

9946

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-20-2-81  
Office No..... H-9946

LOCALITY

State ..... Alaska  
General Locality ..... Shelikof Strait  
Locality ..... Vicinity of Cape Kubugakli

1981

CHIEF OF PARTY  
CDR W.F. Forster

LIBRARY & ARCHIVES

DATE ..... August 31, 1984

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

9946

9/20/84  
Office 6  
Chgs 500  
4,160,700 - 530  
2,100,000 - 531  
969,761 16013  
1-350,000 - 16580

14580 ✓  
16013  
530  
500  
531

to sign off record of application

**HYDROGRAPHIC TITLE SHEET**

H-9946

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-20-2-81

State Alaska

General locality Shelikof Strait

Locality Cape Kubugakli

Scale 1:20,000

Date of survey June 12 - August 6, 1981

Instructions dated February 6, 1981

Project No. OPR-P146-DA, FA-81

Vessel NOAA Ship FAIRWEATHER (2020) and launches 2023, 2024, 2025

Chief of party CDR W. F. Forster, NOAA

Surveyed by LT D. Hennick, LT T. Baxter, LTJG A. Trimble, ENS G. Tuell, ENS R. Pingry

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

Graphic record scaled by FAIRWEATHER Personnel

Graphic record checked by FAIRWEATHER Personnel

Verified  
Produced by R. Mihailov, M. Sanders, G. Kay

Automated plot by PMC Xynetics Plotter

Evaluated  
Reviewed by K. M. Scott

Soundings in fathoms feet at MLW MLLW

REMARKS: Annotations in black made during evaluation.

AWOIS 11/28/84 MSM

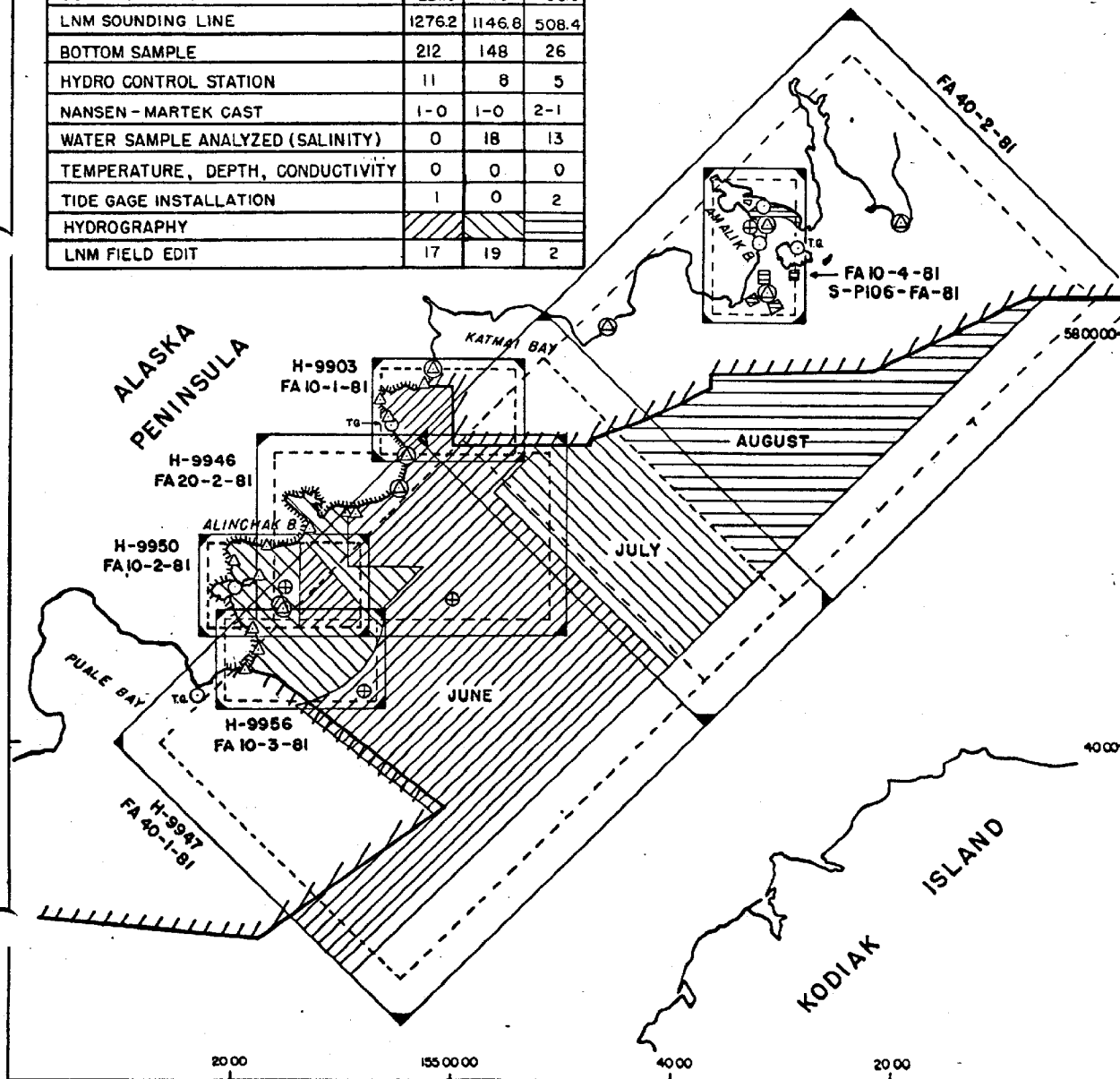
SURF 11/28/84 MSM

App'd to STDs 9-10-84 BA

HYDROGRAPHIC SURVEY - 1981  
 OPR-PI46-FA-DA-81  
 MONTHLY PROGRESS SKETCH  
 SHELIKOF STRAIT, ALASKA  
 NOAA SHIP FAIRWEATHER S-220  
 CDR WALTER F. FORSTER, CMDG  
 SCALE OF NOS CHART 16580

- ⊙ STATIONS RECOVERED
- △ STATIONS ESTABLISHED
- ⊙<sub>TG</sub> 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



HYDROGRAPHIC DESCRIPTIVE REPORT TO ACCOMPANY

SURVEY H-9946, FA-20-2-81

OPR-P146-DA,FA-81

S.W. Shelikof Strait, Alaska

NOAA Ship FAIRWEATHER S220

A. PROJECT

This hydrographic survey was conducted in accordance with Project Instructions OPR-P146-DA,FA-81, Shelikof Strait, dated February 6, 1981. There were two amendments to the original instructions: Change 1 dated 15 April 1981, and Change 2 dated 6 May 1981. ✓

B. AREA SURVEYED

The area covered by this survey is along the western shore of Shelikof Strait, Alaska, in the vicinity of Cape Kubugakli. ✓

The northern boundary of the survey is latitude 57°54'58"N and the southern boundary is 57°45'13"N. Hydrography was extended eastward from the shoreline to the junction with FA-40-1-81. ✓

Hydrography was run from June 12, 1981 (JD 163) to August 6, 1981 (JD 219). ✓

C. SOUNDING VESSELS

Survey launches FA-3 (2023), FA-4 (2024), and FA-5 (2025) were used for hydrography during this survey. FA-5 (2025) and the FAIRWEATHER (2020) were used for bottom sampling. ✓

On 12 July 1981 (JD 193), hydrographic launch FA-3 experienced an electrical fire in the engine compartment. Damage was sustained to the electrical wiring, alternator, voltage regulator, starting solenoid and starter relay. Repairs were made onboard by the Engine Department and the launch resumed hydrographic survey work. No damage was detected to any of the electronic surveying equipment on board the launch. ✓

D. SOUNDING EQUIPMENT

All survey vessels were equipped with Ross Fineline Model 5000 narrow-beam echo sounders (See Table 1, Sounding Equipment By Vessel). ✓

Phase checks were taken at the beginning and ending of each day to calibrate the analog depth to digital display. The initial was checked frequently by the operator for correct paper alignment, except on JD 175/176, when the initial was not carefully monitored aboard launch FA-3. The initial drifted from the zero line by as much as .5 fathoms. Necessary correctors were ✓

determined and applied to peaks and deeps as they were scanned on the raw data printout. The incorrect initial did not affect digital values. There were no other problems with instrument initials.

All data was scanned twice to compare analog values to corresponding digital ones, and to insert peaks and deeps where they occurred between digital depths.

Velocity of sound was calculated from three Nansen casts and daily bar check data. Two Nansen casts were made in deep water. The third was made in shallow water to confirm that the velocity of sound through water was the same in near shore areas as it was offshore (See Table 2, Location of Nansen Casts).

The salinometer used for Nansen casts was a Beckman Induction Salinometer, model RS7C (S/N 28951), calibrated by the Northwest Regional Calibration Center in April, 1981. All Nansen cast thermometers were calibrated between May 1979 and March 1981 by Northwest Regional Calibration Center.

Settlement and squat figures were measured in April 1981 at Shilshole Bay Marina. Correctors were determined to be less than 0.05 fathoms, thus no corrections were applied to soundings. Vessel speeds of 1700 and 1800 rpm for both launches, FA-3 (2023) and FA-4 (2024), and 2000 rpm for FA-5 (2025) had correctors up to 0.07 fathom. These speeds were not used while running hydrography.

Table 1

Sounding Equipment By Vessel

<u>Vessel</u>	<u>Instrument</u>	<u>Model</u>	<u>Analog</u>	<u>Digitizer</u>	<u>Inverter</u>	<u>Transducer</u>	<u>Depths</u>
FA-3	Ross Fineline	5000	1097	1054	1046	1047	0-145
FA-4	Ross Fineline	5000	1047	1047	1054	1046	
FA-5	Ross Fineline	5000	1036	1036	1053	1054	0-57

Table 2

Location of Nansen Casts

<u>Date</u>	<u>Latitude</u>	<u>Longitude</u>
30 June 1981	57°46'54"N	155°00'00"W
24 July 1981	57°42'36"N	155°08'06"W
5 August 1981	57°47'36"N	155°15'30"W

E. HYDROGRAPHIC SHEETS

Work began on this survey using the parameters of sheet G of the 1981 sheet layout. However, when the necessity of surveying adjacent areas at 1:10,000 scale became evident, the limits of this survey were shifted south to allow for more efficient sheet layout in adjoining area. Therefore, some of the

hydrography was run on "old" boat sheets, but all data was plotted on "new" semi-smooth and final field sheets. Two computer sheets were utilized, designated FA-20-2N-81 and FA-20-2S-81.

