

9776

Diag.Cht.No.8554-2.

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT
(HYDROGRAPHIC)

Type of Survey Hydrographic
Field No. FA-20-4-78
Office No..... H-9776

LOCALITY

State Alaska
General Locality Cook Inlet
Locality Offshore Ninilchik

19 78

CHIEF OF PARTY
B.I. Williams

LIBRARY & ARCHIVES

DATE April 30, 1980

9776

Area 6

Cht
- 16640
- 16013
531 N.C.

HYDROGRAPHIC TITLE SHEET

H-9776

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.

FA-20-4-78

State Alaska

General locality Cook Inlet

Locality Offshore Ninilchik

Scale 1:20,000 Date of survey July 26 - August 19, 1978

Instructions dated April 17, 1978 Project No. OPR-P114-FA-78 (OPR-429)

Vessel 2020, 2023, 2024, 2025
FAIRWEATHER AND LAUNCHES

Chief of party CDR B.I, Williams

Surveyed by LT A.H. Yanaway, LTJG R.B. Crowell, LTJG M.S. Finke, LTJG J.P. Quinlan,
LT J.A. Withrow, LT A.D. Kissam

Soundings taken by echo sounder, hand lead, pole Ross Finline Fathometers (1036, 1046, 1054)

Graphic record scaled by Ross Digitizers

Graphic record checked by FAIRWEATHER Personnel

Positions verified by Sandor A. Feher Automated plot by PMC Xynetics Plotter

Soundings verified by Sandor A. Feher
and tenths

Soundings in fathoms 1 ~~feet~~ at XXXXXX MLLW

REMARKS:

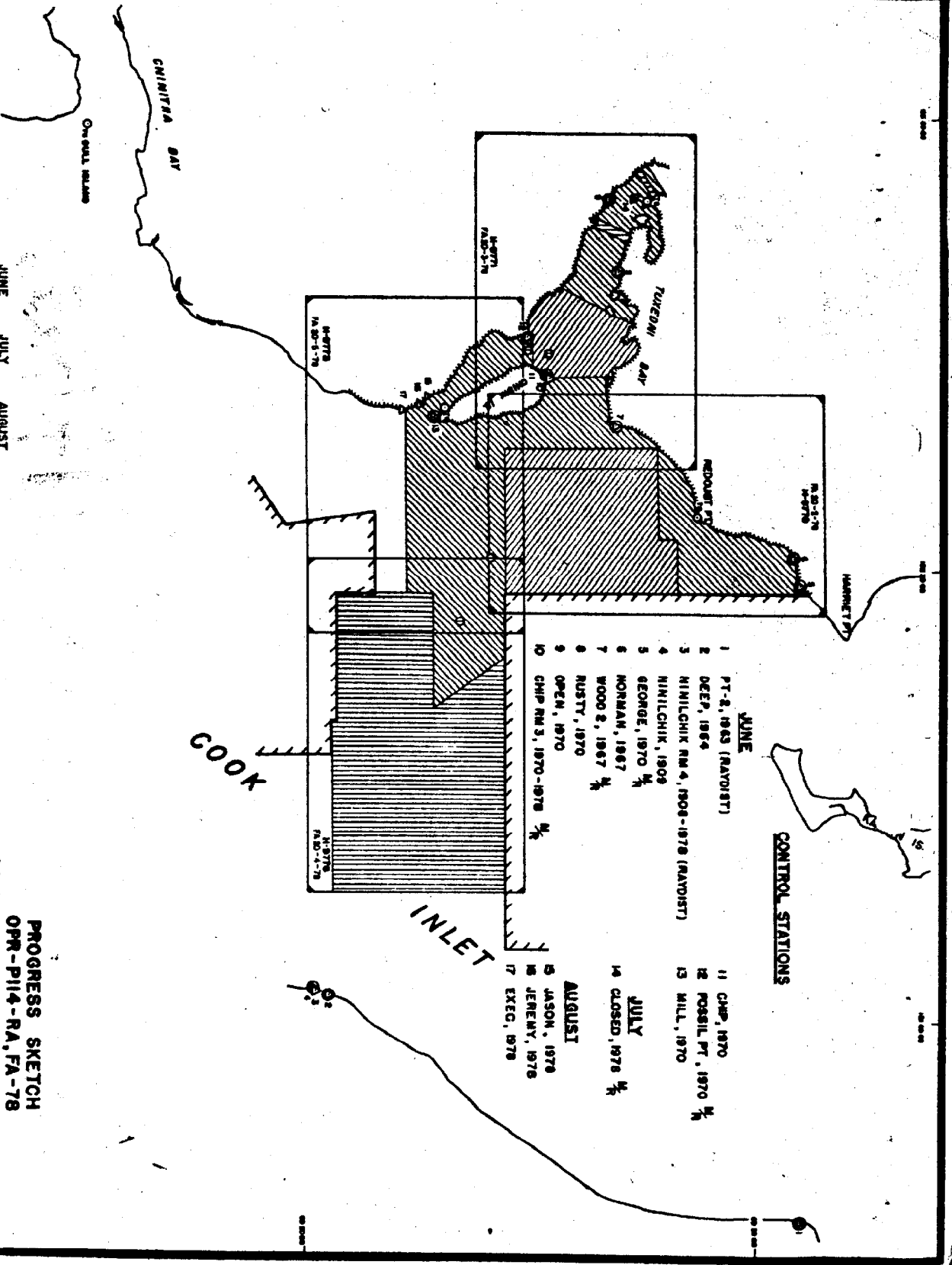
Applied to stds 10/10/80

[Signature]

