10018

10018

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-20-3-82

Office No. H-10018

LOCALITY

State Alaska

General Locality Cook Inlet

Locality Moose Point to Point

Possession

1982

CHIEF OF PARTY
CAPT R.J. Land

LIBRARY & ARCHIVES

DATE December 29, 1983

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

6

6660 } CARTOG.
6663 } SIGN OFF
6665 } ON F.D.R. 8352
6666 } IN BACK OF DR

NOAA FORM 77-28 (11-72) | U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION | REGISTER NO.

HYDROGRAPHIC TITLE SHEET

H-10018

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-20-3-82

State Alaska

General locality Cook Inlet

Locality Moose Point to Point Possession

Scale 1:20,000 Date of survey June 5 - June 30, 1982

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

Vessel NOAA Ship RAINIER and Launches 2123, 2125, 2126

Chief of party CAPT Ralph J. Land

Surveyed by LT S. Ludwig, LTJG B. Hillard, ENS B. Postle, SST R. Hastings

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

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Verification ~~Processed~~ by Thelma O. Jones Automated plot by PMC Xynetics Plotter

Evaluation ~~Verification~~ by Dennis J. Hill

Soundings in ~~fathoms~~ feet at ~~MHW~~ MLLW

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

AHQ15 - 11/13/84 mgf

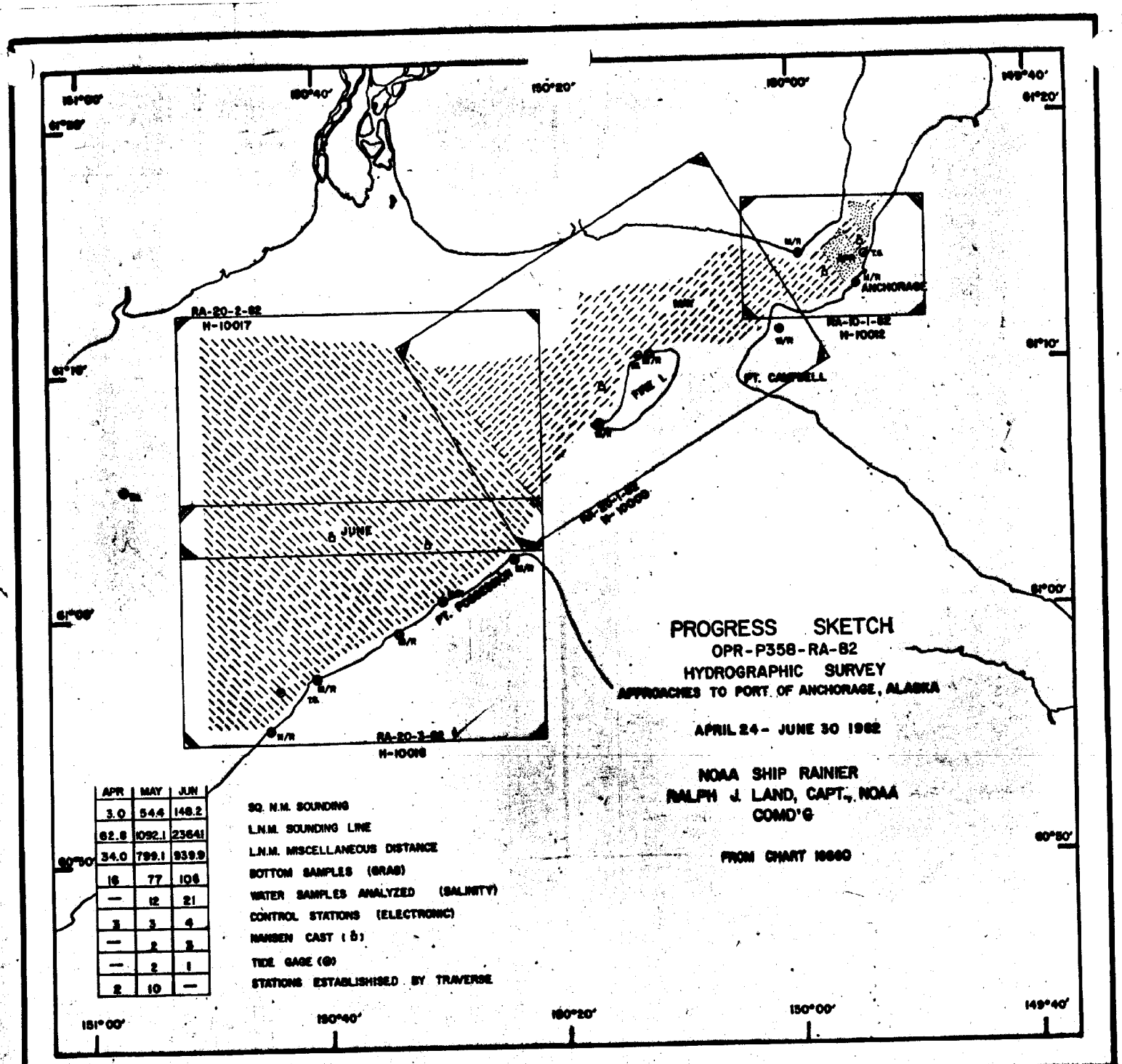
STANDARDS CKD 1-9-84

clw

KWW: 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	54.4	148.2
62.8	1092.1	2364.1
34.0	799.1	939.9
16	77	106
—	12	21
3	3	4
—	2	3
—	2	1
2	10	—

A. PROJECT

Survey H-10018 was conducted in accordance with Project Instructions numbered OPR-P358-RA-82, Approaches to Port of Anchorage, Alaska, dated ~~February 4~~ January 27, 1982, and a supplement to the Project Instructions, Change No. 1, dated March 26, 1982, and Change 2 dated September 15, 1982.

B. AREA SURVEYED

Survey H-10018 was performed in Northern Cook Inlet between Pt Possession and Moose Pt.

The project area included the navigable waters east of longitude 150° 50'W, south of latitude 61° 04' N, and west of longitude 150° 23' W, with the inshore limit being the 3 fathom curve.

Inclusive dates of the survey were June 5 - June 30, 1982.

C. SOUNDING VESSEL

All soundings were obtained using the following hydrographic launches: RA-3(2123), RA-5(2125), RA-6(2126). No unusual sounding vessel configurations or problems were encountered.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Introduction

Echo sounding corrections contained in this section apply to survey H-10018. 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-5(2125) and RA-6(2126). 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	2125	2126
Transceiver	1041	1040	1042
Analog Recorder	1071	1042	1070
Digitizer	1041	1040	1042

SOUND VELOCITY CORRECTIONS

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

TABLE II

Nansen Cast Data

DATE	LOCATION	VELOCITY TABLE NO.
June 14, 1982	61° 02.5' N 150° 31.6' W	3
June 25, 1982	61° 03.0' N 150° 39.5' W	4

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 corrections tables. The standard velocity correctors for the survey sheets were then obtained by plotting the actual depth minus velocity corrections 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 cast's 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
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. *See Preprocessing Critique, E*

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

Field sheets were prepared using the PDP 8/e complot system on board the RAINIER. All sheets were based on a modified transverse mercator projection. A list of parameters used to define the hydrographic sheets is attached. All field records will be sent to the Pacific Marine Center, Seattle, Washington for verification. The smooth field sheet for this survey is plotted at a 1:20,000 scale. In addition, there are three semi-smooth expansion sheets at a 1:2500 scale plus one inset in expansion #1 at a 1:500 scale. The shoalest sounding of each development has been transferred to the smooth sheet.

F. CONTROL STATIONS

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

POINT POSSESSION LIGHT
MOOSE POINT LIGHT
MOOSEHEAD
PRIMO
CREEK 1963

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 records.

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

The range/range positioning method was used during survey H-10018, employing a Motorola Miniranger III system. 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	DATES (JD)
2123	720	2710	174-181
2125	720	2710	159-174
2126	711	1646	156-181

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 triangulation stations and by the launch-to-launch calibration method. On several days, the guide launch in the launch-to-launch method had previously calibrated by observing horizontal sextant angles in the ship's davits.

