10214

Diagram No. 8502-2

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey: Hydrographic

Field No.: FA-10-2-86

Registery No.: H-10214

LOCALITY

State: Alaska

General Locality: Alaska Penninsula

Sublocality: Agripina Bay & Vicinity

1986

CHIEF OF PARTY
CAPT J.W. Carpenter

LIBRARY & ARCHIVES

DATE: November 10, 1987

☆U.S. GOV. PRINTING OFFICE: 1985—566-054

10214

Area 5

CHTS
16568
16006
16013
531
500
530

Cartog: sign off on fm in back

NOAA FORM 77-28
(11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-10214

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 10-2-86

State: Alaska

General locality: Alaska Peninsula

Locality: Agripina Bay and Vicinity

Scale: 1:10,000 Date of survey: June 17, 1986 - Sept. 27, 1986

Instructions dated: May 14, 1985 Project No.: OPR-P180-FA-86

Vessel: FAIRWEATHER (2020), 2023, 2024, 2025, 2026, 2027

Chief of party: Captain John Carpenter

Surveyed by: LT Kenny, LT Moen, ENS Crozer, ENS Abbott, ENS Cone, ENS Lynch ENS Bernard, CST Krick

Soundings taken by echo sounder, hand lead, pole: Raytheon DSF 6000N

Graphic record scaled by: FAIRWEATHER Personnel

Graphic record checked by: FAIRWEATHER Personnel

Verification by ~~Plotted by~~: L. Deodato Automated plot by: PMC Xynetics plotter

Evaluation by ~~Verification by~~: I. Almacen

Soundings in fathoms ~~feet~~ at ~~MLW~~ MLLW and tenths of fathoms.

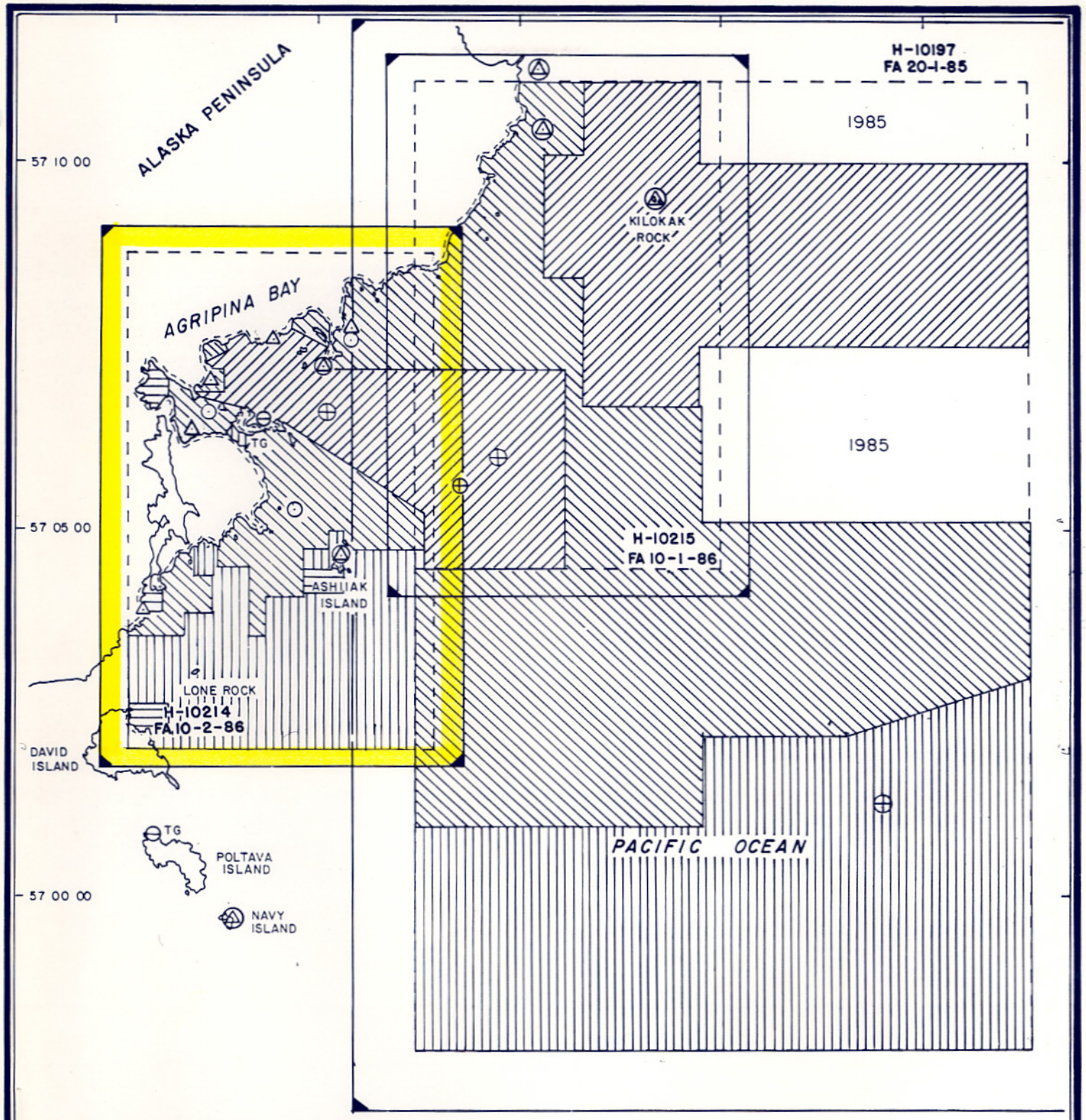
REMARKS: Marginal notes in black are by the evaluator. Separates are filed with the hydrographic data.

AWOIS/SURF MSM 9/88

SC 1-31-97

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

☆ U.S. GOVERNMENT PRINTING OFFICE: 1978-665-010-1174



	JUNE	JULY	AUG	SEPT
SQ NM SOUNDING LINE	30	37	58	50
LNM SOUNDING LINE	352	818	583	401
BOTTOM SAMPLE	30	80	34	72
HYDRO CONTROL STATIONS	4	8	2	1
SV/D - NANSEN CAST	3	2	2	3
WATER SAMPLES ANALYZED	4	1	0	0
TIDE GAGE INSTALLATIONS	1	0	1	0
LNM S/L VERIFICATION	3.6	19.3	0	0
HYDROGRAPHY				

⊕ SV/D NANSEN CAST

STA RECOVERED

TG TIDE GAGE

STA ESTABLISHED

S/L VERIFICATION

(Part one of two)

MONTHLY PROGRESS SKETCH
OPR-P180-FA-86
SOUTHERN ALASKA PENINSULA

KILOKAK ROCKS TO DAVID ISLAND
NOAA SHIP FAIRWEATHER S-220
CAPT JOHN CARPENTER, CMDG

SCALE FROM NOS CHART 16568
— JUNE – SEPT 1986 —

Descriptive Report
to Accompany Hydrographic Survey
H-10214 (FA-10-2-86)
NOAA Ship FAIRWEATHER S220
Captain John W. Carpenter, Commanding

A. Project

This survey was conducted during the 1986 field season in accordance with Project Instructions OPR-P180-FA-86, Shelikof Strait, Alaska, dated May 14, 1985, Change No. 1 dated June 6, 1985, and Change No. 4 dated April 7, 1986.* PMC OPORDER, the Hydrographic Manual (fourth edition), and the Hydrographic Survey Guidelines are also applicable.
* Add. changes 2, 3, 5 & 6.