	JUNE	JULY	AUGUST
LNM SOUNDING LINE	549.8	928.0	1100.0
SO NM SOUNDING LINE	50.8	70.0	85.0
STD CAST (MARTEK)	0	1	2
BOTTOM SAMPLE	0	67	167

- ⊙ STATIONS RECOVERED
- △ STATIONS ESTABLISHED
- TIDE GAUGE
- MARTEK CAST
- FIELD EDT

PROGRESS SKETCH
 OPR-PI14-RA, FA-78
 SOUTHERN COOK INLET, ALASKA
 NOAA SHIP FAIRWEATHER S220
 CDR BRUCE I WILLIAMS, CMDG
 SCALE OF NOS CHARTS 16660-16640
 -1978-



- JUNE**
- 1 PT-8, 1963 (RAYDIST)
 - 2 DEEP, 1964
 - 3 NINILCHIK NM 4, 1908-1978 (RAYDIST)
 - 4 NINILCHIK, 1909
 - 5 GEORGE, 1970 $\frac{1}{2}$
 - 6 NORMAN, 1967 $\frac{1}{2}$
 - 7 WOODS, 1967 $\frac{1}{2}$
 - 8 RUSTY, 1970
 - 9 OPEN, 1970
 - 10 CHIP NM 3, 1970-1978 $\frac{1}{2}$
- JULY**
- 11 CHIP, 1970
 - 12 POSSIL PT, 1970 $\frac{1}{2}$
 - 13 MILL, 1970
 - 14 CLOSED, 1978 $\frac{1}{2}$
- AUGUST**
- 15 JASON, 1978
 - 16 JEREMY, 1978
 - 17 EXEC, 1978

DESCRIPTIVE REPORT

HYDROGRAPHIC SURVEY H-9776 (FA20-4-78)

NOAA SHIP FAIRWEATHER S220

A. PROJECT

This survey was conducted in accordance with Project Instructions OPR-P114-FA-78, Southern Cook Inlet, Alaska (17APR78), and changes number 1 (17APR78), 2 (2MAY78), and 3 (2MAY78).

B. AREA SURVEYED

The area surveyed lies in central Cook Inlet offshore from Ninilchik, Alaska. Boundaries were: Northern, LAT. 60°-09'N; Southern, LAT. 60°-01'N; Western, LONG. 152°-18'W; and Eastern, LONG. 151°-52'W.

C. SOUNDING VESSELS

VESSEL	HULL	EDP#
FA3	1011	2023
FA4	1010	2024
FA5	1001	2025

In depths greater than 12 fms., bottom samples were generally taken by the ship(2020).

D. SOUNDING EQUIPMENT

LAUNCH (EDP)	FATHOMETER	S/N
2023	Ross Fineline	1046
2024	Ross Fineline	1047
2025	Ross Fineline	1036

No equipment failures or problems of an unusual nature were observed. TRA correctors were observed daily by bar check. See also REPORT ON CORRECTIONS TO ECHO SOUNDINGS, OPR-P114-FA-78.

E. HYDROGRAPHIC SHEETS

This survey was divided into two survey sheets, 4N and 4S. The sheets were constructed using a modified 'transverse mercator projection at a scale of 1:20000. The skew was zero for both sheets. A Prior Survey Development sheet was also constructed in the same manner at a scale of 1:10000 and a skew of 42.

F. CONTROL STATIONS

Horizontal control was based on the 1927 North American Datum. No photogrammetrically located stations were used. See SOUTHERN COOK INLET ALASKA, HORIZONTAL CONTROL REPORT, OPR-P114-FA-78.

G. HYDROGRAPHIC POSITION CONTROL

Position control for both sheets was supplied by Raydist range-range (launches 2023 and 2024) and range-range logger (launch 2025). The stations were located at PT-2 (signal 124) and Ninilchik, RM4 (signal 125). Calibration was accomplished at the beginning and end of each day of hydrography at a steel pole (signal 055) placed N of Chisik Island. The signal was located by third order methods. This position was used to establish rates for calibration. The state of the tide determined the relative position of the launch to the pole at the time of calibration. There was one position each for ebb and flood tides. This data was used to determine the position of the antenna at the time of calibration and therefore the exact rates as they should appear in the launch. On JD 214/215 Raydist was lost in launch 2025 and all data that day was not plotted. No satisfactory explanation was arrived at and the incident never repeated itself. For calibration details, see ELECTRONIC CONTROL REPORT, OPR-P114-FA-78. See addendum A' for calibration description and equipment.

H. SHORELINE

There was no shoreline on FA20-4-78, H-9776. ✓

I. CROSSLINES

100 miles of crosslines account for 9.5% of the 1069 miles of sounding lines. ✓

J. JUNCTIONS

This survey junctioned with 3 contemporary surveys. They are: H-9708, 1:20000, 1977, H-9435, 1:20000, 1974; H-9773, 1:20000, 1978. The 3 surveys demonstrated exceptionally good agreement with FA20-4-78 in all areas. *See Verifier's Report for additional junctional surveys* ✓
7PS

K. COMPARISON TO PRIOR SURVEYS

Prior survey 3355, 1:100000, 1911, had in common the western third of the FA20-4-78 survey. The differences in scale are quite significant and only gross features are evident. Generally the soundings compare quite well in spite of these differences except for an area at approximately 60°06N and 152°15W. This area was further developed due to the discovery of a ~~trench~~ ^{depression} while running mainscheme lines. The new survey shows a depth 6(six) fms. deeper than on this previous survey. This ~~trench~~ ^{depression} has exceptionally steep sides and a 100 m. horizontal displacement can result in a 21 fm. difference in depth. ✓

