10017

Diagram No. 8553-2

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

Type of Survey ... Navigable Area Hydrographic

Field No. ... RA-20-2-82

Office No. ... H-10017

LOCALITY

State ... Alaska

General Locality ... Northern Cook Inlet

Locality ... West of Fire Island

1982

CHIEF OF PARTY
CAPT R.J. Land

LIBRARY & ARCHIVES

DATE ... December 30, 1983

☆U.S. GOV. PRINTING OFFICE: 1980—766-230

Area 6
CHT
16660 (CHRTG.
16663 } SIGN OFF
16665 } ON FM-9352
IN BACK OF DR

10017

NOAA FORM 77-28 (11-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

REGISTER NO.

HYDROGRAPHIC TITLE SHEET

H-10017

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

RA-20-2-82

State Alaska

General locality Cook Inlet

Locality West of Fire Island

Scale 1:20,000 Date of survey May 26 - June 30, 1982

Instructions dated January 27, 1982 Project No. OPR-P358-RA-82

Vessel NOAA Ship RAINIER and Launches 2123, 2124, 2125

Chief of party CAPT Ralph J. Land

Surveyed by LT J. O'Clock, LT S. Ludwig, ENS R. Koehler, ENS B. Postle, SST R. Hastings

Soundings taken by echo sounder, hand lead, pole Ross Fineline 5000

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Verified ~~Protracted~~ by J. Lotshaw Automated plot by PMC Xynetics Plotter

Evaluated ~~Verification~~ by D. Hill

Soundings in ~~feet~~ feet at ~~MLW~~ MLLW

REMARKS: Revisions and marginal notes in black are by the evaluator.

AWOIS - 1/13/84 mjf

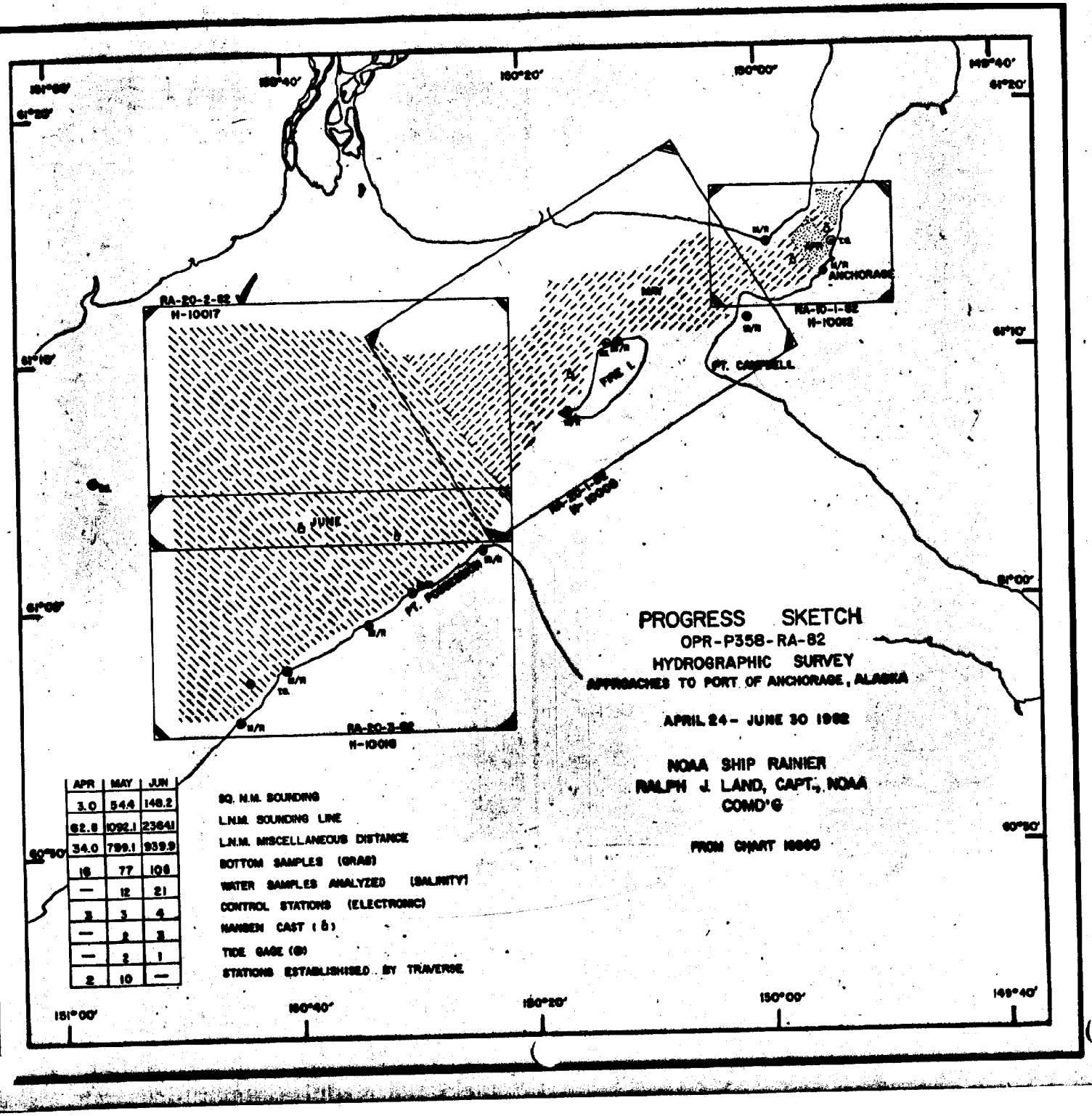
STANDARDS CK'D

1-9-84 C. Loy

XWW 5/9/91

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1976—665-661/1222 REGION NO. 6



APR	MAY	JUN
3.0	544	148.2
62.8	1092.1	2364.1
34.0	799.1	939.9
16	77	108
—	12	21
3	3	4
—	2	3
—	2	1
2	10	—

A. PROJECT

This Navigable Area Survey was accomplished in accordance with Project Instructions OPR-P358-RA-82, Approaches to Port of Anchorage, Alaska dated ~~February 4,~~ January 27 1982; and Change No.1, dated March 26, 1982.

B. AREA SURVEYED

The survey was conducted in Northern Cook Inlet, West of Fire Island and south of the Susitna River delta. The northern survey limit was defined by the ~~10 fm~~ 60 ft curve, the western limit by longitude 150° 50' 00" W, the southern limit by latitude 61° 04' 40" N and the Eastern limit by a line joining 61° 10' 40" N, 150° 31' 00" W and 61° 04'10" N, 150° 23' 15" W. The survey was accomplished during the period from 26 May to 30 June, 1982.

C. SOUNDING VESSELS

Three hydrographic survey launches were used in conducting the survey. They were RA-3 (2123), RA-4 (2124), and RA-5 (2125). No unusual sounding vessel configuration or problems were encountered.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

INTRODUCTION

Echo sounding corrections contained in this section apply to survey H-10017. The following corrections are discussed: Sound velocity, draft, settlement and squat, instrument corrections for blanking, and phase and initial drift errors.

SOUND EQUIPMENT

Echo soundings obtained during OPR-P358-RA-82 were taken by RAINIER launches RA-3 (2123), RA-4 (2124) and RA-5 (2125). The launches used Ross Fineline Fathometer systems which include Ross model 400 transceivers, Ross model 5000 analog trace recorders, Ross model 6000 digitizers, and 100 khz transducers. Table I summarizes component serial numbers for each launch.

TABLE I

ECHO SOUNDING COMPONENT SERIAL NUMBERS

LAUNCH	2123	2124	2125
Transceiver	1041	1080	1040
Analog Recorder	1071	1070 & 1046	1042
Digitizer	1041	1080	1040

The analog recorder (S/N 1070) from launch RA-4 replaced the analog recorder in launch RA-6 when RA-6's analog recorder became defective. RA-6 did not collect any hydrographic data. RA-4 developed transmission problems which kept the launch from being used and during the time to repair RA-4's transmission, a new analog recorder was installed (S/N 1046). This accounts for the duplicate entries for analog recorder serial numbers in Table I.

SOUND VELOCITY CORRECTIONS

Sound velocity corrections for echo soundings were derived from five Nansen casts performed during this project. Table II summarizes the Nansen cast datum.

