9973

Diagram No. 8556-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. FA-10-4-81

Office No. H-9973

LOCALITY

State Alaska

General Locality Shelikof Strait

Locality Western Amalik Bay

1981

CHIEF OF PARTY
CDR W.F. Forster

LIBRARY & ARCHIVES

DATE November 29, 1983

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

9973

AREA 6
CHTS
16580
16013
531

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H-9973

HYDROGRAPHIC TITLE SHEET

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-10-4-81

State Alaska

General locality Shelikof Strait

Locality Western Amalik Bay

Scale 1:10,000 Date of survey August 19-24, 1981

Instructions dated February 23, 1981 Project No. S-P106-FA-81

Vessel NOAA Ship FAIRWEATHER and Launches 2023, 2025

Chief of party CDR W. F. Forster

Surveyed by LT D. G. Hennick, LT T. A. Baxter

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

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Verified ~~Protracted~~ by Robert N. Mihailov Automated plot by PMC Xynetics Plotter

Evaluated ~~Verification~~ by Gordon E. Kay

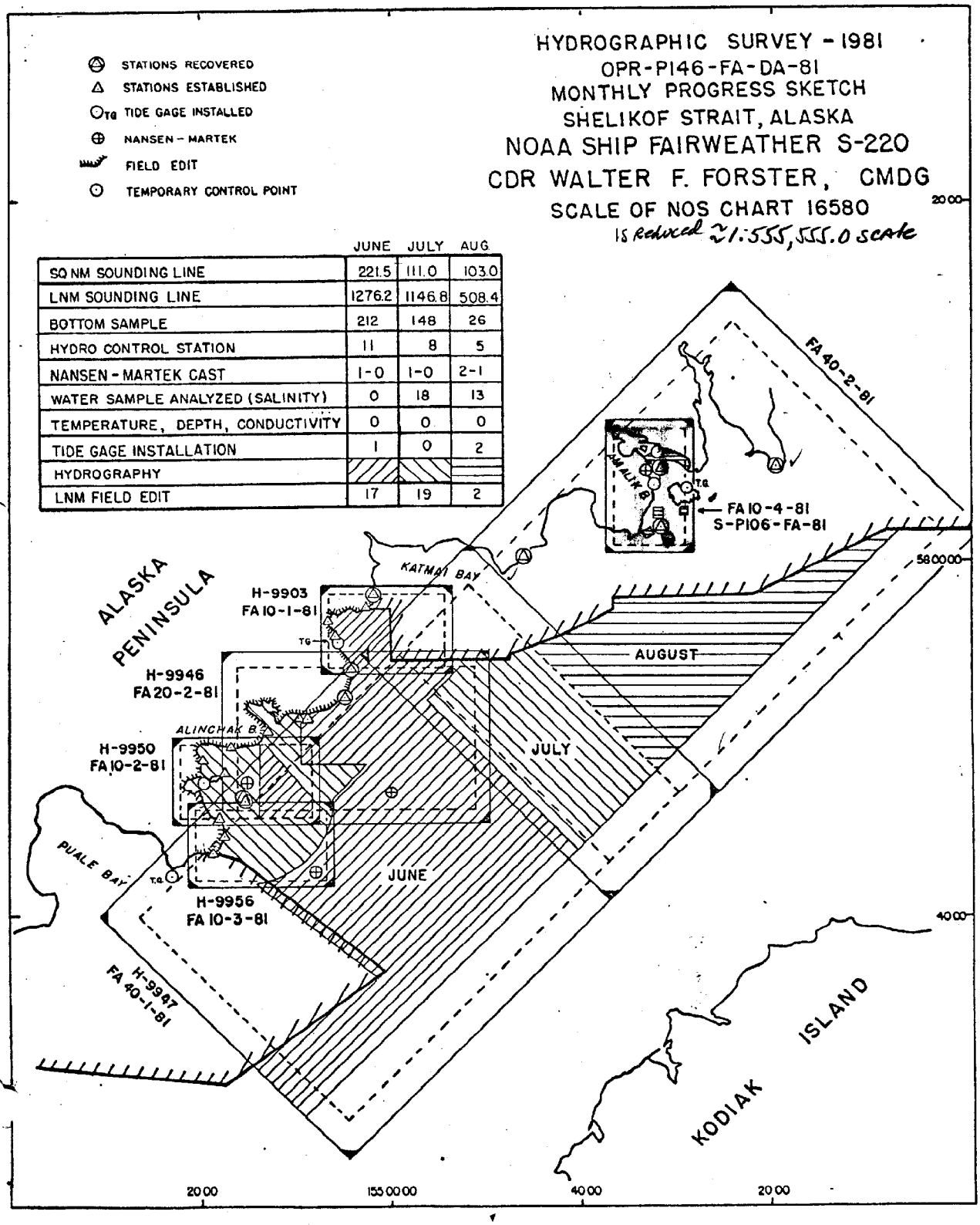
Soundings in fathoms feet at MLW MLLW

REMARKS: Revisions and marginal notes in black were made by the Evaluator.

12-02-83
STANDARDS CK'D
C. Lay
AWOIS - 12/14/83 mjf

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

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


HYDROGRAPHIC SURVEY - 1981
OPR-P146-FA-DA-81
MONTHLY PROGRESS SKETCH
SHELIKOF STRAIT, ALASKA
NOAA SHIP FAIRWEATHER S-220
CDR WALTER F. FORSTER, CMDG
SCALE OF NOS CHART 16580
is reduced ≈1:555,555.0 scale
STATIONS RECOVERED
STATIONS ESTABLISHED
TG TIDE GAGE INSTALLED
NANSEN - MARTEK
FIELD EDIT
TEMPORARY CONTROL POINT
JUNE JULY AUG
SQ NM SOUNDING LINE 221.5 111.0 103.0
LNM SOUNDING LINE 1276.2 1146.8 508.4
BOTTOM SAMPLE 212 148 26
HYDRO CONTROL STATION 11 8 5
NANSEN - MARTEK CAST 1-0 1-0 2-1
WATER SAMPLE ANALYZED (SALINITY) 0 18 13
TEMPERATURE, DEPTH, CONDUCTIVITY 0 0 0
TIDE GAGE INSTALLATION 1 0 2
HYDROGRAPHY
LNM FIELD EDIT 17 19 2
FA 40-2-81
FA 10-4-81
S-P106-FA-81
ALASKA PENINSULA
KATMAI BAY
H-9903
FA 10-1-81
H-9946
FA 20-2-81
H-9950
FA 10-2-81
ALINCHAK B.
PUALE BAY
H-9956
FA 10-3-81
H-9947
FA 40-1-81
AUGUST
JULY
JUNE
KODIAK ISLAND
20 00
155 00 00
40 00
20 00
20 00
40 00
58 00 00