Soundings in a one square mile area centered at 57°50'30"N, 155°08'20"W were too dense to be legible on the final field sheet. All soundings were plotted by area at 1:5,000 scale between the following points:

57°49'50"N, 155°09'30"W

57°49'50"N, 155°06'40"W

57°51'15"N, 155°06'40"W

57°51'15"N, 155°09'30"W

Positions plotted were:

<u>Launch</u>	<u>JD</u>	<u>Positions</u>
FA-3	176/177	2927-2991
FA-3	177	2992-3126
FA-3	182	3368-3424
FA-3	189	3500-3512
FA-3	193	3692-3774
FA-3	216/217	4194-4429

From this paper plotting sheet, position numbers in the congested area were identified and a 1:2,500 scale development sheet was plotted of the congested soundings. Illegible soundings were erased from the final field sheet, and the shoalest soundings in the area were scaled off the blow-up to be hand plotted on the final field sheet. Other development soundings were plotted on a 1:20,000 scale overlay; shoalest soundings were plotted on the final field sheet.

All sheets were prepared aboard the FAIRWEATHER using program RK 201 and Complot plotter 5557-5, except the 1:2,500 scale development sheet which was plotted on FA-3 using Complot plotter 4670-2. There are no irregularities in projection or scale. All field records will be sent to PMC for verification and smooth plotting.

#### F. CONTROL STATIONS

Monumented stations on this sheet are: Eagle 1980, Kubugakli 1908, Kubugakli 2 1967, Schmay 1981, and Desert 1981. Two temporary points were established but not monumented.

Routine Second Order geodetic techniques were used in conducting the traverse. No unconventional survey methods were used. There were no anomalies in the control adjustment or in closures and ties.

Photo-picked signals were erected along the top of the cliffs for use in Range/ Visual hydrography, and for use in field edit sextant fixes. Four of these positions could not be easily checked by sextant cuts so their positions were checked by Third Order geodetic techniques from station Kubugakli. There were no known photogrammetric problems that contributed to position inaccuracies.

Refer to Horizontal Control Report OPR-P146-FA-81 for further details on geodetic procedures for this survey.

#### G. HYDROGRAPHIC POSITION CONTROL

Positioning for launch hydrography was controlled by Mini-Ranger Range-Range, Mini-Ranger Range-Azimuth, and Raydist Range-Visual methods.

Mini-Rangers were baseline calibrated (BLC) in Tenakee Inlet on June 1, 1981 and in Kodiak on June 5, 1981. The arithmetic means of these data were used for the initial BLC of this project. A mid-project BLC was conducted in Kodiak on July 31, 1981, and a final BLC was conducted in Amalik Bay on August 22, 1981. All baselines were measured with a HP 3808A electronic distance measuring instrument to third order accuracy. Final Mini-Ranger correctors were calculated as the arithmetic mean of those measured during the two BLCs bracketing the dates hydrography was run. Exceptions are explained below.

Weather permitting, Mini-Ranger system checks were obtained twice daily to ensure proper functioning of the systems. Visual sextant fixes with check angles were calculated by program RK 561 for most system checks. The launches maneuvered alongside the calibration pole, signal 217, for some system checks. No unusual system check methods were used. Sometimes launch systems were checked by sextant fixes while resting in the davits aboard ship.

Hydrography was run on this survey for two days (JD 181 & 182) before geodetic positions were calculated for stations Desert 1981, Desert Rm 1, 1981 and Ali 1976 Azimuth Mark 1981; therefore, approximate positions for these stations were used during the first two days that hydrography was run south of station Kubugakli. When geodetic positions became available the system check data were re-computed; the final field plot was done with exact positions of all stations.

Hydrography was completed in blocks based on geometric configurations of stations. All Range-Range hydrography had at least a 30° intersection of signals. Range-Azimuth and Range-Visual control were used in areas where Range-Range geometry would have been unacceptable. In areas of weak signals, the signal strengths were monitored closely; positions of soundings with weak signal strengths were calculated by time and course.

There were no unusual atmospheric conditions. There were no systematic errors in the Mini-Ranger control.

The Mini-Ranger systems worked well throughout the survey except for the following problems. On July 1, 1981 (JD 182) the decoder board in transponder Code 5 was replaced due to failure of the unit. Correctors for Code 5 prior to JD 182 were based on the initial BLC and were confirmed by system checks. Correctors for Code 5 subsequent to JD 182 were based on the mid-project BLC conducted on JD 212. Between JD 182 and JD 212, Code 5 was used only for bottom samples and two days of Range-Azimuth hydrography as follows:

<u>JD</u>	<u>Positions</u>	<u>Console</u>	<u>Code</u>	<u>R/Az From</u>
192	3576-3665	702	5	Schmay, station 202
194/195	3891-3980	702	5	Schmay Rm 2, station 225

This hydrography was plotted on an overlay and superseded on the final field sheet by hydrography run with a Mini-Ranger system that had daily system checks and beginning and ending BLCs as follows:

<u>JD</u>	<u>Positions</u>	<u>Console</u>	<u>Code</u>	<u>R/Az From</u>
216/217	4194-4453	702	5	Schmay Rm 2, station 225

Another Mini-Ranger failure occurred on July 7, 1981 (JD 188) when the receiver/transmitter unit in Console 703 had to be replaced. Correctors for data collected with this console prior to the failure are from the initial BLC. Correctors for data collected between the date of failure and July 31, 1981 (JD 212) are from the mid-project BLC. Subsequent to the failure, Console 703 was used exclusively for bottom sampling except for the following hydrography:

<u>JD</u>	<u>Positions</u>	<u>Console</u>	<u>Code</u>	<u>R/Az From</u>
196/197	6042-6122	703	6	Desert Rm 1, station 204

This hydrography was plotted on an overlay and superseded on the final field sheet by hydrography run with a Mini-Ranger system that had daily system checks and beginning and ending BLCs as follows:

<u>JD</u>	<u>Positions</u>	<u>Console</u>	<u>Code</u>	<u>R/Az From</u>
217/218	4454-4592	702	9	Desert Rm 1, station 204

See Appendix E, Mini-Ranger Vessel and Shore Equipment, for component serial numbers.

Range-Visual control was utilized inshore from the north limit of the survey to Kubugakli 1908 to survey the area where Mini-Ranger control was impractical. No problems were encountered with the electronics of the Raydist system. Calibrations were done visually using program RK 561. Beginning and ending calibrations were averaged to calculate correctors for each day. No unusual atmospheric conditions occurred.

Systematic errors were discovered in the original plot of the Range-Visual hydrography. Positions for the visual signals used for this work were originally obtained by unchecked photogrammetric techniques. Doubtful positions of four visual signals were recomputed using third order direct techniques from station Kubugakli 1908. Revised positions for the visual signals between Kubugakli 1908 and Eagle 1980 eliminated the errors in the hydrographic plot. All other visual signals on the survey were checked by sextant cuts from rocks offshore.



Raydist equipment used in launch 2023 (FA-3) on JD 167/168 and 175/176 was:

Mobile Transmitter 083  
Navigator 021  
Strip Chart Recorder 11692  
Navigation Interface 20

See  
Eval Rpt  
Sec 2

The green Raydist shore station located at Pedmar 1967, Rm 3 1981 was used ✓  
for all Range-Visual hydrography.

For further information, see the Electronic Control Report, OPR-P146-DA,FA-81. ✓

#### H. SHORELINE

Shoreline delineation for this survey was taken from TP-000624 and TP-000623. ✓  
Shoreline details were field edited on both sheets. Corrections and additions ✓  
were transferred to the final field sheet in the specified colors. For further ✓  
details, see Field Edit Report, OPR-P146-FA-81 for sheets TP-000624 and ✓  
TP-000623. See Eval Rpt Sec 2

Hydrographic shorelines were not run on this survey due to the danger caused ✓  
by the irregular shapes of the ledges along the coast. Most mainscheme lines ✓  
were continued inshore to the zero fathom curve, and many were run into ✓  
negative depths. In some instances, it was necessary to break a mainscheme ✓  
line in deeper water because the launch approached an offshore point of a ✓  
ledge.

Because of the large tidal range in the survey area, hydrography was sometimes ✓  
run over ledges delineated by field edit. In all instances, the hydrography ✓  
yielded near zero or negative soundings.

There were no discrepancies between photogrammetric and hydrographic locations ✓  
seaward of the shoreline.

There were no control stations seaward of the shoreline. ✓

#### I. CROSSLINES

A total of 54 nautical miles of crosslines were run comprising 9.4% of the total ✓  
hydrography. Agreement between mainscheme and crossline soundings meets the ✓  
criteria of 1.1.2 Part B.II.1 of the Hydrographic Manual, except for the three ✓  
comparisons listed in Table 3, Crossline Discrepancies. All three positions ✓  
are in areas of steeply sloping and irregular bottoms. In none of the three ✓  
instances were the two depths in exactly the same location, so the apparent ✓  
discrepancies are attributed to positional differences.

There were no discrepancies caused by faulty equipment or erroneous tide ✓  
correctors.

Table 3  
Crossline Discrepancies

<u>Latitude</u> <u>Longitude</u>	<u>Mainscheme Depth</u>	<u>Crossline Depth</u>
57°50'32"N 155°03'27"W	88 fm	79 fm
57°50'52"N 155°03'03"W	65 fm	79 fm
57°51'58"N 154°59'00"W	48 fm	54 fm

J. JUNCTIONS

This survey junctions to the south with H-9950 (FA-10-2-81), to the east with H-9947 (FA-40-1-81), and to the north with H-9903 (FA-10-1-81) and H-9897 (DA-10-5B-81). All junction soundings meet the comparison requirements stated in Section 1.1.2 of the Hydrographic Manual. *Does not join H-9897* *See Eval Rpt Sec 6*

At the junction with H-9903 (FA-10-1-81) is a nine fathom shoal at 57°53'39"N, 155°02'27"W. This shoal is developed on H-9903 but is shown only as a single 9 fathom depth on the northernmost sounding line of this survey. There is no discrepancy. ✓

K. COMPARISON WITH PRIOR SURVEY

Prior survey H-4157 (1:100,000 scale, 1920) has only one sounding in common with this survey. That sounding agrees well. *See Eval Rpt Sec 6*

There were no PSR items for this survey.