This sheet is designated as "C" in the project instructions. The purpose of this survey is to provide contemporary hydrographic data for the 1:80,000-scale charts to be published in the future.

B. Area Surveyed

This survey covers the area within Agripina Bay west of longitude 156/22/18W. It is bounded to the north by the shoreline, to the south by latitude 57/02/00N west to David's Island, and to the southwest by longitude 156/29/24W.

This survey commenced on June 17, 1986 (DN 168) and was completed on September 27, 1986 (DN 270).

C. Sounding Vessels

Jensen survey launches FA-3 (2023), FA-4 (2024), and FA-6 (2026) were used to collect hydrographic and shoreline verification data. Jensen survey launch FA-5 (2025) was used to collect hydrographic data and bottom samples. FAIRWEATHER (2020) conducted all sound velocity casts and collected bottom samples. Shoreline verification was completed by FA-7 (2027).

On September 5, 1986 (DN 248), rocks were located using theodolite intersection for a cove in the vicinity of latitude 57/06/12N, longitude 156/28/18W. Elevations were taken concurrently from FA-7 (2027).

D. Sounding Equipment and Corrections to Echo Soundings

All of FAIRWEATHER's survey launches, each equipped with dual-beam Raytheon DSF-6000N echo sounders, were used to obtain soundings for this survey. See Table I for a list of equipment by vessel, serial number, and day number.

Table I
Sounding Equipment
DSF-6000N RAYTHEON SERIAL NUMBER

Vessel	Day Number	Recorder Serial No.
2023	DN 168-270	A121N
2024	DN 168-270	B049N
2025	DN 168-270	A113N
2026	DN 168-247	A104N
2026	DN 248-270	B048N
2020	DN 257-270	A113N

Echo-sounding equipment was monitored continuously while on line. All hydrographic data were scanned at least twice to insert peaks and deeps between soundings and to ensure proper depth digitization.

Wind and sea conditions occasionally made it necessary to visually average the depth profile to correct for heave action. When heave averaging was required, soundings were corrected in accordance with Section 4.9.3.2 of the Hydrographic Manual and Hydrographic Survey Guideline #31.

No mechanical problems that degraded data quality were encountered with the DSF-6000N echo sounders during this investigation. Bar checks at three fathoms were done daily, wind and seas permitting, to ensure that the Raytheon DSF-6000N echo sounders were operating properly. Sounding corrections determined for this survey apply to both the high- and low-frequency sounding data.

In most instances, the high-frequency beam data was digitized. The low frequency was used when, due to steepness or suspended particles in the water column, the high-frequency trace was lost. Also, if side echoes produced least depths over peaks and reduced line spacing was not needed because of depth (e.g., in 80 fathoms of water), the low-frequency side echo depth was recorded. This is noted on the raw computer printout with the annotation "low frequency trace" or "LFT".

All of FAIRWEATHER's survey launches were tested for settlement and squat on June 10, 1986 (DN 161) and August 18, 1986 (DN 230) in Womens Bay, Kodiak, Alaska. The test results were used to plot settlement and squat curves for each launch (see Corrections to Echo Soundings Data submitted for OPR-P180-FA-86). Measurements were conducted in accordance with Section 4.9.4.2 of the Hydrographic Manual. It was determined that there were no applicable settlement and squat corrections for any launch at speeds run when performing surveys in fathoms.

An accurate determination of launch transducer depth was obtained through physical measurement. An oversized carpenter's square was constructed of angle iron, with foot and tenth markings noted on the rise. Divers held the foot of the carpenter's square flush against the transducer

while the rise was leveled by personnel on the pier using a circular bubble level. On April 29, 1986 a transducer draft of 0.3 fathoms was recorded for all launches (full fuel tank, for both 0 people and 4 people on board).

Velocity correctors were determined from eight SV/D casts in accordance with section 4.9.5.2 of the Hydrographic Manual. Program VELTAB was used. The casts showed the water column to be changing significantly; therefore, eight velocity tables were necessary. Table III shows the dates and locations of all casts.

Table III
Velocity Casts

Cast No.	Date DN	Latitude Longitude	Table No.	Applicable Dates (DN)
1	166	57/00.9N 155/58.5W	Table 1	168-170
3	179	57/04.0N 156/16.3W	Table 2	176-184
4	196	57/05.6N 156/21.7W	Table 3	188-199
6	212	57/05.6N 156/21.6W	Table 4	202-213
7	221	57/05.6N 156/21.6W	Table 5	216-227
8	240	57/05.0N 156/22.2W	Table 6	230-241
9	249	57/06.0N 156/20.5W	Table 7	247-263
14	270	57/06.6N 156/24.7W	Table 14	268-270

The SV/D casts were performed using a Plessy Model 9040 Environmental Profiling System (s/n 5647). This instrument was calibrated at the Northwest Regional Calibration Center (NRCC) on February 4, 1986 (see Corrections to Echo Soundings Data). Nansen bottles, sea surface temperatures, and/or XBT's were taken during the SV/D casts as a check on the Plessy System. The reversing thermometers used with the Nansen bottles were calibrated at the NRCC.

Diver's least depths were obtained using a Lietz Fiberglass tape measure or pneumatic depth gauge manufactured by 3-D Instruments, Inc. (s/n 8302079 N). Data acquisition using this gauge was in accordance with

Hydrographic Survey Guideline No. 55, with system checks performed to confirm accuracy standards at the beginning of every dive day. The pneumatic gauge was calibrated on April 9, 1986 by the Pacific Tide Party.

TC/TI tapes were made in accordance with PMC OPORDER, Appendix Q, dated May 12, 1986. Printouts of TC/TI tapes are included in the separates following the text of this report.

Predicted tide corrections were applied to the soundings plotted on the field sheets for this survey. The tide correctors used were from the 1986 West Coast of North and South America Tide Tables. Tide correctors use Kodiak, Alaska as the reference station using a height correction range ratio of "x1.32", a time correction of plus 0 hours 25 minutes at high water and plus 0 hours 40 minutes at low water. For further information, refer to the "Field Tide Note" in the separates following the Descriptive Report text.

E. Hydrographic Sheets

This survey is comprised of two final field sheets that are plotted on mylar. Development "A" is plotted on mylar. In addition, two mylar overlay sheets were constructed. These sheets facilitated the delineation of depth contours and were used to display development lines. The final field sheets were plotted aboard FAIRWEATHER using a PDP8/e computer and complot plotter.