HYDROGRAPHIC DESCRIPTIVE REPORT TO ACCOMPANY

SURVEY H-9519, FA-10-4-81

S-P106-FA-81

Amalik Bay

NOAA Ship FAIRWEATHER S220

A. PROJECT

Change No. 1. Oct 15, 1981

This hydrographic survey was conducted under Project Instructions S-P106-FA-81, dated 23 February 1981. There were no changes. The project entailed taking additional soundings to further develop survey H-9519, conducted originally in 1975.

B. AREA SURVEYED

This survey was conducted on the west side of Shelikof Strait, Alaska, in Amalik Bay, centered at latitude 58°05'15"N, longitude 154°32'06"W. ✓

C. SOUNDING VESSELS

Launch FA-3 (2023) and launch FA-5 (2025) were used for soundings on this survey. The NOAA Ship FAIRWEATHER (2020) was used for the oceanographic cast. Least depths of hazards investigated by divers were measured by cloth tape. A pole sounding was taken on development 3, which was subject to visual inspection from the surface. ✓

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

The survey vessels were equipped with Ross Fineline Model 5000 echo sounders (See Table 1). Phase checks were taken at the beginning and ending of each day. Initial checks were made frequently by the fathometer operators throughout sounding operations. All data was scanned twice to compare analog values to corresponding digital values. Peaks and deeps were inserted and checked. ✓

Table 1

Vessel	Instrument	Model	Analog	Digitizer	Inverter	Transceiver
FA-3 (2023)	Ross Fineline	5000	1097	1054	1046	1047
FA-5 (2025)	Ross Fineline	5000	1036	1036	1053	1036 ✓

Velocity of sound was calculated from a Nansen cast conducted on 22 August 1981 at latitude 58°04.7'N, longitude 154°32.3'W.

All Nansen cast thermometers were calibrated between May 1979 and March 1981 by Northwest Regional Calibration Center.

Settlement and squat correctors measured in April 1981 were determined to be less than 0.05 fathoms, thus no corrections were applied to soundings. Vessel speeds of 1700 and 1800 rpm for FA-3 (2023) and 2000 rpm for FA-5 (2025) had correctors greater than 0.05 fathoms so these speeds were not used while taking soundings.

The settlement and squat tests were conducted in accordance with the Hydrographic Manual Section 4.9.4.2. For further details see the Corrections to Echo Soundings Report for project S-P106-FA-81.

E. HYDROGRAPHIC SHEETS

This survey was plotted on one 22 by 54 inch sheet with a skew of 90°, and a scale of 1:10,000. Developments were plotted on three separate sheets labled A, B, and C.

The PDP 8/e computer (S/N 14631) and Complot plotter (S/N 5557-5) aboard the NOAA Ship FAIRWEATHER were used to plot the field sheets. The plotting parameters are listed in Appendix A.

All field records will be sent to the NOAA Pacific Marine Center in Seattle, Washington for verification and smooth plotting.

F. CONTROL STATIONS

Much of the hydrography of 1975 was controlled from temporary points. TP-4 1975 was monumented as Ilktugitak 1908 Rm 3 1981, and TP-2 1975 was monumented as Tropic 1981 using third order techniques. TP-1 1975 was re-established as TP-1 using third order techniques and left unmonumented in 1981. A search was made for TP-3 1975 and a stake found in the immediate area. Third order techniques were used to determine the position of that stake, which was used as TP-3 1981. During subsequent days, however, a second stake was found near that station which is more likely to have been the TP-3 of 1975. Therefore, arcs run from TP-3 1975 and TP-3 1981 are not quite concentric.

The monumented station Amalik was recovered with azimuth checks because it has no reference marks. Due to time restrictions, none were set.

There were no unconventional survey methods used. Tropic 1981 had to be established by the "A point" method because it was intervisible with only station Amalik.

There were no anomalies in control adjustment or in closures and ties.

G. HYDROGRAPHIC POSITION CONTROL

Motorola Mini-Ranger III Range-Azimuth methods were used for positioning soundings. For serial numbers see Table 2, Mini-Ranger Shore Station and Visual Equipment.

Mini-Rangers were calibrated on a baseline at Kodiak on July 31, 1981 (JD 212) for the initial baseline calibration (BLC), and at Amalik Bay on August 22, 1981

Table 2

Mini-Ranger Shore Station and Visual Equipment

Vessel	Date	Console	Code	Station	Positions
FA-3	232/233	702	5	525	2000-2091
FA-3	232/233	702	5	535	2092-2155
FA-3	235	702	6	520	2156-2382
FA-5	231/232	703	B	517	6000-6150
FA-5	232/233	703	B	517	6151-6321
FA-5	235/236	703	5	535	7299-7540

(JD 234) during this project. The components used subsequent to the JD 234 BLC were re-calibrated on the baseline in Kodiak on August 28, 1981 (JD 240) as the final BLC for this project. Correctors used for smooth plotting are the means from the preceding and following BLCs for the hydrography of any given date.

System checks were done by theodolite cuts calculated by RK 300, and by sextant fixes calculated by RK 561. Original system check computations and semi-smooth plots are erroneous because the first version of the signal tape had station heights in error by a factor of 10. Recomputation of system check data proved that Mini-Rangers worked properly throughout this survey.

There were no unusual methods of operating the electronics, no unusual atmospheric conditions, no weak signal strengths, no poor geometry, and no systematic errors in position data on the final field sheet.

