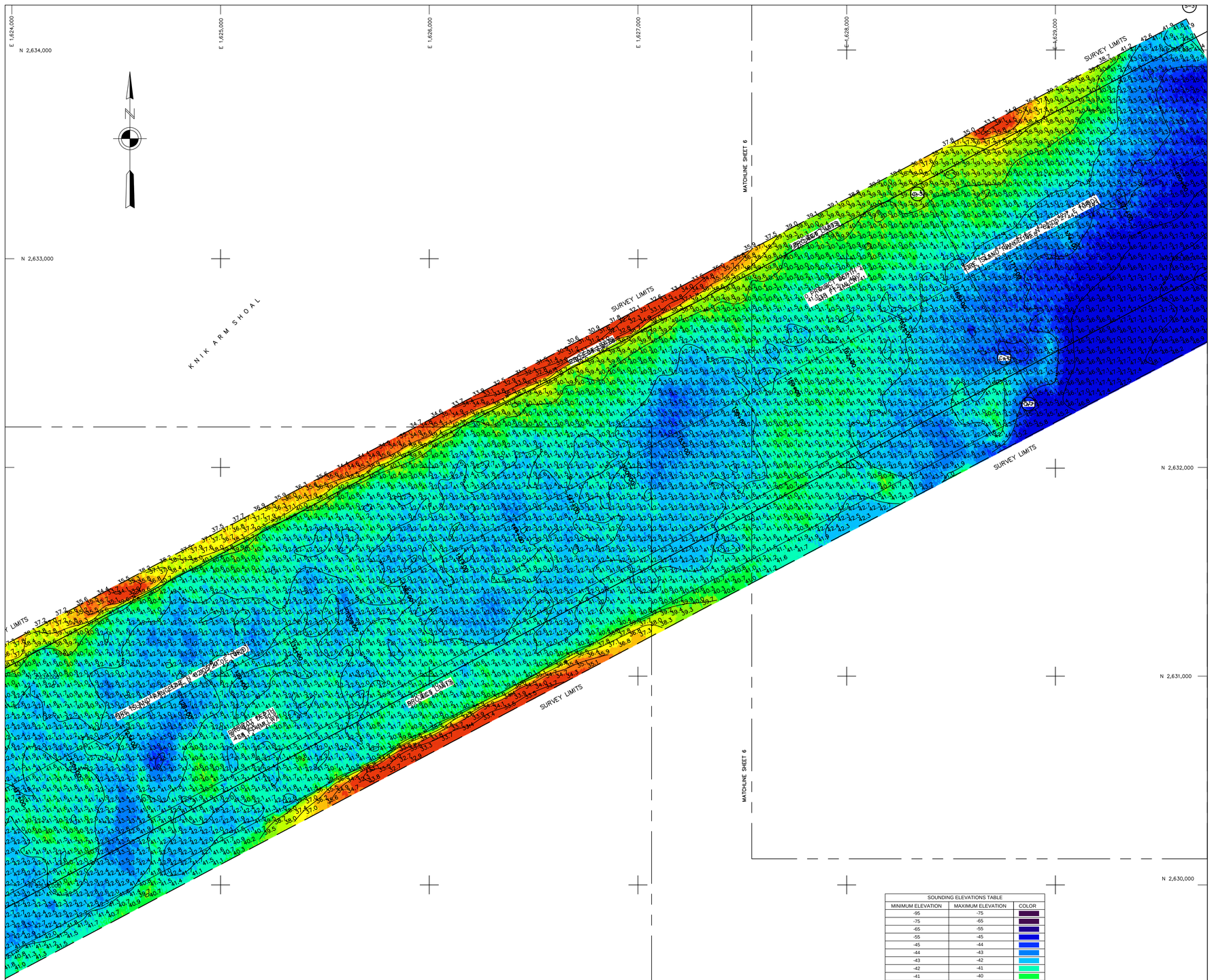
Date: 09/16/14
Dwg Scale: 1" = 200'
Plot Scale: 1:1
File: POST_DREDGE_SURVEY_TRACK.dwg