L. COMPARISON WITH THE CHART

NOS Chart 16580, 7th Edition, 11 March 1978, scale 1:350,000 is the only chart which covers this area. A total of eight soundings from the chart fall into the area covered by this survey. Five soundings (62%) meet the comparison criteria listed in Section 1.1.2 of the Hydrographic Manual. The other three charted soundings disagree with this survey as shown in Table 4, Comparison: Survey to Chart. The disagreement is attributed to the large scale differential between survey and chart causing position differences between apparently overlapping soundings. Charted hazards appear further offshore than they actually are to allow for legibility. *See Eval Rpt Sec 7*

South of station Schmay 1981, there are three offshore reefs which could present dangers to the mariner (See Table 5, Dangers to Navigation). These reefs lie at a deceptively "safe" distance from the shoreline. They have been added to the smooth sheet in red ink. These reefs were not reported via radio message to the Coast Guard because the scale of chart 16580 does not allow details so close to shore to be meaningfully plotted. Symbols on chart 16580 are already sufficient to warn mariners that the area south of

Cape Kubugakli is generally foul. When larger scale charts are published these hazards should be specifically shown. No other hazards offshore of the 10 fathom curve were found.

Table 4

Comparison: Survey to Chart

<u>Latitude</u>	<u>Longitude</u>	<u>Chart Depth</u>	<u>Survey Depth</u>	<u>Position #</u>
57°50'00"N	155°00'00"W	129	12 <sup>9</sup> <del>9</del>	2592 + 4
57°49'50"N	155°04'30"W	8	66	3134
57°52'30"N	155°03'30"W	6	16	2323 + 2

Table 5

Dangers to Navigation

<u>Latitude</u>	<u>Longitude</u>	<u>Description/Least Depth</u>	<i>shown on smooth sheet</i>
57°50' <sup>18.5</sup> <del>22</del> "N	155°08' <sup>47.5</sup> <del>45</del> "W	Reef - <sup>-0.8</sup> <del>8</del> fathoms	* (5)
57°50'52"N	155°07'40"W	Reef - 0 <sup>9</sup> <del>9</del> fathoms	shoal
57°50'52"N	155°09'06"W	Reef - 0 <sup>9</sup> <del>9</del> fathoms	reef

M. ADEQUACY OF SURVEY

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

N. AIDS TO NAVIGATION

No aids to navigation are located in the area covered by this survey.

O. STATISTICS

<u>Vessel</u>	<u>No. Positions</u>	<u>Miles of Hydro</u>	<u>Bottom Samples</u>
2023	2981	620.9	0
2024	101	16.9	0
2025	122	7.0	39
Total	<sup>3204</sup> <del>4124</del>	644.8	39

A total of 39.5 square miles of hydrography was run on this survey.

One tide station was used on this survey but does not fall within the limits of the computer sheet.

A total of three oceanographic casts were made by the FAIRWEATHER.

No magnetic observations were conducted during this survey. ✓

No current stations were used during this survey. ✓

P. MISCELLANEOUS

This survey was routine; all features detected are evident on the final field sheets. ✓

Bear Bay was surveyed to the -1.0 fathom curve because fishing boats often operate in there at high tide. ✓

This survey lies partially within the limits of Katmai National Monument. The National Park Service has requested that copies of the final field sheets be sent to: ✓

Mr. David K. Morris  
NPS, Katmai National Monument  
P.O. Box 7  
King Salmon, Alaska 99613

*Sent copy  
of smooth  
sheet*

Q. RECOMMENDATIONS

This survey is complete and adequate for charting. No construction or dredging is planned in the survey area. ✓

R. AUTOMATED DATA PROCESSING

<u>Number</u>	<u>Description</u>	<u>Version</u>
RK 112	Hyperbolic R/R Hydroplot	3-19-81
RK 201	Grid, Signal, Lattice Plot	4-18-75
RK 211	R/R Non-Real Time Plot	1-30-76
RK 212	Visual Station Table Load	4-1-74
RK 214	Range-Visual Non-Real Time Plot	10-7-80
RK 216	R/Az Non-Real Time Plot	2-5-78
RK 300	Utility Computations	10-21-80
RK 330	Reformat and Data Check	5-4-76
PM 360	Electronic Corrector Abstract	2-2-76
AM 500	Predicted Tide Generator	11-10-72
RK 530	Layer Corrections for Velocity	5-10-76
RK 561	Geodetic Calibration	2-19-75
AM 602	Elinore-Line Oriented Editor	5-20-75

S. REFERRAL TO REPORTS

OPR-P146-FA-81: Horizontal Control Report

Electronic Control Report

Field Edit Report

Corrections to Echo Soundings Report

Geographic Names Report

Coast Pilot Report

FIELD TIDE NOTE

OPR-0342-FA-81

Shelikof Strait, Alaska

Field tide reduction of soundings was based on predicted tides from Seldovia, Alaska with corrections based on tide table corrections for Katmai Bay as follows:

Time Corrections		Height Correction Ratio
High	Low	
-13 minutes	-4 minutes	X 0.72

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 tides errors.

The tide station at Seldovia, Alaska (945-5500) was the primary gage for the project. Levels were run by personnel from the NOAA Ship RAINIER at the beginning and end of the project.

Bristol Bubbler gage, 68A1490, was installed at the Kashvik Bay tide station, #945-8143, at 57°55'16.5"N, 155°05'37.8"W. Three wire levels were run to five benchmarks on June 10, 1981, when the gage was installed, on July 26, 1981 when the staff was repaired, and on September 1, 1981, when the gage was removed. Tide data from this station was used to control six hydrographic surveys from the FAIRWEATHER and one survey from the DAVIDSON. This gage also controlled all of field edit sheets TP-00623, 00624, and TP-00626 north of Cape Kekurnoi.

Table 1

Hydrographic Surveys Controlled by Kashvik Bay  
Tide Gage, #945-8143

<u>Field No.</u>	<u>Registry No.</u>	<u>Dates</u>
FA-10-1-81	9903	June 11 - 25
FA-10-2-81	9950	June 25 - August 6
FA-10-3-81	9956	July 22 - August 5
FA-20-2-81	9946	June 12 - August 6
FA-40-1-81	9947	June 17 - 30
FA-40-2-81	9965	August 10 - 13
DA-40-1-81	Project S-P911-DA-81	August 19 - 24

Bristol bubbler gage, 68A9333, was installed at the Puale Bay tide station, 945-8209, at 57°42.4'N, 155°23.4'W. Three wire levels were run to three benchmarks on August 25, 1981 upon installation and again on September 3, 1981 when the gage was removed. The tidal data from this gage was used to control all field edit data on Sheet TP-00622 and Sheet TP-00626, south of Cape Kekurnoi.

The Puale Bay tide station was set in 1947 to control a hydrographic survey in the area. The benchmarks are set in bedrock around a cleft in the rock which opens southwest to the sea and receives considerable surge. The orifice was set out from this cleft where the effects from the surge were minimized. The staff was exposed to the surge and staff readings were taken by averaging the water heights. The average gage to staff comparison was 10.4 feet, with the other comparisons within 1 foot of the mean.

The Puale Bay gage functioned well with only one problem. On August 27 at 0600Z, the pen ran out of ink and no data was collected between that time and 2315Z when the problem was discovered and remedied. No field edit data was gathered during this period, so the curve does not need to be interpolated.

The Kashvik Bay tide gage was set near a long ledge which extends 200 meters into Kashvik Bay from the south shore. Although this location is the best site along the entire coastline of project area, the site is barely adequate and several problems were encountered with this gage, due to the poor substrate for staff and orifice. The orifice went dry for approximately two hours per day during two periods of predicted tides less than -3.0 feet. The first time was between July 2-5, a period when no hydrography was run. The second period was between July 29 and August 2. Hydrography was run on the 29th and 30th of July and tide heights will have to be interpolated between 1600-1800Z and 1700-1900Z on these days, respectively. Interpolation of tidal data will also be necessary between 1400-2000Z on July 21, a period when the chart drive malfunctioned. This malfunction was due to the stopping of the gage's internal clock and was remedied by winding and restarting the clock.

A storm bringing winds out of the NE in excess of 50 knots hit Shelikof Strait on July 23-24. The tide station was hit particularly hard as it was on the unprotected SW side of Kashvik Bay. The tide staff had to be reinstalled on July 25 and was releveled on July 26. The levels show the change in elevation between the second staff installation and the original installation to be +.06 feet, but the gage to staff comparison decreased by .45 feet after this period (See Table 2). The investigation of the orifice on August 5 revealed that the tubing had broken away from the orifice, but had remained buried under rocks and sand after the storm. The marigram trace during and after the storm remained steady since the tubing remained attached to the bottom. Repositioning of the orifice 70 feet seaward increased the value of the gage to staff comparison by .8 feet.

During the periods of extreme low tides, the pen "bottomed out" on the paper at 1.2 feet, making it appear that the pen setting was too low to trace these minus tides. On July 30, the pen was raised seven feet on the chart paper scale in an attempt to remedy this problem. This caused a seven foot difference in the gage to staff comparison (See Table 2). Despite this correction in the pen initial, the graph still leveled out during tides lower than -3.0 feet. The problem was remedied on August 5 by moving the orifice 70 feet seaward.

Table 2

Gage - Staff Comparisons  
Kashvik Bay Gage

<u>Dates</u>	<u>Gage-Staff Comparison (Avg.)</u>	<u>Remarks</u>
10 June - 21 July	3.4	Initial set-up
26 July - 30 July	3.1	After storm
31 July - 4 August	10.2	Changed Pen Initial +7 feet
5 August - 1 September	10.9	Moved orifice seaward 70 feet.

All tide data has been abstracted for hourly heights. Marigrams and abstracts for the period of June 10 - July 16 were transmitted to the Pacific Marine Center, Seattle, Washington on July 20, 1981.