Sextant fixes taken by divers on developments 4 and 7 were erroneous because signals had been destroyed by wind prior to the dives. Therefore, fixes for the diver's least depths are the Range-Azimuth D.P.s taken by launch FA-5 on JD 232/233 when the buoys were deployed.

H. SHORELINE

Shoreline was traced from the H-9519 sheet of 1975. Brown ink was used because shoreline manuscripts were not available. Shoreline hydrography was run only near TP-3. Field edit was not called for on this project.

I. CROSSLINES

7.5 miles of crosslines were run totaling 10% of the mainscheme.

There are no disagreements between crosslines and mainscheme.

J. JUNCTIONS

This survey junctions solely with H-9519, 1975, scale 1:10,000, because it is a development of that sheet.

All comparisons agree within the criteria of Section 1.1.2 of the Hydrographic Manual with the following exceptions.

Latitude	Longitude	H-9519, 1975	~~H-9519~~ 9973, 1981
58°01'35"N	154°32'15"W	5.4 fm	4.4 fm Pos#61801
58°04'34"N	154°31'46"W	53	21 Pos#2304
58°02'32"N	154°30'56"W	30	28 Pos#60071/2

The first two apparent discrepancies are due to small positional differences on steep bottom contours. The third apparent discrepancy is probably due to a small positional difference on a gradually sloping bottom, combined with rounding one fraction of a fathom up, and one fraction down. Comparisons in surrounding areas indicate that the sounding and positioning equipment of both surveys worked well.

K. COMPARISON WITH PRIOR SURVEYS

Not Applicable.

L. COMPARISON WITH THE CHART

Chart 16580 is of such a small scale that a detailed comparison with this survey is impractical. Charted features are exaggerated for legibility. The soundings that are charted in the survey area compare well with this survey. See Evaluation Report Section 7

M. ADEQUACY OF SURVEY

This survey is adequate to add detail to H-9519 of 1975 in all areas called for in the project instructions. All developments are complete; critical hazards to navigation were investigated by divers or inspected visually from the surface.

N. AIDS TO NAVIGATION

There are no aids to navigation located within the boundaries of this survey.

O. STATISTICS

Vessel	Number of Positions	Nautical Miles of Sounding Lines	Square Nautical Miles
FA-3 (2023)	382	31.6	1.4
FA-5 (2025)	~~640553~~	37.3	2.0

One oceanographic station was used to take sound velocity data.

One tide station was installed for this survey.

P. MISCELLANEOUS

No unusual phenomenon were observed.

Q. RECOMMENDATIONS

No construction is planned as this area is within Katmai National Monument.

R. AUTOMATED DATA PROCESSING

Data loggers were used on the launches.

The following computer programs were used:

RK 201	Grid, Signal, and Lattice Plot	4/18/75
RK 212	Visual Station Table Load	4/01/74
RK 216	Range-Azimuth Non-Real Time Plot	2/09/81

RK 300	Utility Computations	10/21/80
RK 330	Reformat and Data Check	5/04/76
PM 360	Electronic Corrector Abstract	2/02/76
AM 500	Predicted Tide Generator	11/10/72
RK 530	Layer Corrections for Velocity	5/10/76
RK 561	H/R Geodetic Calibration	2/19/75
AM 602	Elinore - Line Oriented Editor	5/20/75

S. REFERRAL TO REPORTS

The following reports are pertinent to this survey:

Horizontal Control Report	S-P106-FA-81
Electronic Control Report	S-P106-FA-81
Corrections to Echo Soundings	S-P106-FA-81

APPENDIXES FOLLOWING TEXT

A. Hydrographic Sheet Projections and Electronic Control Parameters

B. Field Tide Note

C. Geographic Names List

D. Abstract of Corrections to Echo Soundings

E. Abstracts of Corrections to Electronic Position Control

F. List of Stations

G. Abstracts of Positions

H. N/A

I. N/A

J. Approval Sheet

APPENDIX A

Hydrographic Sheet Projections and Electronic Control Parameters

PARAMETER LISTING

1: 10,000 SHEET
SKEW; 90,22,52

001 FEST=62000
002 CLAT=6347000
003 CMED=155/00/00
004 GRID=30
005 PLSCL=10000
006 PLAT=56/00/15
007 PLON=154/28/22
008 VESNO=2020
009 YR=81
010 ANDIST=0.0

SHEET " A "
SKEW;]35,22,50

001 FEST=62000
002 CLAT=6347000
003 CMED=155/00/00
004 GRID=10
005 PLSCL=2500
006 PLAT=58/04/30
007 PLON=154/30/00
008 VESNO=2020
009 YR=81
010 ANDIST=0.0

SHEET " B "
SKEW; 0,22,40

001 FEST=62000
002 CLAT=6347000
003 CMED=155/00/00
004 GRID=10
005 PLSCL=2500
006 PLAT=58/05/30
007 PLON=154/31/00
008 VESNO=2020
009 YR=81
010 ANDIST=0.0

SHEET "C " SKEW; 93,22,60

001 FEST=62000
002 CLAT=6347000
003 CMED=155/00/00
004 GRID=10
005 PLSCL=2500
006 PLAT=58/00/37
007 PLON=154/30/32
008 VESNO=2020
009 YR=81
010 ANDIST=0.0

APPENDIX B

Field Tide Note

FIELD TIDE NOTE

S-P106-FA-81

Geographic Harbor, Alaska

Field tide reduction of soundings was based on predicted tides from Seldovia, Alaska with correctors as per Project Instructions as follows:

Time Correctors		Height Correction Ratio
High	Low	
-10 minutes	+5 minutes	x 0.70

Correctors were interpolated by the Hydroplot system using AM 500. All times of both predicted and recorded tides were based on Greenwich Mean Time (GMT). The predicted tides were acceptable for hydrography with no discrepancies attributable to tide errors.

Bristol Bubbler gage, 68A9333, was installed at Takli Island tide station, #945-6992, at 58°03.8'N, 154°28.6'W. Three wire levels were run to five benchmarks on August 8, 1981, when the gage was installed, and again on August 24, 1981 when the gage was removed. Tide data from this station was used to control one survey, FA-10-4-81, H-9519, August 19-24, 1981.