All field records will be sent to the NOAA Pacific Marine Center, N/MOP21, for verification and smooth plotting.

F. Control Stations

All horizontal control stations used in this survey were recovered or established by FAIRWEATHER personnel. All geodetic positions were based on the North American 1927 datum. New stations were located by conventional traverse, intersection and resection methods. No anomalies in control, adjustment or closures were encountered. All positions meet or exceed Third Order, Class I specifications.

Three stations are within hydrographic data limits: ASH 1944, PR-68, 1986, and TP-2. These stations are located on offshore islands.

Stations used in support of this survey are listed in Appendix VI, List of Stations. For additional information, refer to the Horizontal Control Report, OPR-P180-FA-86

G. Hydrographic Position Control

Hydrographic position control was accomplished using the Motorola Mini-Ranger III system. The control configuration consisted of range/range, range/azimuth, or theodolite intersection for all positioning. Table IV contains a list of console and R/T units for each sounding vessel.

All electronic control stations were positioned to Third Order, Class I accuracy or better.

Table IV

Mini-Ranger Equipment by Vessel

Vessel Number	DN	Console/RT Number
2023	168-270	B0323/B1398
2024	169-207	716/C1875
	217-251	703/B1108
	252-270	506042/E2716
2025	169-192	506042/E2716
	193-197	703/B1108
	198-203	716/C1875
	204-208	703/B1108
	209-216	506042/E2716
	223-247	506042/E2716
	252-256	703/B1108
2026	169-192	703/B1108
	193-207	506042/E2716
	208-245	716/C1875
	248-251	506042/E2716
2020	217-222	506042/E2716
	257-270	703/B1108

Mini-Ranger baseline calibrations (BLCs) were conducted in accordance with Appendices M and S of the PMC OPORDER.

Mini-Ranger correctors were obtained from BLCs performed in May, July/August and October, 1986. On DNs 132-133 beginning calibrations were conducted along a distance of 1054.8 meters between two recoverable points across Lake Union in Seattle, Washington. Beginning calibrations continued on DNs 134-135 between two recoverable points at a distance of 990.2 meters across Lake Union. On DNs 199 and 202 BLCs were conducted at Womens Bay in Kodiak, Alaska between two recoverable marks along a distance of 855.4 meters. Calibrations continued on DNs 207-208 between two points set along a beach at a distance of 924.4 meters in Agripina Bay, Alaska. The distance was measured by a Tellurometer CA-1000 (serial nos. 1047 and 1048). Ending BLCs were performed on DNs 276-279 and DN 290 along a distance of 1253.6 meters between two recoverable marks in Juneau, Alaska. Table V contains a list of all calibrations performed in support of this survey.

Table V

Mini-Ranger Baseline Calibrations

DN	Console/RT Number	Transponder Codes
132-133	506042/E2716	5,7,8,9,A,B
	B0323/B1398	5,7,9,B,C,D
134	506042/E2716	6,C,D
	B0323/B1398	6,8,A
	703/B1108	5,6,7,8,9,A,B
135	703/B1108	C,D
	716/C1875	5,6,7,8,9,A,B,C,D
199	716/C1875	5,7*,8,9,A,B,C
202	506042/E2716	5,7*,8,9,A,B,C
	B0323/B1398	5,7*,8,9,A,B,C
	703/B1108	5,7*,8,9,A,B,C
207-208	506042/E2716	6,D
	B0323/B1398	6,D
	703/B1108	6,D
	716/C1875	6,D
275-279	506042/E2716	5,6,7*,8,9,A,B,C,D
	B0323/B1398	5,6,7*,9,A,B,C,D
	703/B1108	5,6,7*,8,9,A,B,C,D
	716/C1875	No Ending BLC
290	B0323/B1398	8

* - This is a new code 7.

On DN 245 the modulator in RT unit C1875 failed and had to be replaced. As a result, no ending BLCs were obtained for console/RT pair 716/C1875. Critical and non-critical system checks verified beginning calibration correctors until the failure occurred.

On DN 175 code 7 failed and could not be repaired in the field. This transponder was sent to PMC for repairs. As a result, no ending calibration was possible. Critical and non-critical system checks verified the beginning calibration corrector until the failure occurred. A new code 7 was recieved from PMC and was calibrated on DNs 199 and 202. This transponder was used for the remainder of the field season.

Final correctors for data collected on DNs 169-198 were determined using beginning BLC data only, as correctors obtained from BLCs conducted

on DNs 199-208 agreed within 5 meters of the beginning correctors. Final correctors applied to data collected after DN 208 were determined from the BLCs conducted on DNs 199-208 only, as they differed from correctors obtained from ending BLCs by no more than 4 meters.

Final baseline correctors and minimum signal strengths can be found in the Electronic Control Data package submitted for OPR-P180-FA-86.

Electronic corrector abstracts are shown in Appendix V of this report.

Hydrographic positioning equipment was critically system checked at least once per week unless adverse weather prohibited it (at which point they were accomplished as soon as weather allowed). Non-critical system checks were conducted once per day, except when equipment failure prohibited it. All hydrographic positioning equipment was found to be accurate within the limits set forth by the PMC OPORDER. Critical system checks were normally accomplished using the theodolite cut method. In a few cases, critical checks were conducted using a range aquired from an EDMI. The instruments used were Wild brand theodolites with serial numbers T2-85652, T2-276503, T2-26336, T2-257219, T1-19288 and T1-13008. The EDMI used was a Hewlet-Packard model 3808A with serial number 1723A00172.

In all cases, the launch R/T units were located directly over the transducers, thus eliminating the need for ANDIST correctors.

H. Shoreline

Shoreline details for this survey are from a 1:10,000 scale mylar enlargement of TP-01149, a 1:20,000 scale, Class III, registered shoreline manuscript. All verified features from the shoreline manuscript are in black ink on the final field sheet with changes recorded in red ink. New features are displayed in black ink.

The shoreline manuscript was found to be compiled incorrectly on TP-01149 (See Appendix XI, Supplemental Information). During aerotriangulation bridging, geodetic control based on a 1948 adjustment was used instead of the most recent 1976 adjustment. This resulted in a misplacement of shoreline and features approximately 17.4 meters to the east and 2.3 meters to the south. Therefore, all manuscript data was shifted 1.8 millimeters (18 meters at the scale of the survey) to the west before application to the final field sheets. Hydrographic data at manuscript rock positions and along the shoreline verified this shift.

See EVAL RPT Sec. 2

A discrepancy was found to exist between the high water line and hydrography in the vicinity of latitude 57/06/55N, longitude 156/28/20W and latitude 57/07/15N, longitude 156/29/10W. Since the shoreline in this vicinity was found to consist of steep rockslide areas, the discrepancy may be explained by the movement of additional rock downslope subsequent to aerial photography. This would result in the high water line moving further inland. The revised shoreline is shown in red on the final field sheet.

In accordance with Project Instructions section 5.8.4., basic hydrography was not conducted in the lagoon centered at approximately latitude 57/05/30N, longitude 156/28/30W, since reconnaissance showed that the area was not navigable (a skiff was not able to enter the lagoon at low water). concur.