On JD 181 RA-3 calibrated code E by obtaining a position fix from launch RA-4. The two codes used by RA-4 for this fix were previously calibrated by horizontal sextant angles. This calibration method was used because the weather was foggy at the time and no signals were visible. This check proved satisfactory and met specifications.

Miniranger baseline calibrations for this survey took place at the Port of Anchorage municipal pier on May 28, June 11 and July 4, 5, 1982. Initial correctors to electronic position control for each R/T-console pair and transponder combination were used to determine minimum signal strength cutoff 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. A solar panel was used to recharge batteries at some stations, and operated very well. However, after three or four weeks of recharging, the battery's fluid dried up. Future prolonged use of the solar panels will require a regulator. Overall, shore transponder units performed satisfactorily.

On June 22, 1982 (JD 173) the R/T unit (S/N 1660) on RA-3 failed. Until this time, no data for this survey had been collected by RA-3. The R/T-console pair (S/N 2710, 720) from RA-5 was transfered to RA-3 so that RA-3 could continue working. This explains the duplicate entries in Table I. All R/T-console pairs used to gather data had been included in the baseline calibrations.

H. SHORELINE

As stated in the project instructions OPR-P358-RA-82, this survey is a Navigable Area Survey and requires no field edit investigation. Shoreline for the field sheets was taken from the latest edition of chart 16660. No gross discrepancies were found in the charted shoreline.

I. CROSSLINES

A total of 76.8 miles of crosslines were run, representing 7.4% of the mainscheme mileage. A total of 423 comparisons were made between mainscheme and crossline soundings. Eighty five percent of the comparisons met the criteria as stated in Section 1.1.2 Part BII.1 of the Hydrographic Manual. The observed discrepancies are distributed randomly on the sheet. The amount of disagreement found here is not unusual considering bottom profile irregularities, and the fact that most of the compared soundings are not exactly coincident. Also, the use of actual tides rather than predicted tides will result in a better comparison. This is because of the non-sinusoidal characteristic of the actual tide curve compared to that of the computer generated curve. All of the launches involved in this survey ran crosslines in addition to the mainscheme mileage. The same launch did not necessarily run both types in a given area.

J. JUNCTION

The junction of this survey with present survey H-10017 was compared. All junction comparisons met the criteria stated in the Hydrographic Manual.

K. COMPARISON WITH PRIOR SURVEYS *See Evaluator's Report, sect. 6*

This survey was compared with prior surveys H-9445, H-9446, H-9696, and H-9698. The following is a statement on the agreement of the comparisons:

H-9445

88% of the 224 comparisons met the criteria as stated in the Hydrographic Manual.

H-9446

93% of the 701 comparisons met the criteria as stated in the Hydrographic Manual.

H-9696

93% of the 164 comparisons met the criteria as stated in the Hydrographic Manual.

H-9698

100% of the 90 comparisons met the criteria as stated in the Hydrographic Manual.

The results of this survey show excellent agreement with prior surveys H-9445, H-9446, H-9696, and H-9698. Those discrepancies that exist are due to the fact that the compared soundings are seldom coincident. There is no evidence of extensive displacement of the depth curves. *Concur*

The most notable feature in this survey is the MOOSE POINT Shoal. Comparison of the present survey with prior surveys H-9446, and H-9696 shows that the position of the shoal has not shifted. *Concur*

EXPANSION SHEET 3

The shoal sounding addressed in Pre Survey Review item no. 2 was located by running development lines with survey launch RA-3. This item is presently charted as 5 fathoms, PA at 60° 58' 30" N, 150° 49' 30" W. An echo sounder depth of 29 feet was found at 60° 58' 24.76" N, 150° 49' 09.24" W (see expansion #3). Leadline verification was not possible due to the presence of strong currents. It is recommended that the shoal sounding be charted in the new position. *Concur*

EXPANSION SHEET 1

Three shoal soundings were developed in this area. The two shoalest soundings were verified with a leadline and a discussion is included at the end of this report in a Notice to Mariners.

EXPANSION SHEET 2

A 30 foot sounding was developed in an area of generally 35-45 feet.

L. COMPARISON WITH THE CHART

This survey was compared with Chart 16660 22nd Ed., ~~March~~ May 8, 1982 (prelim) enlarged to a 1:20,000 scale. Sixty nine percent of the 86 comparisons met the criteria as stated in the Hydrographic Manual. The poor agreement is likely due to the difficulty in comparing the enlarged chart numbers with the smaller survey soundings. As mentioned in Section K, the present survey compares very well with the prior surveys for the area. Concur

M. Adequacy of Survey

This survey is complete and sufficient to supersede all prior surveys for charting purposes. See Evaluator's Report, sect. 6

N. AIDS TO NAVIGATION

There are no floating aids to navigation in the survey area. Comparison of the fixed aids to navigation, as listed on NOAA Form 76-40, with the Light List, Vol. III, 1982, revealed one minor position discrepancy. POINT POSSESSION LIGHT (LL #3507) currently listed at 61° 02.0' N, 150° 24.2' W should be listed at 61° 02.1' N, 150° 24.2' W. All fixed aids were verified and are listed on the NOAA 76-40 forms included with this report.

O. STATISTICS

SURVEY LAUNCH	LINEAR NAUTICAL MILES OF HYDROGRAPHY	SQUARE NAUTICAL MILES OF HYDROGRAPHY	NUMBER OF POSITIONS
RA-3 (2123)	135.2	--------	~~463~~ 491
RA-5 (2125)	306.3	--------	~~939~~ 1055
RA-6 (2126)	715.7	--------	~~2078~~ 2406
TOTAL	1157.2	61.4	~~3480~~ 3952

Bottom Samples: 50

Tide stations for this survey were maintained at Fire Island, Moose Point, and Phillips Platform A, with the control station at Anchorage, Alaska.

Two Nansen casts were taken in the survey area.

P. MISCELLANEOUS

All NAV DOWN errors generated during the course of hydrography on the computer launch RA-3 were corrected in the corrector tapes.

Q. RECOMMENDATIONS

This survey is considered complete and adequate, and there are no recommendations.

R. AUTOMATED DATA PROCESSING

Data acquisition and processing were accomplished per instructions in the Hydrographic Manual (4th 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	4/01/74
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	10/10/74
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:

Brian S. Postle

Brian S. Postle
ENS, NOAA

INDEX TO SEPARATES FOLLOWING TEXT

PARAMETER TAPE LISTING
PA-20-3-82 (H-10018)

```
PA-20-3E-82
SKEW: 0,22,39
SCALE: 1:20000

FEST=36000
CLAT=6743000
CMER=150/20/0
GRID=60
PLSCL=20000
PLAT=60/58/00
PLON=150/40/15
VESNO=2123
YR=82
ANDIST=0.0


EXPANSION #1
SKEW: 306,15,35
SCALE: 1:2500

FEST=36000
CLAT=6743000
CMER=150/20/0
GRID=10
PLSCL=2500
PLAT=61/03/01
PLON=150/28/04
VESNO=2124
YR=82
ANDIST=0.0


INSET #1
SKEW: 90,14,20
SCALE: 1:500

FEST=36000
CLAT=6743000
CMER=150/20/0
GRID=2
PLSCL=500
PLAT=61/03/00
PLON=150/27/07
VESNO=2124
YR=82
ANDIST=0.0
```

```
PA-20-3W-82
SKEW: 90,22,33
SCALE: 1:20000

FEST=36000
CLAT=6743000
CMER=150/20/0
GRID=60
PLSCL=20000
PLAT=60/55/18
PLON=150/39/00
VESNO=2123
YR=82
ANDIST=0.0


EXPANSION #2
SKEW: 38,11,30
SCALE: 1:2500

FEST=36000
CLAT=6743000
CMER=150/20/0
GRID=10
PLSCL=2500
PLAT=60/57/08
PLON=150/49/35
VESNO=2124
YR=82
ANDIST=0.0


EXPANSION #3
SKEW: 0,9,20
SCALE: 1:2500
FSP #2

FEST=36000
CLAT=6743000
CMER=150/20/0
GRID=10
PLSCL=2500
PLAT=60/58/17
PLON=150/50/00
VESNO=2124
YR=82
ANDIST=0.0
```