On August 13, the gage was found to have stopped because the drive spring had broken. The entire clock mechanism was replaced on August 18 with the component from gage #67A16208, obtained from the DAVIDSON. No hydrography was run during this period.

On August 19, at 2230Z, the pen was found to have stopped writing. The marigram was removed and the pen restarted at 223840Z. Tides will have to be interpolated from 1920 to 2238Z on this day as hydrography was run between these times.

No other problems were noted with this tide station. All tide data was abstracted for hourly heights.

Submitted by:

Ann Felice Trimble
Lt.(jg), NOAA

Approved by:

Walter F. Forster
Cdr., NOAA
Commanding Officer
NOAA Ship FAIRWEATHER

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

ABSTRACT OF TIME OF HYDROGRAPHY
AND/~~OR FIELD EDIT~~

Date Aug 22 1981

Project No. S-P106-FA-81 Vessel FA 3

Date of Survey JD 231-232

Field Sheet No. FA-10-4E-81 Registry No. 9519

Field Sheet is Complete/Incomplete

J.D.	Time (Z)	J.D.	Time (Z)
232	1923	233	0133
235	1756	236	0208

J.D.	Time (Z)	J.D.	Time (Z)

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

ABSTRACT OF TIME OF HYDROGRAPHY AND/~~OR FIELD EDIT~~

Date Aug 22 1981

Project No. S-P106-FA-81

Vessel FA 5

Date of Survey JD 231-232

Field Sheet No. FA-10-4-81

Registry No. 9519

Field Sheet is Complete/Incomplete

J.D.	Time (Z)	J.D.	Time (Z)
231	1920	232	0052
232	1853	233	0052
235	1735	234	0048

J.D.	Time (Z)	J.D.	Time (Z)

APPENDIX C

Geographic Names List

(11-72) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

GEOGRAPHIC NAMES

H-9973

Name on Survey	A ON CHART NO. 16580	B ON PREVIOUS SURVEY NO. H-9519	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	
AMALIK BAY	X	X	X							1
CAPE ILKTUGITAK		X								2
SHELIKOF STRAIT	X	X	X							3
TAKLI ISLAND	X	X	X							4
										5
										6
										7
										8
										9
										10
										11
										12
										13
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										22
										23
										24
										25

Approved:

Charles E. Harrington

Chief Geographer - N/CG2x5

19 MAY 1983

NOAA FORM 76-155 SUPERSEDES C&GS 197

APPENDIX D

Abstract of Corrections to Echo Soundings

TC/TI TAPE PRINTOUT FOR VESSEL 2023, H-9519

192605 0 0003 0001 232 202300 000000
020547 0 0000 0000 235 000000 000000

TC/TI TAPE PRINTOUT FOR VESSEL 2025, H-9519

192400 0 0003 0002 231 202500 000000
004509 0 0000 0000 236 000000 000000

VELOCITY CORRECTION TAPE PRINTOUT, H-9519

TABLE 1

```
000025 0 0000 0001 001 202300 009519
000075 0 0001
000138 0 0002
000188 0 0003
000255 0 0004
000310 0 0005
000387 0 0006
999999 0 9999
```

VELOCITY CORRECTION TAPE PRINTOUT, H-9519

TABLE 2

```
000025 0 0000 0002 001 202500 009519
000075 0 0001
000138 0 0002
000188 0 0003
000255 0 0004
000310 0 0005
000387 0 0006
999999 0 9999
```

APPENDIX E

Abstracts of Corrections to Electronic Position Control

APPENDIX E

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2023 SHEET : FA-10-4E-81

TIME	DAY	PATTERN 1	PATTERN 2
203300	232	+00002	-07081
203400		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2023 SHEET : FA-10-4E-81

TIME	DAY	PATTERN 1	PATTERN 2
192805	232	+00002	-15000
223340		+00002	-58507
000510	233	+00000	-73480
005609		+00002	-84478
010840		+00002	-76958
013000		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2025 SHEET : FA-10-4E-81

TIME	DAY	PATTERN 1	PATTERN 2
221920	231	-00002	+68543
001900	232	-00000	-21271
230030		-00002	-65529
000080	233	-00002	-28372
001200		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2025 SHEET : FA-10-4F-81

TIME	DAY	PATTERN 1	PATTERN 2
192400	231	-00002	+35020
~~835000~~	~~[illegible]~~	~~-00002~~	~~+70150~~
~~195800~~	~~232~~	~~00000~~	~~-10071~~
~~002600~~	~~233~~	~~00000~~	~~-25451~~
~~204433~~	~~[illegible]~~	~~-00000~~	~~-20041~~
173800	235	+00003	-15500
~~295400~~	~~[illegible]~~	~~+00003~~	~~-54005~~
220520	[illegible]	+00003	01000
~~000800~~	~~236~~	~~+00003~~	~~-03101~~
~~006500~~	~~[illegible]~~	~~+00003~~	~~-07005~~
~~004600~~	~~[illegible]~~	~~+00000~~	~~+00000~~

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2023 SHEET : FA-10-4F-81

TIME	DAY	PATTERN 1	PATTERN 2
175500	235	+00003	-20422
~~1[illegible]~~	~~[illegible]~~	~~+00003~~	~~-30000~~
~~2[illegible]~~	~~[illegible]~~	~~+00003~~	~~-06475~~
~~2[illegible]~~	~~[illegible]~~	~~+00003~~	~~-07000~~
~~2[illegible]~~	~~[illegible]~~	~~+00003~~	~~-04066~~
~~2[illegible]~~	~~[illegible]~~	~~+00003~~	~~-05000~~
~~0[illegible]~~	~~[illegible]~~	~~+00003~~	~~-05446~~
~~0[illegible]~~	~~[illegible]~~	~~+00000~~	~~+00000~~