Two new small islets were found during the course of the survey. The first is located at latitude 57/03/~~46~~45.72N, longitude 156/29/~~19~~18.36W (position 6977) and the other is located at latitude 57/04/48N, longitude 156/27/52W (position 6142). The islets were found to bare 16 and 17 feet, respectively, at MHW. In addition, three manuscript rocks located at latitude 57/04/35N, longitude 156/24/38W, latitude 57/02/39N, longitude 156/29/15W, and latitude 57/06/40N, longitude 156/26/45W were found to be islets baring ~~16~~ 6, ~~10~~ 9, and ~~5~~ 4 feet, respectively, at MHW. All are shown in red on the final field sheet. ✓

A manuscript islet in the vicinity of latitude 57/08/29N, longitude 156/22/48W was searched for and it's existance disproved (reference number 169). A detached position was not possible, since the islet's reported position lay on an extensive ledge, over which a survey launch could not safely be navigated. It is recommended that the islet not be charted. concur.

Extensive areas of reef were found around the manuscript rocks in the vicinty of latitude 56/06/34N, longitude 156/28/21W (positions 3420 - 3423), latitude 57/04/40N, longitude 156/23/51W (positions 1282 and 1289), and latitude 57/04/29N, longitude 156/23/47W (positions 7706 - 7708, 1280 - 1281). Another reef was found in the vicinity of latitude 57/04/25N, longitude 156/28/30W (positions 3765 - 3766). All are shown in black on the final field sheet. ✓

A search was made for the manuscript reef at latitude 57/04/50N, longitude 156/27/12W, but no indications of a reef were found. However, hydrography shows shoaling in the same area. ✓

A ledge was found around the island in the vicinity of latitude 57/05/18N, longitude 156/26/00W. It was depicted as beach on the shoreline manuscript. It is shown in red on the final field sheet. ✓

A manuscript rock in the vicinity of latitude 57/07/12N, longitude 156/24/44W, was found to be part of a ledge extending generally northwest from the nearby manuscript islet (position 6139). A ledge was found to be more extensive, south from a manuscript ledge in the vicinity of latitude 57/07/26N, longitude 156/24/24W (position 5281). Both are shown in red on the final field sheet. ✓

There were several other minor changes to ledge made on the final field sheet. All are shown in red.

Two manuscript islets in the vicinity of latitude 57/07/20N, longitude 156/26/55W (reference numbers 114 and 115) were found to be reefs uncovered 9 and 10 feet, respectively, at MLLW. These reefs were seen awash at many high waters. Both are shown in red on the final field sheet. Shown as isolated reefs on smooth sheet. ✓

Two new offshore rocks baring 1 and 3 feet at MLLW were found at latitude 57/04/~~46~~45.71N, longitude 156/23/~~07~~61.51W (position 1279), and latitude 57/04/~~46~~46.62N, longitude 156/26/~~27~~27.18W (position 1614) respectively. They are shown in black on the final field sheet. In addition, new rocks were located along the shore in a few areas. They are also shown in black on the final field sheet.

No search was done for a manuscript rock in the vicinity of latitude 57/06/42N, longitude 156/27/~~29~~30W. The rock is included on the final field sheet in its manuscript position, and it is recommended that it be charted at that position. In addition, no detached position was obtained for a new rock in the vicinity of latitude 57/08/30N, longitude 156/22/30W, which was found while running a hydrographic survey line (between postions 7469 and 7470). This rock is plotted on the final field sheet in black, and is marked "PA". All other manuscript rocks were investigated. *This subm rock was shown as "0⁵Rk" on the smooth sheet.* *concur.*

I. Crosslines

A total of 39.6 nautical miles of crosslines were run on this survey comprising 8.3 percent of the main scheme hydrography. Agreement between crossline and mainscheme soundings meets the specifications of the Hydrographic Manual, Section 4.6.1.. Any disagreement is attributable to irregular or steep bottom contour upon inspection. There is no systematic problem that would account for differences in these areas.

In some cases, a different vessel was used for crosslines than was used for mainscheme. In these instances, equally good agreement was obtained at the crossings.

J. Junctions

This survey junctions to the east with H-10215 (1:10,000; 1986) and to the southeast with H-10225 (1:20,000; 1986) and H-10197 (1:20,000; 1985-1986). Agreement between soundings at junctions is good, with all soundings agreeing within 1 fathom except in areas of steep relief. There is no systematic problem that would account for differences in these areas. No contemporary survey junctions to the southwest with this survey. *H-10242 junctions to the west and southwest of this survey.* *See EVAL RPT. sec. 5.*

K. Comparison with Prior Surveys

All depths from the prior survey, H-6925 and Additional Work (1:120,000, 1943-1944), may be found within approximately three hundred meters of comparable depths obtained by this survey. Given the date, scale and nature of this survey, agreement is generally fair. It should be noted that soundings on the prior survey are very sparse; H-10214 should supersede the prior survey in all common areas.

The following AWOIS items are within survey limits.

AWOIS ITEM#	Descpription
50858	Submerged rock *(0⁷Rk)* Latitude 57/03/~~58.8~~57.81N Longitude 156/25/52.~~5~~79W

50859	Two submerged rocks Latitude 57/06/26.6N Longitude 156/28/20.8W and Latitude 57/06/30.1N Longitude 156/28/29.8W
50854	Six-foot Pinnacle formation Latitude 57/06/44.1N Longitude 156/24/23.9W

AWOIS descriptions

50858 - The AWOIS item was investigated and located after indications of its existence were noted during main scheme splits in the area. A divers' least depth of 3 feet was obtained at latitude 57/03/57.5N, longitude 156/25/52.5W (position number 9033). It is recommended that this rock be deleted as charted and repositioned at the above coordinates. concur.

50859 - The two charted submerged rocks were investigated and located after indications of their existence were noted during main scheme splits in the area. Divers' least depths of 4 feet at latitude 57/06/26.3N, longitude 156/28/18.2W (position number 9016), and 2 feet at latitude 57/06/30.4N, longitude 156/28/29.3W (position number 9015) were obtained. It is recommended that these rocks be charted as shown on H-10214. concur.

50854 - The AWOIS item was investigated by a full echo-sounder search (20-meter line spacing) accomplished over a 100-meter radius around the item's reported position (see development "A", 1:5,000 enlargement). No pinnacle formation was evident, and depths in the area range from 15 to 19 fathoms. Note that the AWOIS listing shows a six-foot pinnacle, while Preliminary Chart 16568 shows a six-fathom pinnacle. There were no indications of either. An area of irregular bottom was found to the northwest of the AWOIS development and can also be seen on development "A". It is recommended the 6-fathom pinnacle be deleted as charted and depths in the area be charted as found on H-10214. (A 6.1-fathom sndg plots 600m. NW of the charted 6-fathom pinnacle rock.) concur.