FIELD TIDE NOTE

Field tide reduction of soundings for H-10018 was based on predicted tides for Anchorage, Alaska (945-5920). Correctors were obtained from the Priliminary Tidal Zoning OPR-P358-RA. 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~~ 4.4' 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

SURVEY NUMBER

H-10018

GEOGRAPHIC NAMES

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 U.S. LIGHT LIST	K	
COOK INLET	X									1
MOOSE POINT	X									2
MOOSE POINT SHOAL	X									3
POINT POSSESSION	X									4
POSSESSION	X									5
ALASKA (title block)										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
					Approved:					19
										20
					Charles E. Harrington					21
					Chief Geographer - N/CG2x5					22
					21 June 1983					23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

TRA (TC/TI) TAPE: VESSEL 2126 (RA-6) SURVEY RA-20-3-82 (H-10018) FATHOMETER S/N 1070 YR 82 PAGE 1 OF 2

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
000000	1.5	156	3	0.0	0.0	1.8	0.0	-0.3	HYDRO BEGIN
231900	2.0	160	3	0.0	0.0	1.8	0.0	+0.2	
233420	1.5	160	3	0.0	0.0	1.8	0.0	-0.3	
234631	2.0	160	3	0.0	0.0	1.8	0.0	+0.2	
001220	1.5	161	3	0.0	0.0	1.8	0.0	-0.3	
003720	2.0	161	3	0.0	0.0	1.8	0.0	+0.2	
190100	1.5	165	3	0.0	0.0	1.8	0.0	-0.3	
194040	1.8	165	3	0.0	0.0	1.8	0.0	0.0	
200320	2.0	165	3	0.0	0.0	1.8	0.0	+0.2	
213700	1.8	165	3	0.0	0.0	1.8	0.0	0.0	
225215	1.5	165	3	0.0	0.0	1.8	0.0	-0.3	
181221	1.8	166	3	0.0	0.0	1.8	0.0	0.0	
215715	1.5	166	3	0.0	0.0	1.8	0.0	-0.3	
175500	1.8	167	3	0.0	0.0	1.8	0.0	0.0	
204115	1.5	167	3	0.0	0.0	1.8	0.0	-0.3	
215130	2.0	167	3	0.0	0.0	1.8	0.0	+0.2	

3-32

TRA (TC/TI) TAPE: VESSEL 2126 (RA-6) SURVEY RA-20-5-82 (H-10018) FATHOMETER S/N 1070 YR 82 PAGE 2 OF 2

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
225900	1.5	167	3	0.0	0.0	1.8	0.0	-0.3	
004830	1.8	168	3	0.0	0.0	1.8	0.0	0.0	
005000	1.5	168	3	0.0	0.0	1.8	0.0	-0.3	
003530	1.8	170	3	0.0	0.0	1.8	0.0	0.0	DETACHED POSITIONS
003800	1.5	170	3	0.0	0.0	1.8	0.0	-0.3	HYDRO
203051	1.8	171	4	0.0	0.0	1.8	0.0	06	D.P ON SHOAL
210506	0.0	171	0	0.0	0.0	0.0	0.0	0.0	LEADLINE D.P ON SHOAL
221530	1.5	171	4	0.0	0.0	1.8	0.0	-0.3	HYDRO
192836	1.3	174	4	0.0	0.0	1.8	0.0	-0.5	
181530	2.0	175	4	0.0	0.0	1.8	0.0	+0.2	
214100	1.3	175	4	0.0	0.0	1.8	0.0	-0.5	
213842	1.5	180	4	0.0	0.0	1.8	0.0	-0.3	
003845	1.3	181	4	0.0	0.0	1.8	0.0	-0.5	
184400	2.0	181	4	0.0	0.0	1.8	0.0	+0.2	
215600	1.5	181	4	0.0	0.0	1.8	0.0	-0.3	
232500	1.5	181	4	0.0	0.0	1.8	0.0	-0.3	HYDRO ENDS

3-32

TRA (TC/TI) TAPE: VESSEL 2125 (RA-5) SURVEY RA-20-3-82 (H-10018) 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
002215	1.5	159	3	0.0	0.0	1.8	0.0	-0.3	HYDRO BEGINS
205649	0.0	165	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES.
225100	1.5	169	3	0.0	0.0	1.8	0.0	-0.3	HYDRO
182600	1.3	170	3	0.0	0.0	1.8	0.0	-0.5	
233130	1.5	170	3	0.0	0.0	1.8	0.0	-0.3	
000000	1.5	171	4	0.0	0.0	1.8	0.0	-0.3	
180945	1.3	171	4	0.0	0.0	1.8	0.0	-0.5	
192300	2.0	171	4	0.0	0.0	1.8	0.0	+0.2	
193300	1.4	171	4	0.0	0.0	1.8	0.0	-0.4	
194230	2.0	171	4	0.0	0.0	1.8	0.0	+0.2	
214215	1.3	171	4	0.0	0.0	1.8	0.0	-0.5	
175432	0.0	173	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES
190900	1.3	173	4	0.0	0.0	1.8	0.0	-0.5	HYDRO
010000	1.3	174	4	0.0	0.0	1.8	0.0	-0.5	HYDRO ENDS

3-32

TRA (TC/TI) TAPE: VESSEL 2123 (RA-3) SURVEY RA-10-3-82 (H-10018) 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
200623	1.6	174	4	0.0	0.0	1.8	0.0	-0.2	HYDRO BEGIN
195838	1.8	181	4	0.0	0.0	0.0	0.0	0.0	D.P. ON SHOAL.
202655	1.6	181	4	0.0	0.0	1.8	0.0	-0.2	HYDRO
213458	1.8	181	4	0.0	0.0	1.8	0.0	0.0	D.P ON SHOAL.
215816	1.8	181	4	0.0	0.0	1.8	0.0	0.0	HYDRO ENDS

3-32

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2123 SHEET : PA-20-3W-82

TIME	DAY	PATTERN 1	PATTERN 2
200623	174	+00001	+00000
002626	175	+00001	+00000
221422	175	+0001	+0004
~~224956~~		+00001	+00004
000010	176	-0002	+0004
203033	176	+0001	+0004
201046	180	+00001	+00004
000004	181	+0001	+0004
185814	181	-0002	+0004
215516			

ELECTRONIC COLLECTOR ABSTRACT

VESSEL : 2125 SHEET : PA-20-3W-82

TIME	DAY	PATTERN 1	PATTERN 2
180945	171	+00001	+00000
000000	172	+00001	+00000
184215	172	+00001	+00000
000000	173	+00001	+00000
190900	173	+00001	+00000
001800	174	+00001	+00000

BOTTOM SAMPLES COMBINED FROM PA-20-3E-3W-82 VESSEL: 2125

205649	165	+00001	+00074
000036	166	+00001	+00074
210901	168	+00074	+00000
231842		+00070	+00074
003455	169	+00070	+00000
175432	173	+00001	+00004

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2126 SHEET : RA-2C-3W-82

TIME	DAY	PATTERN 1	PATTERN 2
222615	173	+00002	+00005
000000	174	+00002	+00005
182115	174	+00002	-00002
000000	175	+00002	-00002
181530	175	+00002	+00005
000000	176	+00002	+00005
190530	176	-00004	+00005
192015	180	+00002	+00005
003845	181	+00002	+00005
184400	181	+00002	+00005

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 9193 SHEET : EA-20-3E-32

TIME	DAY	PATTERN 1	PATTERN 2
175004	176	+00001	+00000
180500	175	+00001	+00000
221422		+00001	+00004

ELECTRONIC CORRECTOR ABSTRACT

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

TIME	DAY	PATTERN 1	PATTERN 2
002215	159	-00002	+00001
135515	159	-00002	+00001
200645		+00001	+00004
002315	160	+00001	+00004
175800	160	+00001	+00004
224915	169	+00001	+00000
000745	170	+00001	+00000
180000	170	+00001	+00000
000000	171	+00001	+00000