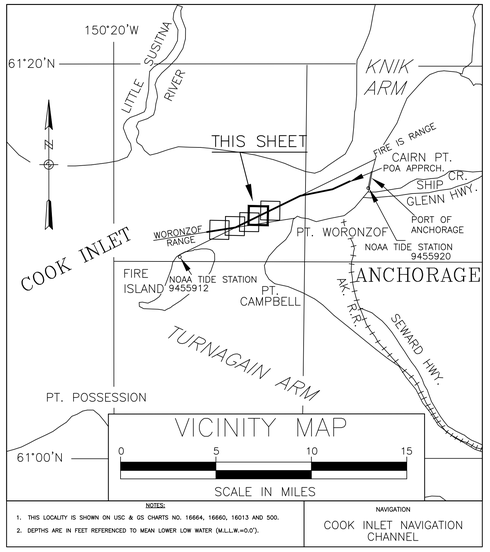
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

COOK INLET, ALASKA
COOK INLET NAVIGATION CHANNEL
POST–DREDGE SURVEY
AUGUST 05, 2014

Reference number:
V–109
Sheet 9 of 11

CORPS OF ENGINEERS





NOTES:
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2. DEPTHS ARE IN FEET REFERENCED TO MEAN LOWER LOW WATER (M.L.L.W.=0.0').

NOTES

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DREDGE LIMITS AREA A

NAME	NORTHING	EASTING
C–4	2,632,508.88	1,628,804.13
C–5	2,627,875.62	1,620,059.72
C–6	2,627,566.21	1,618,225.28
C–7	2,632,288.21	1,628,921.02
C–8	2,627,635.82	1,620,141.11
C–9	2,627,320.35	1,618,270.78

DREDGE LIMITS AREA B

NAME	NORTHING	EASTING
C–1	2,628,320.37	1,618,085.73
C–2	2,628,534.04	1,619,240.43
C–3	2,633,360.88	1,628,352.82
C–4	2,632,508.88	1,628,804.13
C–5	2,627,875.62	1,620,059.72
C–6	2,627,566.21	1,618,225.28

2014 SURVEY LIMITS

NAME	NORTHING	EASTING
S–1	2,628,109.78	1,616,398.10
S–2	2,628,629.58	1,619,207.16
S–3	2,634,149.17	1,629,627.37
S–4	2,632,899.70	1,630,288.59
S–5	2,627,539.90	1,620,173.66
S–6	2,626,939.60	1,616,614.64
S–7	2,626,423.49	1,613,948.61
S–8	2,626,423.49	1,616,773.28
S–9	2,624,254.99	1,613,948.61
S–10	2,624,254.99	1,616,773.28

2014 DISPOSAL LIMITS

NAME	NORTHING	EASTING
D–1	2,626,323.49	1,614,048.61
D–2	2,626,323.49	1,616,673.28
D–3	2,624,354.99	1,614,048.61
D–4	2,624,354.99	1,616,673.28
D–5	2,624,587.68	1,614,048.61
D–6	2,624,354.99	1,614,619.08

SOUNDING ELEVATIONS TABLE

MINIMUM ELEVATION	MAXIMUM ELEVATION	COLOR
-95	-75	
-75	-65	
-65	-55	
-55	-45	
-45	-44	
-44	-43	
-43	-42	
-42	-41	
-41	-40	
-40	-39	
-39	-38	
-38	-37	
-37	-36	
-36	-35	
-35	-30	
-30	-20	
-20	0	

200 0 200 400 600
SCALE IN FEET
HORIZONTAL SCALE: 1"=200'