L. Comparison with the Chart

This survey was compared to Preliminary Chart 16568, 5th Edition, December 9, 1978 (scale 1:106,600).

All charted depths, with the exception of one, may be found within three-hundred meters of comparable depths obtained by this survey. Given the scale of the chart and the date of the surveys from which the depths were taken, agreement is fair. ✓

The one discrepancy noted above consists of a six-fathom pinnacle formation reported at latitude 57/06/44.1N, longitude 156/24/23.9W, and is discussed as AWOIS item 50854 under Section K, Comparison with Prior Surveys. ✓

All charted rocks were found and appear on the final field sheet except for the rock on the border of this survey at latitude 57/02/12N, longitude 156/29/12W for which no search was made. A search for this rock will be made during the 1987 field season. *This rock was verified on H-10242 (1987)*

Several dangers to navigation were noted during this survey. A list of these dangers including description, latitude and longitude, and position number, may be found in the letter addressed to the Commander (OAN) of the Seventeenth Coast Guard District dated September 31, 1986. A copy of that letter is included in Appendix XI, Dangers to Navigation, of this report. *See EVAL RPT Sec. 7(e).*

Divers' least depths over shoal areas discovered during the course of the survey were determined using a pneumatic gauge or tape measure. Dive positions are noted on the Carto Code Listing. ✓

M. Adequacy of Survey

This survey is sufficiently complete and adequate to supersede the prior survey in their common area. No additional field work is necessary. *concur.*

N. Aids to Navigation

There are no aids to navigation or landmarks located within the limits of this survey. ✓

O. Statistics

Vessel	2020	2023	2024	2025	2026	2027	Total
Positions	6	2234	1990	477	1292	2	6001
Nautical Miles	0	249	240	19	142	0	650
Square Miles	--	--	--	--	--	--	20
Bottom Samples	6	0	0	81	0	0	87
Velocity Casts	9	0	0	0	0	0	9
Tide Stations	1	--	--	--	--	--	1

✓

No magnetic or current stations were established during this survey. ✓

P. Miscellaneous

No unusual submarine features of anomalous tidal conditions were observed during this survey. No current observations were made. ✓

Bottom samples were collected and forwarded to the Smithsonian Institution, Washington, D.C.. ✓

Q. Recommendations

None.

R. Automated Data Processing

The following programs were used for data acquisition or processing.

Number	Program Name	Version Date
RK 112	Range-Range Real Time Plot	04/23/84
RK 116	Range-Azimuth Real Time Plot	03/01/86
RK 201	Grid, Signal and Lattice Plot	04/18/75
RK 221	Range-Range Non-Real Time Plot	07/25/86
RK 226	Range-Azimuth Non-Real Time Plot	07/25/86
RK 300	Utility Computations	10/21/80
RK 330	Reformat and Data Checker	05/04/76
PM 360	Electronic Corrector Abstract	02/02/76
RA 362	330/602 Combined	08/20/84
AM 500	Predicted Tide Generator	11/10/72
RK 407	Geodetic Inverse/Direct Computation	09/25/78
AM 602	Elinore	12/08/82
RK 530	Layer Corrections for Velocity	05/10/76
RK 562	Theodolite Calibration	09/05/84
	VELTAB	02/01/85

S. Referral to Reports

The following reports will be submitted separately:

Report	Date
Horizontal Control Report	12/86
Electronic Control Data	12/86
Corrections to Echo Soundings Data	12/86
Coast Pilot Report	12/86

Approval Sheet

The final field sheets and the accompanying records have been reviewed for accuracy, completeness, compliance with project instructions, and adherence to required standards and procedures. The Commanding Officer monitored field work and inspected selected portions of the data on a daily basis. This survey is complete and requires no additional field work. The data is forwarded for final review and processing.

Submitted by:

Maureen R. Kenny
Michael P. Lynch
Ensign, NOAA

Reviewed by:

Maureen R. Kenny
Maureen R. Kenny
Lieutenant, NOAA
Field Operations Officer

Approved by:

John W. Carpenter
John W. Carpenter
Captain, NOAA
Commanding Officer

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

NO Field Tide Note

JPM

(See HSG #54)

DATE: January 21, 1987

Marine Center: Pacific

OPR: P180

Hydrographic Sheet: H-10214

Locality: Agripina Bay and approaches, Shelikof Strait, Alaska

Time Period: June 17- September 27, 1986

Tide Station Used: 945-8464 Agripina Bay, AK

Plane of Reference (Mean Lower Low Water): 0.17 Ft.

Height of Mean High Water Above Plane of Reference: 10.2 Ft.

Remarks: Recommended Zoning:

Zone Direct

Chief, Tidal Datum Quality Assurance Section

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H10214

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
ALASKA (title)										1
ALASKA PENINSULA										2
AGRIPINA BAY										3
AGRIPINA RIVER										4
ASHIIAK ISLAND										5
DAVID ISLAND										6
GLACIER CREEK										7
LONE ROCK										8
SHELIKOF STRAIT										9
										10
										11
										12
										13
										14
										15
										16
					Approved:					17
										18
					Charles E. Harrington					19
					Chief Geographer - N/CG2x5					20
					FEB 3 1987					21
										22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

SIGNAL TAPE LISTING
OPR-P180-FA-86
FA-10-2-86
H-10214

KILO 1944
412 0 57 09 29502 156 16 40588 250 0010 000000

ASH 1944
419 0 57 04 36933 156 24 32675 250 0066 000000

PINA 1944
420 0 57 07 17597 156 24 55949 250 0034 000000

PR 12 1986
440 0 57 07 03981 156 27 42903 250 0033 000000

PR 13 1986
445 0 57 06 18888 156 28 13800 250 0016 000000

AGRIP 1986
447 0 57 07 41709 156 26 05487 250 0028 000000

PR 68 1986
450 0 57 05 17458 156 25 41356 250 0029 000000

NEAVY 1944
470 0 56 59 43183 156 27 16748 250 0028 000000

OPR 131 1986
475 0 57 07 39852 156 24 12754 250 0028 000000

TP-1
480 0 57 07 36921 156 24 15465 254 0022 000000

ALDER 1986
485 0 57 03 52078 156 29 14348 250 0047 000000

TP-2
495 0 57 06 36466 156 27 44215 254 0016 000000

Guppy Rm1 1985
415 0 57 11 12998 156 19 34715 250 0034 000000

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

NOAA Ship FAIRWEATHER
1801 Fairview Ave. East
Seattle, Washington 98102

September 31, 1986 1703-01.05

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

Dear Sir:

This letter confirms my radio message, P 302201Z SEP 86.

The following items were noted by NOAA Ship FAIRWEATHER during survey operations in the vicinity of Agripina Bay, Shelikof Strait, Alaska (surveys H-10214 and H-10215) and are considered dangers to navigation applying to Preliminary Chart 16568. Questions concerning this survey may be directed to Chief, Nautical Chart Branch, 7600 Sand Point Way NE, BIN C15700 Bldg. 3, Seattle, Washington 98115, telephone (206) 526-6835.