APPENDIX F

List of Stations

```
001                    AMALIK BAY SIGNAL LISTING
002
003
004 ATUSHAGVIK 2, 1967          581542  1003
005 500 3  58 04 59819 154 18 53056  250 0012 000000
006
007 ATUSHAGVIK 2 1967,RM-4 1981  581542 FAIRWEATHER 1981
008 503 3  58 05 00619 154 18 53756  250 0013 330040
009
010 ACTOR,1975                   581542  FAIRWEATHER 1975
011 510 1  58 03 35510 154 24 54143  250 0023 000000
012
013 ILKTUGITAK, 1908             581543  1002
014 515 3  58 01 40129 154 31 34766  250 0014 000000
015
016 ILKTUGITAK 1908 RM-3, 1981  581543  FAIRWEATHER 1981
017 517 6  58 01 44898 154 31 37441  250 0026 000000
018
019 AMALIK, 1975                 581543  FAIRWEATHER 1975
020 520 6  58 04 50739 154 31 34419  250 0039 000000
021
022 TP-1, 1981                   581543  FAIRWEATHER 1981
023 525 4  58 04 08754 154 32 09451  254 0007 000000
024
025 TROPIC, 1981                 581543  FAIRWEATHER 1981
026 530 2  58 05 12108 154 32 23869  250 0014 000000
027
028 TROPIC RM-1, 1981            581543  FAIRWEATHER 1981
029 531 7  58 05 12014 154 32 23927  250 0013 000000
030
031 TP-3, 1981                   581543  FAIRWEATHER 1981
032 535 2  58 05 55564 154 31 38158  254 0012 000000
```

APPENDIX G

Abstracts of Positions

ABSTRACT OF POSITIONS

H- 9519

Console # 703 (or Mobile unit)

FA- 10-4-81

DAY	POSITIONS	CONTROL CODE*	CONTROL STATIONS and XPDR #			TYPE OF HYDRO						Sheets where Plotted		Rejected or Duplicated Positions
			S1/XPDR	M	S2/XPDR	MS	XL	MS SPLITS	PSR #	DEVEL. #	BS or DPs	Main Sheet	Enlargement #	
232/233	2000-2014	03	525			✓				✓		✓	A	
"	2015-2037	03	525							✓			A	
"	2038	03	525								✓	✓		
"	2039-2047	03	525			✓				✓		✓	A	
"	2048-2079	03	525							✓			A	
"	2080-2091	03	525				✓			✓		✓	A	
"	2092-2125	03	535							✓			B	
"	2126-2133	03	535				✓			✓		✓	B	
"	2134-2155	03	535							✓			B	
235	2156-2382	03	520			✓	✓					✓		
													H-9519 FA-10-4-81 FA-3	

CONTROL CODES: 01 Visual; 03 Range/Az; 04 Range/Range; 05 Hyperbolic; 08 Hyper/Visual; 09 Range/Visual

ABSTRACT OF POSITIONS

H- 9519
FA-10-4-81

Console # 702
(or Mobile unit)

DAY	POSITIONS	CONTROL CODE*	CONTROL STATIONS and XPDR # S1/XPDR	M	S2/XPDR	TYPE OF HYDRO MS	XL	MS SPLITS	PSR #	DEVEL. #	BS or DPs	Sheets where Plotted Main Sheet	Enlargement #	Rejected or Duplicated Positions
231/232	6000-6067	03	517			✓	✓					✓		
〃	6068-6150	03	517							✓			C	
232/233	6151-6188	03	517			✓	✓					✓		
232/233	6189-6298	03	517							✓			C	
232/233	6299-6321	03	517			✓	✓					✓		6322-7298
235/236	7299-7540	03	535			✓	✓					✓		7541-7994
233	7995	01									✓	✓		
233	7996-7998	03	517								✓	✓		

H-9519
FA-10-4-81
FA-5

CONTROL CODES: 01 Visual; 03 Range/Az; 04 Range/Range; 05 Hyperbolic; 08 Hyper/Visual; 09 Range/Visual

APPENDIX H

Bottom Samples

NOT APPLICABLE

APPENDIX I

Landmarks for Charts

NOT APPLICABLE

APPENDIX J: APPROVAL SHEET

The Commanding Officer supervised the field work and inspected the records daily.

This survey is complete and adequate for charting.

Submitted By:

Craig Bailey

Craig Bailey
Ens., NOAA

Approved By:

Walter F. Forster,
Cdr., NOAA
Commanding Officer
NOAA Ship FAIRWEATHER S220

NOAA FORM 77-27 (5-77)

U. S. DEPARTMENT OF COMMERCE NOAA

HYDROGRAPHIC SURVEY NUMBER: H-9973

HYDROGRAPHIC SURVEY STATISTICS

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	
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			1- raw P/O 1- raw data			
VOLUMES						
BOXES			1- smooth P/O 1- misc. data			

T-SHEET PRINTS (List)

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS: PRE-VERIFICATION	AMOUNTS: VERIFICATION	AMOUNTS: TOTALS
POSITIONS ON SHEET	935	935	935
POSITIONS CHECKED	0	0	0
POSITIONS REVISED	0	6	6
SOUNDINGS REVISED	0	0	0
SOUNDINGS ERRONEOUSLY SPACED	0	0	0
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED			
	TIME – HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	4	*(VER)/(EVAL)	4
VERIFICATION OF CONTROL		35/10	45
VERIFICATION OF POSITIONS		86/06	92
VERIFICATION OF SOUNDINGS		105/06	111
COMPILATION OF SMOOTH SHEET		113/05	118
APPLICATION OF TOPOGRAPHY		00/00	00
APPLICATION OF PHOTOBATHYMETRY		00/00	00
JUNCTIONS		48/11	59
COMPARISON WITH PRIOR SURVEYS & CHARTS		00/02	02
VERIFIER'S REPORT		04/06	10
OTHER		00/08	08
TOTALS	4	391/53	448

Pre-Verification by: J. S. Green	Beginning Date: 10/20/81	Ending Date: 10/20/81
Verification by: R. N. Mihailov	Beginning Date: 1/7/81 2/24/82	Ending Date: 12/13/82 3/9/83
Evaluation by: G. E. Kay	Time (Hours): 51	Date: 3/17/83
Verification Check by: S. H. Otsubo, J. S. Green	Time (Hours):	Date:
Marine Center Inspection by: HIT	Time (Hours):	Date:
Quality Control Inspection by:	Time (Hours):	Date:
Requirements Evaluation by:		