Four least depth developments were included in the presurvey review list. Several days of running extensive sounding lines were required to complete these developments. When they were plotted here at PMC on the 1:10000 scale blow-up it was noticed that the newly located least depths were not in complete agreement with the corresponding least depths charted from the prior survey. This may be due to scale differences, the difficulty of scaling the developments from the presurvey review chart, or the methods of position control used to locate these areas during the prior survey. It was further noted that 3 of the least depths had "migrated" approximately 250 m. in a northerly direction (see 1:10000 development sheet submitted with this survey). The 4th least depth (3.0 fms.) is located in the vicinity of a steep slope where the depth is approximately 9 fms. Further consideration should be given to further investigate this 4th charted sounding north of its present charted position. The Rainier will be in this area in the summer of 1979. *3fm sdg, considered discredited by present survey.*
7PS

L. COMPARISON TO THE CHART

This survey lies in 2 current charts: 16660, 1:194154, Alaska South Coast, Cook Inlet Southern Part, 19th edition, September 10, 1977; 16640, 1:200000, Alaska South Coast, Cook Inlet Southern Part, 15th edition, November 27, 1976. Agreement was within 1 fm. except for the area of the ~~trench~~^{depression} as discussed in COMPARISON TO PRIOR SURVEYS. The chart straddles this area with no indication of the ~~trenches~~^{depression's} existence. The discrepancy is 16 (sixteen) fms.

M. ADEQUACY OF SURVEY

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

N. AIDS TO NAVIGATION

There was only 1 floating aid to navigation, buoy C1, on the shoal south of Kalgin Island. Its position plotted as well as scales permitted with that represented on the chart. This is a seasonal buoy and is reset each spring. (APR 1 to Dec 1)

O. STATISTICS

	FA3	FA4	FA5
Total number of positions	906	1909	1368
n.m. of soundings	233	483	349
Total bottom samples	102		
Martek casts	2		
Tide gage	2		

P. MISCELLANEOUS

Greenwich mean time was used for all survey records.

Q. RECOMMENDATIONS

The ~~trench~~^{depression} noted in the COMPARISON TO CHART and COMPARISON TO PRIOR SURVEYS sections should be delineated on the chart. If the scale permits, relocating the 3 least depths that were located by this survey. This survey should be accepted and used for all charting purposes. *Chart the areas containing the three P.S.R. dashed circle least depths as shown on the present survey.*

R. AUTOMATED DATA PROCESSING

All hydrography was acquired using RK-111, range-range real time hydroplot, version 1-30-76 on launches 2023 and 2024. Launch 2025 logger data was reformatted using RK-330, version 4MAY76. The semi-smooth and smooth field sheets were plotted using RK-211 range-range non real time plot, version 30JAN76.

S. REFERRAL TO REPORTS

REPORT ON CORRECTIONS TO ECHO SOUNDINGS	OPR-P114-FA-78
HORIZONTAL CONTROL REPORT	OPR-P114-FA-78
ELECTRONICS CONTROL REPORT	OPR-P114-FA-78
FIELD EDIT REPORT	OPR-P114-FA-78

Submitted By

A. H. Yanaway
Aian H. Yanaway LI NOAA

D1. Velocity Table

The following sound velocity correctors are to be applied to all soundings on survey FA20-4-78 (H-9776).

Depth (fm)	Corrector (fm)
0.0 - 3.5	+0.0
3.6 - 9.5	0.1
9.6 - 15.6	0.2
15.7 - 21.7	0.3
21.8 - 27.7	0.4
27.8 - 34.0	0.5
34.1 - 40.1	0.6
40.2 - 46.2	0.7
46.3 - 52.5	0.8
52.6 - 58.5	0.9
58.6 - 64.8	1.0
64.9 - 70.7	1.1
70.8 - 76.9	1.2
77.0 - 83.0	1.3

F. LIST OF STATIONS

010	1	60	13	37159	152	46	16232	139	0018	000000	✓
015	0	60	13	47713	152	32	45754	139	0009	000000	✓
019	3	60	11	00901	152	37	00566	250	0005	000000	✓
020	7	60	11	02344	152	37	00332	250	0004	000000	✓
021	0	60	11	02542	152	37	00163	243	0004	000000	✓
025	3	60	09	59725	152	40	33994	250	0014	000000	✓
030	3	60	14	16893	152	52	35734	250	0004	000000	✓
035	3	60	21	39621	152	13	40264	139	0003	000000	✓
040	3	60	21	27739	152	21	05903	139	0003	000000	✓
045	0	60	04	22737	152	34	09608	250	0003	000000	✓
050	0	60	05	44223	152	33	46434	250	0007	000000	✓
*055	0	60	11	03599	152	36	23963	243	0000	000000	✓
059	0	60	06	21437	152	33	53267	250	0159	329646	✓
*124	0	60	21	55694	151	22	27250	250	0015	330040	✓
*125	0	60	00	33344	151	42	45441	250	0029	330040	✓

** Signals used for horizontal control on present survey.*

010 - RUSTY 1970
 015 - FJDD 2 1967
 019 - CHIP 1970
 020 - CHIP 1970 R43
 021 - CHIP 1970 R43 FIELD EDIT OFFSET
 025 - FOSSIL PT. 1970
 030 - CLOSED (ESTB. 1978)
 035 - GEORGE 1967
 040 - NORMAN 1967
 045 - EXEC 1978
 050 - MILL 1970
 *055 - TIDE GAUGE CALIBRATION POLE
 060 - RAINIER RED BAYDIST 1978 (SUG HARBOR)
 *124 - PT-2 1963 (RED BAYDIST)
 *125 - NINILCHIK R44 (GREEN BAYDIST)