Submitted By:

*Ann Felice Trimble*

Ann Felice Trimble, Lt.(jg), NOAA  
NOAA Ship FAIRWEATHER S220

Approved By:

*Walter F. Forster*

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



GEOGRAPHIC NAMES

H-9946

Name on Survey  
ALASKA, SHELIKOF STRAIT  
CAPE KUBUGAKLI

A ON CHART NO. 16520  
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 GRAND MANUALLY ATLAS  
H U.S. LIGHT LIST  
K

Name on Survey	A	B	C	D	E	F	G	H	K	
ALASKA PENINSULA			X							1
BEAR BAY				X	pending	BGN	decision			2
ALINCHAK BAY			X							3
CAPE KUBUGAKLI	X		X							4
SHELIKOF STRAIT	X		X							5
ALASKA (title)										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
						Approved:				18
										19
						<i>Charles E. Harris</i>				20
						Chief Geographer - N/CG 2x5				21
						29 July 1983				22
										23
										24
										25

VELOCITY CORRECTION TABLES

TABLE# 01 YRI 81 FM

DEPTH	VEL COR
2.50	.00
7.50	.10
13.80	.20
21.00	.30
28.40	.40
37.20	.50
48.40	.60
63.80	.70
81.20	.80
97.90	.90
112.90	1.00
127.10	1.10
140.60	1.20
153.50	1.30
165.90	1.40
177.20	1.50
187.80	1.60
99999.99	1.60

VELOCITY-TRANSOUER FILE# 309946 LISTING MADE! 07-17-84 JAL33161

TRANSDUCEK CORRECTION TABLES

VESSEL 2020 YRI 01 FM VESSEL: 2023 YRI 01 FM VESSEL: 2024 YRI 01 FM

DAY	TIME	TRA	COR	VEL	TABLE	DAY	TIME	TRA	COR	VEL	TABLE	DAY	TIME	TRA	COR	VEL	TABLE
197	204500	2.20		1		163	182025	.30		1		166	190813	.30		1	
209	235959	2.28		1		218	235959	.30		1		217	235959	.30		1	

VESSEL 2025 YRI 01 FM

DAY TIME TRA COR VEL TABLE

176	190100	.30		1	
197	235959	.30		1	

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2023

SHEET : FA-20-2N-81

TIME	DAY	PATTERN 1	PATTERN 2
182025	163	-00003	+00002
000000	164	-00003	+00002
000000	165	-00003	+00002
191936	174	-00003	+00002
000019	175	-00003	+00002
192442	176	+00000	+00002
232252		+00000	-00003
000041	177	+00000	-00003
000003	178	+00000	-00003
181542	181	+00001	+00000
000020	182	+00001	+00000
015014		+00001	-00003
025420		+00000	-00003
212918		-00002	+00000
000024	183	-00002	+00000
183822	189	-00002	+00001
194918		+00000	-00003
212254		-00002	+00001
180406	193	-00002	+00001
195936	210	+00001	-00003
222022		+00001	+00003
001124	211	+00001	+00003
181822		+00002	+00001
185400		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2023

SHEET : FA-20-2N-81

TIME	DAY	PATTERN 1	PATTERN 2
181822	180	-00003	+00002
171400		-00002	+00001
125034	211	+00002	+00001
200520		+00001	-00003
220754		+00002	+00001
221900		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2023

SHEET : FA-20-2N-81

TIME	DAY	PATTERN 1	PATTERN 2
<del>192741</del>	<del>192</del>	<del>-00030</del>	<del>-82000</del>
<del>214400</del>	<del>194</del>	<del>-00030</del>	<del>-17560</del>
<del>000000</del>	<del>195</del>	<del>-00030</del>	<del>-37130</del>
<del>012000</del>		<del>+00000</del>	<del>+00000</del>

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2023

SHEET : FA-20-2N-81

TIME	DAY	PATTERN 1	PATTERN 2
193900	216	+00002	-86257
001900	217	+00002	-40000
021500		+00002	-80171
224650		+00000	-78900
000800	218	+00000	-37131
021420		+00000	+23118
023000		+00000	-88051
030440		+00000	-26055
193120		+00003	-88145
195500		+00000	+00000

ELECTRONIC CONNECTION ABSTRACT

VESSEL : 2024

SHEET : FA-20-2X-91

TIME	DAY	PATTERN 1	PATTERN 2
190813	166	-00004	+00000
204741	217	+00003	-00003
223100		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2025

SHEET : FA-20-2X-81

TIME	DAY	PATTERN 1	PATTERN 2
190300	176	-00004	+00001
200500		+00001	+00000
000200	177	+00001	+00000
222500	192	-00001	-00004
225800		+00000	+00000
001500	193	+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2025

SHEET : FA-20-2N-21

TIME	DAY	PATTERN 1	PATTERN 2
214245	196	+00000	-89469
000000	197	+00000	-75552
001300		+00000	+00000



ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2020

SHEET : FA-20-2N-82

TIME	DAY	PATTERN 1	PATTERN 2
204500	197	+00000	+00000
211500	208	+00000	+00000
000500	209	+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2020

SHEET : FA-20-25-81

TIME	DAY	PATTERN 1	PATTERN 2
202700	208	+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2023

SHEET : FA-20-25-81

TIME	DAY	PATTERN 1	PATTERN 2
202800	182	-00002	-00002
203000	183	-00002	-00002
203200	184	-00002	-00003
235223		-00002	+00000
000205	190	-00002	+00000
234544	192	-00002	-00003
000216	193	-00002	-00003
000553	194	-00002	+00000
030500		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2025

SHEET : FA-20-25-81

TIME	DAY	PATTERN 1	PATTERN 2
181100	186	+00000	-00001
205000		+00000	-00004
000500	190	+00000	-00001
004100		+00000	+00000

001 SHELKOF SIGNAL LISTING

002

003 PEDMAR 1967 RM-3 1981 581543 FAIRWEATHER 1981

004 100 5 58 00 15372 154 46 03355 250 0067 000000

005

~~006 ALI 1967 AZ MARK 1981 571551 FAIRWEATHER 1981~~

~~007 101 1 57 46 24739 155 15 24904 250 0011 000000~~

008

~~009 ALI AZ RAYDIST 1981 571551 FAIRWEATHER 1981~~

~~010 102 1 57 46 24739 155 15 24904 250 0011 330040~~

011

012 PEDMAR 1967 RM-3 1981 RAYDIST 581543 FAIRWEATHER 1981

~~013 103 7 58 00 15372 154 46 03355 250 0068 330040~~

014

015 ATMO 1967 571551 FAIRWEATHER 1981

016 105 3 57 58 08548 155 01 47779 250 0043 000000

017

018 EAGLE 1980 571551 DAVIDSON 1980

019 110 1 57 53 53690 155 03 36304 139 0025 000000

020

021 KUBUGAKLI 1908 571551 1005

022 115 2 57 52 27565 155 04 56160 250 0043 000000

023

024 TP2 1981 (ALINCHAK BAY) 571551 FAIRWEATHER 1981

025 118 2 57 52 18019 155 05 33072 250 0094 000000

026

~~027 KUBUGAKLI 2 1967 571551 1006~~

~~028 120 3 57 52 28651 155 04 58046 139 0043 000000~~

029

030 ALI 1976 571551 MELBY

031 130 2 57 46 31248 155 15 30384 250 0011 000000

032

~~033 KENURNOI 1919 571551 1004~~

~~034 140 3 57 43 34120 155 18 07002 250 0032 000000~~

035

~~036 RIDGE 1981 571551 FAIRWEATHER 1981~~

~~037 200 2 57 57 24883 155 02 35087 250 0045 000000~~

038

~~039 PYLE 1981 571551 FAIRWEATHER 1981~~

~~040 201 3 57 56 36011 155 06 56746 250 0021 000000~~

041

042 SCHMAY 1981 571551 FAIRWEATHER 1981

043 202 1 57 51 07827 155 08 38184 250 0024 000000

044

045 DESERT 1981 571551 FAIRWEATHER 1981

046 203 3 57 50 27970 155 12 45527 250 0005 000000

047

048 DESERT RM1 1981 571551 FAIRWEATHER 1981  
 049 204 6 57 50 28014 155 12 44537 250 0005 000000  
 050  
 051 ALIN 1981 571551 FAIRWEATHER 1981  
 052 210 6 57 48 07400 155 17 14204 250 0013 000000  
 053  
~~054 ALIN RM1 1981 571551 FAIRWEATHER 1981~~  
~~055 211 3 57 48 07114 155 17 13725 250 0013 000000~~  
 056  
~~057 TP3 1981 571551 FAIRWEATHER 1981~~  
~~058 212 3 57 47 29599 155 19 51394 250 0004 000000~~  
 059  
~~060 BEAR 1981 571551 FAIRWEATHER 1981~~  
~~061 215 3 57 48 37540 155 19 30061 250 0016 000000~~  
 062  
~~063 CAL POLE 1981 571551 FAIRWEATHER 1981~~  
~~064 217 2 57 46 30516 155 15 39578 250 0000 000000~~  
 065  
 066 SCHMAY RM2 1981 571551 FAIRWEATHER 1981  
 067 225 3 57 51 08473 155 08 38513 250 0019 000000  
 068  
~~069 CHAK 1981 571551 FAIRWEATHER 1981~~  
~~070 230 3 57 49 21179 155 16 41696 250 0002 000000~~  
 071  
~~072 PICO 1981 571551 FAIRWEATHER 1981~~  
~~073 235 3 57 45 36995 155 17 29014 250 0004 000000~~  
 074  
~~075 PRAXIS 1981 571551 FAIRWEATHER 1981~~  
~~076 240 3 57 44 24147 155 17 26552 250 0017 000000~~  
 077  
~~078 PRAXIS RM 1 1981 571551 FAIRWEATHER 1981~~  
~~079 241 3 57 44 23807 155 17 26272 250 0017 000000~~  
 080  
~~081 ORANGE 1981 571551 FAIRWEATHER 1981~~  
~~082 315 3 57 57 49218 155 02 05984 253 0012 000000~~  
 083  
~~084 FORK 1981 571551 FAIRWEATHER 1981~~  
~~085 320 3 57 57 29306 155 02 22802 253 0012 000000~~  
 086  
 087 GULL 1981 571551 FAIRWEATHER 1981  
 088 325 3 57 57 19005 155 02 26081 253 0012 000000  
 089  
~~090 SAIL 1981 571551 FAIRWEATHER 1981~~  
~~091 330 0 57 57 08662 155 02 40975 253 0012 000000~~  
 092  
~~093 BEEF 1981 571551 FAIRWEATHER 1981~~  
~~094 335 2 57 57 06141 155 03 28512 253 0012 000000~~  
 095  
~~096 FINGER 1981 571551 FAIRWEATHER 1981~~  
~~097 336 3 57 57 05572 155 03 00182 253 0012 000000~~  
 098