TABLE II

NANSEN CAST DATA

DATE	LOCATION	VELOCITY TABLE NO.
May 4, 1982	61° 13.5' N 149° 57.5' W	1
May 17, 1982	61° 14.7' N 149° 54.5' W	2
June 2, 1982	61° 09.1' N 150° 16.7' W	--
June 14, 1982	61° 02.5' N 150° 31.6' W	3
June 25, 1982	61° 03.0' N 150° 39.5' W	4

A 15 meter shallow cast was performed on June 2, 1982. This cast data was not used for any velocity correctors. Water samples collected from the Nansen casts were analyzed for salinity using standard laboratory procedures (See H.O. 607, Instruction Manual for Obtaining Oceanographic Data, Third Edition, U.S. Naval Oceanographic Office, 1968). The salinometer used for salinity analysis was Beckman model No. RS-7B (S/N 59265). The unit was last calibrated April, 1982 by the Northwest Regional Calibration Center, Bellevue, Washington (See separates following text for calibration results). The results of the Nansen casts were input into computer program RK530: Velocity Correction Computations (May 10, 1976 version) and run on the RAINIER's PDP 8/e digital computer system to yield velocity correction tables. The standard velocity correctors for the survey sheets were then obtained by plotting the actual depth minus velocity correction versus velocity correction and picking off depths that corresponds to standard correction intervals (See Hydrographic Manual, 4th Edition). A list of the computed correctors are provided in the separates following the text.

The correctors varied markedly over time. The initial casts velocity correctors were negative while the latter casts correctors were positive. Because of these differences, blocks of time in which hydrographic data was collected used different casts for velocity correctors when plotting the final field smooth sheets. Table III summarizes which cast correctors were applied to which blocks of time.

TABLE III

VELOCITY CORRECTORS FOR PERIODS OF HYDROGRAPHY

CAST DATE	DAYS CAST CORRECTORS USED
May 4, 1982	JD 118 - JD 133
May 17, 1982	JD 134 - JD 151
June 14, 1982	JD 152 - JD 170
June 25, 1982	JD 171 - JD 181

LAUNCH DRAFT CORRECTIONS

Corrections for launch draft were determined from standard bar checks (See Hydrographic Manual, Fourth Edition, 1976). Bar checks were performed each day except when wind, rough seas and/or swift currents prevented launch personnel from obtaining accurate bar checks. The area around Fire Island and Anchorage, Alaska has swift currents during both flooding and ebbing tides. Sometimes, bar checks were performed during the middle of the day to coincide with slack water times.

Mean fathometer depth values were corrected for velocity and subtracted from the true bar depths. The resulting values agreed with the historic value of 1.8 feet for the survey launches TRA. Since there have not been any changes in the survey launches to cause a change in draft, the historic draft correction of 1.8 feet was used in plotting all smooth field sheets from this project.

LAUNCH SETTLEMENT AND SQUAT CORRECTIONS

Settlement and squat tests were conducted at Shilshole Bay Marina in Puget Sound, Washington, on April 2 and April 6, 1982. Tests were conducted with an observer on shore who sighted through a level to a leveling rod located over the transducer on the launch. The readings started at 0 RPM and went to 2600 RPM for all launches except RA-4, which went to 2800 RPM. A second set of readings were taken at full speed back down to 0 RPM. These two runs were averaged to arrive at the final readings. The readings are included in the separates following the text.

Settlement and squat correctors were used in the plotting of the final smooth field sheets. Whenever a change of speed was noted on the data printout, an appropriate corrector was applied.

SOUNDING INSTRUMENT CORRECTORS

During survey operations the blanking depth was set to a value shoaler than the shoalest bottom expected and was adjusted as needed when the depth changed. Corresponding analog trace depths were substituted for missing digital soundings during field scanning operations.

The initial trace on the analog recorders was continuously and scrupulously monitored by dedicated and highly trained personnel to prevent any error that might be caused by a drifting initial. These same personnel also performed phase calibrations to prevent belt length error and stylus/paper misalignment on launch fathometers in accordance with the PMC OPORDER.

MANUAL SOUNDING CORRECTORS

Manual soundings were taken with hand-held lead lines where required. Depth markings on these lines were compared with a steel measuring tape before survey operations and found to be accurate.

E. HYDROGRAPHIC SHEETS

Hydrographic field sheets based on a modified transverse mercator projection were prepared for this survey using the PDP 8/e Hydroplot system on board the RAINIER. A list of parameters used to define each field sheet is attached in the separates following the text. Three 1:20,000 scale field sheets designated RA-20-2W, 2C, and 2E-82 were used to cover the survey area. One 1:2500 scale expansion sheet was used for clarity in plotting a shoal development. The shoalest sounding of the 1:2500 expansion sheet has been transferred to the 1:20,000 scale smooth sheet. All data and accompanying field records were forwarded to the Pacific Marine Center, Seattle, Washington for verification.

F. CONTROL STATIONS

Horizontal control for Project OPR-P358-RA-82 was provided by the recovery of 28 existing stations and the establishment of 12 new stations. Five of these stations were used for Miniranger sites and are listed below:

RACE POINT LIGHT (OLD)
WEST POINT
POINT POSSESSION LIGHT
~~MOOSE POINT LIGHT~~
PRIMO

In addition, the following were used as calibration signals:

RAINIER
RACE POINT LIGHT
WEST POINT
POINT POSSESSION LIGHT
PRIMO
MOOSEHEAD
MOOSE POINT LIGHT

A copy of the Master Station List is included in the attachments. The stations used each day are listed in the raw data.

All new stations were established using Third Order, Class I methods. All work was computed using the North American Datum of 1927. Direct and intersection methods were used to establish all new stations.

The details concerning the location and recovery of each station, including field records and computations are located in the Horizontal Control Report, OPR-P358-RA-82.

G. HYDROGRAPHIC POSITIONING CONTROL

Range/range positioning method was used during survey H-10017, employing Motorola Miniranger III positioning systems. The table below summarizes the location of all Miniranger mobile and shore equipment.

TABLE I

MINIRANGER MOBILE EQUIPMENT

VESSEL	CONSOLE S/N	R/T S/N
2123	715	1660
2124	30269	1636
2125	720	2710

TABLE II

MINIRANGER SHORE EQUIPMENT

CODE	TRANSPONDER S/N	STATION
A	1573	108
B	4951	106
C	1628	104, 107
E	911721	~~109~~, 214
F	911711	107, 110
0	911632	214
1	911635	106, ~~109~~

MINIRANGER CALIBRATION AND SYSTEM CHECK

System checks were performed daily. These checks were completed by observing horizontal sextant angles to visible Third Order, Class I geodetic stations and by launch-to-launch calibration method. On several days, the guide launch in the launch-to-launch method calibrated by observing sextant angles in the ship's davits.

Miniranger baseline calibrations for this survey were performed May 28, June 11, and July 4, 5, 1982, and took place at the Port of Anchorage Municipal pier. Initial corrections to electronic position control for each R/T-console pair and transponder combination were used to determine minimum signal strength cut-off values for each system. The data for these calibrations are included in the Electronic Control Report.

MINIRANGER PERFORMANCE

All shore stations were positioned over Third Order, Class I (or better) stations. Power was supplied by two or four 12-volt batteries connected in series and/or parallel with a solar panel to recharge batteries. After approximately three to four weeks of recharging, the battery fluid was gone. Future prolonged use of solar panels will require a regulator. Other stations required periodic changes with recharged batteries. Overall, shore transponder units performed satisfactorily.

On June 22, 1982, the R/T unit (S/N 1660) on RA-3 became defective, causing only the effective range of the unit to be greatly reduced. No data was gathered by RA-3 after June 21, 1982, and daily systems checks proved the validity of all data collected.

H. SHORELINE

There was no shoreline involved within the limits of this survey.

I. CROSSLINES

A total of 85.5 nautical miles of crosslines were run during the survey, representing 8.1% of the mainscheme mileage. Of 160 crossline to mainscheme sounding comparisons 98% were well within the comparison criterion limits, as stated in Section 1.1.2, Part B.II.1 of the Hydrographic Manual, showing excellent agreement.

J. JUNCTIONS

This survey junctions with two contemporary surveys; H-10000,1:20,000 to the east and H-10018, 1:20,000 to the south. Of 12 sounding comparisons with H-10,000, 100% meet the hydrographic Manual comparison criteria referenced in Section I. Of 103 sounding comparisons with H-10018, 90% agree within two feet, and 100% meet the Hydrographic Manual comparison criteria. Sounding comparisons between H-10017 and it's contemporary junctioning surveys show excellent agreement.