B

FIELD TIDE NOTE
OPR-P114-FA-78

(H-9770), (H-9771), (H-9773), (H-9776)

Field tide reductions, of soundings, were based on the reference station at Seldovia; based on predicted tides for 1978 adjusted using factors supplied by Pacific Tides Party. The values were interpolated by the PDP-8e computer using program AM 500, Predicted Tide Generator. In all cases, GMT was used. The time and height corrections, applied to the Seldovia predicted tides, were as follows:

<u>FIELD SHEET</u>	<u>HEIGHT (ratio)</u>	<u>HIGH WATER</u>	<u>LOW WATER</u>
FA-20-2-78 (H-9770)	0.90	+1Hr 28M	+1Hr 34M
FA-20-3-78 (H-9771)	0.90	+1Hr 28M	+1Hr 34M
FA-20-4-78 (H-9776)	0.97	+1Hr 01M	+1Hr 14M
FA-20-5N-78 (H-9773)	0.87	+1Hr 14M	+1Hr 20M

The final field smooth sheets were plotted using these predicted tides.

Two bubbler gages and two ADR gages were installed by FAIRWEATHER Personnel and one gage at Ninilchik was installed and tended by RAINIER personnel. (Refer to FIELD TIDE NOTE OPR-P114-RA-78). The following gages were installed by FAIRWEATHER personnel as per project instructions:

<u>SITE</u>	<u>LOCATION</u>	<u>PERIOD OF OPERATION</u>
SNUG HARBOR 945-6173 ADR Gage	LAT 60°06.5'N LONG 152°34.7'W	6-20-78 - 8-21-78
REDOUBT POINT 945-6094 ADR Gage	LAT 60°18'07"N LONG 152°23'08"W	6-25-78 - 8-16-78
CHINITNA BAY 945-6357 Bristol Bubbler Gage	LAT 59°50.3'N LONG 153°00.0'W	7-10-78 - 8-22-78

In addition, to further clarify the tidal effect in the Tuxedni River, a tide gage was located upriver as follows:

MEADOW ISLAND Bristol Bubbler Gage	LAT 60°14.7'N LONG 152°52.5'W	7-22-78 - 8-18-78
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REDOUBT POINT

ADR gage S/N 7403A3402M12, replaced by ADR gage S/N 7601A469M20, was installed on a portable pole mounted on a railroad wheel similar to the installation made at Fire Island during OPR-SP-207-FA-78 earlier in June, 1978. The original gage was installed and operational on 26 June. But on 27 June, the gage jammed at 1524 GMT. The gage was restarted the same day at 2154 GMT. Again on 28 June, the gage jammed at 1118 GMT and was restarted on 13 July at 2218 GMT. On 16 July, the gage jammed at 2000 GMT and was restarted on 20 July at 2106 GMT. The gage jammed one more time on 28 July at 2318 GMT and was replaced on 2 August at 2018 GMT. The new gage ran without incident until its removal on 16 August at 2006 GMT. The fact that the original gage jammed four times was probably due to the free motion of water in the floatwell. Originally, the floatwell had several intakes drilled at different levels of the pipe to prevent a single intake from becoming clogged. But the multiple intake caused too much rapid swell and chop action on the float, and the water level changed too rapidly for the punch to operate properly. The rapid water level changes caused the punch blocks to jam. When the gage was replaced on 2 August, several small rocks were dropped into the floatwell and these rocks retarded the water motion in the floatwell. After this modification of the intakes, no difficulties were encountered at this gage. On installation of the gage, observation records were kept at the gage, but rain destroyed the first observation record, so after 13 July, all records were kept on the ship.

Zero staff level to marigram comparisons:

13 July 21.3 feet

23 July 14.5 feet

2 Aug. 42.5 feet

SNUG HARBOR

Fisher Porter ADR gage S/N 6903A5568M13 was installed on 20 June, and operated properly until its removal on 21 August, 1978. The floatwell was affixed to a 24 foot diameter piling on the Snug Harbor Pier which supplied an excellent observing platform. The staff stop was a fixed point on the piling casing and its value was set at 50.00 feet which led to a zero foot staff to marigram relation of 3.1 feet.

CHINITNA BAY

Bristol Bubbler gage S/N 67A10292 range 0-30 feet, was installed on 10 July, 1978. On 3 August, the marigram jammed and the tidal record was lost until 5 August when the gage was reset. The gage operated well until 10 August when the bubbler tubing parted. Only 6 hours lapsed before the tubing was spliced and from this time until the gage was removed on 22 August, no difficulties were encountered. Zero-staff level to marigram relation- 6.1 feet.

MEADOW ISLAND

Bristol Bubbler gage S/N 64A11032, range 0-30 feet, was installed at the discretion of the Commanding Officer because it appeared that the Tuxedni River was not affected by all stages of the tidal range. No difficulties were encountered from the gage's installation on 22 July to its removal on 18 Aug., 1978. The zero-foot staff to marigram relation was 5.0 feet.

LEVELS

Snug Harbor was leveled to 5 existing bench marks upon installation of the gage and again on the gage's removal. Apparently, an error was made while leveling to the CANNERY 1970 bench mark. If this mark is not included in the comparisons, the staff stop settled 0.029 feet from the time of gage installation to the time of gage removal.

Redoubt Point was leveled to five existing bench marks upon installation of the original gage and again on removal of the second gage. There is an apparent error in the leveling to BM 3. If this bench mark is ignored, there is a staff stop change of approximately 0.025 feet.

Chinitna Bay was leveled to five existing bench marks upon installation of the gage and again upon its removal. If the change of all five marks is averaged, the staff apparently changed 0.016 feet during the period of gage operation.