~~092 JAN 1981~~ ~~571551 FAIRWEATHER 1981~~  
100 340 2 57 57 11991 155 03 49243 253 0012 000000  
101  
102 ALDER 1981 571551 FAIRWEATHER 1981  
~~103 345 2 57 57 15514 155 04 13677 253 0012 000000~~  
104  
105 KASHVIK 1981 571551 FAIRWEATHER 1981  
106 350 5 57 55 41489 155 05 56049 250 0022 000000  
107  
~~108 TIDE 1981~~ ~~571551 FAIRWEATHER 1981~~  
109 355 5 57 55 16485 155 05 37777 253 0012 000000  
110  
111 DUTCH 1981 571551 FAIRWEATHER 1981  
112 360 6 57 55 00259 155 05 05345 253 0012 000000  
113  
114 HELIO 1981 571551 FAIRWEATHER 1981  
115 365 3 57 54 48484 155 04 35940 253 0012 000000  
116  
117 FRITZ 1981 571551 FAIRWEATHER 1981  
118 370 5 57 54 27151 155 03 59859 253 0012 000000  
119  
120 MARTHA 1981 571551 FAIRWEATHER 1981  
~~121 375 6 57 54 22076 155 03 40372 253 0012 000000~~  
122  
123 TP1 1981 (KASHVIK BAY) 571551 FAIRWEATHER 1981  
124 380 5 57 54 18684 155 03 34414 250 0020 000000  
125  
126 LAKE ~~1981~~ 571551 FAIRWEATHER 1981  
127 385 3 57 53 39757 155 03 49757 253 0012 000000  
128  
129 VIEW ~~1981~~ 571551 FAIRWEATHER 1981  
130 390 3 57 53 16485 155 04 02731 253 0012 000000  
131  
132 DENNIS ~~1981~~ 571551 FAIRWEATHER 1981  
133 393 3 57 53 08080 155 04 13593 253 0012 000000  
134  
135 VIKING ~~1981~~ 571551 FAIRWEATHER 1981  
136 395 3 57 52 54146 155 04 25475 253 0012 000000  
137  
138 BERNIE ~~1981~~ 571551 FAIRWEATHER 1981  
139 398 3 57 52 46670 155 04 34375 253 0012 000000  
140  
141 BABBLE ~~1981~~ 571551 FAIRWEATHER 1981  
142 399 3 57 52 38342 155 04 44674 253 0012 000000  
143  
~~144 NEST 1981~~ ~~571551 FAIRWEATHER 1981~~  
~~145 400 2 57 52 03846 155 06 34390 253 0008 000000~~  
146  
147 BARRY ~~1981~~ 571551 FAIRWEATHER 1981  
148 403 3 57 52 15379 155 05 23450 253 0012 000000  
149

OCEANOGRAPHIC LOG SHEET - M  
BOTTOM SEDIMENT DATA

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

VESSEL	SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAMP- PLER	AR- RANG- E TRAN- SITION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	REMARKS  (Unusual conditions, cohesiveness, density, cutler, stat. no., type of bottom relief, etc.)	OBS. INT.
			LATITUDE	LONGITUDE								
FA-5	(2025)		OPR-PR46-DATA-81/981		YEAR	FA-20-2N-81		CHECKED BY	DATE CHECKED			
6000	JD 176		57° 02' 22.2"	155° 07' 9"	6.0					hd rky		
6001	"		57° 02' 25.2"	155° 04' 25.5"	9.5					fne S		
6002	"		57° 03' 38.1"	155° 03' 38.3"	10.8					fne S		
6003	"		57° 17' 9"	155° 03' 36.4"	7.5					fne S		
6004	"		57° 28' 50.1"	155° 04' 2.9"	25.9					fne S, brk Sh G		
6005	"		57° 10' 5.0"	155° 03' 33.2"	60.9					fne S, brk Sh G		
6006	"		57° 33' 6.0"	155° 22' 2.2"	35.5					fne S, brk Sh G		
6009	"		57° 36' 8.0"	155° 01' 31.2"	62.2					M, gys b, brk Sh		
6011	"		57° 39' 9.0"	155° 00' 28.9"	49.2					S, brk Sh G		
6012	"		57° 43' 0.0"	154° 04' 6.0"	24.0					brk Sh, ars G		
6013	"		57° 11' 2.0"	154° 09' 11.3"	21.2					fne S, brk Sh		
6014	"		57° 13' 3.0"	154° 09' 55.0"	52.5					fne S, brk Sh		
6015	"		57° 53' 3.0"	154° 07' 57.0"	34.0					M, brk Sh		
6016	"		57° 25' 2.0"	154° 18.4"	23.8					M, brk Sh		
6035	JD 192		57° 34' 1.0"	155° 05' 46.4"	11.0					fne S		
6036	"		57° 39' 7.0"	155° 03' 14.1"	19.2					fne S, brk Sh, P		
6038	"		57° 09' 2.0"	155° 04' 2.0"	18.3					fne S, brk Sh		

Use more if one line per sample if necessary.

☆ U.S.G.P.O.: 1978-765-092

Region No. 6

OCEANOGRAPHIC LOG SHEET - M  
BOTTOM SEDIMENT DATA

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

VESSEL	PROJ. NO.	YEAR	FA-20-2N-81					CHECKED BY	DATE CHECKED		
SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAM- PLER	AP- PRO- TRA- TION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief, etc.)	OBS. INIT.
		LATITUDE	LONGITUDE								
6039	JD193	57° 15'	155° 02'	16.5				gh	crs S, brk Sh		
6040	"	57° 28'	155° 02'	15.6				gh	crs S, brk Sh		
6041	"	57° 01'	155° 48'	42.5				gh	M, crs S, brk Sh		

Use more than one line per sample if necessary. ★ U.S. GPO: 1978-765-0922 Region No. 6

OCEANOGRAPHIC LOG SHEET - M  
BOTTOM SEDIMENT DATA

VESSEL	SERIAL NO.	DATE	PROJ. NO.		YEAR	DEPTH (Fathoms)	WEIGHT SAMPLER	AP. PROX. PENETRA- TION	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.		
			SAMPLE POSITION											CHECKED BY	DATE CHECKED
			LATITUDE	LONGITUDE											
FA-5			OPR-PI46-DAFI-8/	1981	FA-20-25-81										
6017	JD 189	"	57° 155"	12' 15.8"	10.8				gn	brk Sh, fine S					
6018	"	"	57° 155"	10' 55.7"	11.0				gn	M					
6019	"	"	57° 155"	10' 48.8"	21.6				gn	fine S					
6020	"	"	57° 155"	11' 34.7"	16.0				gn	fine S, brk Sh					
6021	"	"	57° 155"	10' 27.5"	14.0				gn	fine S					
6022	"	"	57° 155"	11' 16.2"	9.0				gn	fine S, P, brk Sh					
6023	"	"	50' 15.6"	09' 10.7"	9.8				gn	fine S, P, brk Sh					
6024	"	"	57° 155"	09' 43.0"	19.7				gn	fine S, P, brk Sh					
6025	"	"	57° 155"	07' 18.1"	17.2				gn	fine S, P, brk Sh					
6026	"	"	57° 155"	06' 26.3"	21.0				gn	fine S, brk Sh, P					
6027	"	"	57° 155"	08' 33.6"	28.5				gn	fine S, P, brk Sh					
6028	"	"	57° 155"	04' 20.6"	20.0				gn	brk Sh					
6029	JD 190	"	57° 155"	09' 19.7"	14.8				gn	fine S, brk Sh					
6030	"	"	57° 155"	08' 17.8"	13.5				gn	fine S, brk Sh, &					
6031	"	"	57° 155"	08' 33.5"	16.9				gn	fine S, brk Sh, &					
6032	"	"	57° 155"	07' 29.7"	17.8				gn	fine S, brk Sh, &					
6033	"	"	57° 155"	06' 19.6"	17.6				gn	fine S, brk Sh, &					

Use more than one line per sample if necessary.



OCEANOGRAPHIC LOG SHEET - M  
BOTTOM SEDIMENT DATA

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

VESSEL	SERIAL NO.	DATE	PROJ. NO.		DEPTH (Fathoms)	WEIGHT OF SAM- PLER	AP. PRO- TEC- TION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	REMARKS <small>(Unusual conditions, cohesiveness, dented cutters, steel, non-type of bottom relief i.e., slope, plain, disposition, etc.)</small>	OBS. INIT.
			OPR-146-DATA	YEAR								
Fairweather			OPR-146-DATA	1981								
			FA-20-2U-81									
0001	JD197	57° 15' 15" N 49° 58.8' 05" 00.0 W	155° 00' 00.0"	44						Hrd		
0006	"	57° 15' 50" N 49° 25.0' 02' 43.0" W	155° 00' 00.0"	130						M		
0007	"	57° 15' 50" N 50° 57.0' 00' 47.0" W	155° 00' 00.0"	112						M		
0008	"	57° 15' 40" N 51° 25.0' 59' 12.0" W	154° 00' 00.0"	50						M, brk Sh		
0009	"	57° 15' 40" N 52° 44.9' 57' 44.9" W	154° 00' 00.0"	45						M, brk Sh, S		
0010	"	57° 15' 40" N 53° 24.0' 59' 54.0" W	155° 00' 00.0"	57						crs S, M, brk Sh		
0011	"	57° 15' 50" N 52° 25.0' 01' 56.9" W	155° 00' 00.0"	46						fine S, G, brk Sh		
0012	"	57° 15' 50" N 49° 22.0' 04' 54.9" W	155° 00' 00.0"	128						M, crs S		

Use more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M  
BOTTOM SEDIMENT DATA

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

VESSEL	DATE	PROJ. NO.	YEAR	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAM- PLER	AP. PROX. TRA- NTRA- TION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	CHECKED BY	DATE CHECKED	REMARKS  (Unusual conditions, cohesiveness, lenticles, cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. (INIT.)
				LATITUDE	LONGITUDE										
FA-5	(2025)	OPR-196-DAF-2	1981	57° 15' 00"	155° 06' 46.8"	14.3				gn	fine S.P. &				
6034	JD 190														

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

### OCEANOGRAPHIC LOG SHEET - M BOTTOM SEDIMENT DATA

SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	YEAR	VESSEL	PROJECT NO.	AP. PROX. PENE- TRATION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	REMARKS <small>(Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief, i.e., slope, plain, disposition, etc.)</small>	OBS. INIT.
		LATITUDE	LONGITUDE										
		1981 FA-20-25-81											
0002	JD 208	57° 135"	07 14.9	138	1981	Fairweather (2020)	OPR-PI46-DAFAB1			gy	M		
0003	"	57° 155"	05 27.0	146						gy	M		
0004	"	57° 155"	04 32.9	134						gy	M		
0005	"	57° 155"	03.0	137						gy	M, Fe G		

Use more than one line per sample if necessary.