ELECTRONIC COLLECTOR ABSTRACT

VESSEL : 2186 SHEET : EA-20-CE-82

TIME	DAY	PATTERN 1	PATTERN 2
000000	156	-00004	+00002
134100	158	-00004	+00002
000000	159	-00004	+00002
182515	159	+00002	+00005
010145	160	+00002	+00005
182845	160	+00002	+00005
195011		+00002	+00004
000001	161	+00002	+00004
190100	165	+00002	+00005
003145	166	+00002	+00005
181221	166	+00002	+00005
001615	167	+00002	+00004
175500	167	+00002	+00005
203645		+00002	-00002
001515	168	+00002	-00002
182415	168	+00002	+00004
000445	169	+00002	+00004
183500	169	+00002	-00002
222300		+00002	+00004
000315	170	+00002	-00002
181830	170	+00002	+00004
001015	171	+00002	+00004
130545	171	+00002	+00004
184430	172	+00002	+00004
210600		+00002	-00002
001515	173	+00002	+00004
173830	173	+00002	-00002

MASTER STATION LIST
OFF-1358-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 05865 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
/FT POSSESSION LIGHT 1974 611502(LL3507)

107 7 61 00 20505 150 30 17765 25~~0~~4 0028 000000
/PRIMO ~~1982 (TEMPORARY)~~

108 7 60 59 08021 150 34 17820 25~~0~~4 0022 000000
/MOOSEHEAD ~~1982 (TEMPORARY)~~

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

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

~~200 4 61 13 56067 149 52 01661 139 0107 000000~~
~~/ANCHORAGE ACS MICROWAVE TOWER, CENTER, 1982~~

201 4 61 13 46510 ~~149 52 35348~~ 139 0068 000000
/ANCHORAGE MUNICIPAL ~~TAKR, 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 0084 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 POSITIONS

RA-20-3-82 (H-10018)

VESSEL: 2123 ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
174/175	3012-3091	04	106-109	Mainscheme lines.
175	3092-3169	04	106-109	Mainscheme lines.
175	3170-3179	04	106-108	Crosslines.
175	3180-3213	04	106-110	Crosslines. Pos. 3188-3191 inside Expansion #3.
176	3214-3244	04	106-109	Crosslines.
176	3245-3252	04	106-109	Mainscheme lines.
176	3255-3278	04	107-110	Crosslines.
180/181	3279-3420	04	106-110	Maincheme lines. Pos. 3294-3295, 3305-3307, 3333-3334, 3346-3348, 3359-3361, 3373-3374, 3382-3383, 3396-3398, 3402-3404, 3417-3420 Inside Expansion No.3. Pos. 3295-3297, 3304-3306, 3334-3336, 3345-3346,3361-3363, 3370-3372, 3384-3385, 3393-3395, 3404-3406, 3415-3416 Inside Expansion No. 2.
181	3421-3469	04	106-110	Development Lines on Expansion No.2.
181	3470-3474	04	106-110	Detached positions on Shoal.
181	3475-3518	04	106-110	Development Lines. Pos. 3421-3497 on Expansion No.2, Pos. 3498-3518 on Expansion No.3.
181	3521	04	106-110	Detached position on PSR Item #2, Expansion No.3.
181	3523	04	107-110	Detached Position on Shoal. On Expansion No.2.

REJECTED POSITONS: 3000-3010 (NOT USED); 3011; 3019; 3022; 3024; 3028; 3030; 3039; 3043; 3081; 3121; 3137; 3169; 3253-3254; 3298; 3311; 3335; 3409; 3419; 3445; 3454-3456; 3466; 3468; 3471-3473; 3505-3506; 3519-3520; 3522.

ABSTRACT OF POSITIONS

RA-20-3-82 (H-10018)

VESSEL: 2125 (RA-5)

ANDIST: 0.0

DAY	POSTIONS	CTRL	S1 M S2	REMARKS
159	5000-5027	04	104-106	Mainscheme Lines
159	5028-5065	04	104-106	Mainscheme Lines. Pos. 5029-5033, 5039-5044, 5047-5050, 5061-5063 Inside Expansion No.1.
159/160	5066-5196	04	106-107	Mainscheme Lines.
160/161	5197-5335	04	106-107	Mainscheme Lines.
165/166	5336-5354	04	106-108	Bottom Samples.
168	5355-5360	04	108-109	Bottom Samples.
168	5361-5364	04	214-108	Bottom Samples.
169	5365-5381	04	214-109	Bottom Samples.
169/170	5382-5440	04	106-109	Mainscheme Lines.
170/171	5441-5606	04	106-109	Mainscheme Lines.
171/172	5607-5757	04	106-109	Mainscheme Lines.
172/173	5758-5929	04	106-109	Mainscheme Lines.
173	5930-5933	04	106-109	Bottom Samples.
173/174	5934-5998 8000-8062	04	106-109	Mainscheme Lines.

REJECTED POSITIONS: 5143; 5155; 5179; 5203; 5255; 5276; 5280; 5382; 5406; 5545; 5571; 5617; 5625; 5629; 5681; 5711; 5731; 5777; 5791; 5808; 5943; 5950; 5999 (NOT USED); 8023.

ABSTRACT OF POSITIONS

RA-20-3-82 (H-10018)

VESSEL: 2126 (RA-6) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
156	6000-6030	04	104-106	Mainscheme Lines.
158/159	6031-6188	04	104-106	Mainscheme Lines. Pos. 6132-6134, 6140-6142, 6145-6148, 6152-6156, 6159-6163, 6166-6170, 6174-6178, 6181-6185 Inside Expansion No.1, Scale 1:2500.
159-160	6189-6324	04	106-107	Mainscheme Lines.
160/161	6325-6446	04	106-107	Mainscheme Lines.
165	6447-6461	04	106-107	Mainscheme Lines.
165	6462-6525	04	106-107	Development Lines. Expansion No.1.
165/166	6526-6558	04	106-107	Crosslines. Pos. 6534-6538, Inside Expansion No.1.
166	6559-6610	04	106-107	Development Lines, Expansion No.1.
166	6612-6614	04	106-107	Detached Positions on Shoal.
166	6615-6632	04	106-107	Development Lines. Expansion No.1.
166	6633-6649	04	106-107	Mainscheme Lines.
166	6650-6685	04	106-107	Crosslines.
167	6686-6737	04	106-108	Mainscheme Lines.
167	6738-6785	04	106-107	Development Lines. Inset No.1, Scale 1:500.
167/168	6788-6884	04	106-109	Mainscheme Lines.
168/169	6886-6999 9000-9075	04	106-108	Mainscheme Lines.
169	9076-9138	04	106-109	Mainscheme Lines.
169	9139-9182	04	106-108	Mainscheme Lines.
170	9183-9218	04	106-109	Mainscheme Lines.
170	9219-9236	04	106-108	Mainscheme Lines.
170	9237-9271	04	106-108	Crosslines.
170/171	9272-9325	04	106-108	Mainscheme Lines.
171	9326-9328	04	106-108	Detached Positions to fill in soundings. Duplicates same positions this day.
171	9326-9340	04	106-108	Mainscheme Lines. Pos. 9326-9328 Duplicates same this day.