As required for tide stations established for less than 30 days, the Meadow Island tide station was leveled to three recoverable temporary bench marks, two eyebolts and a pointed rock painted yellow. There was good agreement between the opening levels of 22 July and the closing levels of 18 August.

MISCELLANEOUS

The ADR gage at Snug Harbor should be used to rectify any questionable data from other gages in the survey area because this gage operated without problems for the entire period of Field Edit and Hydrography.

Respectfully Submitted;

Mark S. Finke

Mark S. Finke Ensign NOAA

April 19, 1979

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 Form 362

Tide Station Used (NOAA Form 77-12): 945-6173 Snug Harbor
945-5653 Ninilchik

Period: July 26 - August 19, 1978

HYDROGRAPHIC SHEET: H-9776

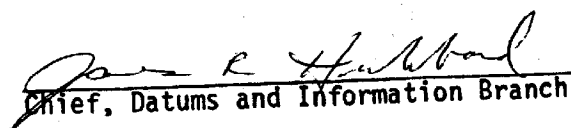
OPR: P114

Locality: Southern Cook Inlet, Alaska

Plane of reference (mean lower low water): 26.84 ft. - Snug Harbor
2.3 ft. - Ninilchik

Height of Mean High Water above Plane of Reference is
15.0 ft. - Snug Harbor; 18.2ft. - Ninilchik

Remarks: Recommend multi-gage (automatic) zoning.


Chief, Datums and Information Branch

J

APPROVAL SHEET

Field Number: FA20-4-78
Register Number: H-9776

This field sheet and all accompanying records are hereby approved.
This survey was conducted under my supervision and the survey is
complete and adequate for charting purposes.



CDR Bruce I. Williams
Commanding Officer
NOAA SHIP FAIRWEATHER S220

GEOGRAPHIC NAMES

H-9776

Name on Survey	A	B	C	D	E	F	G	H	K
	ON CHART NO.	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP ATLAS	GRAND McNALLY	U.S. LIGHT LIST	

COOK INLET	16640									1
NINILCHIK (TITLE)	"									2
										3
										4
										5
										6
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										24
										25

Approved:

Chas. E. Harrington

Chief Geographer - C325

29 July 1980

APPROVAL SHEET

FOR

SURVEY H- 9776

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position print-out has been made. A new final sounding print-out has been made.
- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the verifier's report.

Date: November 26, 1979

Signed: _____

Title: Chief, Verification Branch

HYDROGRAPHIC SURVEY STATISTICS

H-9776

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS & PRELIMINARY OVERLAYS		3&2	
DESCRIPTIVE REPORT		1	SMOOTH OVERLAYS: POS ² & ARC ⁴ , EXCESS		6	
DESCRIP-TION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	2 - with raw printouts					
VOLUMES	--					
BOXES			1 - Smooth & sawtooth rec.			

T-SHEET PRINTS (List)

SPECIAL REPORTS (List) 1 - contour plot, 1 - tide plot

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	PRE-VERIFICATION	VERIFICATION	TOTALS
POSITIONS ON SHEET			3731
POSITIONS CHECKED		3731	
POSITIONS REVISED		3	
SOUNDINGS REVISED		270	
SOUNDINGS ERRONEOUSLY SPACED		---	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		---	
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	3		
VERIFICATION OF CONTROL		8	
VERIFICATION OF POSITIONS		165	
VERIFICATION OF SOUNDINGS		63	
COMPILATION OF SMOOTH SHEET		121	
APPLICATION OF TOPOGRAPHY		---	
APPLICATION OF PHOTOBATHYMETRY		---	
JUNCTIONS		16	
COMPARISON WITH PRIOR SURVEYS & CHARTS		32	
VERIFIER'S REPORT		54	
OTHER			
TOTALS	3	459	462
Pre-Verification by James S. Green	Beginning Date 10/10/78	Ending Date 10/10/78	
Verification by Sandor A. Feher	Beginning Date 4/18/79	Ending Date 11/05/79	
Verification Check by James S. Green and Stanley Otsubo	Time (Hours) 77	Date 2-20-80	
Marine Center Inspection by HIT	Time (Hours) 22	Date 4-5-80	
Quality Control Inspection by F.P. SAULSBURY	Time (Hours) 51	Date 6-17-80	
Requirements Evaluation by D.J. Hill	Time (Hours) 1	Date 8/13/80	

G. M. Green 4 hrs 7/10/80

app. to papers 1 7/10/80

REGISTRY NO. 4-9776

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

REGISTRY NO. _____

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

PACIFIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9776

FIELD NO. FA-20-4-78

Alaska, Cook Inlet, Offshore Ninilchik

SURVEYED: July 26 - August 19, 1978

SCALE: 1:20,000

PROJECT NO: OPR-P114-FA-78

SOUNDINGS: Ross Finline Fathometer

CONTROL: Raydist R/R

Chief of Party.....CDR B.I. Williams
Surveyed by.....LT A.H. Yanaway, LTJG R.B.
Crowell, LTJG M.S. Finke,
LTJG J.A. Withrow, LT A.D.
Kissam, LTJG J.P. Quinlan
Automated plot by.....Xynetics Plotter (PMC)
Verified by.....Sandor A. Feher
November 5, 1979

I. INTRODUCTION

a. H-9776 is a basic hydrographic survey conducted offshore of Ninilchik in Alaska.

b. The smooth sheet plotting parameters, station list and sounding correctors and tide parameters are included with the position and sounding printouts. Approved tides from Ninilchik, Alaska and from the Snug Harbor, Alaska gages were utilized for soundings in the smooth sheet.

c. The following problems encountered during verification:

- (1) Hydrography extended beyond the maximum plotter sheet limits, therefore the following positions were deleted from the smooth printout:
3001, 3002, 3098, 3225/1-3231/5.
- (2) The Electronic Corrector Abstract did not reflect what is actually on the electronic corrector tapes. The program that is supposed to be used to make a printout of the applied electronic correction was not used.