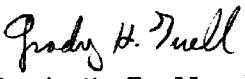
RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	ORIGINATOR <input type="checkbox"/> PHOTO FIELD PARTY <input type="checkbox"/> HYDROGRAPHIC PARTY <input type="checkbox"/> GEODETTIC PARTY <input type="checkbox"/> OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED	FIELD ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	OFFICE ACTIVITY REPRESENTATIVE <input type="checkbox"/> REVIEWER <input type="checkbox"/> QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION' (Consult Photogrammetric Instructions No. 64.)	
<b>OFFICE</b> <b>I. OFFICE IDENTIFIED AND LOCATED OBJECTS</b> Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	<b>FIELD (Cont'd)</b> <b>B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.</b> EXAMPLE: P-8-V 8-12-75 74L(C)2982
<b>FIELD</b> <b>I. NEW POSITION DETERMINED OR VERIFIED</b> Enter the applicable data by symbols as follows: F - Field L - Located V - Verified 1 - Triangulation 2 - Traverse 3 - Intersection 4 - Resection 5 - Field Identified 6 - Theodolite 7 - Planetable 8 - Sextant A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75 *FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.	<b>II. TRIANGULATION STATION RECOVERED</b> When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75 <b>III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH</b> Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75 **PHOTOGAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

APPENDIX J: APPROVAL SHEET

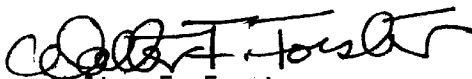
The Commanding Officer supervised the field work and inspected the records on a daily basis.

This survey is complete and adequate for charting.

Submitted By:

  
Grady H. Tuell  
Ens., NOAA

Approved By:

  
Walter F. Forster  
Cdr., NOAA  
Commanding Officer

**HYDROGRAPHIC SURVEY STATISTICS**

H-9946

**RECORDS ACCOMPANYING SURVEY: To be completed when survey is processed.**

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT
SMOOTH SHEET		1	SMOOTH OVERLAYS: POS. <sup>4</sup> , ARC, EXCESS <sup>3</sup>		7
DESCRIPTIVE REPORT		1	FIELD SHEETS AND OTHER OVERLAYS		5
DESCRIP-TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS
ACCORDIAN FILES	3				
ENVELOPES					
VOLUMES				/ / / / /	
CANIERIS					
BOXES				1	

**SHORELINE DATA** / / / / /

SHORELINE MAPS(List): Class III TP-00623, TP-00624

PHOTOBATHYMETRIC MAPS(List):

NOTES TO THE HYDROGRAPHER(List):

SPECIAL REPORTS(List): Corrections to Echo Sounding, Electronic Control Report,

~~HYDROGRAPHIC CHARTS~~ Horizontal Control Report

**OFFICE PROCESSING ACTIVITIES**

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

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET	/ / / / /	/ / / / /	2736
POSITIONS REVISED		438	438
SOUNDINGS REVISED		187	2
CONTROL STATIONS REVISED		2	
<span style="background-color: #cccccc;">/ / / / /</span>	TIME - HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION	4	0	4
VERIFICATION OF CONTROL	56	3	59
VERIFICATION OF POSITIONS	154	6	160
VERIFICATION OF SOUNDINGS	256	45	301
VERIFICATION OF JUNCTIONS	8	4	12
APPLICATION OF PHOTOBATHYMETRY	0	0	0
SHORELINE APPLICATION/VERIFICATION	27	4	31
COMPILATION OF SMOOTH SHEET	87	32	119
COMPARISON WITH PRIOR SURVEYS AND CHARTS	0	4	4
EVALUATION OF SIDESCAN SONAR RECORDS	0	0	0
EVALUATION OF WIRE DRAGS AND SWEEPS	0	0	0
EVALUATION REPORT	8	10	18
OTHER	3	0	3
Digitization	12	0	12
<b>TOTALS</b>	<b>615</b>	<b>108</b>	<b>723</b>

Verification of Field Data by G. Kay, R. Mihailov, M. Sanders	Time(Hours) 2/24/82	Ending Date 5/28/84
<del>XXXXXXXXXX</del> Checks by S. Otsubo, J. Green	Time(Hours) 57	Ending Date 7/23/84
Evaluation and Analysis by K. M. Scott	Time(Hours) 2/15/84	Ending Date 7/19/84
Inspection by	Time(Hours)	Ending Date

PACIFIC MARINE CENTER  
EVALUATION REPORT

REGISTRY NO: H-9946

FIELD NO: FA-20-2-81

Alaska, Shelikof Strait, Vicinity of Cape Kubugakli

SURVEYED: June 12 - August 6, 1981

SCALE: 1:20,000

PROJECT NO: OPR-P146-DA,FA-81

SOUNDINGS: Ross Model 5000 Fathometer

CONTROL: Mini-Ranger  
Range/Range  
Range/Azimuth  
Raydist -  
Range/Visual

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

Surveyed By.....LT T. Baxter  
LT D. Hennick  
LTJG A. Trimble  
ENS G. Tuell  
ENS R. Pingry

Automated Plot By.....PMC Xynetics Plotter

Verified By.....G. Kay  
R. Mihailov  
M. Sanders

Evaluated By.....K. M. Scott

1. INTRODUCTION

H-9946 is a basic hydrographic survey with field work accomplished by NOAA Ship FAIRWEATHER and launches in accordance with Project Instructions OPR-P146-DA, FA-81, Shelikof Strait, Alaska, dated February 6, 1981, Change No. 1 dated April 15, 1981 and Change No. 2 dated May 6, 1981.

This is the initial survey of the inshore area in the vicinity of Cape Kubugakli.

Predicted tides based on the Seldovia, Alaska, gage with time and range adjustments to Katmai Bay were utilized during shipboard processing. Tide correctors used for the reduction of final soundings reflect approved hourly heights zoned direct from the Kashvik Bay gage (945-8143).



The velocity and TRA correctors were revised during verification to reflect the mean of appropriate Nansen casts and applicable velocity tables. Copies of the velocity and TRA correctors used to plot the smooth sheet are included as appendices of the Descriptive Report.

The projection parameters were revised during verification to meet smooth sheet specifications. Parameters used to plot the smooth sheet are listed in the smooth printouts accompanying the survey.

## 2. CONTROL AND SHORELINE

Geodetic positions for control stations used during hydrography are primarily field positions computed from published geodetic positions adjusted to the North American 1927 datum. Kubugakli, 1908, reflects its published position. Several photo identified stations were also used during Raydist range/visual operations. During field edit application deficiencies were noted affecting the accuracy of the stations (see N/MOP 33 letter, Field Photogrammetrically Positioned Control for TP-00624 of CM-7607, June 15, 1982, copy appended). The data acquired utilizing these stations appear consistent with adjoining data and were therefore accepted.

Mini-Ranger electronic control was employed in range/range and range/azimuth modes during hydrographic operations. Raydist control was used in range/visual mode. Appropriate calibration correctors were applied to the positions. Calibration and system checks are discussed in section G of the Descriptive Report.

Unregistered Class III manuscripts TP-00623 and TP-00624, dates of photography June, 1976, have been applied to the smooth sheet per N/MOP memorandum, Completion of Hydrographic Surveys H-9903, H-9950, H-9956, and H-9946, Shelikof Strait, Alaska, April 26, 1983 (copy appended). These manuscripts were field edited by FAIRWEATHER personnel in 1981; however, updated manuscripts with field edit information applied are not available to support survey processing (see appended memorandum N/MOP, Distribution of Photogrammetric Data, March 2, 1983 and N/CG2 reply, Shelikof Strait, Alaska -- Photogrammetric Support and Distribution of Data, April 11, 1983). Furthermore, these manuscripts were compiled from non-tide coordinated photography. This error was not discovered until after hydrographic operations had been completed. N/MOP212 has advised that the reviewed manuscripts will include the following disclaimer.

"Reference station records indicate that the tide level at the time of exposure of the photographs used to delineate the detail outboard of the Mean High Water line was significantly below Mean Lower Low Water. Consequently, physical survey data may supersede the offshore detail on this map."

Ledge limits have been revised to reflect hydrographic information. Rocks on the field sheet in red lying inshore of the ledge limit are not shown on the smooth sheet since there is no supporting information indicating high points on the ledges.

The following rocks shown on the final field sheet in red have been transferred to the smooth sheet without supporting positional information. (Supporting data is assumed to be in the field edit records.)