The following statements are recommended for inclusion in the Local Notice to Mariners:

	Position No
1. "An uncharted shoal covered by 5.8 fathoms (MLLW based on predicted tides) is at latitude 57/~~07~~/~~00~~N (06/53.6), longitude 156/26/~~07~~W (35)."	9002
2. "An uncharted shoal covered by 3.~~4~~ (3) fathoms (MLLW based on predicted tides) is at latitude 57/06/~~58~~N (57.31), longitude 156/25/~~29~~W (28.85)."	9005
3. "An uncharted rock covered by ~~1.8~~ (2.0) fathoms (MLLW based on predicted tides) is at latitude 57/04/~~04~~N (03.79), longitude 156/22/~~45~~W (44.72)."	9025
4. "An uncharted rock covered 1 foot (MLLW based on predicted tides) is at latitude 57/07/19N, longitude 156/24/~~10~~W (09.50)."	9006
5. "An uncharted shoal covered by 7.~~7~~ (8) fathoms (MLLW based on predicted tides) is at latitude 57/07/42N (11), longitude 156/22/41W (45)."	9010
6. "An uncharted shoal covered by 5.4 fathoms (MLLW based on predicted tides) is at latitude 57/07/32N, longitude 156/21/59W."	↓
7. "An uncharted rock awash (MLLW based on predicted tides) is at latitude 57/08/44N, longitude 156/20/42W."	H-10215
8. "An uncharted shoal covered by 7.5 fathoms (MLLW based on predicted tides) is at latitude 57/10/46N, longitude 156/16/09W."	↑

	Position No.
9. "An uncharted rock covered by 3.7 fathoms (MLLW based on predicted tides) is at latitude 57/05/00N, longitude 156/22/11W."	H-10215
10. "An uncharted shoal covered by 3.9 fathoms (MLLW based on predicted tides) is at latitude 57/04/47N, longitude 156/22/44W."	9008
11. "An uncharted shoal covered by 3.9 fathoms (MLLW based on predicted tides) is at latitude 57/04/31N, longitude 156/22/15W."	H-10215
12. "An uncharted rock covered by 0.8 fathoms (MLLW based on predicted tides) is at latitude 57/04/06N, longitude 156/24/22W."	9029
13. "An uncharted shoal covered by 6.1 fathoms (MLLW based on predicted tides) is at latitude 57/02/48N, longitude 156/25/19W."	9021
14. "An uncharted rock covered by 2 feet (MLLW based on predicted tides) is at latitude 57/06/45N, longitude 156/27/18W."	6985

Sincerely,

John W. Carpenter
Captain, NOAA
Commanding Officer

cc: N/CG222 - Chart Information Section
N/MOP21 - Nautical Chart Branch

T

PTTUZYUW RUHPTEB0238 2732201-UUUU--RUHPSUU.
ZNR UUUUU
P 302201Z SEP 86
FM NOAAS FAIRWEATHER
TO CCDGSEVENTEEN JUNEAU AK
INFO NOAAMOP SEATTLE WA
DMAHTC WASHINGTON DC//NVS//
ACCT CM-VCAA
BT
UNCLAS
DANGERS TO NAVIGATION

1. THE FOLLOWING DANGERS WERE NOTED DURING SURVEY OPERATIONS IN THE VICINITY OF AGRIPINA BAY, SHELIKOF STRAIT, ALASKA (SURVEYS H-10214 AND H-10215). ALL ITEMS PERTAIN TO PRELIMINARY CHART 16568. DEPTHS ARE REFERENCED TO MLLW BASED ON PREDICTED TIDES.