VESSEL: 2126 (RA-6) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
171	9341-9379	04	106-108	Mainscheme Lines.
171	9383-9389	04	106-108	Detached Positions on Shoal. Positions 9385 & 9389 Inside Expansion No.1.
171	9397-9454	04	106-108	Mainscheme Lines.
172	9455-9481	04	106-108	Mainscheme Lines.
172	9482-9534	04	106-109	Mainscheme Lines.
173	9535-9552	04	106-108	Crosslines.
173	9553-9644	04	106-109	Mainscheme Lines.
173/174	9645-9730	04	106-110	Mainscheme Lines. Pos. 9647-9649 Inside Expansion No.2. Scale 1:2500. Pos. 9649-9651 Inside Expansion No.3, Scale 1:2500.
174/175	9731-9937	04	106-109	Mainscheme Lines.
175/176	9938-9998 1000-1112	04	106-110	Mainscheme Lines.
176	1113-1197	04	107-110	Mainscheme Lines. Pos. 1113-1114, 1127-1128 Inside Expansion No.3. Pos. 1115-1118, 1124-1126, 1130-1132, 1140-1142, 1144-1146, 1155-1156 Inside Expansion No.2.
180	1198-1323	04	106-110	Mainscheme Lines.
181	1324-1354	04	106-110	Crosslines.
181	1355-1376	04	106-110	Crosslines. Pos. 1363-1366 Inside Expansion No.2.
181	1377-1414	04	106-110	Mainschememm Lines. Pos. 1394-1396, 1401-1402, 1413-1414 Inside Expansion No.2. Pos. 1396-1399 Inside Expansion No.3.
181	1415-1440	04	106-110	Split Lines.

REJECTED POSITIONS: 6611; 6786-6787; 6793; 6803; 6805-6806; 6813; 6815; 6817; 6834; 6841; 6849; 6873; 6885; 6949; 9149; 9232; 9250; 9380-9382; 9384; 9386-9388; 9390-9396; 9425; 9439; 9441; 9613; 9646; 9728; 9732; 9746; 9756; 9774; 9775; 9793; 9813; 9824; 9838; 9948; 9999 (NOT USED); 1040; 1042; 1045; 1087; 1097; 1135; 1149; 1261; 1385.

NOAA FORM 75-44 (11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

OFFSHORE MOOSE POINT - POINT POSSESSION, AK

CHECKED BY: TAT

DATE CHECKED: 6/29/82

VESSEL: 3125 (RA-5)

PROJ. NO.: OPR-P358-RA-82

YEAR: 82

RA-20-3-82 (H-10018)

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.
										wood fragments	RLH
5336	6/14	03' 26.60"	29' 00.97"	118.2	25 lbs.	1/16"			fne S		RLH
5337	6/14	03' 00.78"	26' 29.71"	63.9	"	4"			crs S.		RLH
5338	6/14	02' 32.71"	24' 30.59"	32.7	"	1/8"			S, G		RLH
5339	6/14	01' 53.29"	26' 41.85"	41.4	"	1/4"			S, G, P		RLH
5340	6/14	02' 41.09"	28' 51.74"	58.6	"	2"			med S		RLH
5341	6/14	03' 18.73"	31' 05.43"	100.0	"	1/4"			S, P		RLH
5342	6/14	03' 09.45"	33' 21.05"	94.0	"	1/4"			fne S, crs P		RLH
5343	6/14	01' 55.72"	33' 39.52"	79.3	"	1"		br	M, fne S		RLH
5344	6/14	02' 18.72"	31' 15.86"	72.5	"	1"			med S		RLH
5345	6/14	01' 25.83"	29' 01.99"	37.2	"	1/2"			S, G, P		RLH
5346	6/14	01' 06.29"	31' 44.82"	36.9	"	1/4"			med S		RLH
5347	6/14	00' 41.66" 60°N	34' 16.08"	47.5	"	1"		gy	M, S		RLH
5348	6/14	59' 32.93" 61°N	35' 12.62"	32.7	"	1/4"			S, G		RLH
5349	6/15	00' 41.32"	36' 05.10"	8.0	"	3"			S		RLH
5350	6/15	01' 46.30"	36' 27.48"	66.4	"	1/4"			S, G, P		RLH
5351	6/15	03' 00.23"	35' 54.16"	94.0	"	1/4"		br	M, fne S		RLH
5352	6/15	03' 30.54"	38' 23.54"	98.1	"	2"			med S		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)

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	82	OFFSHORE MOOSE POINT-POINT POSSESSION, AK RA-20-3-82 (H-10018)	TAT	6/29/82

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.
5353	6/15	02' 26.10"	38' 41.13"	76.3	25 lbs.	1/4"			S, G, fne P		RLH
5354	6/15	01' 12.78"	38' 31.42"	59.7	"	1/4"			S, G, fne P		RLH
5355	6/17	02' 15.59"	40' 50.59"	76.4	"	1"			S, G, P		RLH
5356	6/17	00' 56.53"	40' 37.63"	70.4	"	1/4"			S, G		RLH
5357	6/17	60°N 59' 21.09"	41' 03.08"	18.7	"	4"			S		RLH
5358	6/17	59' 39.55"	40' 03.29"	13.2	"	1"			S		RLH
5359	6/17	59' 51.44"	39' 00.99"	12.6	"	1"			S		RLH
5360	6/17	58' 51.44"	39' 23.66"	39.3	"	1/2"			S		RLH
5361	6/17	59' 01.37"	37' 09.10"	38.9	"	1"			S, G, P		RLH
5362	6/17	61°N 00' 09.01"	38' 06.29"	18.0	"	1"			S		RLH
5363	6/17	00' 21.96"	37' 00.50"	21.0	"	2"			S		RLH
5364	6/17	00' 57.03"	34' 05.24"	19.4	"	2"			S		RLH
5365	6/18	60°N 59' 07.15"	42' 01.39"	22.2	"	3"			S		RLH
5366	6/18	58' 53.43"	43' 10.24"	53.5	"	2"			S		RLH
5367	6/18	61°N 00' 21.66"	42' 15.32"	76.7	"	1"			fne S, crs P		RLH
5368	6/18	03' 06.21"	42' 35.57"	70.4	"	1"			S, G, P		RLH
5369	6/18	03' 06.44"	45' 06.60"	63.3	"	2"			S, G, P		RLH

Use more than one line per sample if necessary.

★ U.S. GOVERNMENT PRINTING OFFICE: 1978—685-018/1084

NOAA FORM 75-44
(11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL: 3125 (RA-5) | PROJ. NO.: OPR-P358-RA-82 | YEAR: 82 | OFFSHORE MOOSE POINT - POINT POSSESSION, AK | RA-20-3-82 (H-10018) | CHECKED BY: TAT | DATE CHECKED: 6/29/82

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.
									S, G, P		RLH
5370	6/18	03' 07.54"	47' 29.41"	59.6	25 lbs.	1"			fne S, fne P	(2 Tries) wood fragments	RLH
5371	6/18	03' 02.58"	49" 52.70"	57.3	"	1/8"			S, G, crs P		RLH
5372	6/18	01' 57.11"	48' 46.72"	52.4	"	1"			S		RLH
5373	6/18	01' 55.41"	46' 14.64"	52.6	"	1/4"			S, G, fne P		RLH
5374	6/18	01' 59.17"	43' 46.57"	54.8	"	1/4"			S, G, P, St		RLH
5375	6/18	00' 51.55"	45' 01.00"	55.4	"	3"			med S, P		RLH
5376	6/18	00' 45.70"	47' 27.64"	53.5	"	2"			fne S		RLH
5377	6/18	00' 38.65" 60°N	49' 50.53"	51.6	"	1/4"			S, G, P		RLH
5378	6/18	59' 25.84"	49' 45.52"	55.3	"	2"			S, G, P		RLH
5379	6/18	59' 32.40"	47' 14.64"	56.3	"	2"			crs S, G, P		RLH
5380	6/18	59' 41.69"	44' 38.85"	59.7	"	2"			S, G, P		RLH
5381	6/18	58' 07.44"	49' 16.52"	34.8	"	1"			S, G, P		RLH
5930	6/22	58' 01.10"	47' 16.91"	56.9	"	1/2"			S, P		RLH
5931	6/22	56' 50.18"	47' 05.02"	31.3	"	1/2"			S, G, P		RLH
5932	6/22	56' 48.79"	49' 42.92"	52.0	"	1"			fne S		RLH
5933	6/22	58' 09.22"	49' 56.08"	63.5	"	1/2"					

Use more than one line per sample if necessary.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1978—665-016/1084