CONTROL DATA

POINT ID	NORTHING	EASTING	ELEV. (MLLW)	DESCRIPTION
BM 12 1984	2,620,563.82	1,604,566.35	27.63	Brass Cap
BM 5934 F	2,655,203.73	1,655,049.51	36.48	Brass Cap
CRAIG	2,642,635.95	1,661,029.47	44.95	Brass Cap
ETRAC-1	2,646,395.57	1,660,814.72	38.34	Brass Cap
ETRAC-2	2,644,443.04	1,660,120.66	36.38	Brass Cap
MIKE	2,645,987.73	1,661,875.48	48.67	Brass Cap
NORTH END	2,646,649.84	1,660,584.80	41.56	USACE SBC 1978
PORT 1989	2,639,934.29	1,656,925.43	39.55	Almon
PORT MAC	2,655,563.46	1,654,968.22	41.51	Brass Cap
RIFE 1960	2,620,502.19	1,604,162.70	29.99	Brass Cap
SOUTH END	2,644,296.27	1,659,728.03	40.58	USACE SBC 1978
TERRA 11 ARP	2,644,969.84	1,660,159.24	80.48	Antennae Reference Point
TERRA 12 ARP	2,644,990.65	1,660,166.56	81.21	Antennae Reference Point
5920 THERMO 1 1988	2,642,784.70	1,660,183.87	37.32	Almon

VOLUME COMPUTATIONS

DREDGE AREA A	CUBIC YARDS
VOLUME AVAILABLE ABOVE -38' MLLW	1
VOLUME AVAILABLE ABOVE -43' MLLW	92,886
DREDGE AREA B	**CUBIC YARDS**
VOLUME AVAILABLE ABOVE -38' MLLW	14
VOLUME AVAILABLE ABOVE -43' MLLW	243,235
DISPOSAL AREA	**CUBIC YARDS**
FILL VOLUME AVAILABLE BELOW -45' MLLW	2,051,247

STATE OF ALASKA 49TH
(Lewis J. Epps)
09/16/14
No. 3510
REGISTERED PROFESSIONAL LAND SURVEYOR

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

David R. Neff CH(275)

BATHYMETRY

US ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

CONTRACT NO. W911KB–14–D–0013
CONTRACTOR ETRAC INC.
CITY SAN RAFAEL STATE CA
Recommended: Approved: Date:
PRIME CONTRACTOR RESIDENT ENGINEER

Symbol	Action	Description	Date	Approval

Date: 09/16/14
Dwg Scale: 1" = 200'
Plot Scale: 1:1
File: POST_2014DRS_TRAC.dwg

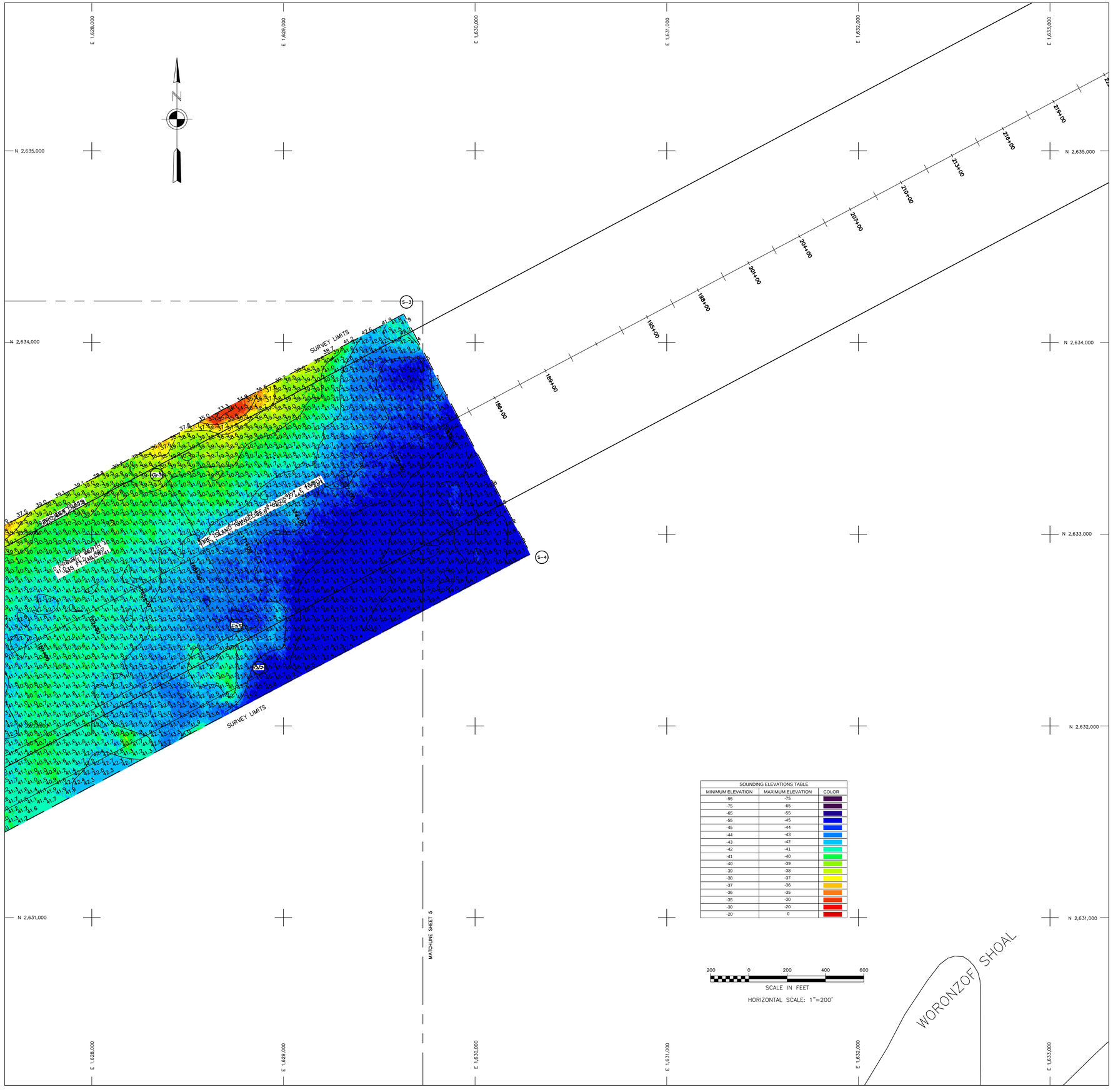
Designed: M. TENCZA
Drawn: M. TENCZA
Reviewed: J. ANDERSON
Chief
Submitted: A. CHURCHILL
Chief
Section
Branch
USACE Survey No: 3223–14