A. AN UNCHARTED SHOAL COVERED BY 5.8 FATHOMS IS AT LATITUDE 57/07/00N, LONGITUDE 156/26/07W.

B. AN UNCHARTED SHOAL COVERED BY 3.4 FATHOMS IS AT LATITUDE 57/06/58N, LONGITUDE 156/25/29W.

C. AN UNCHARTED ROCK COVERED BY 1.8 FATHOMS IS AT LATITUDE 57/04/04N, LONGITUDE 156/22/45W.

D. AN UNCHARTED ROCK COVERED BY 1 FOOT IS AT LATITUDE 57/07/19N, LONGITUDE 156/24/10W.

E. AN UNCHARTED SHOAL COVERED BY 7.7 FATHOMS IS AT LATITUDE 57/07/42N, LONGITUDE 156/22/41W.

F. AN UNCHARTED SHOAL COVERED BY 5.4 FATHOMS IS AT LATITUDE 57/07/32N, LONGITUDE 156/21/59W.

G. AN UNCHARTED ROCK AWASH IS AT LATITUDE 57/08/44N, LONGITUDE 156/20/42W.

H. AN UNCHARTED SHOAL COVERED BY 7.5 FATHOMS IS AT LATITUDE 57/10/46N, LONGITUDE 156/16/09W.

I. AN UNCHARTED ROCK COVERED BY 3.7 FATHOMS IS AT LATITUDE 57/05/00N, LONGITUDE 156/22/11W.

J. AN UNCHARTED SHOAL COVERED BY 3.9 FATHOMS IS AT LATITUDE 57/04/47N, LONGITUDE 156/22/44W.

K. AN UNCHARTED SHOAL COVERED BY 3.9 FATHOMS IS AT LATITUDE 57/04/31N, LONGITUDE 156/22/15W.

L. AN UNCHARTED ROCK COVERED BY 0.8 FATHOMS IS AT LATITUDE 57/04/06N, LONGITUDE 156/24/22W.

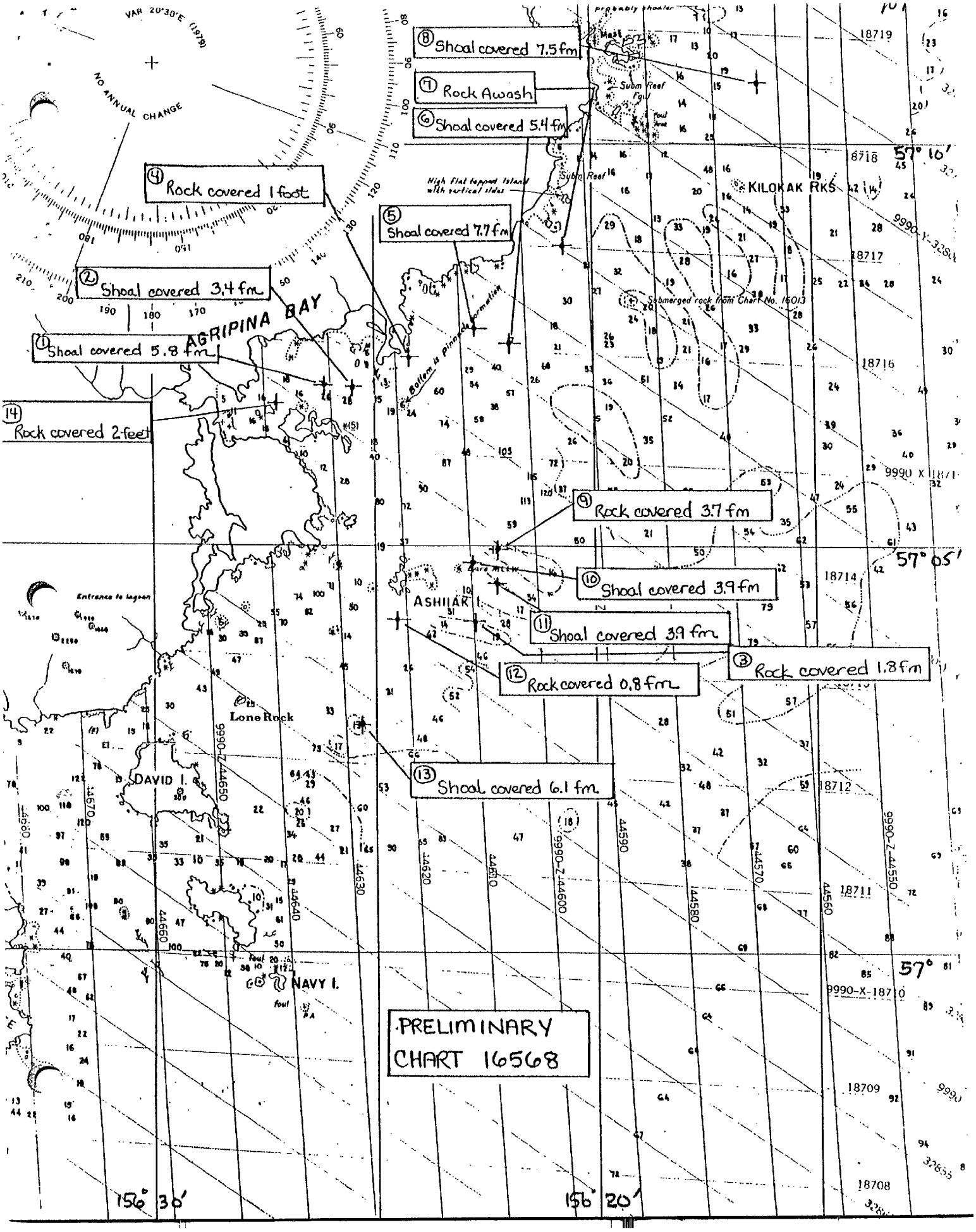
M. AN UNCHARTED SHOAL COVERED BY 6.1 FATHOMS IS AT LATITUDE 57/02/48N, LONGITUDE 156/25/19W.

N. AN UNCHARTED ROCK COVERED BY 2 FEET IS AT LATITUDE 57/06/45N, LONGITUDE 156/27/18W.

2. CONFIRMATION LETTER CONTAINING SAME INFORMATION WILL BE SENT.

BT
#0238

NNNN


VAR 20°30'E (1979)
NO ANNUAL CHANGE
⑧ Shoal covered 7.5 fm
⑦ Rock Awash
⑥ Shoal covered 5.4 fm
④ Rock covered 1 foot
⑤ Shoal covered 7.7 fm
② Shoal covered 3.4 fm
① Shoal covered 5.8 fm
⑭ Rock covered 2 feet
AGRIPINA BAY
High flat topped Island with vertical sides
Subm Reef
Submerged rock from Chart No. 16013
KILOKAK RKS
⑨ Rock covered 3.7 fm
⑩ Shoal covered 3.9 fm
⑪ Shoal covered 3.9 fm
⑫ Rock covered 0.8 fm
③ Rock covered 1.8 fm
⑬ Shoal covered 6.1 fm
ASHIIAK I.
Entrance to lagoon
Lone Rock
DAVID I.
NAVY I.
PRELIMINARY
CHART 16568
57° 10'
57° 05'
57°
156° 30'
156° 20'

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

ATTACHMENT A

JAN 14 1987 N/MOP21x2/MM

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

Dear Sir:

During office review of hydrographic survey H-10214, Southern Entrance to Shelikof Strait, Agripina Bay and Approaches, Alaska, the following changes affecting chart 16568 (NAD27 datum) were noted. Questions concerning the survey may be directed to Cdr. Thomas W. Richards, Chief, Nautical Chart Branch, telephone (206) 526-6835.

The following statements are recommended for inclusion in the Local Notice to Mariners:

"An uncharted shoal covered by 6.2 fathoms (MLLW based on predicted tides) is at latitude 57°07'09"N, longitude 156°26'41"W."

"An uncharted shoal covered by 5.3 fathoms (MLLW based on predicted tides) is at latitude 57°04'50"N, longitude 156°25'50"W."

Sincerely,

Robert L. Sandquist
Rear Admiral, NOAA
Director, Pacific Marine Center

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

NOAA Ship FAIRWEATHER
1801 Fairview Ave. East
Seattle, Washington 98102

August 19, 1986

TO: N/MOP - Robert L. Sandquist

FROM: Commanding Officer J. W. Carpenter
NOAA Ship FAIRWEATHER S220

SUBJECT: Aerotriangulation Station and Shoreline Accuracy for OPR-P180-FA-86

For project OPR-P180-FA-86, Southern Alaska Peninsula, FAIRWEATHER was supplied with 17 aerotriangulated hydrographic control stations (Job CM-8200, Cape Kilokak to Cape Kumlik, Alaska). This field season afforded the first opportunity to use some of the photogrammetric sites for hydrographic control.

To verify the location of station PR-12, launch critical system checks were accomplished using theodolite intersection. Differences of 15 to 20 meters from the Mini-Ranger baseline correctors were found. To verify other photo stations, a First-Order geodetic station (ASH) was occupied with horizontal angles (four-plate settings) turned from a First-Order station (PINA) to PR-72, PR-10, and PR-11. Using the computed distances from ASH to the aerotriangulated stations, differences between the observed and computed angles leads to positional errors of 17 to 18 meters (see Attachment A).

Third-Order, Class I positions were then determined for PR-12, PR-13, and PR-68. All three geodetic positions are approximately 18 meters west of the aerotriangulated positions (see Attachment A). This is the same error that was found with stations PR-72, PR-10, and PR-11, discussed above.

The majority of hydrography running west into the shoreline indicates that the high water line and ledge limits are west of where the shoreline manuscript depicts them. In many cases positive soundings are on or above the high water line. Comparison of detached positions on offshore rocks to the manuscript rock locations is difficult due to the rocks' large size and the launch orientation while taking the fix.

It is recommended that Job CM-8200 be reviewed as an 18-meter error to the east is suspected in both the aerotriangulated positions and the shoreline. FAIRWEATHER will not attempt to use any photogrammetric station positions from this project until the problem is resolved. Geodetic control has been extended south to Cape Providence as of this time.