II. CONTROL AND SHORELINE

The source of control is adequately described in the Descriptive Report in Section F and G.

There are no shoreline manuscripts applicable to this survey, since it is offshore from Ninilchik.

III. HYDROGRAPHY

Crosslines are in good agreement, generally within one fathom or less. The construction of depth curves on the smooth sheet is complete, the basic hydrography is adequate to delineate the bottom configuration and to determine least depths.

IV. CONDITION OF SURVEY

The hydrographic records, overlays, smooth sheet are adequate and conform to the requirements of the Hydrographic Manual with the following exceptions:

a. The Descriptive Report does not adequately comply to the requirements set forth in paragraph 5.3 of the Hydrographic Manual. For example:

- (1) Paragraph D. Sounding Equipment and Correction to Echo Soundings does not adequately summarize the correction to echo soundings applicable to this survey as velocity and other corrections are not discussed.
- (2) Paragraph F. Control Stations. Items requiring listing by the Hydrographic Manual in this section are not included.
- (3) Paragraph K. Comparison with Prior Surveys. Presurvey review items are not positively addressed and disposition recommended. *Only dashed circle items shown on PSR mark-up of OPR 429 - none on update*
- (4) The hydrographer failed to mention prior survey H-3206 (1910) by its registry number.

b. The smooth sheet exceeded the maximum allowable longitudinal dimension of 52 inches of soundings. (PMC Data Requirement Letter, April 11, 1979).

IV. JUNCTIONS

The survey junctions with seven other surveys.

In the southwest corner an adequate junction was made with H-9708, 1:40,000 (1977). Depth curves were inked accordingly. The depth curves on H-9708 should be adjusted to conform to this survey. *Accomplished during Q.C.I.* At the west the survey junctions with H-9773, 1:20,000 (1978-79). *-H-9773 not in office 6-12-80* This survey still is in the verification process and only the upper half, from Latitude 60° 05' 00" N could an adequate junction be accomplished. The depth curves were inked accordingly. The lower half, from Latitude 60° 05' 00" N south, the junction notes and depth curves were left in pencil as this portion of the survey has not yet been verified.

H-9770, 1:20,000 (1978) also junctions on the northwest. An adequate junction was effected, depth curves were inked accordingly with this contemporary survey.

not in office 6-16-80

On the north the survey junctions with two other surveys, H-9435, 1:20,000(1974) and with H-9436, 1:20,000 (1974).

However, because of the differences in the method of plotting soundings between H-9435, H-9436 and H-9776, a final comparison could not be made at this time. The present survey plots soundings to the nearest tenths of a fathom, up to 21 fathoms, while the older survey was plotted to the nearest tenths of a fathom up to only 11 fathoms and the rest were rounded off to the nearest unit. It is recommended that the reduced soundings to the nearest tenths of a fathom from the smooth sounding printout for H-9435, H-9436 be used to compare depths within the junctional area during quality control inspection and depth curves adjusted accordingly. *Where 10ths of a fm. on H-9776 affected the delineation of the junctional 20 fm curve on H-9436 (1974)*

On the east and southeast, this survey junctions with H-9833, 1:20,000 (1979) and H-9835, 1:20,000 (1979). Both surveys are in preliminary processing stages, junctions were not made and are left in pencil. *the 20 fm curve was dashed.*

H-9833 & H-9835 are not in the office 6-16-80

VI. COMPARISON WITH PRIOR SURVEYS

✓ H-3355, 1:100,000 (1911)

This prior survey was conducted in 1911, soundings are in feet on an unadjusted datum. Sounding acquisition was also carried out by the Bassnett tube method. With the resulting ambiguities only a general comparison is possible. Soundings are in good agreement and I do concur with the Descriptive Report.

The present survey is adequate to supersede this prior survey for the area of common coverage.

✓ H-3206, 1:120,000 (1910)

This prior survey has its eastern 2/3 area common with the present survey. Again, this prior survey is in feet on an unadjusted datum.

The present survey shows deeper soundings by 2-3 fathoms, and the pre-survey review marked shoals were displaced about 140 meters toward the north.

The change of bottom configuration is attributed to natural causes, however, positioning discrepancies also may exist with this early survey. *CONCUR*

The present survey is adequate to supersede H-3206 for the area of common coverage. *CONCUR*

VII. COMPARISON WITH CHART

a. The survey was compared with Chart 16640, 15th Edition,

Nov 76, and the verifier concurs with the hydrographer's comments as stated in Section L of the Descriptive Report.