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

PACIFIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO: H-9973 FIELD NO: FA-10-4-81

Alaska, Shelikof Strait, Western Amalik Bay

SURVEYED: August 19 - August 24, 1980

SCALE: 1:10,000 PROJECT NO: S-P106-FA-81

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

Chief of Party.....CDR W. F. Forster

Surveyed By.....LT D. G. Hennick
LT T. A. Baxter

Automated Plot By.....PMC Xynetics Plotter

Verified By.....R. N. Mihailov

Evaluated By.....G. E. Kay

1. INTRODUCTION

H-9973 is a special hydrographic survey conducted by the NOAA Ship FAIRWEATHER in accordance with Project Instructions S-P106-FA-81, Field Examination, Amalik Bay, Alaska, dated February 23, 1981 and Change 1, Amendment to Instructions, dated October 15, 1981. This survey was intended as a field examination to complement basic hydrographic survey H-9519 (1975) by further developing shoal indications noted on H-9519. Furthermore, the anchorage area in the far northern end of Amalik Bay and the approaches thereto were identified as an area of concern. Because the size of the plot exceeded the maximum allowable for a field examination (OA/CPM3 Information Memo, Field Examinations - Smooth Sheet, June 2, 1981), an "H" number was requested and received.

The survey is situated in Amalik Bay, between Geographic Harbor and Cape Ilktugitak on the west side of Shelikof Straits.

Projection parameters used to prepare the field sheet have been revised to center the hydrography on the smooth sheet. Smooth sheet parameters and all other correctors used by the Pacific Marine Center, Seattle, Washington, to reduce sounding data are appended in the smooth printout. Field tide reductions are based on predicted tides from Seldovia, Alaska. See field tide note in the ship's descriptive report for an adequate description of tides. Smooth sheet reduced soundings are based on observed tides at Takli Island, Alaska (945-6992).

2. CONTROL AND SHORELINE

Horizontal control and hydrographic position control have been adequately discussed in paragraphs F and G of the ship's Descriptive Report, in the Horizontal Control Report S-P106-FA-81, and Electronic Control Report S-P106-FA-81. The smooth sheet was plotted using published positions for established Third Order, Class I control stations, and field geodetic positions for all newly established stations.

This entire survey area has had a datum shift of approximately 13.5 meters northeast applied to all control stations since the 1975 surveys of this area. This datum transformation was accomplished by the National Geodetic Service (NGS). Shoreline from T-13173 and T-13174 which are applicable to this survey area, was not transferred to the smooth sheet because they were controlled by preadjusted stations, and consequently did not match H-9973. H-9973 has no shoreline portrayed on the smooth sheet.

3. HYDROGRAPHY

Soundings at crosslines are in good agreement.

The bottom configuration and determination of least depths are adequate.

Standard depth contours were adequately developed with the exception of the 0-fathom contour where hydrography was terminated at the surf zone; other contours were drawn only to limits of the hydrography.

4. CONDITION OF SURVEY

The hydrographic records and final reports adequately conform to the requirements of the Hydrographic Manual, July 4, 1976 edition, with the exception that the capability to digitize line data into the hydro file is presently not available at PMC. Therefore, the following categories are not in digital form:

a. Prior survey source data

b. All depth curves

c. Annotations, descriptions and geographic names

See addendum

5. JUNCTIONS

H-9973 junctions with H-9519, 1:20,000 (1975), which joins completely around H-9973. Soundings have been carried through onto H-9973 to make a butt junction with H-9519, superseding data from H-9519 over their common area. Depth contours are in coincidence and marginal notes (in red) have been inked.

6. COMPARISON WITH PRIOR SURVEYS

As per the project instructions, no comparison with prior surveys was made.

There were no pre-survey review items on H-9973, but there were seven items from H-9519 to be investigated listed in the project instructions. The items were investigated by the ship with the following results:

Item No.	H-9519 Depth	H-9519 Latitude	H-9519 Longitude	H-9973 Depth	H-9973 Latitude	H-9973 Longitude	Pos. No.
1.	5.4	58°05'14"N	154°32'06"W	5.3	58°05'13"N	154°32'07"W	7995
2.	4.6	58°05'54"N	154°30'12"W	3.1	58°05'55"N	154°30'11"W	2138/1
3.	3.0	58°04'38"N	154°31'03"W	0.8	58°04'38"N	154°31'02"W	2029/2
4.	2.5	58°02'11"N	154°31'41"W	2.5	58°02'09"N	154°31'43"W	6222/1
5.	6.1	58°02'24"N	154°31'37"W	3.7	58°02'22"N	154°31'38"W	6090/3
6.	6.7	58°02'30"N	154°31'40"W	5.8	58°02'29"N	154°31'41"W	6077/2
7.	3.0	58°02'01"N	154°30'54"W	-0.2	58°02'02"N	154°30'56"W	6288/1

These areas, with data carried forward from H-9519, should be charted according to this survey.

The anchorage area in the far northern end of Amalik Bay and its approaches were surveyed by splitting the lines on H-9519. H-9973 confirms the depths shown on H-9519 and data from H-9519 has been transferred to H-9973 as appropriate to supersede H-9519 for the area of common coverage. The user is referred to H-9519 (1975) for features plotted between the limits of this survey and the high water line. If necessary, supplemental information is available on H-9519 to satisfy additional charting requirements.

In addition, three other areas centered at:

latitude 58°02'53"N, longitude 154°29'13"W
latitude 58°00'52"N, longitude 154°30'55"W
latitude 58°01'35"N, longitude 154°32'15"W

were identified by the field party and developed to determine minimum depths. These areas, with data carried forward from H-9519, should be charted according to this survey.

7. COMPARISON WITH CHART

H-9973 was compared with Chart 16580, 8th Edition, October 31, 1981, 1:350,000.

a. Hydrography - Charted information comes from an unknown source (see enclosed chartlet). There are two soundings from the chart that are within the survey limits:

(1) 13 fathom sounding at latitude 58°05'51"N, longitude 154°31'18"W. This sounding matches sounding data on H-9973.