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

ORIGINATING ACTIVITY
- [x] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [x] TO BE CHARTED
- [ ] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
NOAA Ship RAINIER	Alaska	Northern Cook Inlet	8/17/82

The following objects HAVE [x] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-P358-RA-82	N.A.	H-10018	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
LIGHT	(POINT POSSESSION LIGHT,1974) 1982 LIGHT LIST #3507	61 02	03.954 122.4	150 24	10.627 159.5		Triang. Rec. 5/25/82	16660
LIGHT	(MOOSE POINT LIGHT,1966) 1982 LIGHT LIST #3506	60 57	22.856 707.5	150 41	01.915 28.8		Triang. Rec. 5/25/82	16660

NOJ | 6423 MHz

KJS | 1932 JUNE 82

RTTUZYUW RUHPTEF0045 1682315-UUUU--RUHPSUU.
ZNR UUUUU
R 172315Z JUN 82
FM NOAAS RAINIER
TO CCGDSEVENTEEN JUNEAU AK
INFO: NOAACPM SEATTLE WA
CM GRNC
BT
UNCLAS
RA-PMC-032.
SUBJ: NOTICE TO MARINERS
THE NOAA SHIP RAINIER REPORTS THREE PREVIOUSLY UNCHARTED SHOAL SOUNDINGS IN NORTHERN COOK INLET NEAR PT POSSESSION. ALL SOUNDINGS ARE BASED ON PRELIMINARY DATA. THE FIRST SOUNDING, LATITUDE 61 DEGREES 03.1 MINUTES N, LONGITUDE 150 DEGREES 27.2 MINUTES W IS 38 FEET IN AN AREA WHERE THE REPRESENTATIVE DEPTHS ARE 51-55 FEET. THE SECOND SOUNDING, LATITUDE 61 DEGREES 02.5 MINUTES N, LONGITUDE 150 DEGREES 26.4 MINUTES W IS 11 FEET IN AN AREA WHERE THE REPRESENTATIVE DEPTHS ARE 25-30 FEET. THE THIRD SOUNDING, LATITUDE 61 DEGREES 02.2 MINUTES N, LONGTITUDE 150 DEGREES 26.6 MINUTES W IS 4 FEET IN AN AREA WHERE THE REPRESENTATIVE DEPTHS ARE 18 - 28 FEET.
BT.
#0045

NNNN

INT QSL QRV TEEEE YOURS K
M
1932Z WTEF DE NOJ R QSL 172315Z JUN 82 IN
VV

R 180425Z

APPROVAL SHEET

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY

H-10018

RA-20-3-82

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

HYDROGRAPHIC SURVEY STATISTICS

H-10018

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	2
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS. ARC, EXCESS	10

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

T-SHEET PRINTS (List) N/A

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			3952
POSITIONS CHECKED		3952	
POSITIONS REVISED		0	
SOUNDINGS REVISED		486	
SOUNDINGS ERRONEOUSLY SPACED		0	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME – HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	5	*(VER)/(EVAL)	
VERIFICATION OF CONTROL		13/04	17
VERIFICATION OF POSITIONS		135/02	137
VERIFICATION OF SOUNDINGS		189/03	192
COMPILATION OF SMOOTH SHEET		28/03	31
APPLICATION OF TOPOGRAPHY N/A		02/00	02
APPLICATION OF PHOTOBATHYMETRY N/A		00/00	00
JUNCTIONS		04/01	05
COMPARISON WITH PRIOR SURVEYS & CHARTS		00/06	06
VERIFIER'S ~~REPORT~~ /Evaluator's Report		02/06	08
OTHER		02/01	03
TOTALS		375/26	401

Pre-Verification by James S. Green	*Beginning Date* 10/19/82	*Ending Date* 10/19/82
Verification by Thelma O. Jones	*Evaluation by* Dennis J. Hill — *Beginning Date* 1/24/83	*Ending Date* 6/30/83
Verification Check by James L. Stringham, James S. Green	*Time (Hours)* 20	*Date* 8/30/83
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-10018 FIELD NO: RA-20-3-82

Alaska, Cook Inlet, Moose Point to Point Possession

SURVEYED: June 5 - June 30, 1982

SCALE: 1:10,000 PROJECT NO: OPR-P358-RA-82

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

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

Surveyed By.....LT S. J. Ludwig
LTJG B. Hillard
ENS B. S. Postle
SST R. Hastings

Automated Plot By.....PMC Xynetics Plotter

Verified By.....T. O. Jones

Evaluated By.....D. J. Hill

1. INTRODUCTION

H-10018 is a navigable area survey conducted in accordance with Project Instructions OPR-P358-RA-82 dated January 27, 1982, Change No. 1 dated March 26, 1982, and Change No. 2 dated September 15, 1982.

This survey extends from Point Possession on the east side of upper Cook Inlet southwest to include all of Moose Point Shoal. The inshore limit of hydrography is variable but prescribed by the project instructions to be the 3-fathom curve.

Field tide reductions are based on predicted tides from the primary station at Anchorage (945-5920), while final tide reductions are based on an ADR gage (945-5824) at Moose Point.

The digital records for this survey have been updated to include categories of information required to comply with N/CG letter, Policy for Certification and Delivery of Hydrographic Surveys, December 17, 1982. Certain descriptive information, however, may not be included in the digital record due to the restrictions of the presently available cartographic codes. The user should refer to the smooth sheet for complete information.

2. CONTROL AND SHORELINE

a. 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.

b. Shoreline has been transferred from chart 16660, 22nd edition, May 8, 1982. It has been inked in brown to indicate that it is to be used for orientation purposes only.

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 those areas itemized 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 records and deficiencies in field procedures have been discussed extensively in the Preprocessing Examination Critique dated November 5, 1982. Items contained in the critique are not repeated here and reference should be made to the attached copy for complete information. The following item supplements those contained in the critique.

Electronic control correctors were improperly recorded in the Electronic Control Report due to a mis-identification of two sets of Mini-Ranger instruments. In addition, final correctors were revised after baseline calibration observations were re-averaged.

5. JUNCTIONS

Survey	Scale	Relative Location
H-10017 (1982)	1:20,000	North

The junction has been completed and inked in red.

6. COMPARISON WITH PRIOR SURVEYS

H-9445 (1974)	1:20,000
H-9446 (1974-77)	1:20,000
H-9696 (1977)	1:20,000
H-9698 (1977)	1:20,000

A comparison with these relatively recent prior surveys indicates that this area of Cook Inlet remains stable. Standard depth curves are generally aligned from the earlier period to the present. Minor depth differences in the vicinity of some localized peaks are attributable to differences in the pattern of hydrographic development and some shifting in the vicinity of Moose Point Shoal.

Presurvey review item 2, a rock covered 5.9 fathoms originating with H-9696 was verified and determined to be covered 28 feet at latitude 60°58'24.7"N, longitude 150°49'09.4"W.

The following items have been carried forward to supplement the present survey. Since these data are color coded on the smooth sheet, they are summarized below to preclude the possibility of lost identity resulting from monochromatic reproduction.

Data	Source	Latitude	Longitude
64 ft. depth	H-9446	61°03'23"N	150°32'31"W
67 ft. depth	H-9446	61°02'37"N	150°37'24"W
43 ft. depth	H-9446	60°59'26"N	150°48'54"W
Rock covered 4 ft. MLLW	H-9446	60°58'31"N	150°40'02"W
"Boulders"	H-9446	60°58'49"N	150°42'48"W
Subm rock	H-9696	60°56'24"N	150°47'17"W

With the exception of items carried forward, the prior surveys are superseded within the common area.

7. COMPARISON WITH CHARTS

16660, 22nd edition, May 8, 1982

a. Hydrography - A comparison with this chart 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.

b. Aids to Navigation - Charted aids to navigation have been located and described, and adequately serve their intended purpose. There are no uncharted aids within the survey area.

8. COMPLIANCE WITH INSTRUCTIONS

With the exception of deficiencies discussed elsewhere in this report, this survey adequately complies with applicable instructions.