K. COMPARISON WITH PRIOR SURVEYS *See Evaluation Report, section 6*

H-10017 was compared to the following prior surveys; H-9444 at 1:20,000 (1974), H-9445 at 1:20,000 (1974), H-9446 at 1:20,000 (1974), H-9447 at 1:20,000 (1974) and H-9698 at 1:20,000 (1977).

H-9444

Of 148 sounding comparisons, 83% meet the Hydrographic Manual comparison criteria. Seventeen percent of the comparisons differed by more than ten feet, the prior survey soundings being consistently shoaler. Since the prior survey, a general scouring trend is apparent throughout the comparison area, it is most noticeable in the vicinity of 61° 06.0' N, 150° 26.5' W where a maximum discrepancy of 19 feet was found.

H-9445

Of 71 sounding comparisons 100% meet the Hydrographic Manual comparison criteria, showing good agreement.

H-9446

Of 359 sounding comparisons, 71% meet the Hydrographic Manual Comparison criteria. Comparisons generally showed good agreement south of latitude 61° 05.0' N, otherwise there were areas where comparisons were not in

agreement and soundings were found to differ by as much as 50 feet. The major shoal in the survey area, centered at 61° 10.4' N, 150° 40.2' W, has moved to the southeast approximately .3 NM since the date of the prior survey and the major depth discrepancies occur in the vicinity of this shoal. Of 26 sounding comparisons in depths less than 30 feet, 100% do not meet the comparison criteria, and 81% differ by more than ten feet. The prior survey depths at the shoalest point on the shoal are up to 40 feet deeper than the current survey depths. Current survey depths are up to 50 feet deeper than the prior survey depths in areas surrounding the current shoal position especially to the southwest and northeast.

H-9447

Of 273 sounding comparisons 98% meet the Hydrographic Manual comparison criteria. Agreement is generally good except in an area south of 61° 08.0' N and east of 150° 38.0' W, where a generalized scouring has occured since the time of the prior survey showing maximum depth discrepancies of ten feet. The ~~ten fm~~ curve to the north shows good agreement with maximum displacement of 0.15 NM to the south.

H-9698

Of 375 sounding comparisons, 95% meet the Hydrographic Manual comparison criteria. Major sounding discrepancies, up to 40 feet, were found in the vicinity of 61° 05.4' N, 150° 44.0' W, otherwise agreement was generally good.

L. COMPARISON WITH THE CHART *See Evaluation Report, Section 7*

The survey was compared with an enlargement, to 1:20,000, of NOS Chart #16660, 22nd Edition, March 1982. The major discrepancy between the chart and the current survey concerns the displacement of the shoal at 61° 10.4' N, 150° 40.2' W, named during the current survey as "Beluga Shoal". The shoalest chart sounding of 1½ fm has increased to 1½ fm and moved 0.3 NM to the south. The shoal's ~~five fm~~ curve has moved 0.8 NM to the east. The ~~ten fm~~ curve shows good agreement with the chart except in the immediate vicinity of the shoal where it has moved approximately 0.4 NM south and 0.5 NM to the east. The majority of the charted soundings within the shoal's ~~ten fm~~ curve are shoaler than the current survey soundings, the difference averaging approximately six feet. Two charted soundings were deeper than current survey depths; a 9½ fm charted sounding at 61° 07.0' N, 150° 35.7' W should be 8½ fm and the 1¼ fm charted shoal sounding should be ~~3/4~~ 6½ fm.

The other ~~ten fm~~ curves generally show good agreement. A scouring trend is noticeable over most of the survey area, but the maximum increase in depth does not exceed nine feet. There are two further

discrepancies worth noting; the charted ten fm sounding at 61° 10.4' N, 150° 37.4' W should be superceeded by an ~~eight fm~~ sounding of the current survey, and the current survey shows a ~~nine fm~~ sounding at 61° 10.4' N, 150° 40.2' W where charted soundings are 10¼ fm to 10 3/4 fm. It is recommended that the chart be revised to reflect the displacement of Beluga Shoal and the other depth discrepancies previously discussed. A radio message was sent to Juneau, Alaska Coast Guard on July 9, 1982 with information on the Beluga Shoal movement for inclusion in the Notice to Mariners.

M. ADEQUACY OF SURVEY

This survey is complete and sufficient to supercede all prior surveys for charting purposes.

N. AIDS TO NAVIGATION

There are no floating or fixed aids to navigation in the survey area.

O. STATISTICS

SURVEY LAUNCH	LINEAR NAUTICAL MILES	SQUARE NAUTICAL MILES	NUMBER OF POSITIONS
RA-3 (2123)	395.6	---	1250
RA-4 (2124)	662.6	---	1858
RA-5 (2125)	126.8	---	593
TOTAL	1185.0	81.0	3702

BOTTOM SAMPLES: 50

Q. RECOMMENDATIONS

It is recommended that in the future the Project Instructions stipulate that any advance copies of the Hydrographic Survey Sheets for distribution be provided by the Pacific Marine Center, CPM3. No field sheets were duplicated or provided to interested parties.

R. AUTOMATED DATA PROCESSING

Data acquisition and processing were accomplished per instructions in the Hydrographic Manual (Fourth Edition), Manual of Automated Hydrographic Surveys, the PMC OPORDER, Hydrographic Survey Guidelines and the Hydrographic Data Requirements for 1982.

Soundings and positions were taken by an ASI Logger and a Hydroplot system using range/range program RK111 and RK112. There are daily master tapes and corresponding corrector tapes which include the TRA for the launches and electronic control baseline correctors for mini-ranger consoles and R/T units and all depth corrections. Velocity tapes were generated from Nansen cast data. The following is a list of all computer programs and version dates used for data acquisition or processing:

	PDP 8/e Programs	Version Date
RK111	Range-Range Real Time Plot	01/30/76
RK112	Hyperbolic, R/R Hydroplot	08/04/81
RK201	Grid, Signal and Lattice Plot	04/18/75
RK211	Range-Range Non-Real Time Plot	02/02/81
RK212	Visual Station Table Load	04/01/74
RK216	Range Azimuth Non-Real Time Plot	02/09/81
RK300	Utility Computations	10/21/80
RK330	Reformat and Data Check	05/04/76
PM360	Electronic Corrector Abstract	02/02/76
RK407	Geodetic Inverse/Direct Computation	09/25/78
AM500	Predicted Tide Generator	11/10/72
RK530	Layer Corrections for Velocity	05/10/76
RK561	H/R Geodetic Calibration	02/19/75
AM602	Elinore-Line Oriented Editor	05/20/75
AM603	Tape Consolidator	10/10/72
RK606	Tape Duplicator	08/22/74

The HP97 and HP9815A programmable calculators were used to compute geographic positions of electronic control stations and visual signals for calibrations.

S. REFERRAL TO REPORTS

The following reports contain information related to this survey:

Echo Sounding Report	OPR-P358-RA-82
Electronic Control Report	OPR-P358-RA-82
Horizontal Control Report	OPR-P358-RA-82
Coast Pilot Report	OPR-P358-RA-82

Respectfully submitted,

Susan J. Ludwig
LT, NOAA

SEPARATES INDEX

Field Sheet Projection Parameters

Field Tide Note

Geographic Names List

Abstract of Corrections to Echo Soundings

Abstract of Corrections to Electronic Position Control

List of Stations

Abstract of Positions

Bottom Samples

Correspondence

Approval Sheet

PARAMETER TAPE LISTING
PA-20-2-82 (H-10017)

```
PA-20-2E-82
SKEW: 90,18,22
SCALE: 1:20000

FEST=36000
CLAT=6743000
CMER=150/20/0
GRID=60
PLSCL=20000
PLAT=61/03/00
PLON=150/21/00
VESNO=2124
YR=82
ANDIST=0.0


PA-20-2C-82
SKEW: 90,22,33
SCALE: 1:20000

FEST=36000
CLAT=6743000
CMER=150/20/0
GRID=60
PLSCL=20000
PLAT=61/03/00
PLON=150/27/45
VESNO=2123
YR=82
ANDIST=0.0


PA-20-2W-82
SKEW: 90,22,32
SCALE: 1:20000

FEST=36000
CLAT=6743000
CMER=150/20/0
GRID=60
PLSCL=20000
PLAT=61/03/00
PLON=150/38/30
VESNO=2123
YR=82
ANDIST=0.0
```

PARAMETER TAPE LISTING (CONT.)
PA-20-2-82 (H-10017)

EXPANSION #1
PA-20-2C-82 AND PA-20-2W-82
SKEW: 24,16,74
SCALE:1:2500

FEST=36000
CLAT=6743000
CMER=150/20/0
GRID=10
PLSCL=2500
PLAT=61/04/59
PLON=150/42/12
VESNO=2123
YR=82
ANDIST=0.0

FIELD TIDE NOTE

Field tide reduction of soundings for H-10017 was based on predicted tides for Anchorage, Alaska (945-5920). Correctors were obtained from the Priliminary Tidal Zoning OPR-P358-RA-82. The predicted tides were interpolated using Program AM500.