- (1) The soundings on Chart 16640 originate from H-3355/1911 and H-3206/1910 surveys. ~~There are four soundings (3, 6, 7 and 20 fathoms) that their source is unknown.~~

b. The dashed presurvey review items were investigated by the running of 40 meter split lines and the result follows:

- (1) The 2 1/4 fathom sounding originating from H-3206 (1910) ^{charted} at approximate Latitude $60^{\circ} 07.15'N$, Longitude $152^{\circ} 09.5'W$ is confirmed and its existence proved by a 2.1 fms sounding found in the vicinity. This 2.1/4 fathom sounding is superseded by data from this survey. A 2.1 fms sdg. 120 meters N.E. of this ^{is the least depth in this area on the present} survey.
- (2) The 2 1/2 fathom sounding originating from H-3206 (1910) ^{charted} at approximate Latitude $60^{\circ} 06.4'N$, Longitude $152^{\circ} 09.8'W$ investigated by extensive development. This shoal was not found by the present survey. The surrounding area shows ^{CONCUR} the bottom one fathom deeper than charted. The present development of the area, 40 meter split lines, is adequate to delineate the bottom configuration and the present hydrography should supersede the charted soundings.
- (3) The 5 fathom ^{charted} sounding at approximate Latitude $60^{\circ} 05'N$, Longitude $152^{\circ} 09.5'W$ was developed by 40 meter split lines. Again the present survey shows that the area is ^{CONCUR} 3 to 4 fathoms deeper than indicated by prior survey H-3206/1910. The present hydrography is adequate to delineate the bottom configuration and to supersede the charted soundings.
- (4) The 3 fathom ^{charted} shoal at approximate Latitude $60^{\circ} 07'N$, Longitude $152^{\circ} 05.7'W$ was also developed by 40 meter split lines. The present survey shows again deeper bottom ^{by 3fm sdg} ~~one~~ ^{to originate} ~~fathoms~~. However, the development was stopped at the ^{with H-3206} edge of the shoaling area, while it should have been ^{(1910) as a 20'} carried further northwest. This 3 fathom sounding ^{sdg. The chart-} originates from an unknown source. It is recommended ^{ed 3fm sdg. is} that its source be checked and if it is found to be ^{considered dis-} warranted, it should be carried forward as charted. ^{credited by a}

c. The present survey is adequate to supersede the charted hydrography ^{40 meter criss-cross} ~~with the exception of the 3 fathom shoal.~~ ^{development on} ~~CONCUR~~ ^{the present} ~~survey.~~ ^{survey.}

d. Aids to Navigation

There are no fixed aids to navigation within this survey limits, the floating aid, buoy "C1", Lower Cook Inlet Junction Lighted Bell Buoy C1 (LLNR 3483), is a seasonal buoy and adequately marks the feature intended. (APRIL 1 to DEC 1)

VIII. COMPLIANCE WITH PROJECT INSTRUCTIONS

This survey complies with the Project Instruction dated May 1, 1978, Change 1, 2 and 3 April 17, 1978.

IX. ADDITIONAL FIELD WORK

This is a good basic hydrographic survey. No additional field work is required for the area covered by this survey, ~~with the exception of the 3 fathom shoal area mentioned previously.~~

It is recommended that when hydrographic ships are working in the surrounding area, the investigation of this 3 fathom shoal should be expanded. *Do not concur*
3 fm sdg charted from H-3206(1910) is considered discredited by the present survey, no further investigation is considered necessary. JPS

Submitted by,

Sandor A. Feher

Sandor A. Feher
Cartographic Technician
November 5, 1979

Examined and approved,

J S Green
James S. Green
Chief, Verification Branch



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

DATE : April 9, 1980

OA/CPM3/JWC

TO : OA/CPM - Eugene A. Taylor

FROM : OA/CPM3 - John W. Carpenter *JWC*

SUBJECT: PMC Hydrographic Inspection Team Report for Survey H-9776

This survey is a basic hydrographic survey of Offshore Ninilchik, Cook Inlet, Alaska. This survey was conducted by NOAA Ship FAIRWEATHER in 1978 in accordance with Project Instructions OPR-P114-FA-78 dated April 17, 1978, Change No. 1 dated April 25, 1978, Change No. 2 dated May 2, 1978 and Change No. 3 dated May 2, 1978.

The following items were noted:

1. The area centered around Latitude 60°07'40" and Longitude 152°09'30" in the vicinity of 2.8 and 3 fathom soundings was not developed; further development is needed. *CONCUR JWC*

2. The hydrography area limit exceeds the recommended latitudinal limit (32 inches versus the recommended 30 inches) and crowds the longitudinal limit (52.2 inches versus a recommended 52 inches stated in the PMC Data Requirements Letter). It is recommended that the maximum dimensions for a PMC sheet be defined as 36x54 inches with hydrography limited to the area of 30x48 inches be adopted as a requirement for PMC field units.

The inspection team finds H-9776 to be adequate to supersede common areas of prior surveys and charted hydrography. Administrative approval is recommended.

John W. Carpenter
John W. Carpenter

Pamela R. Chelgren
Pamela R. Chelgren

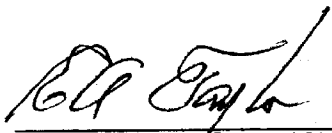
James W. Steensland
James W. Steensland

James L. Stringham
James L. Stringham



ADMINISTRATIVE APPROVAL

The smooth sheet and reports of survey H-9776 have been examined and the survey is adequate for charting and to supersede common areas of prior surveys.