9. ADDITIONAL FIELD WORK

With the exception of soundings carried forward from prior surveys, there are no areas which require additional field work.

Respectfully submitted,

Dennis Hill

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

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102

TO: CPM - Charles K. Townsend

FROM: CPM3 - Ned C. Austin

SUBJECT: Preprocessing Examination for H-10018

I. Survey Information

A. Field No. RA-20-3-82 Registry No. H-10018

B. State Alaska

General Locality Northern Cook Inlet

Sublocality Moose Pt. to Pt. Possession

C. Project Instructions: OPR-P358-RA-82

Original dated January 27, 1982

Change No. 1 dated March 26, 1982

Change No. 2 dated September 15, 1982

D. Date:

Field Work Commenced June 4, 1982

Field Work Completed June 30, 1982

plus 6 weeks = August 15, 1982

Data received at Marine Center September 21, 1982

plus 1 month = October 21, 1982

Examination critique transmitted to field November 5, 1982

Target for completion of Marine Surveys Division processing
June 30, 1983

II. Preprocessing Examination Critique Items

A. Danger to Navigation Reports

Sections 1.6.4 and 5.9 of the Hydrographic Manual require that a tracing of the field sheet or largest scale chart available showing the exact location of the newly discovered danger along with the description of the hazard and method of location be prepared and sent to Chart Information Branch, C322, through PMC. This requirement was not met. The danger to navigation radio message transmitted to the Seventeenth Coast Guard District was incomplete. Reference should have been made to the chart affected and also the tidal datum of the reduced soundings. The reported dangers to navigation must be thoroughly checked for accuracy. The reported 4 foot sounding is a rock covered 3 feet at MLLW. A revised report has been sent to the Seventeenth Coast Guard District by letter dated November 5, 1982. (Refer to Attachments A-B.)

B. Compliance With Instructions

The RAINIER generally met the requirement for a navigable area survey as specified in the project instructions.

The Loran-C chart verification data required by Section 8.4 of the project instructions was not submitted. If this requirement was not met it should be addressed in the descriptive report.

One presurvey review item was contained within the limits of the field sheet. The discussion of the item and charting recommendation in Section K of the descriptive report is adequate; however, a leadline least depth should have been obtained as required by Sections 1.4.1 and 1.4.3 of the Hydrographic Manual. Rock nomenclature was not addressed.

C. Final Field Sheet

The legibility of the final field sheet is good. Least depth annotation contained on the field sheet is good; however, it is recommended that the annotated least depth agree with the plotted reduced depth. (Refer to Attachment C.)

A 7 foot shoal sounding and an 8 foot shoal sounding that plot approximately 150 meters west and 140 meters southwest of an 11 foot lead line verified sounding were not addressed or further investigated.

The orientation of the sounding lines is excellent. The sounding interval is sufficient to adequately portray the bottom topography.

The magnitude of the crossline comparison discrepancies can be accounted for by differences expected between the predicted tide correctors and the actual tide correctors.

D. Descriptive Report

No statement as to the harmony of the depths found at the outer limits of the project with charted depths in those areas was found in the descriptive report as required by Section 6.9 of the project instructions.

E. Echograms

Stylus belt check for VESNO 2123 on JD175/176 is incorrect. The stylus belt check should be performed prior to the phase check and the short mark should align horizontally with the long mark as specified in Appendix B of the PMC OPORDER. An incorrct stylus belt length can result in an incorrect phase calibration. Although the errors introduced in the analog trace by these misadjustments are small, least depth scaling errors over critical insert peaks can result. (Refer to Attachments D-H.)

F. Sounding Volumes And/Or Raw Data Printouts

In general, annotation of the raw data printouts is good.

Mini-ranger signal strengths were not automatically recorded on the raw data printout for VESNO 2123 on JD175/176 while using hydroplot program RK112. It was noted that sounding lines were run along arcs rather than straight lines which may have caused the problem. Mini-ranger signal strengths should be annotated on the raw data printout at intervals specified in Appendix Q of the PMC OPORDER if not automatically recorded for each sounding.

G. Sounding Correctors

The Corrections to Echo Soundings Report is complete and well documented.

A statement in the report that settlement and squat correctors were applied to the soundings on the final field sheet is incorrect. Settlement and squat correctors are usually applied during verification of the survey at PMC. These correctors could be applied to the soundings on the field sheets via a corrector tape entry; however, a corresponding entry would still be required in the TC/TI tape.

I. Horizontal Control

The Horizontal Control Report was reviewed by CPM133 for adequacy of descriptive comments, organization, and adequacy of the horizontal control scheme. The following items were noted:

1. The horizontal control sketch should have a graphic scale. Ratio scales (i.e. 1:40,000) have a limited value when the sketches are reduced or enlarged. Ratio scales should be omitted.

2. A copy of the horizontal control sketch (reduced if necessary) should be bound in the front of the report along with the

list of field geographic positions and elevations. The sketch in the report was smudged and the tabulation of the numbered stations were not discernible. FIRE ISLAND RNG FRONT LT symbol is somewhat confusing as to which circle is the light. (Refer to Attachment I.)

3. Station "PATCO INTL CONTROL TOWER" should be named "ANCHORAGE INTL AIRPORT CONTTR" if the description of the feature is correct.

4. RACE PT LT (1965) apparently is lost. A Form 76-81 (recovery note) should indicate the station is lost. If not, both the positions will be retained in the NGS data base and published; especially when a light is rebuilt in a different location and the two positions in the G.P. file are retained, causing future confusion.

The field work appears to meet Third-order Class I specifications and the entries on the field forms are neat and complete. The horizontal control critique will be forwarded upon completion of data entry into the NGS data base.

The originals of NOAA Form 76-40, Nonfloating Aids or Landmarks for Charts should be transmitted separately to C322 through CPM3 as required by Section 1.7.2 of the Hydrographic Manual.

J. Positioning Control

The Electronic Control Report is being returned for approval signature.

Mini-ranger systems check data for VESNO 2126 on JD167 confirmed the baseline determined correctors for all five codes at 1:20,000 scale survey requirements. It was noted that the difference between the systems check data and the baseline determined corrector for Code 0 was relatively larger than the differences for the other four codes. Signal strength values recorded during the systems check for Code 0 were below the minimum cutoff value determined from the initial baseline calibration which accounts for the observed difference. (Refer to Attachment J.)

It was noted that the minimum signal strength cutoff values determined from the initial and final baseline calibrations for VESNO 2126 R/T unit Code 0 were 8 and 5. The initial and final baseline calibrations were performed at 159 meters and 107 meters in accordance with Appendix S of the PMC OPORDER. It now appears that baseline calibrations performed at short distances (100 meters) may not be valid to determine minimum signal strength cutoff values. It is suggested that future baseline calibrations be performed at approximately 200 meters to insure valid low signal strength cutoff values. (Refer to Attachments K-L.)

L. Automated Data Check

Spooling of the hydroplot data tapes has been completed by CPM31. The following errors were noted:

1. The ending time on the TC/TI tape for VESNO 2125 was not in sequence. (Refer to Attachment M.)

2. The VESNO was changed on the same corrector tape when a long word was inserted for a day change. (Refer to Attachment N.)

3. The first record entry on a corrector tape was a short word. (Refer to Attachments O-R.)

Also, on future surveys, a 3-9999 entry should not be used on a corrector tape that matches a long word time on the same tape.

M. General Comments

Advance information copies of H-10018 will be provided as specified in Sections 6.8 and 6.13 of the project instructions by CPM3.

N. Survey Acceptance

The preprocessing examination for this survey was conducted under the time constraints described in Hydrographic Survey Guideline 15. It was not possible to review all the data in this survey and it is likely that all problem areas have not been addressed.

Except for the items noted in the critique, the survey is in compliance with the project instructions and I recommend the survey be accepted for Marine Center processing.