Direct control of hydrography was provided by the following subordinate stations. The primary station at Anchorage, Alaska (945-5920) provided datum control for these stations:

SITE	LOCATION	STAFF VALUE OF ZERO LINE ON RECORD	PERIOD
FIRE ISLAND (945-5912)	61° 10.4' N 150° 12.3' W	+1.5' (BUBBLER)	5/6/82 - 7/1/82
MOOSE POINT (ADR) (945-5824)	60° 57.2' N 150° 43.9' W	-17.9' (ADR)	5/25/82 - 7/1/82
PHILLIPS PLATFORM "A" (945-5885)	61° 04.6' N 150° 57.1' W	-18.0' (ADR)	6/1/82 - 7/1/82

The time meridian for records annotation is 135° W (ADT).

NOAA FORM 76-155
(11-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10017

Name on Survey	A ON CHART NO. 16660	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H	K U.S. LIGHT LIST	
ALASKA (Title)										1
BELUGA SHOAL *										2
COOK INLET										3
FIRE ISLAND (Title)										4
										5
* NAME ASSIGNED BY NOAA SHIP RAINIER - JUNE 1982. PENDING BGN DECISION										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
					Approved:					18
					Charles E. Harrington					19
					Chief Geographer - N/CG2x5					20
										21
					6 July 1983					22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

TRA (TC/TI) TAPE: VESSEL 2125 (RA-5) SURVEY RA-20-2-82 H-10017 FATHOMETER S/N 1042 YR 82 PAGE 1 OF 1

From TIME	TRA CORR.	DAY	VEL. TBL.	TRA corr. is the algebraic sum of these columns: INITIAL	SCALE-PHASE	DRAFT	F. ARC	S./ SQUAT	COMMENTS
001331	0.0	146	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES
204805	1.5	152	3	0.0	0.0	1.8	0.0	-0.3	HYDRO
194445	1.4	158	3	0.0	0.0	1.8	0.0	-0.4	
195715	1.6	158	3	0.0	0.0	1.8	0.0	-0.2	
200730	1.4	158	3	0.0	0.0	1.8	0.0	-0.4	
202215	1.6	158	3	0.0	0.0	1.8	0.0	-0.2	
204330	1.4	158	3	0.0	0.0	1.8	0.0	-0.4	
220730	1.5	158	3	0.0	0.0	1.8	0.0	-0.3	
193000	0.0	165	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES
195200	0.0	168	0	0.0	0.0	0.0	0.0	0.0	B.S. ENDS.

3-32

TRA (TC/TI) TAPE: VESSEL 2123 (RA-3) SURVEY RA-20-2-82 H-10017 FATHOMETER S/N 1071 YR 82 PAGE 1 OF 1

From TIME	TRA CORR.	DAY	VEL. TBL.	TRA corr. is the algebraic sum of these columns INITIAL	SCALE-PHASE	DRAFT	F. ARC	S./ SQUAT	COMMENTS
234315	1.6	158	3	0.0	0.0	1.8	0.0	-0.2	HYDRO BEGINS
232307	2.0	160	3	0.0	0.0	1.8	0.0	+0.2	
193309	1.6	165	3	0.0	0.0	1.8	0.0	-0.2	
184900	1.4	167	3	0.0	0.0	1.8	0.0	-0.4	
010126	1.3	168	3	0.0	0.0	1.8	0.0	-0.5	
180938	1.4	168	3	0.0	0.0	1.8	0.0	-0.4	
000008	1.4	171	4	0.0	0.0	1.8	0.0	-0.4	
202152	1.4	172	4	0.0	0.0	1.8	0.0	-0.4	HYDRO ENDS

3-32

TRA (TC/TI) TAPE: VESSEL 2124 (RA-4) SURVEY RA-20-2-82 H-10017 FATHOMETER S/N 1046 YR 82 PAGE 1 OF 2 1

From TIME	TRA CORR.	DAY	VEL. TBL.	TRA corr. is the algebraic sum of these columns INITIAL	SCALE-PHASE	DRAFT	F. ARC	S./ SQUAT	COMMENTS
193803	1.4	165	3	0.0	0.0	1.8	0.0	-0.4	HYDRO BEGINS
004832	2.0	170	3	0.0	0.0	1.8	0.0	+0.2	
184326	1.4	170	3	0.0	0.0	1.8	0.0	-0.4	
205303	2.0	170	3	0.0	0.0	1.8	0.0	+0.2	
214808	1.4	170	3	0.0	0.0	1.8	0.0	-0.4	
003818	1.4	171	4	0.0	0.0	1.8	0.0	-0.4	
195114	1.8	172	4	0.0	0.0	1.8	0.0	0.0	
195643	1.4	172	4	0.0	0.0	1.8	0.0	-0.4	
200337	1.8	172	4	0.0	0.0	1.8	0.0	0.0	
204238	1.4	172	4	0.0	0.0	1.8	0.0	-0.4	
014616	1.8	181	4	0.0	0.0	1.8	0.0	0.0	D.P ON SHOAL
175621	0.0	181	0	0.0	0.0	0.0	0.0	0.0	LEADLINE D.P.
180123	1.8	181	4	0.0	0.0	1.8	0.0	0.0	D.P. ON SHOAL
180743	0.0	181	0	0.0	0.0	0.0	0.0	0.0	LEADLINE D.P.
181204	1.8	181	4	0.0	0.0	1.8	0.0	0.0	D.P ON SHOAL
183536	1.4	181	4	0.0	0.0	1.8	0.0	-0.4	RESUME HYDRO
193000	1.4	181	4	0.0	0.0	1.8	0.0	-0.4	HYDRO ENDS

3-3p

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2125 SHEET : RA-20-2E-82

TIME	DAY	PATTERN 1	PATTERN 2
204805	152	-00002	-00002
000005	153	-00002	-00002
200445	153	-00002	+-00002
000415	154	-00002	+-00002
181315	154	-00002	+-00002
000000	155	-00002	+-00002
191145	155	-00002	+-00002
000000	156	-00002	+-00002
182330	158	-00002	+-00002

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2125 SHEET : RA-2C-2-82

TIME	DAY	PATTERN 1	PATTERN 2
001331	146	-0000x2	-0000x2
193000	165	+0000 1	+0000x4
175602	166	+0000x0	+0000 1
000835	167	+0000x0	+0000 1
210140		+0000x0	+0000 4
000030	168	+0000x0	+0000 4
181956		+0000x0	-0000 2

BOTTOM SAMPLES COMBINED FROM RA-2C-2E-2C-2W-82

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2123 SHEET : FA-20-2W-82

TIME	DAY	PATTERN 1	PATTERN 2
180938	168	-00002	+00000
000014	169	-00002	+00000
180859	169	-00002	+00000
000001	170	-00002	+00000
182743	170	-00002	+00000
225537		+00000	+00005
000008	171	+00000	+00005
183336	171	+00000	+00005
185902	172	-00002	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2124 SHEET : BA-20-2W-82

TIME	DAY	PATTERN 1	PATTERN 2
003818	171	-00002	+00002
185928	171	-00002	+00002
204238	172	-00002	+00002
000012	173	-00002	+00002
175443	173	-00002	+00002
000005	174	-00002	+00002
192248	174	-00002	+00002
000001	175	-00002	+00002
182032	175	-00002	+00002
000412 305	176	-00002	+00002
183524	176	-00002	+00002
192218	180	-00002	+00002
000023	181	-00002	+00002
175601	181	-00002	+00002

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2123 SHEET : RA-2C-2E-82

TIME	DAY	PATTERN 1	PATTERN 2
234130	158	-≠00000Ø2	+00001
000000	159	-≠00000Ø2	+00001

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2124 SHEET : RA-20-20-82

TIME	DAY	PATTERN 1	PATTERN 2
193803	165	-00002	-00002
000008	166	-00002	-00002
175246	166	-00002	-00002
000022	167	-00002	-00002
184824	167	-00002	-00002
000010	168	-00002	-00002
182148	169	- ≠00000 Z	+ ≠0000Y Z
000459	170	- ≠00000 Z	+ ≠0000Y Z
184326	170	- ≠00000 Z	+ ≠0000Y Z
194237	172	- ≠00000 Z	+ ≠0000Y Z