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

COOK INLET, ALASKA
COOK INLET NAVIGATION CHANNEL
POST–DREDGE SURVEY
AUGUST 05, 2014

Reference number:
V–110
Sheet 10 of 11

CORPS OF ENGINEERS



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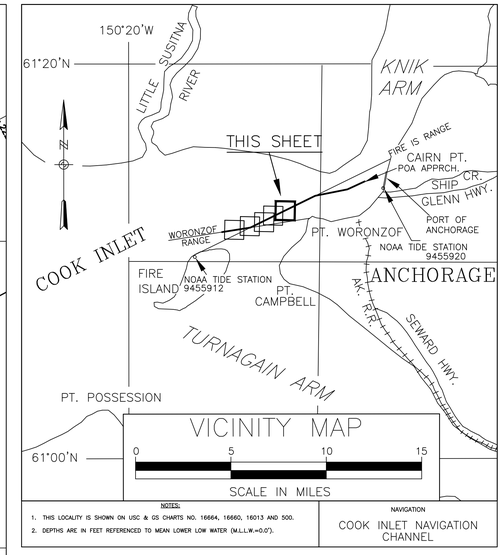
-38	-37	
-37	-36	
-36	-35	
-35	-30	
-30	-20	
-20	0	

200 0 200 400 600

SCALE IN FEET

HORIZONTAL SCALE: 1"=200'



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NAVIGATION

COOK INLET NAVIGATION CHANNEL

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Sym	Action	Description	Date	Approd

Designed: M. TENCZA
Drawn: M. TENCZA
Reviewed: J. ANDERSON
Chief Section
Submitted: A. CHURCHILL
Chief Branch
Date: 09/16/14
Dwg Scale: 1" = 200'
Plot Scale: 1:1
File: POST_2014UB05_TRAC.dwg
USACE Survey No: 3223–14

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

COOK INLET, ALASKA
COOK INLET NAVIGATION CHANNEL
POST–DREDGE SURVEY
AUGUST 05, 2014

Reference number:
V–111
Sheet 11 of 11