Eugene A. Taylor, RADM
Director
Pacific Marine Center

APR 9 1980

Date



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

OA/C352:FPS

June 17, 1980

TO: Glen R. Schaefer *G.R. Schaefer*
Chief, Hydrographic Surveys Division

THRU: Chief, Quality Control Branch

FROM: F. P. Saulsbury *F.P. Saulsbury*
Quality Evaluator

SUBJECT: Quality Control Report for H-9776 (1978), Alaska, Cook Inlet,
Offshore Ninilchik

A quality control inspection of H-9776 was accomplished to monitor the survey for adequacy with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, shoreline transfer, smooth plotting, decisions and actions taken by the verifier, and the cartographic presentation of data. In general, it was found to conform to the National Ocean Survey's standards and requirements except as stated in the Hydrographer's Report, Verifier's Report, and the HIT Report.

cc:
OA/C35
OA/C351



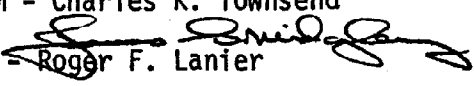


UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

OA/C351:DJH

AUG 19 1980

TO: OA/CPM - Charles K. Townsend

FROM: F/OA/C3 - Roger F. Lanier 

SUBJECT: H-9776 (1978), OPR-P114, Alaska, Cook Inlet, Offshore Ninilchik,
Report of Compliance with Project Instructions

The smooth sheet and Descriptive Report for the subject survey have been examined. This survey, except as noted in the Quality Control Report, dated June 17, 1980 (copy attached), and the Hydrographic Survey Inspection Team Report, dated April 9, 1980, is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-P114-RA,FA-78, dated April 17, 1978.

Attachment

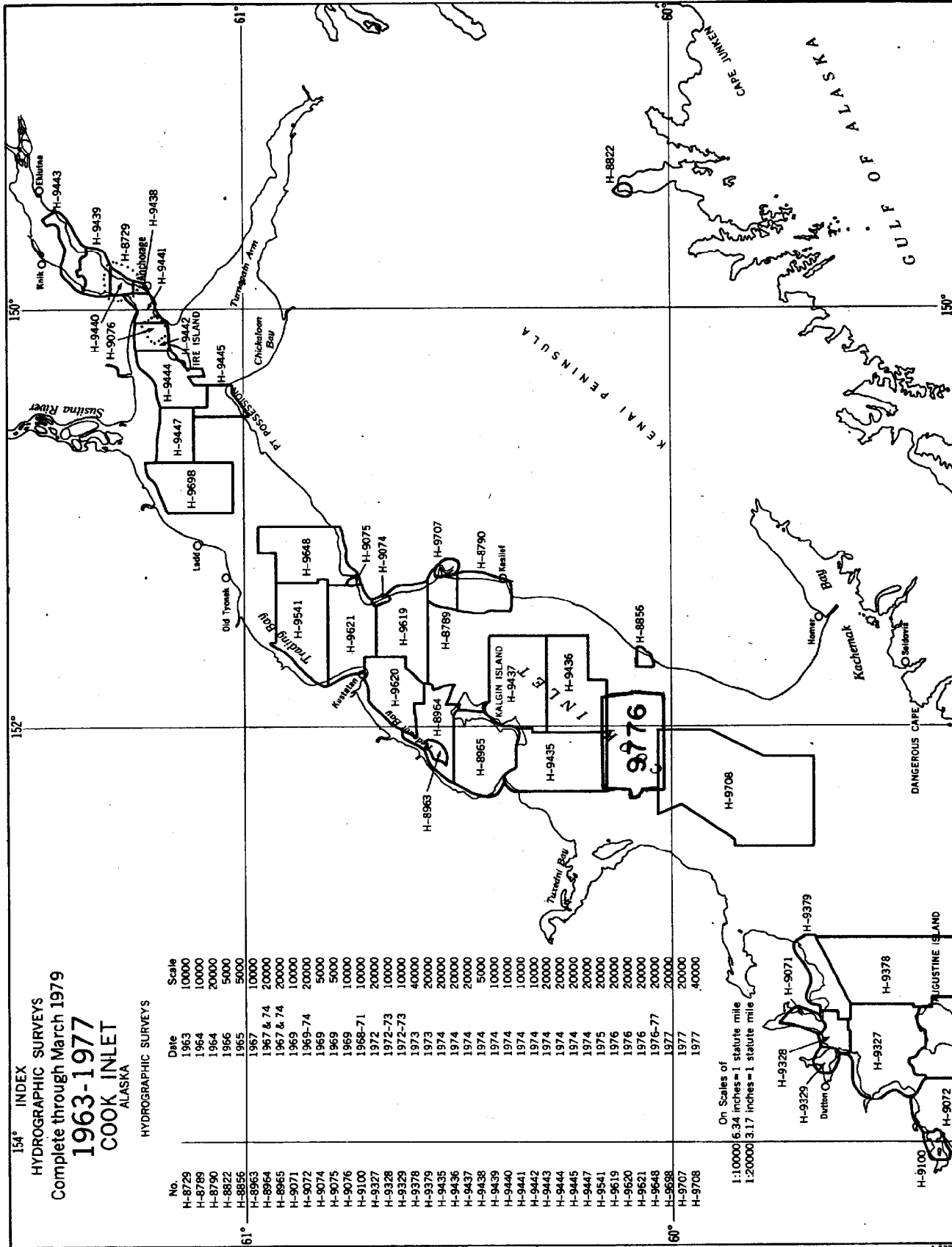
cc:
OA/C352 w/o att.



10TH ANNIVERSARY 1970-1980

National Oceanic and Atmospheric Administration

A young agency with a historic
tradition of service to the Nation



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. 9776

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
16660	10/13/80	LAVIS	Full Part Before After Verification Review Inspection Signed Via Drawing No.
16640	12/19/80	Milton Sager	Full Part Before After Verification Review Inspection Signed Via Drawing No. 20 Partially appld to proof for critical corrections only.
16661	8-24-84	Roy P. Diamond	Full Part Before After Verification Review Inspection Signed Via Drawing No. 1
16640	10-29-85	J.M. O'Connor	Full Part Before After Verification Review Inspection Signed Via Drawing No. 22 Applied thru chrt 16661
16013	8-7-97	William Huger	Full Part Before After Verification Review Inspection Signed Via Drawing No. 30 FULLY APPLIED THRU CHART 16661
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