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2123 SHEET : FA-20-20-82

TIME	DAY	PATTERN 1	PATTERN 2
214856	159	-00002	+00001
195547	160	-00002	+00001
000007	161	-00002	+00001
192628	165	-00002	+00001
001033	166	-00002	+00001
181335	166	-00002	+00001
201730		-00002	+00004
000004	167	-00002	+00004
184900	167	-00002	+00001
195909		-00002	+00005
201805		-00002	+00001
000009	168	-00002	+00001

MASTER STATION LIST
OPP-F358-FA-82
ANCHORAGE, ALASKA

FINAL VERSION

~~100 3 61 11 21628 150 00 58376 250 0084 000000~~
~~/WIND 1982~~

101 3 61 13 13822 149 54 01358 250 0044 000000
/ANCHOR STEAM 1982

102 1 61 14 19454 ~~149~~ 59 05886 250 0027 000000
/MAC RM3 1947 RM1 1960

~~103 4 61 13 13193 149 54 01309 243 0044 000000~~
~~/ANCHOR STEAM 1982 ECCENTRIC~~

104 4 61 07 35804 150 16 48041 250 0005 000000
/WEST POINT 1982

105 4 61 10 05201 150 13 21833 250 0052 000000
/RACE POINT LIGHT 1982 (NEW) (LL3510)

106 4 61 02 03954 150 24 10627 250 0023 000000
/PT POSSESSION LIGHT 1974 611502(LL3507)

107 7 61 00 20505 150 30 17765 250 0028 000000
/PRIMO 1982 ~~(TEMPORARY)~~ (TP)

108 7 60 59 08021 150 34 17820 250 0022 000000
/MOOSEHEAD 1982 ~~(TEMPORARY)~~ (TP)

109 6 60 57 22856 150 41 01915 250 0009 000000
/MOOSE PT. LIGHT 1966 601504(LL3506)

110 2 60 55 16655 150 44 57212 250 0029 000000
/CREEK 1963, ~~1964~~ 601504(1006)

~~200 4 61 13 56027 149 52 21662 139 0107 000000~~
~~/ANCHORAGE ACS MICROWAVE TOWER, CENTER, 1982~~

201 4 61 13 46510 ~~149 52 35348~~ 139 0068 000000
/ANCHORAGE MUNICIPAL ~~TANK, 1964~~ 611493

~~202 3 61 12 25181 149 55 20367 139 0075 000000~~
~~/ANCHORAGE RADIO STA KENI TWR. 1954,1964 611493~~

203 3 61 14 19554 149 59 05994 139 0030 000000
/POINT MACKENZIE LIGHT 1973 611493(LL3517)

204 3 61 14 22627 149 59 17289 139 0029 000000
/PT. MACKENZIE RNG. FRONT LT., 1974 611493(LL3518)

205 3 61 14 29188 149 58 52550 139 0043 000000
/PT. MACKENZIE RNG. REAR LT., 1974 611493(LL3519)

206 3 61 09 34034 150 01 54687 139 0110 000000
/SITE POINT RADOME 1964 611502(1025)

207 3 61 10 38206 149 58 50663 139 0079 000000
/PATCO INTERNATIONAL CONTROL TOWER 1982

208 3 61 10 22690 150 11 51552 139 0038 000000
/FIRE ISLAND RNG FRONT LT 1974 611502(LL3511)

209 3 61 10 15602 150 12 19144 139 0050 000000
/FIRE ISLAND RNG REAR LT 1974 611502(LL3512)

210 3 61 12 09033 150 01 11117 139 0024 000000
/PT WORONZOF RNG FRONT LT 1974 611502(LL3515)

211 3 61 12 10383 150 00 53325 139 0036 000000
/PT WORONZOF RNG REAR LT 1974 611502(LL3516)

212 4 61 12 15117 150 00 49417 139 0048 000000
/PT WORONZOF LIGHT "10" 1982 (LL3514)

213 1 61 07 35808 150 16 48039 250 0009 000000
/FIRE ISLAND LIGHT 1967,1982 611502(LL3509)

214 1 61 10 17462 150 12 35026 250 0052 000000
/RACE POINT LIGHT 1966 (OLD) 611502

215 4 61 07 50319 150 14 45240 139 0070 000000
/RAINIER 1982

ABSTRACT OF POSITION

RA-20-2-82 (H-10017)

VESSEL: 2123 (RA-3) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
158/159	1835-1857	04	214-106	Mainscheme Hydro.
159	3000-3031	04	214-106	Crosslines.
160/161	3032-3166	04	214-106	Mainscheme Lines.
161/162	3170-3315	04	214-106	-- do --
166	3316-3354	04	214-106	Mainscheme Lines.
166/167	3355-3477	04	214-108	Mainscheme Lines. Pos. 3361-3362; 3385-3387; 3399-3401; 3415-3418; 3434-3436; 3449-3451; 3465-3467 Inside Expansion No. 1. Scale 1:2500.
167	3481-3494	04	214-108	Crossline.
167	3495-3509	04	214-106	Mainscheme Lines.
167	3510-3512	04	214-107	-- do --
167/168	3519-3627	04	214-106	Mainscheme Lines. Pos. 3582-3584; 3593-3596; 3597-3600; 3609-3611; 3613-3615; 3624-3626 Inside Expansion No. 1.
168	3628-3640	04	214-106	Crossline.
168/169	3641-3832	04	214-107	Mainscheme Lines. Pos. 3646-3648; 3675-3677; 3689-3691; 3715-3717; 3729-3731; 3754-3756; 3766-3769; 3792-3793; 3802-3804; 3825-3828 Inside Expansion No.1.
169/170	3833-3999 2000-2013	04	214-107	Mainscheme Lines. Pos. 3837-3839; 3866-3868; 3877-3879; 3903-3905; 3914-3916 Inside Expansion No.1.
170	2014-2103	04	214-107	Mainscheme Lines.
170/171	2104-2156	04	107-110	-- do --
171	2157-2226	04	107-110	-- do --
172	2227-2259	04	214-107	-- do --

REJECTED POSITIONS: 1834; 1853; 3167-3169; 3368; 3378; 3478-3480; 3485; 3501-3503; 3513-3518; 3661-3663; 3703; 3743; 3780; 3791; 3816; 3852-3854; 3891; 3927; 3962; 3995-3996; 2031; 2063; 2094; 2131; 2155; 2163; 2209-2210; 2248.

ABSRTACT OF POSITIONS

RA-20-2-82 (H-10017)

VESSEL: 2124 (RA-4) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
165/166	4000-4135	04	214-106	Mainscheme Lines.
166/167	4136-4383	04	214-106	-- do --
167/168	4385-4529	04	214-106	Split Lines.
169	4530-4627	04	214-107	Mainscheme Lines.
169	4628-4641	04	214-107	Crossline. Pos. 4638-4641; Inside Expansion No.1, Scale 1:2500.
169	4642-4648	04	214-107	Split Lines. Pos. 4643-4646, Inside Expansion No.1.
169	4649-4655	04	214-107	Crosslines.
169/170	4656-4694	04	214-107	Mainscheme Lines.
170	4695-4717	04	214-107	Split Lines.
170	4718-4730	04	214-107	Crosslines.
170	4731-4744	04	214-107	Split Lines.
170	4745-4756	04	214-107	Crossline.
170	4757-4776	04	214-107	Split Lines.
170	4777-4793	04	214-107	Crosslines. Pos. 4786-4793 Inside Expansion No.1.
170	4794-4827	04	214-107	Mainscheme Lines. Pos. 4795-4797; 4820-4822 Inside Expansion No.1.
171	4828-4841	04	214-107	Mainscheme Lines.
171	4842-4935 7000-7039	04	214-107	Mainscheme Lines.
172	7040-7053	04	214-107	Split Lines.
172/173	7054-7129	04	214-107	Crosslines. Pos. 7105-7108 Inside Expansion No.1.
173/174	7130-7312	04	214-107	Split Lines. Pos. 7131-7133; 7149-7151; 7161-7163; 7165-7168; 7177-7179; 7181-7184; 7185-7188 Inside Expansion No.1.
174/175	7314-7460	04	214-107	Mainscheme Lines. Pos. 7454-7455; 7458-7459 Inside Expansion No.1.
175/176	7461-7620	04	214-107	Mainscheme Lines.
176	7621-7681	04	214-107	Mainscheme Lines. Pos. 7632-7635; 7644-7646; 7660-7662; 7664-7666 Inside Expansion No.1.