(2) 2.5 fathom sounding at latitude 58°02'18"N, longitude 154°31'39"W. This sounding is 150 meters away from a 2.5 fathom sounding on H-9973 (position number 6222/1).

H-9973 is adequate to supersede the chart over their common areas.

b. Controlling Depths - There are no controlling depths within the limits of this survey.

c. Aids to Navigation - There are no fixed or floating aids within the limits of this survey.

8. COMPLIANCE WITH INSTRUCTIONS

H-9973 complies with the project instructions and amendment.

9. ADDITIONAL FIELD WORK

H-9973 is an adequate special hydrographic survey. Additional field work is neither recommended nor required at this time.

Submitted by:

Gordon E. Kay
Cartographer

This survey has been verified and evaluated. I have examined the survey and it meets Charting and Geodetic Services standards and requirements for use in nautical charting except as noted above in the Evaluation Report. This survey, H-9973, is recommended for approval.

James S. Green
Supervisory Cartographer

CPM 32

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

October 13, 1981 OA/C353:GHM

TO: OA/CPM3 - John W. Carpenter

FROM: OA/C353 - George H. Mastrogianis George H. Mastrogianis

SUBJECT: Assignment of Registry Number

The following hydrographic registry number, H-9973, is assigned in accordance with the information listed below:

Registry No.	Field No.	Area	Project No.
H-9973	FA-10-4-81	Amalik Bay, Shelikof Strait, Alaska	S-P106

cc:
OA/CAM1
OA/CAM3
OA/CPM1
OA/C35x2

December 8, 1981

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): 945-6992 Takli Island, AK

Period: August 19-23, 1981

HYDROGRAPHIC SHEET: H-9973

OPR: S-P106

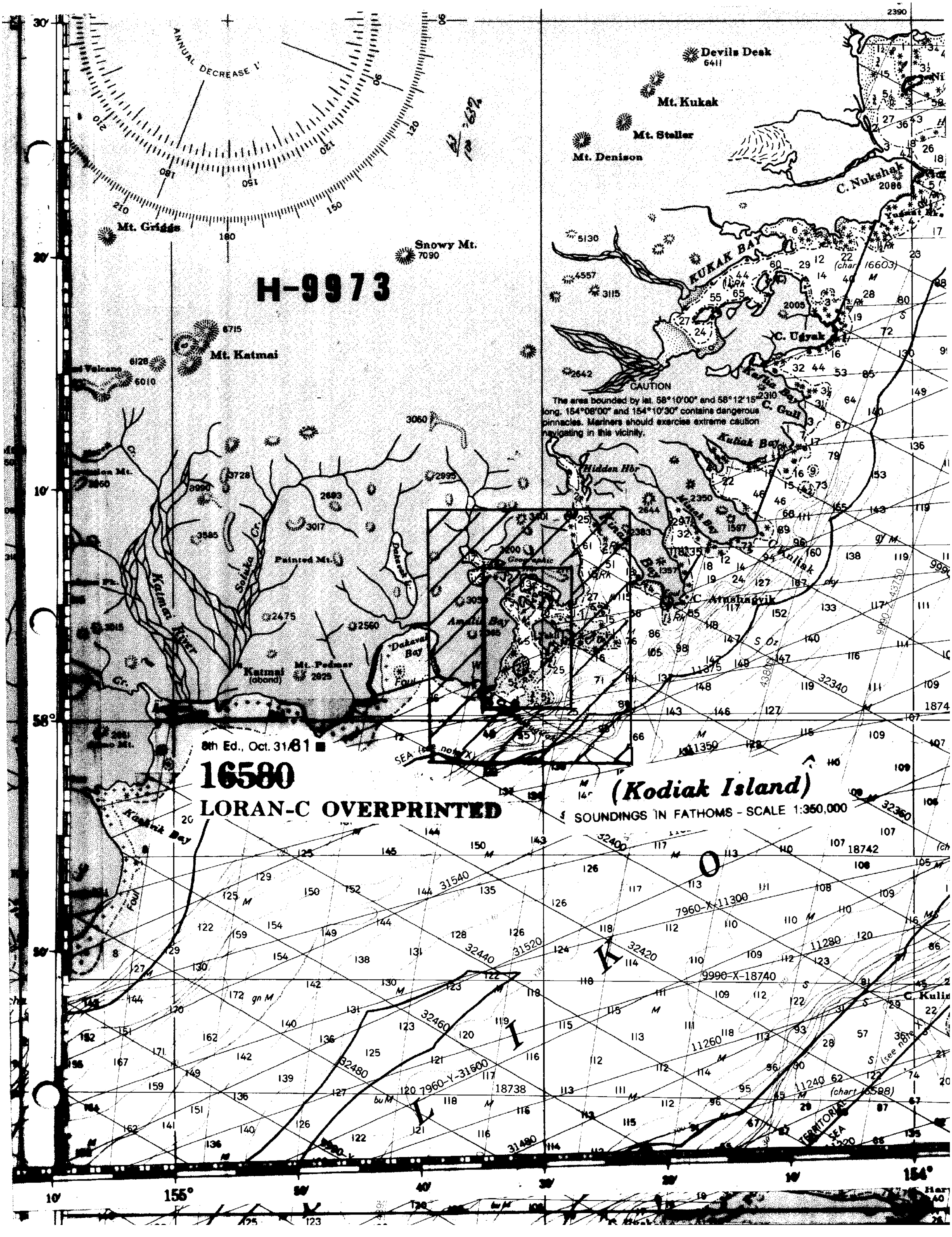
Locality: Amalik Bay, Shelikof Straits, Alaska

Plane of reference (mean lower low water): 9.9 ft.

Height of Mean High Water above Plane of Reference is 12.0 ft.