<u>Latitude</u>	<u>Longitude</u>
57°49'56.7"N ✓	155°13'26.5"W ✓
57°50'02.2"N ✓	155°13'07.1"W ✓
57°50'03.0"N ✓	155°13'02.0"W ✓
57°50'07.2"N ✓	155°12'56.5"W ✓
57°50'10.5"N ✓	155°12'51.3"W ✓
57°50'11.9"N ✓	155°12'35.4"W ✓
57°50'13.5"N ✓	155°12'14.0"W ✓
57°50'15.8"N ✓	155°12'11.6"W ✓
57°50'19.0"N ✓	155°12'11.3"W ✓
57°50'23.4"N ✓	155°11'59.9"W ✓
57°50'37.6"N ✓	155°11'57.4"W ✓
57°50'37.4"N ✓	155°11'53.2"W ✓
57°50'33.7"N ✓	155°11'43.3"W ✓
57°50'33.9"N ✓	155°11'31.4"W ✓
57°50'32.5"N ✓	155°11'30.5"W ✓
57°50'32.6"N ✓	155°11'28.3"W ✓
57°50'49.4"N ✓	155°11'00.8"W ✓
57°50'46.3"N ✓	155°10'45.7"W ✓
57°50'47.6"N ✓	155°10'42.6"W ✓
57°50'49.4"N ✓	155°10'40.5"W ✓
57°50'57.0"N ✓	155°10'31.4"W ✓
57°51'08.8"N ✓	155°10'19.7"W ✓
57°51'23.1"N ✓	155°09'33.3"W ✓
57°51'31.4"N ✓	155°07'54.0"W ✓
57°51'36.6"N ✓	155°07'44.5"W ✓
57°51'30.0"N ✓	155°07'40.8"W ✓
57°51'01.5"N ✓	155°07'15.0"W ✓
57°51'04.2"N ✓	155°07'14.0"W ✓
57°51'01.7"N ✓	155°07'06.5"W ✓
57°52'22.0"N ✓	155°04'50.3"W ✓
57°52'28.8"N ✓	155°04'42.8"W ✓
57°52'49.5"N ✓	155°04'16.2"W ✓
57°53'27.0"N ✓	155°03'36.3"W ✓
57°53'27.8"N ✓	155°03'22.4"W ✓

The following rocks were plotted during the original compilation of the shoreline map, and did not conflict with hydrography. They are plotted on the final field sheet and on the smooth sheet with no elevations.

<u>Latitude</u>	<u>Longitude</u>
57°50'38.2"N ✓	155°12'24.5"W ✓
57°50'39.4"N ✓	155°12'21.2"W ✓
57°50'38.1"N ✓	155°12'19.8"W ✓

All other rocks are shown on the smooth sheet from hydrographic survey records.

### 3. HYDROGRAPHY

Soundings at line crossings are in good agreement. Discrepancies are attributed to the irregular nature of the bottom.

The bottom configuration, development of shoal soundings, determination of least depths, and delineation of standard depth curves are adequate. Brown depth curves have been added to delineate isolated shoals.

The ledge limit defined by hydrography is shown in lieu of the zero curve where appropriate.

### 4. CONDITION OF SURVEY

The hydrographic records and reports are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change Three.

### 5. JUNCTIONS

H-9946 joins H-9950 (1981) to the south and H-9903 (1980-81) to the north. Soundings have been transferred and junction curves inked in agreement.

Adjoining this survey is survey H-9947 (1981) to the east. Soundings agree within 1-5 fathoms. H-9947 has been verified and forwarded to Rockville, therefore, the chart compiler should refer to H-9946 for the accurate portrayal of affected depth curves.

### 6. COMPARISON WITH PRIOR SURVEYS

H-4157 (1920) 1:100,000

H-9946 is the initial survey of the inshore area in the vicinity of Cape Kubugakli. Two soundings from H-4157 fall within the limits of this survey.

Prior survey soundings are comparable indicating a very stable bottom. Soundings are offset due to the difference in survey scale.

H-9946 is adequate to supersede the prior survey data within the common area.

### 7. COMPARISON WITH CHART

16580 (7th Ed., March 11, 1978)

a. Hydrography - Soundings inshore of 100 fathoms are charted from an unknown source but appear to be in agreement with this survey.

Rocks and low water line depicted on the chart are only representing the characteristics of the inshore area and do not reflect the actual location of features.

There are no presurvey review items within the limits of this survey.

H-9946 is adequate to supersede charted hydrography within the common area.

Dangers to navigation identified by the hydrographer and listed in Section L, Table 5 of the hydrographer's report were not reported to the U.S. Coast Guard. The hydrographer's reasoning that the area is presently charted with adequate indications of hazardous conditions is valid; accordingly no danger to navigation report was generated during final survey processing.

Additional significant features are:

Sounding	Latitude	Longitude
1.6 fm	57°50'36.11"N ✓	155°09'31.72"W ✓
1.2 fm	57°50'28.56"N ✓	155°08'17.22"W ✓
1.4 fm	57°50'20.18"N ✓	155°09'12.79"W ✓
2.9 fm	57°50'51.98"N ✓	155°07'11.02"W ✓

There has been no danger to navigation report submitted by PMC Nautical Chart Branch for this survey.

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

c. Aids to Navigation - There are no aids to navigation within the limits of the survey.

#### 8. COMPLIANCE WITH INSTRUCTIONS

H-9946 adequately complies with the project instructions as amended and noted in section 1 of this report.

#### 9. ADDITIONAL FIELD WORK

This is an adequate survey. No additional field work is recommended at this time.

Respectfully submitted,

*Karol M. Scott*

Karol M. Scott  
Cartographer  
July 19, 1984

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. The survey is recommended for approval.

*L. S. Green*  
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

June 15, 1982

TO: CPM32 - James S. Green  
THRU: CPM3 - Ned C. Austin *NOA 6/23/82*  
FROM: CPM33 *James R. Minton*  
SUBJECT: Field Photogrammetrically Positioned Control for TP-00624 of  
CM-7607

During the application of field edit data collected by the FAIRWEATHER for TP-00624 of CM-7607, I examined the positioning of twenty-nine (29) visual signals labeled with 253 carto codes on the field generated signal list. Unfortunately, I found a major procedural deficiency and additional recording errors that will affect changes to the field edit application and possibly the hydrographic survey as well.

The procedural deficiency relates to the manner in which the visual control was photo identified and intersected on the ozalid copy of the Class III manuscript used for a signal overlay. The visual control was initially positioned by the graphic intersection of rays from only two photographs per signal. The accepted standard - Photogrammetry Instruction No. 45, Revision I, Section 6, Paragraph 4, as referenced in the Hydrographic Manual, 4th Ed., Section 3.1.3.2.2 requires a minimum of "three well intersected rays". I was able to transfer the field selected photo images to as many as five photographs. Several of the positions are still of questionable reliability because the images photo identified in the field lack sufficient definition, even under 10X magnification, to permit a positive stereo transfer to adjacent photographs. Many of the rays on the photographs used by the field unit had to be redrafted because they were tangential to, rather than centered over, the photo images. Additional error may have resulted from scaling since there are no indications on the signal overlay that the field unit scaled both forward and back distances before converting to geographic positions.

As a check, the field unit supplied open traverse and theodolite intersection data for five of the signals. All five positions were computed and evaluated by Mr. Melby of the PMC Photogrammetric Field Party. He has determined the positions to be of less than third order accuracy but superior to the field photogrammetric work, considering the scale and quality of the photographs, lengths of the measured lines, and equipment used. Furthermore, the inverse distances between the photo intersected positions and the traverse/intersection positions for the same signals range from five to one



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hundred twenty-four meters. This excessive difference between the photogrammetric and geodetic positions for the same signals is a strong indication that some of the signals were incorrectly photo identified in the field.

Two of the signals, 404 Burt and 408 Bust, are listed in the field signal list one full minute from where they were originally plotted on the signal overlay. Two other signals, 336 Finger and 340 Ham, have nearly reciprocal inverse relationships between their signal list positions and their photo intersected positions, indicating that the signal numbers/names and positions have been incorrectly transposed at some stage of the edit.

In the tabular abstract of signal positions, which is attached, the signal list, office photo intersection and field surveyed positions are listed in columns 1, 2 and 3 respectively. Distances in meters and azimuths in degrees are listed for comparison. The positions in column 2 are not extended beyond one-hundredth of a second because of the accuracy limitations inherent in the positioning procedure. It is noteworthy that only four of the five field surveyed positions were incorporated within the field signal list.

Attachment

cc: C.O./FAIRWEATHER

TP-00624 SIGNAL POSITION ABSTRACT

No.	Name	1. Signal List Pos.	(1.-2.) Dist./Az.	2. Photo Intersection	(1.-3.) Dist./Az.	3. Theod./ E.D.M.	(2.-3.) Dist./Az.
315	Orange	57°57'49.218" 155°02'05.984"	143m/205°	57°57'53.42" 155°02'02.33"	142m/207°	57°57'53.309" 155°02'02.076"	5m/309°
320	Pork	57°57'29.306" 155°02'22.802"	16m/200°	57°57'29.81" 155°02'22.46"			
325	Gull	57°57'19.005" 155°02'26.081"	12m/4°	57°57'18.59" 155°02'26.14"			
330	Sail	57°57'08.662" 155°02'40.975"	12m/279°	57°57'08.60" 155°02'40.24"			
335	Beef	57°57'06.141" 155°03'28.512"	13m/13°	57°57'05.72" 155°03'28.69"			
336	Finger	57°57'05.592" 155°03'00.182"	831m/103°	57°57'11.79" 155°03'49.33"			
340	Ham	57°57'11.991" 155°03'49.243"	824m/284°	57°57'05.37" 155°03'00.70"			
345	Alder	57°57'15.514" 155°04'13.679"	8m/26°	57°57'15.29" 155°04'13.89"			
355	Tide	57°55'16.485" 155°05'37.777"	25m/200°	57°55'17.23" 155°05'37.26"			
360	Dutch	57°55'00.259" 155°05'05.345"	13m/194°	57°55'00.65" 155°05'05.16"			
365	Helio	57°54'48.484" 155°04'35.940"	5m/258°	57°54'48.52" 155°04'35.62"			
370	Fritz	57°54'27.151" 155°03'59.859"	20m/234°	57°54'27.53" 155°03'58.90"			