ABSTRACT OF POSITIONS

RA-20-2-82 (H-10017)

VESSEL: 2124 (RA-4) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
176	7682-7705	04	214-107	Development Lines, Expansion No.1.
180	7706-7728	04	214-107	Mainscheme Lines.
180	7729-7733	04	214-107	Crosslines.
180	7734-7750	04	214-107	Mainscheme Lines.
180	7751-7757	04	214-107	Crosslines.
180	7758-7810	04	214-107	Mainscheme Lines.
180/181	7811-7900	04	214-107	Development Lines, Expansion No.1.
181	7901-7903	04	214-107	Detached Positions on Shoal.
181	7905-7911	04	214-107	Detached Positions on Shoal.
181	7913-7923	04	214-107	Mainscheme Lines.

REJECTED POSITONS: 4198; 4292-4293; 4384; 4396; 4427; 4674; 4687; 4699;4864;4892; 4936-4999 (NOT USED): 7047; 7079; 7126; 7259; 7304; 7313; 7333; 7363; 7376-7377; 7413; 7499; 7560; 7580; 7753-7754; 7902; 7904; 7906; 7908-7909; 7912.

VESSEL: 2125 (RA-5) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
146	5209-5212	04	104-106	Bottom Samples.
152/153	5213-5301	04	104-106	Mainscheme Hydro.
153/154	5302-5402	04	104-106	-- do --
154/155	5403-5550	04	104-106	Mainscheme Hydro.
155/156	5551-5674	04	104-106	Split Lines.
158	5675-5699	04	104-106	Split Lines.
158	5700-5746	04	104-106	Crosslines.
165	5748-5752	04	106-108	Bottom Samples.
166/167	5753-5790	04	214-106	-- do --
167/168	5791-5803	04	214-107	-- do --

REJECTED POSITIONS: 5537; 5747.

NOAA FORM 75-44
(11-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125 (RA-5)	OPR-P358-RA-82	1982	OFFSHORE WEST OF FIRE ISLAND, AK RA-20-2-82 (H-10017)	TAT	5/29/82

SERIAL NO.	DATE 1982	SAMPLE POSITION LATITUDE 61°N	SAMPLE POSITION LONGITUDE 150°W	DEPTH FEET	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5209	5/26	10' 28.83"	32' 10.86"	68.1	25 lbs			gy	fne S	one pebble, organic matter present	BSP
5210	5/26	09' 25.78"	31' 16.27"	92.0	"			gy	fne S	one stone, organic matter present	BSP
5211	5/26	07' 59.97"	30' 6.47"	69.0	"			gy	fne S, crs P	one stone	BSP
5212	5/26	07' 12.50"	30' 04.00"	70.5	"			gy	fne S		BSP
5748	6/14	08' 42.92"	28' 21.86"	75.6	"	1/8"			S, G	wood fragments	RLH
5749	6/14	09' 26.86"	25' 28.09"	80.7	"	1/8"			S		RLH
5750	6/14	09' 52.57"	28' 11.45"	103.5	"	4"			S		RLH
5751	6/14	05' 39.46"	26' 28.44"	102.8	"	4"		br	M, S		RLH
5752	6/14	06' 51.06"	28' 07.36"	87.5	"	2"		br	S, M		RLH
5753	6/15	04' 13.33"	33' 32.15"	87.1	"	2"			crs S		RLH
5754	6/15	05' 16.47"	34' 40.35"	85.7	"	2"			med S		RLH
5755	6/15	06' 30.99"	35' 42.63"	64.2	"	4"			med S		RLH
5756	6/15	07' 35.06"	36' 22.45"	71.6	"	1/4"			S	wood fragments	RLH
5757	6/15	08' 39.42"	37' 14.98"	82.1	"	1"			S, G, crs P		RLH
5758	6/15	09' 43.42"	36' 00.74"	86.3	"	2"			S, G, P		RLH
5759	6/15	09' 56.83"	38' 32.77"	78.1	"	1"			S, G, P		RLH
5760	6/15	10' 47.43"	36' 25.24"	81.9	"	4"		gy	M		RLH

Use more than one line per sample if necessary.

* U.S. GOVERNMENT PRINTING OFFICE: 1978—665-018/1064

NOAA FORM 75-44 (11-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL: 2125 (RA-5) | PROJ. NO.: OPR-P358-RA-82 | YEAR: 82 | OFFSHORE WEST OF FIRE ISLAND, AK RA-20-2-82 (H-10017) | CHECKED BY: TAT | DATE CHECKED: 5/29/82

SERIAL NO.	DATE 1982	SAMPLE POSITION LATITUDE 61°N	SAMPLE POSITION LONGITUDE 150°W	DEPTH FEET	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5761	6/15	10' 31.57"	34' 07.01"	87.4	25 lbs.	4"		gy	M		RLH
5762	6/15	09' 29.82"	33' 29.19"	103.5	"	2"		gy	M, S, crs P		RLH
5763	6/15	08' 33.60"	32' 09.47"	92.8	"	1"			S, G, P		RLH
5764	6/15	08' 30.72"	31' 43.57"	103.6	"	3"		gy	M, S, crs P		RLH
5765	6/15	07' 24.51"	34' 03.53"	61.2	"	3"			med S		RLH
5766	6/15	07' 20.08"	32' 09.41"	79.9	"	½"			med S		RLH
5767	6/15	06' 10.14"	32' 17.68"	86.4	"	2"			med S		RLH
5768	6/15	05' 41.68"	29' 29.92"	109.6	"	2"		gy	M, fne S		RLH
5769	6/15	04' 33.47"	30' 52.42"	102.7	"	2"			med S		RLH
5770	6/15	04' 01.49"	35' 56.81"	95.5	"	2"		gy	M, S		RLH
5771	6/15	05' 10.69"	37' 08.10"	87.9	"	2"			med S		RLH
5772	6/15	06' 21.47"	38' 03.32"	54.5	"	4" FULL			med S		RLH
5773	6/15	07' 42.15"	38' 39.67"	74.6	"	1"			S, G, P		RLH
5774	6/15	08' 50.37"	39' 55.16"	86.9	"	1"			S, P		RLH
5775	6/15	07' 58.90"	41' 25.76"	91.0	"	1/4"			S, fne P		RLH
5776	6/16	06' 45.53"	43' 02.51"	76.3	"	1/4"			S, G, P		RLH
5777	6/16	05' 25.37"	44' 13.90"	83.4	"	1"			S, G, P		RLH

Use more than one line per sample if necessary.

★U.S. GOVERNMENT PRINTING OFFICE: 1978—665-018/1084

NOAA FORM 75-44
(11-72)

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125 (RA-5)	OPR-P358-RA-82	82	OFFSHORE WEST OF FIRE ISLAND, AK RA-20-2-82 (H-10017)	TAT	5/29/82

SERIAL NO.	DATE 1982	SAMPLE POSITION LATITUDE 61°N	SAMPLE POSITION LONGITUDE 150°W	DEPTH FEET	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5778	6/16	05' 15.04"	43' 10.18"	55.7	25 lbs.	4"			S		RLH
5779	6/16	05' 23.26"	41' 52.59"	29.2	"	3"			S		RLH
5780	6/16	04' 49.55"	40' 00.32"	82.8	"	4"			S		RLH
5781	6/16	03' 33.05"	40' 30.63"	85.0	"	1"			S, crs P		RLH
5782	6/16	04' 20.32"	42' 29.22"	84.4	"	1"			S		RLH
5783	6/16	04' 05.75"	44' 49.86"	75.1	"	3"			S, G, P		RLH
5784	6/16	04' 26.53"	46' 56.57"	76.5	"	1/4"			S, G, fne P		RLH
5785	6/16	05' 40.51"	46' 17.57"	76.7	"	2"			S, G, P		RLH
5786	6/16	06' 53.48"	45' 23.30"	84.0	"	1/2"			S, G, fne P		RLH
5787	6/16	07' 59.78"	44' 02.79"	86.0	"	1"			S, G, P		RLH
5788	6/16	09' 18.90"	42' 17.21"	93.7	"	1"			S, G, P		RLH
5789	6/16	10' 14.80"	40' 56.35"	82.9	"	1"			S, G, fne P		RLH
5790	6/16	11' 12.08"	38' 43.98"	77.1	"	4"		gy	M, S		RLH
5791	6/16	10' 38.72"	43' 42.13"	86.8	"	2"		gy	M, S, crs P		RLH
5792	6/16	09' 15.78"	45' 00.50"	97.6	"	1"			S, G, fne P		RLH
5793	6/16	05' 37.20"	40' 33.80"	28.4	"	4"			S		RLH
5794	6/16	06' 47.90"	40' 23.60"	70.5	"	3"			S, G, P		RLH