Prepared by:

William A. Wert

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

September 12, 1983

Commander (OAN)
Seventeenth Coast Guard District
P.O. Box 3-5000
Juneau, Alaska 99802

Dear Sir:

During final office review of hydrographic survey H-10018, Moose Point to Point Possession, Cook Inlet, Alaska, a change affecting chart 16660 was noted. Questions concerning the survey may be directed to Capt. Ned C. Austin, Chief, Nautical Chart Branch, telephone (206) 527-6835.

The following statement is recommended for inclusion in the Local Notice to Mariners:

An 11 ft. sounding supersedes a charted 2½ fathom sounding at latitude 60°59'05"N, longitude 150°38'41"W.

Sincerely,

K.W. Jeffus

for Charles K. Townsend
Rear Admiral, NOAA
Director, Pacific Marine Center

bc: N/CG222

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): 945-5824 Moose Point, Alaska

Period: June 5-30, 1982

HYDROGRAPHIC SHEET: H-10018

OPR: P358

Locality: Northern Cook Inlet

Plane of reference (mean lower low water): 4.62 ft.

Height of Mean High Water above Plane of Reference is 23.0 ft.

REMARKS: Recommended Zoning:

1. West of longitude 150°20' to 150°25' apply +30 minute time correction and x1.10 range ratio.
2. West of the previous line to 150°30' apply +20 minute time correction and x1.08 range ratio.
3. West of the previous line to 150°35' apply +10 minute time correction and x1.05 range ratio.
4. West of the previous line to 150°40' apply x1.03 range ratio.
5. West of the previous line to 150°47' zone direct.
6. West of the previous line to 150°53'
   a. North of longitude 61°00.0' apply +10 minute time correction and x0.98 range ratio
   b. South of latitude 61°00.0' apply x0.98 range ratio.

Chief, Tidal Datums and Information Branch

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10018

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.

11/8/83
Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:RLSandquist 11/8/83 LOM

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.

11/8/83
Director, Pacific Marine Center (Date)

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10018

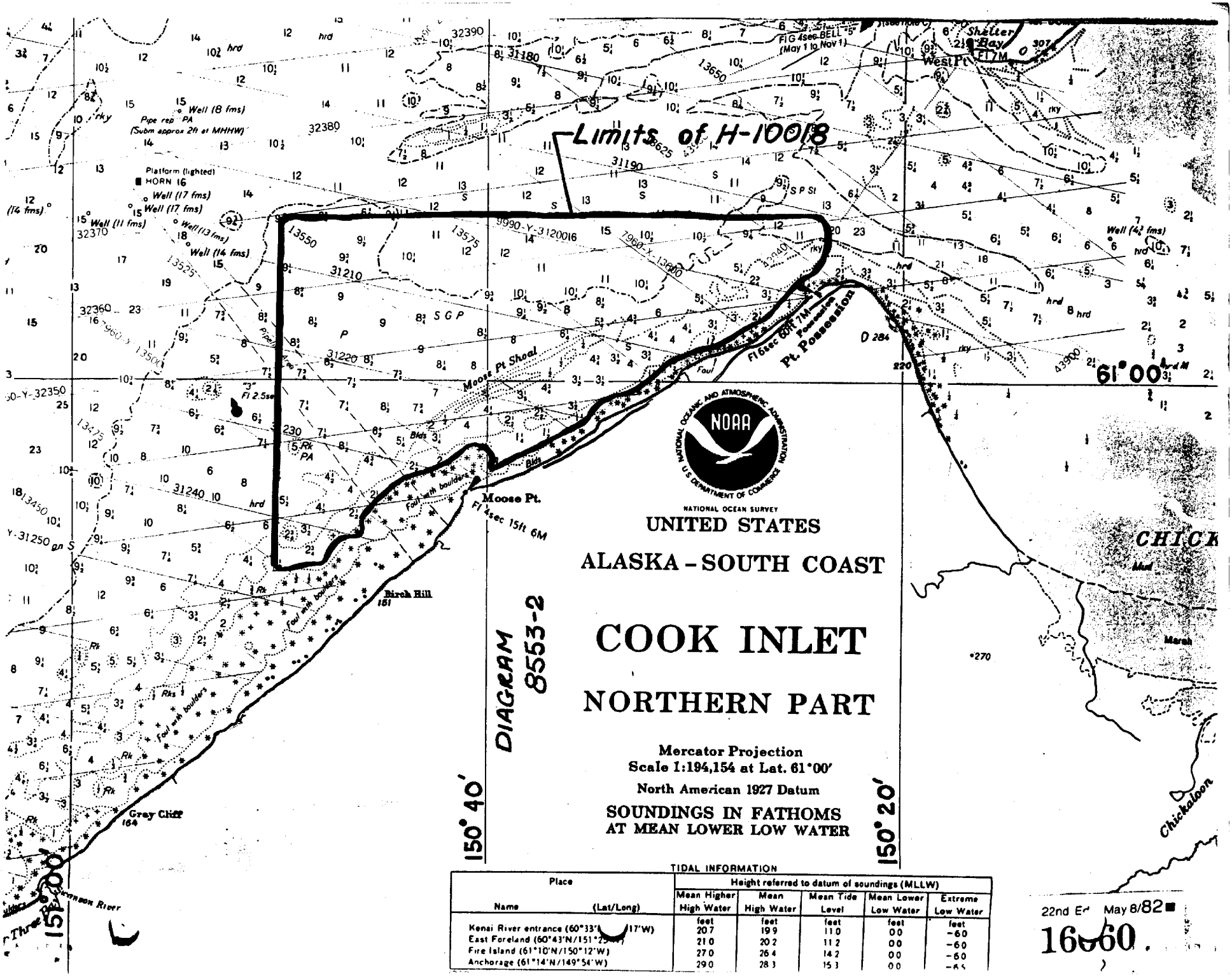
INSTRUCTIONS

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 (NEW CHART)	2/16/84	J. Bailey	Full ~~Part Before~~ After ~~Verification Review~~ Inspection Signed Via Drawing No. Fully applied.
16663 (NEW CHART)	2/16/84	J. Bailey	Full ~~Part Before~~ After ~~Verification Review~~ Inspection Signed Via Drawing No. Fully applied.
16662	2/17/84	J. Bailey	Full ~~Part Before~~ After ~~Verification Review~~ Inspection Signed Via Drawing No. 1 Revised hydro.
16660	2/21/84	J. Bailey	Full ~~Part Before~~ After ~~Verification Review~~ Inspection Signed Via Drawing No. 27 Revised hydro.
			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 Drawing No.
			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 Drawing No.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8558-P63


Limits of H-10018
NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEAN SURVEY
UNITED STATES
ALASKA - SOUTH COAST
COOK INLET
NORTHERN PART
Mercator Projection
Scale 1:194,154 at Lat. 61°00'
North American 1927 Datum
SOUNDINGS IN FATHOMS
AT MEAN LOWER LOW WATER
DIAGRAM 8553-2
150°40'
150°20'
61°00'
Moose Pt.
Moose Pt Shoal
Birch Hill
Gray Cliff
Point Possession
Shelter Bay
West Pt
Chickaloon
Platform (lighted)
HORN 16
Pipe rep PA
(Subm approx 2ft at MHHW)
Well (8 fms)
Well (17 fms)
Well (11 fms)
Well (13 fms)
Well (14 fms)
Well (4½ fms)
Fl 2.5sec
Fl 4sec BELL (May 1 to Nov 1)
Fl 15sec 60ft 7M
Fl 4sec 15ft 6M
Foul with boulders
Rks
Rk
Bldg
Mud
Marsh
TIDAL INFORMATION
Place
Name (Lat/Long)
Height referred to datum of soundings (MLLW)
Mean Higher High Water
Mean High Water
Mean Tide Level
Mean Lower Low Water
Extreme Low Water
feet
Kenai River entrance (60°33'N/151°17'W) 20.7 19.9 11.0 0.0 -6.0
East Foreland (60°43'N/151°29'W) 21.0 20.2 11.2 0.0 -6.0
Fire Island (61°10'N/150°12'W) 27.0 26.4 14.2 0.0 -6.0
Anchorage (61°14'N/149°54'W) 29.0 28.3 15.3 0.0 -6.5
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