No.	Name	1. Signal List Pos.	(1.-2.) Dist./Az.	2. Photo Intersection	(1.-3.) Dist./Az.	3. Theod./ E.D.M.	(2.-3.) Dist./Az.
375	Martha	57°54'22.076" 155°03'40.372"	11m/256°	57°54'22.16" 155°03'39.72"			
385	Lake	57°53'39.757" 155°03'49.757"	16m/236°	57°53'40.04" 155°03'48.97"			
390	View	57°53'16.485" 155°04'02.731"	8m/284°	57°53'16.43" 155°04'02.27"			
393	Dennis	57°53'08.080" 155°04'13.593"	6m/161°	57°53'08.25" 155°04'13.71"			
395	Viking	57°52'54.146" 155°04'25.475"	44m/210°	57°52'55.37" 155°04'24.14"	0m/195°	57°52'54.148" 155°04'25.474"	
398	Bernie	57°52'46.670" 155°04'34.375"	124m/207°	57°52'50.22" 155°04'30.91"	0m/0°	57°52'46.670" 155°04'34.375"	
399	Babble	57°52'38.342" 155°04'44.674"	8m/214°	57°52'38.55" 155°04'44.41"	0m/28°	57°52'38.341" 155°04'44.675"	
400	Nest	57°52'03.846" 155°06'34.390"	14m/299°	57°52'03.63" 155°06'33.64"			
403	Barry	57°52'15.379" 155°05'28.450"	6m/238°	57°52'15.49" 155°05'28.12"	0m/28°	57°52'15.378" 155°05'28.451"	
404	Burt	57°52'04.131" 155°06'52.162"	995m/269°	57°52'04.93" 155°05'51.84"			
405	Mary	57°52'01.939" 155°06'54.588"	13m/282°	57°52'01.85" 155°06'53.81"			
408	Bust	57°52'04.784" 155°07'09.765"	1004m/270°	57°52'04.97" 155°06'08.83"			
410	Towne	57°52'01.454" 155°07'10.978"	6m/194°	57°52'01.64" 155°07'10.89"			



No.	Name	1. Signal List Pos.	(1.-2.) Dist./Az.	2. Photo Intersection	(1.-3.) Dist./Az.	3. Theod./ E.D.M.	(2.-3.) Dist./Az.
415	Fly	57°51'53.720" 155°07'37.116"	7m/321°	57°51'53.55" 155°07'36.85"			
420	Britt	57°51'42.375" 155°08'03.093"	5m/21°	57°51'42.23" 155°08'03.20"			
425	Snail	57°51'34.391" 155°08'31.169"	3m/36°	57°51'34.32" 155°08'31.27"			
430	Gap	57°51'23.111" 155°09'00.090"	8m/301°	57°51'22.97" 155°08'59.65"			

National Ocean Service  
Pacific Marine Center  
1801 Fairview Avenue East  
Seattle, Washington 98102

April 26, 1983

TO: N/OG2 - C. William Hayes

FROM: *Charles E. Townsend*  
N/MOP - Charles E. Townsend

SUBJECT: Completion of Hydrographic Surveys H-9903, H-9950, H-9956  
and H-9946, Shelikof Strait, Alaska

REF: N/MOP Memorandum dated March 2, 1983  
N/OG2 Memorandum dated April 11, 1983

Class I registered shoreline maps required to complete the processing and verification of hydrographic surveys H-9903, H-9950, H-9956 and H-9946 will not become available until sometime in 1984. Surveys H-9903, H-9950 and H-9956 are scheduled for completion in survey year 1983. H-9946 is scheduled for completion in survey year 1984.

In order to meet previously established hydrographic survey production schedules, we plan to complete processing of these surveys using Class III unregistered shoreline maps and the final field sheets as the source documents for transfer of the mean high water line and offshore features to the smooth sheets. The following procedures will apply unless otherwise advised:

1. The mean high water line and/or attached cultural features will be shown in brown ink on the smooth sheet with a note stating the shoreline is from an unregistered source and is shown for orientation purposes only. This procedure is in accordance with Hydrographic Survey Guideline No. 17.

2. All details seaward of the mean high water line that originate from the Class III unregistered shoreline maps and are shown on the final field sheets in black ink will be shown in black ink on the smooth sheets. Ledge and reef limit lines which conflict with hydrographic sounding data will be adjusted to agree with the zero fathom curve delineated by sounding lines. These details will be digitized.

3. Rocks and other details seaward of the mean high water line that originate from field edit records and are shown in red ink on the final field sheets will be shown in black ink on the smooth sheets. These details will be identified by geographic position in the Evaluation Report and discussed as being brought forward from the final field sheet without supportive information. These details will be digitized.

4. Changes to the mean high water line and/or attached cultural features that originate from the hydrographic records and accepted by the verifier will be shown in red ink on the smooth sheet. These changes will be digitized in accordance with Hydrographic Survey Guideline No. 17.

Attachments:

Cy of Ref. Letters

9

MOP211 Hert *U.L.C.* MOPx1

Jeffers *RWJ*  
Townsend *1/28*

MOP21 Austin *AG* MOP

National Ocean Service  
Pacific Marine Center  
1801 Fairview Avenue East  
Seattle, Washington 98102

March 2, 1983

TO: N/CG2 - C. William Hayes  
ORIGINAL SIGNED BY  
FROM: N/MOP - Charles K. Townsend  
SUBJECT: Distribution of Photogrammetric Data  
REF: N/CG23 Memorandum dated 2/3/83

A waiver of the requirement for N/CG232 review of the manuscripts prior to release as specified in the referenced memorandum (copy attached) is requested for the following situation.

Compilation of Class I manuscripts TP-00623, TP-00624, and TP-00626 (Project CM-7607, Shelikof Straits, Alaska) is scheduled to be completed in March 1983. Hydrographic surveys H-9903, H-9950, and H-9956 are presently on hold in the PSS stage of processing waiting for these Class I shoreline manuscripts. These hydrographic surveys are scheduled for completion in the 1983 survey year.

In order to meet hydrographic survey production schedules, MOP211 desires access to Class I shoreline manuscripts TP-00623, TP-00624, and TP-00626 by April 1, 1983.

If these manuscripts are not available to MOP211 by April 1, 1983, we plan to complete processing of the hydrographic surveys using other sources unless advised otherwise.

Attachment

71-7091 X  
1604-14  
1000

FILE COPY

CODE	SURNAME	DATE	CODE	SURNAME	DATE
MOP21	Austin NOAA	4/3/83			
MOPX1	Jeffers KWJ	2/3/83			
MOP	Townsend				



UNITED STATES DEPARTMENT OF COMMERCE  
 National Oceanic and Atmospheric Administration  
 NATIONAL OCEAN SURVEY  
 XXXXXXXXXXXXXXXXXXXX  
 XXXXXXXXXXXXXXXXXXXX  
 National Ocean Service  
 CHARTING AND GEODETIC SERVICES  
 Rockville, Md. 20852

RECEIVED

APR 14 1983

PACIFIC OCEANIC CENTER

N/CG232:GMB

MOP 21

*Copy for JKT*  
*clear*  
*WT*

TO: N/MOP - Charles K. Townsend

FROM: *ja* N/CG2 - C. William Hayes *Hayes*

SUBJECT: Shelikof Strait, Alaska--Photogrammetric Support  
 and Distribution of Data

APR 15 1983

JCS

A thorough examination and review of all pertinent data and correspondence has been completed. The following actions have been taken.

1. Shoreline support data for OPR-P146-FA-83 will be provided in the form of registered shoreline manuscripts (TP-00627 through TP-00629, TP-00717, and TP-00927) enlarged to 1:10,00 scale. The enlarged copies will be labeled "Enlargement for hydrographic use only." These enlargements are adequate for providing the shoreline for hydrographic field and smooth sheets. Ratio photographs will also be provided. A registered manuscript for TP-00626 will not be available until 1984. An enlarged segment of this unregistered map can be provided by N/MOP212 for reconnaissance purposes. This sheet should also be labeled "Enlargement for hydrographic use only."

2. The 1982 field data (OPR-P146-FA-82) has been processed and the following data set is being shipped to N/MOP21.

- a. Ratio color photographs (field annotated)
- b. Master Field Edit Prints (TP-00629, TP-00717, and TP-00927)
- c. Hydrographic Maintenance Prints (stable base map copies depicting photogrammetrically processed 1982 field data)
- d. Field Edit Report (original)

JIM  
 H-9903

3. The shoreline manuscripts (TP-00623, TP-00624, and TP-00626) are scheduled for final review in 1984; consequently, these data cannot be released at this time. The manuscripts in question were assigned by N/CG232 to N/MOP212 for the application of the field edit data. The last monthly report received stated that the task would be difficult; however, the job would be completed in March or April 1983. When the edit application has been completed and the enlargement of TP-00626 has been provided to satisfy the data requirements of OPR-P146-FA-83, the manuscripts and all relevant data should be forwarded to N/CG232 for final review and registration.

MOP 211  
 NOTE



U.S. DEPARTMENT OF COMMERCE  
October 19, 1981 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): 945-8143 Kashvik Bay, AK

Period: June 12 - August 6, 1981

HYDROGRAPHIC SHEET: H-9946

OPR: P-146

Locality: Shelikof Straits, Alaska

Plane of reference (mean lower low water): (see remarks)

Height of Mean High Water above Plane of Reference is 11.8 ft.

REMARKS: MLLW: 6/10 - 0200 hrs. - 7/21 - 1400 hrs. = 3.5 ft.  
7/21 - 1500 hrs. - 7/31 - 0100 hrs. = 3.1 ft.  
7/31 - 0200 hrs. - 8/5 - 2100 hrs. = 10.4 ft.  
8/5 - 2200 hrs. - 9/1 - 2200 hrs. = 10.9 ft.

Recommended Zoning:

Zone Direct

  
Chief, Datums and Information Branch

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-9946

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.

*David W. Jaeger* 8/1/84  
Chief, Nautical Chart Branch (Date)

CLEARANCE:

*js*  
N/MOP2: LWMordock

SIGNATURE AND DATE:

*Hal C Austin* 8/10/84

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.

*js*  
*Hal C Austin* 8/10/84

Director, Pacific Marine Center (Date)

INDEX  
HYDROGRAPHIC SURVEYS  
Complete through May 1969  
**1942-1965**  
SHELIKOF STRAIT  
ALASKA  
HYDROGRAPHIC SURVEYS

No.	Date	Scale
H-6798	1942	10,000
H-6829A	1942	600
F.E. No. 6	1944	20,000
F-6925 & Ad Wk.	1947	120,000
H-7194	1947	20,000
H-7195	1947	20,000
H-7196	1947	20,000
H-7197	1947	40,000
H-7812	1949	40,000
H-7822	1949	10,000
H-7827	1950	5,000
F.E. No. 7	1954	10,000
H-8118	1954	10,000
H-8284	1956	5,000
H-8490	1959	5,000
H-8619A (3 areas)	1961	40,000
H-8843	1965	40,000

On Scale of 1:10000 5/34 inches = 1 statute mile  
1:20000 3/17 inches = 1 statute mile  
Δ White Ding

Diagram No. 8556-3