Use more than one line per sample if necessary.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1978—665-018/1084

NOAA FORM 75-44
(11-72)

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

VESSEL: 3125 (RA-5) | PROJ. NO.: OPR-P358-RA-82 | YEAR: 82 | OFFSHORE WEST OF FIRE ISLAND, AK RA-20-2-82 (H-10017) | CHECKED BY: JAT | DATE CHECKED: 5/29/82

SERIAL NO.	DATE 1982	SAMPLE POSITION LATITUDE 61°N	SAMPLE POSITION LONGITUDE 150°W	DEPTH FEET	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5795	6/16	05' 52.18"	39' 21.68"	36.6	25 lbs	4"			S		RLH
5796	6/17	04' 24.12"	49' 28.40"	69.3	"	4"			S, G, P, St		RLH
5797	6/17	05' 38.99"	48' 40.66"	74.0	"	1/2"			S, G	wood fragments	RLH
5798	6/17	06' 53.66"	47' 15.33"	79.9	"	1"			S, G, crs P		RLH
5799	6/17	08' 01.53"	46' 38.03"	83.0	"	1"			S, G, P		RLH
5800	6/17	08' 04.14"	49' 06.23"	80.3	"	1"		gy	M, S, G, P, Sh		RLH
5801	6/17	09' 04.92"	47' 56.16"	83.6	"	2"			S, G, P		RLH
5802	6/17	10' 09.83"	49' 08.45"	72.6	"	4"		gy	M, S		RLH
5803	6/17	10' 17.65"	46' 12.58"	77.4	"	4"		gy	M, S		RLH

Use more than one line per sample if necessary.

* U.S. GOVERNMENT PRINTING OFFICE: 1978—665-018/1084

RTTUZYUW RUHPTEF0054 1901800-UUUU--RUHPSUU.
ZNR UUUUU
R 091800Z JUL 82
FM NOAAS RAINIER
TO CCGDSEVENTEEN JUNEAU AK
INFO NOAACPM SEATTLE WA
CM GRNC
BT
UNCLAS
RA-PMC-039.
SUBJECT: NOTICE TO MARINERS.
PRELIMINARY INFORMATION FROM THE NOAA SHIP RAINIER'S 1982 HYDROGRAPHIC SURVEY OF NORTHERN COOK INLET INDICATES THAT THE SHOAL CENTERED NEAR 61/05/45 N, 150/41/25 W HAS SHIFTED SOUTHEASTWARD APPROXIMATELY 0.25 NAUTICAL MILES.
BT
#0054

B.S | NOJ
6423 | 2348Z

NNNN

2348Z NOJ DE WTEF WTEF INT QSL K

APPROVAL SHEET

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY

H-10017

RA-20-2-82

In producing this sheet, standard procedures were observed in accordance with the Hydrographic Manual, PMC OPORDER, and the Instruction Manual for Automated Hydrographic Surveys. The data was examined daily during the execution of the survey.

The boatsheet and the accompanying records have been examined by me, are considered complete and adequate for charting purposes, and are approved.

Ralph J. Land
Captain, NOAA
Commanding Officer

NOAA FORM 77-27 (5-77) | U. S. DEPARTMENT OF COMMERCE NOAA | HYDROGRAPHIC SURVEY NUMBER H-10017

HYDROGRAPHIC SURVEY STATISTICS

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	3 BOAT SHEETS & PRELIMINARY OVERLAYS	3
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS. 2, ARC, 3 EXCESS	5

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS			3 - Raw			
VOLUMES						
BOXES			1 - Smooth			

T-SHEET PRINTS (List)

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS: PRE-VERIFICATION	AMOUNTS: VERIFICATION	AMOUNTS: TOTALS
POSITIONS ON SHEET			
POSITIONS CHECKED		3666	
POSITIONS REVISED		00	
SOUNDINGS REVISED		176	
SOUNDINGS ERRONEOUSLY SPACED		00	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		00	

	TIME – HOURS: PRE-VERIFICATION	TIME – HOURS: *(VER)/(EVAL)	TIME – HOURS: TOTALS
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	3		
VERIFICATION OF CONTROL		08/01	09
VERIFICATION OF POSITIONS		108/02	110
VERIFICATION OF SOUNDINGS		119/08	127
COMPILATION OF SMOOTH SHEET		12/04	16
APPLICATION OF TOPOGRAPHY		00/00	00
APPLICATION OF PHOTOBATHYMETRY		00/00	00
JUNCTIONS		05/02	07
COMPARISON WITH PRIOR SURVEYS & CHARTS		02/19	21
VERIFIER'S REPORT		10/11	21
OTHER		00/00	00
TOTALS	3	264/47	311

Pre-Verification by J. S. Green	*Beginning Date* 10/21/82	*Ending Date* 10/21/82
Verification by J. E. Lotshaw Evaluated by D. J. Hill	*Beginning Date* 2/11/83	*Ending Date* 10/21/83
Verification Check by J. L. Stringham, J. S. Green	*Time (Hours)* 27	*Date* 11/1/83
Marine Center Inspection by	*Time (Hours)*	*Date*
Quality Control Inspection by	*Time (Hours)*	*Date*
Requirements Evaluation by	*Time (Hours)*	*Date*

*Time in this column is for Verification (VER) and Evaluation (EVAL)

PACIFIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO: H-10017 FIELD NO: RA-20-2-82

Alaska, Cook Inlet, West of Fire Island

SURVEYED: May 26 - June 30, 1982

SCALE: 1:20,000 PROJECT NO: OPR-P358-RA-82

SOUNDINGS: Ross Fineline 5000 CONTROL: Mini-Ranger Range/Range

Chief of Party.....CAPT R. J. Land

Surveyed By.....LT J. O'Clock
LT S. Ludwig
ENS R. Koehler
ENS B. Postle
SST R. Hastings

Automated Plot By.....PMC Xynetics Plotter

Verified By.....J. Lotshaw

Evaluated By.....D. Hill

1. INTRODUCTION

H-10017 (1982) is a navigable area survey conducted in accordance with Project Instructions OPR-P358-RA-82 dated January 27, 1982, Change 1 dated March 26, 1982, and Change 2 dated September 15, 1982.

This survey is located in the north central portion of Cook Inlet directly north of Moose Point Shoal and west of Fire Island. Hydrography is entirely offshore with minimum depths of 9 feet on an isolated shoal.

Field tide reductions are based on predicted tides from the primary station at Anchorage (945-5920), while final tide reductions are based on observations at subordinate stations at Phillips Platform A (945-5885) and Moose Point (945-5824).

The electronic corrector abstracts were revised during processing because of errant recording procedures in the field.

2. CONTROL AND SHORELINE

Hydrographic position control is adequately discussed in paragraphs F and G of the Descriptive Report and the Horizontal Control Report, OPR-P358-RA-82. The smooth sheet was plotted using field and published positions for control stations.

This is an offshore survey and no shoreline is shown on the smooth sheet.

3. Hydrography

Soundings at crossings are in good agreement.

Standard depth curves have been completed and brown curves have been added to better define the bottom configuration.

The development of bottom configuration and least depths is adequate in all navigable areas with the exception of that area mentioned in section 6, Comparison With Prior Surveys, where prior survey data was carried forward to supplement the present survey.

4. CONDITION OF SURVEY

The condition of the survey is satisfactory. The smooth sheet, accompanying overlays, hydrographic records and reports are adequate and generally conform to the requirements of the Hydrographic Manual.

5. JUNCTIONS

Survey	Scale	Relative Location
H-10000 (1982)	1:20,000	East
H-10018 (1982)	1:20,000	South

The junctions have been completed and inked.

6. COMPARISON WITH PRIOR SURVEYS

H-9444 (1974)	1:20,000
H-9445 (1974)	1:20,000
H-9446 (1974)	1:20,000
H-9447 (1974)	1:20,000
H-9698 (1977)	1:20,000

With the exception of the broad shoal which is aligned parallel to the axis of Cook Inlet and extends from east to west across the present survey area, a comparison of present to prior soundings indicates a relatively stable bottom. The shoal is typically a smooth ridge which rises from depths of 55 feet at the east edge of the survey area to a least depth of 9 feet at latitude 61°05'36"N, longitude 150°40'50"W. A comparison with the prior surveys indicates that the shoal has experienced significant change which consists primarily of a 400 meter shift southward and an increase in depth at its former location of more than 50 feet.