REMARKS: Zone Direct

Chief, Datums and Information Branch


H-9973
ANNUAL DECREASE 1'
Devils Desk
6411
Mt. Kukak
Mt. Steller
Mt. Denison
C. Nukshak
Mt. Griggs
Snowy Mt.
7090
Mt. Katmai
6715
KUKAK BAY
(chart 16603)
C. Ugyak
CAUTION
The area bounded by lat. 58°10'00" and 58°12'15" long. 154°08'00" and 154°10'30" contains dangerous pinnacles. Mariners should exercise extreme caution navigating in this vicinity.
Kuliak Bay
Hidden Hbr
C. Gull
Painted Mt.
Katmai River
Katmai (abond)
Mt. Pedmar
2025
Amalik Bay
C. Atushagvik
Kukak Bay
8th Ed., Oct. 31/81
16580
LORAN-C OVERPRINTED
(Kodiak Island)
SOUNDINGS IN FATHOMS - SCALE 1:350,000
7960-X-11300
9990-X-18740
7960-Y-31500
(chart 16598)
C. Kulik
TERRITORIAL SEA
155°
154°

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-9973

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.

3/25/83
Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:KWJeffers K. W. Jeffers 3/30/83

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

3/31/83
Director, Pacific Marine Center (Date)

ADDENDUM TO EVALUATION REPORT FOR H-9973

The Evaluation Report for this survey is supplemented by the following statement:

The digital records for this survey have been updated to include categories of information required to comply with N/CG2 Hydrographic Survey Guideline No. 23, Completion of Digital Hydrographic Surveys, September 7, 1983. 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.

Respectfully submitted,

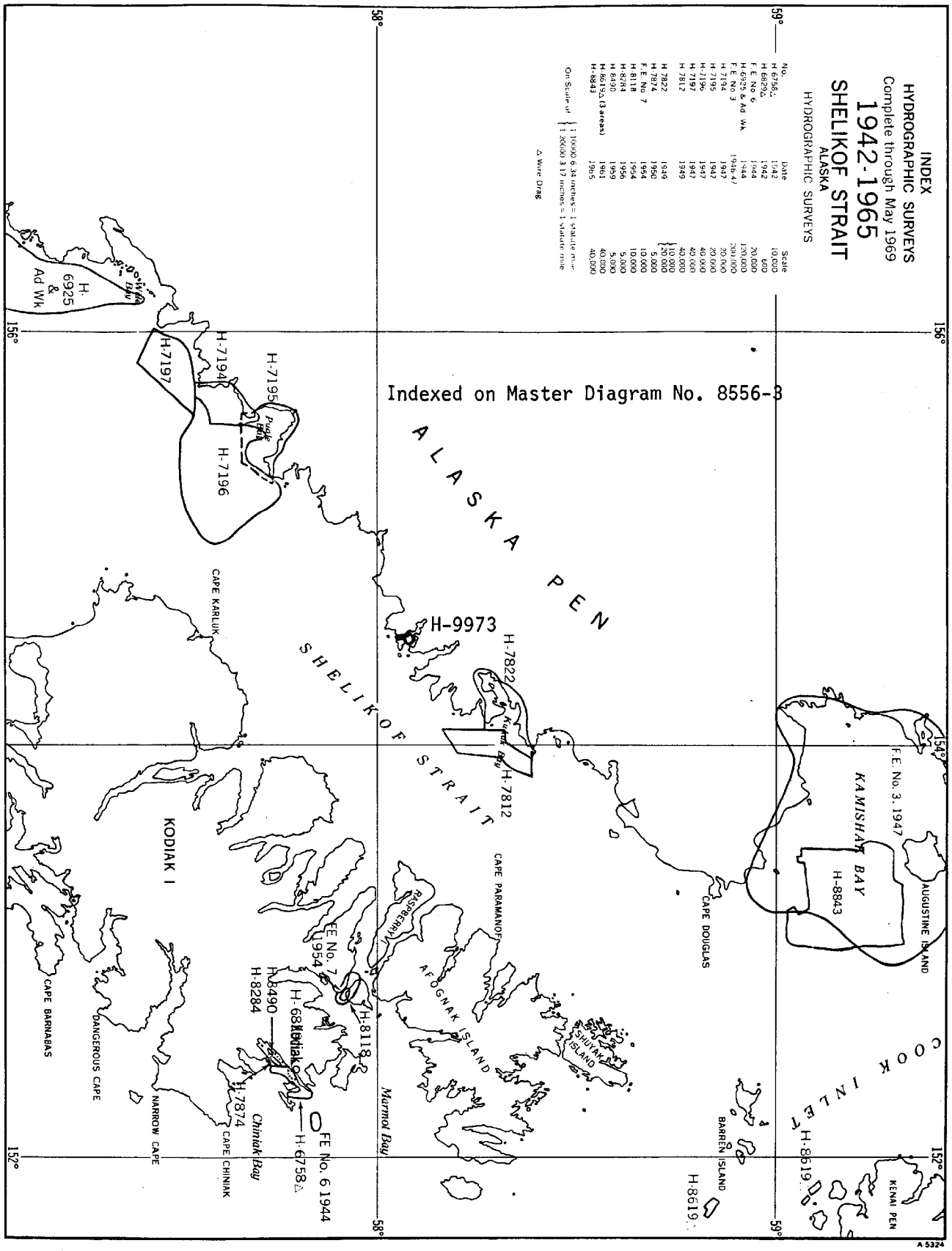
James S. Green
Supervisory Cartographer
October 14, 1983

APPROVED:

11/1/83
Ned C. Austin
Chief, Nautical Chart Branch

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Washington, D.C.

Hydrographic Index No. 116E



A 5324

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

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9973

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
16013	6/11/84	J. Baily	~~Full~~ Part ~~Before~~ After ~~Verification Review~~ Inspection Signed Via
			Drawing No. 27 Exam. for critical corrs. No corr.
16580	7/18/84	K Van Ness	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 20 fully applied.
531	7-10-95	K Gillett	(Full) Part Before After Verification Review Inspection Signed Via
	7-28-95	D Harpine	Drawing No. 21 NO CORRS
16013	8-26-97	William Hyer	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. #30 Full applied from 16580 Rw: MJH 9-4-97
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
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			Drawing No.

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

USCOMM-DC 8558-P63