With the exception of a 60-foot sounding carried forward at latitude 61°10'03"N, longitude 150°33'20"W, the prior surveys are superseded within the common area.

7. COMPARISON WITH CHART

16660, 22nd Edition, May 8, 1982

a. Hydrography - A comparison indicates that all charted hydrography originates with the prior surveys previously discussed. It is recommended that charted hydrography be revised in accordance with the present survey. An attached copy of a chart section has been marked to show the area common to the present survey.

b. Aids to Navigation - There are no aids to navigation within the survey area.

8. COMPLIANCE WITH INSTRUCTIONS

With the exception of the following deficiencies and those noted elsewhere in this report, the survey is in compliance with instructions.

Loran-C chart verification was not accomplished as required by the project instructions.

The Descriptive Report did not contain a report with information obtained to verify the adequacy of tide and tidal current predictions presently published by NOS.

9. ADDITIONAL FIELD WORK

This is an adequate basic survey and no additional field work is required.

Respectfully submitted,

Dennis Hill
Cartographer

This survey has been verified and evaluated. I have examined the survey and it meets Charting and Geodetic Services survey standards and requirements for use in nautical charting except as noted in the Evaluation Report. The survey is recommended for approval.

James S. Green
Supervisory Cartographer

DATE: November 3, 1982

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 945-5885 Phillips Platform "A", Alaska
945-5912 Fire Island, Alaska

Period: May 26-June 30, 1982

HYDROGRAPHIC SHEET: H-10017

OPR: P358

Locality: Northern Cook Inlet

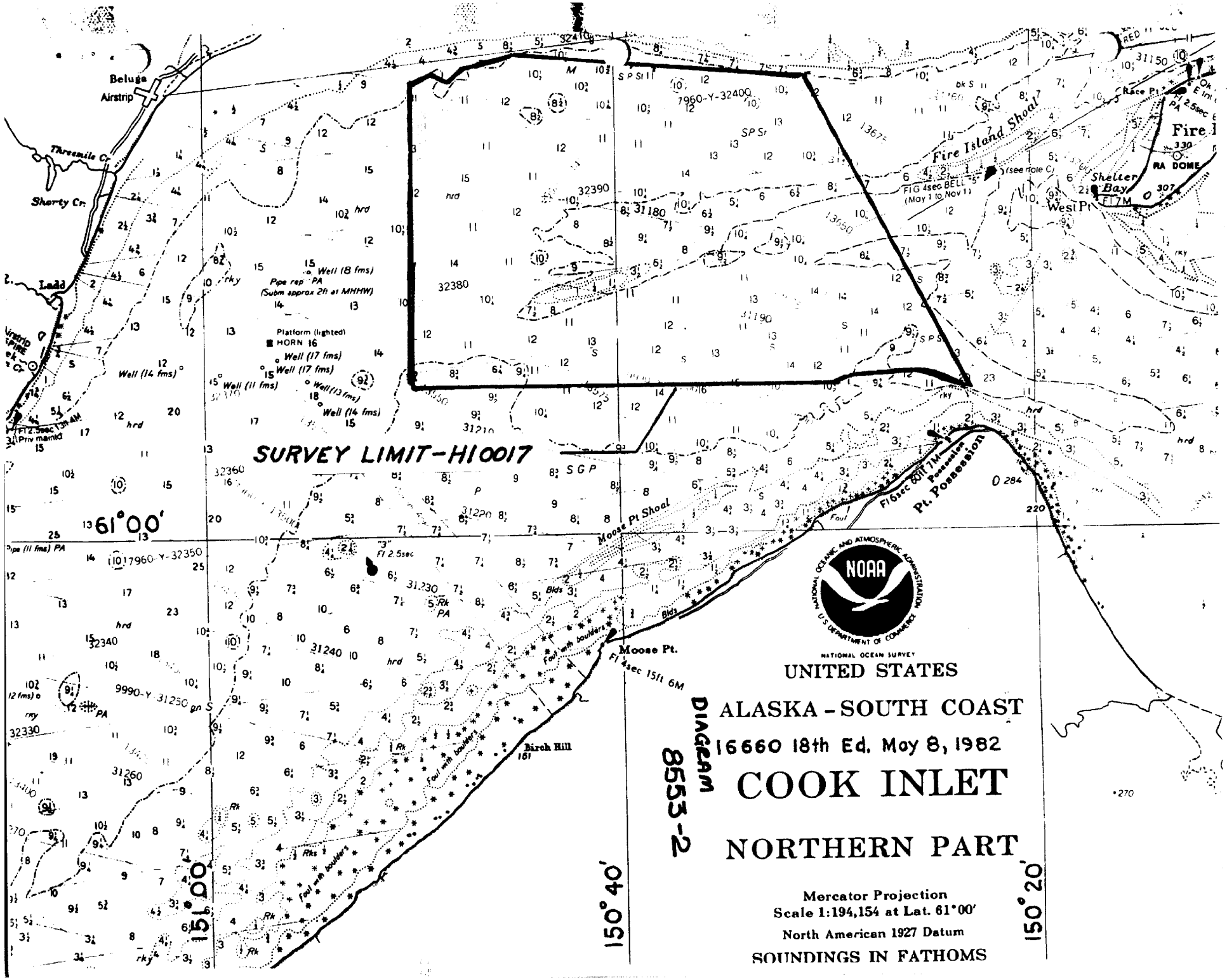
Plane of reference (mean lower low water): 945-5885 = 33.87 ft.
945-5912 = 6.79 ft.

Height of Mean High Water above Plane of Reference is 945-5885 = 22.1 ft.
945-5912 = 26.1 ft.

REMARKS: Recommended Zoning:

1. East of longitude 150°53' to 150°47', zone on 945-5885 and apply x1.03 range ratio.
2. East of the previous line to 150°40' zone on 945-5885 and apply x1.05 range ratio.
3. East of the previous line to 150°35' zone on 945-5885 and apply +10 minute time correction and x1.08 range ratio.
4. East of the previous line to 150°30' zone on 945-5885 and apply +20 minute time correction and x1.10 range ratio.
5. East of the previous line to 150°25' zone on 945-5912 and apply -20 minute time correction and x0.94 range ratio.
6. East of the previous line to 150°20' zone on 945-5912 and apply -10 minute time correction and x0.96 range ratio.

Chief, Tidal Datums and Information Branch


SURVEY LIMIT-H10017
Beluga Airstrip
Threemile Cr.
Shorty Cr.
Ladd
Fire Island Shoal
Shelter Bay
West Pt.
Race Pt.
Fire I.
RA DOME
Moose Pt. Shoal
Pt. Possession
Moose Pt.
Birch Hill
61°00'
150°40'
150°20'
NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEAN SURVEY
UNITED STATES
ALASKA - SOUTH COAST
16660 18th Ed. May 8, 1982
COOK INLET
NORTHERN PART
DIAGRAM 8553-2
Mercator Projection
Scale 1:194,154 at Lat. 61°00'
North American 1927 Datum
SOUNDINGS IN FATHOMS

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10017

I have reviewed the smooth sheet, accompanying data, and reports of this hydrographic survey. Except as noted in the Evaluation Report, the hydrographic survey meets or exceeds Charting and Geodetic Services (C&GS) standards, complies with instructions, and is accurately and completely represented by the smooth sheet and digital data file for use in nautical charting.

W. I. C. Austin 11/25/83
Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:RLSandquist R. L. Sandquist 11/30/83

After review of the smooth sheet and accompanying reports, I hereby certify this survey is accurate, complete, and meets appropriate standards with only the exceptions as noted above. The above recommendations are forwarded with my concurrence.

Captain Townsend 12/9/83
Director, Pacific Marine Center (Date)

FORM C&GS-8352
(3-25-68)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10017

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
16665	Feb. 27, 84	HAUSMAN	Full ~~Part Before~~ After ~~Verification Review Inspection~~ Signed Via
			Drawing No. 01.
16663	May. 07, 1984	HAUSMAN	Full ~~Part Before~~ After ~~Verification Review Inspection~~ Signed Via
			Drawing No. 01.
16660	May. 07, 1984	HAUSMAN	Full ~~Part Before~~ After ~~Verification Review Inspection~~ Signed Via
			Drawing No. 27.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
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