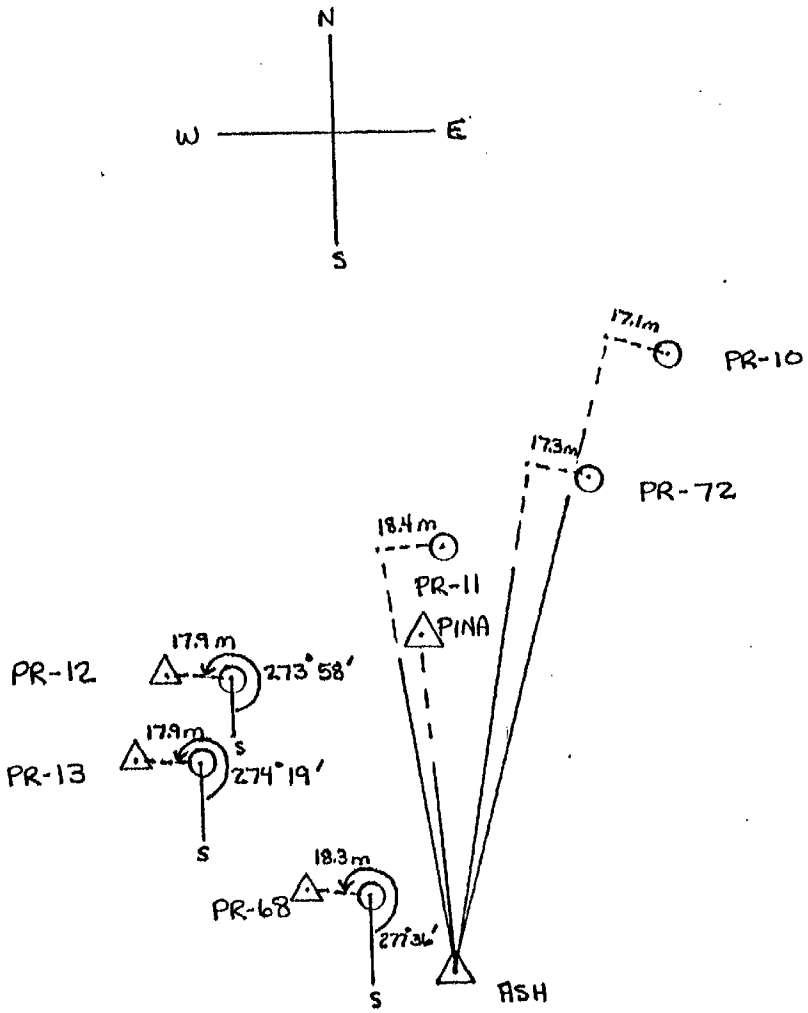
It is felt that to best display manuscript data on the final field sheets all features from the manuscript (including shoreline) should be shifted 1.8 millimeters to the west before application to the final field sheets. As work is beginning on final field sheets H-10214 and H-10215, resolution

of this problem would be appreciated as soon as possible. If instructions have not been received before drafting is to begin, manuscript features will be shifted as described above.

Nautical Chart Branch may have an interest in knowing that the reference number method (PMC OPORDER, Appendix P) was used for verifying the majority of alongshore manuscript rocks. Time and weather conditions will not permit obtaining detached positions on these rocks before the end of the field season.

Attachments

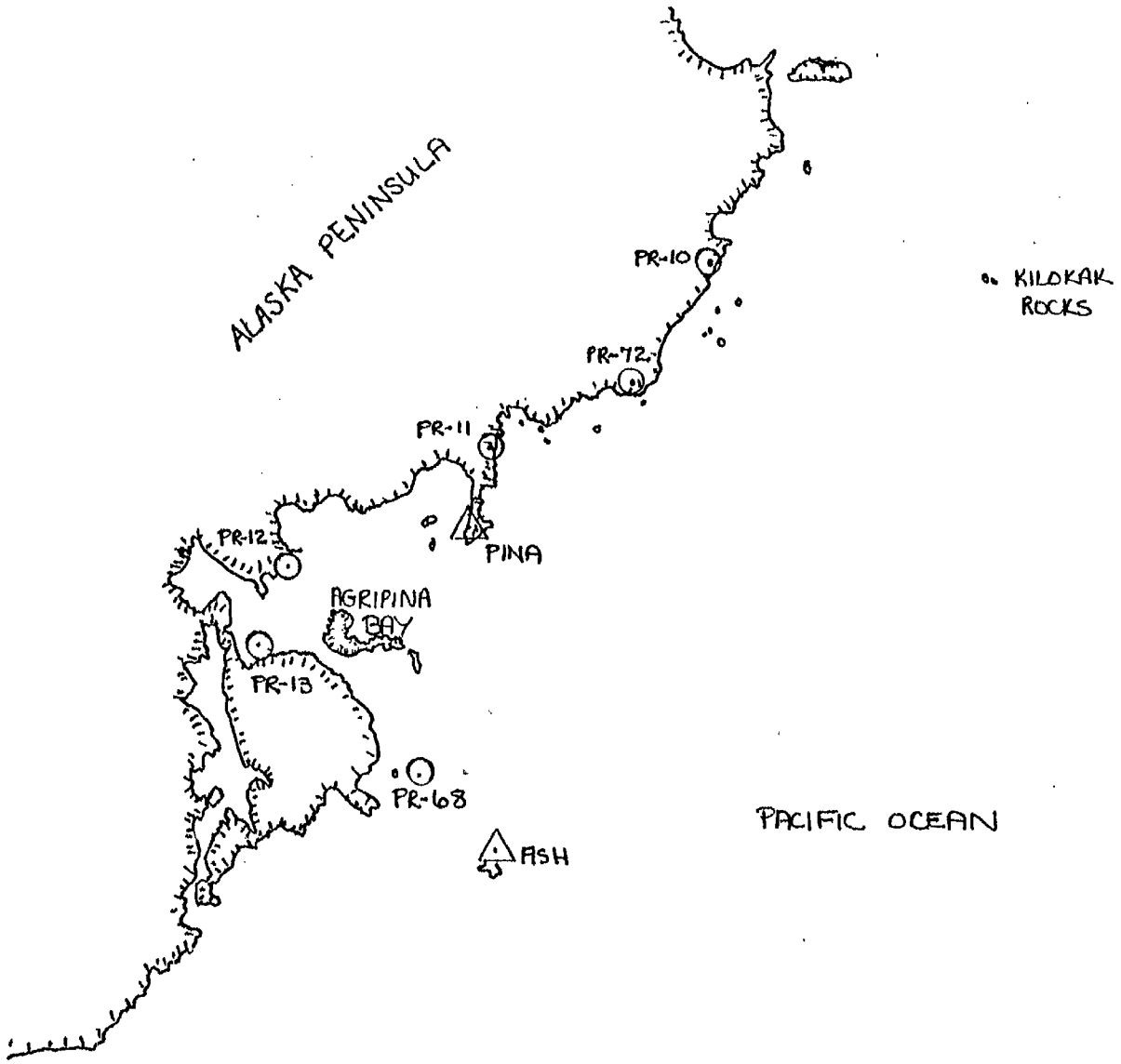
ATTACHMENT A - Displacement of Stations



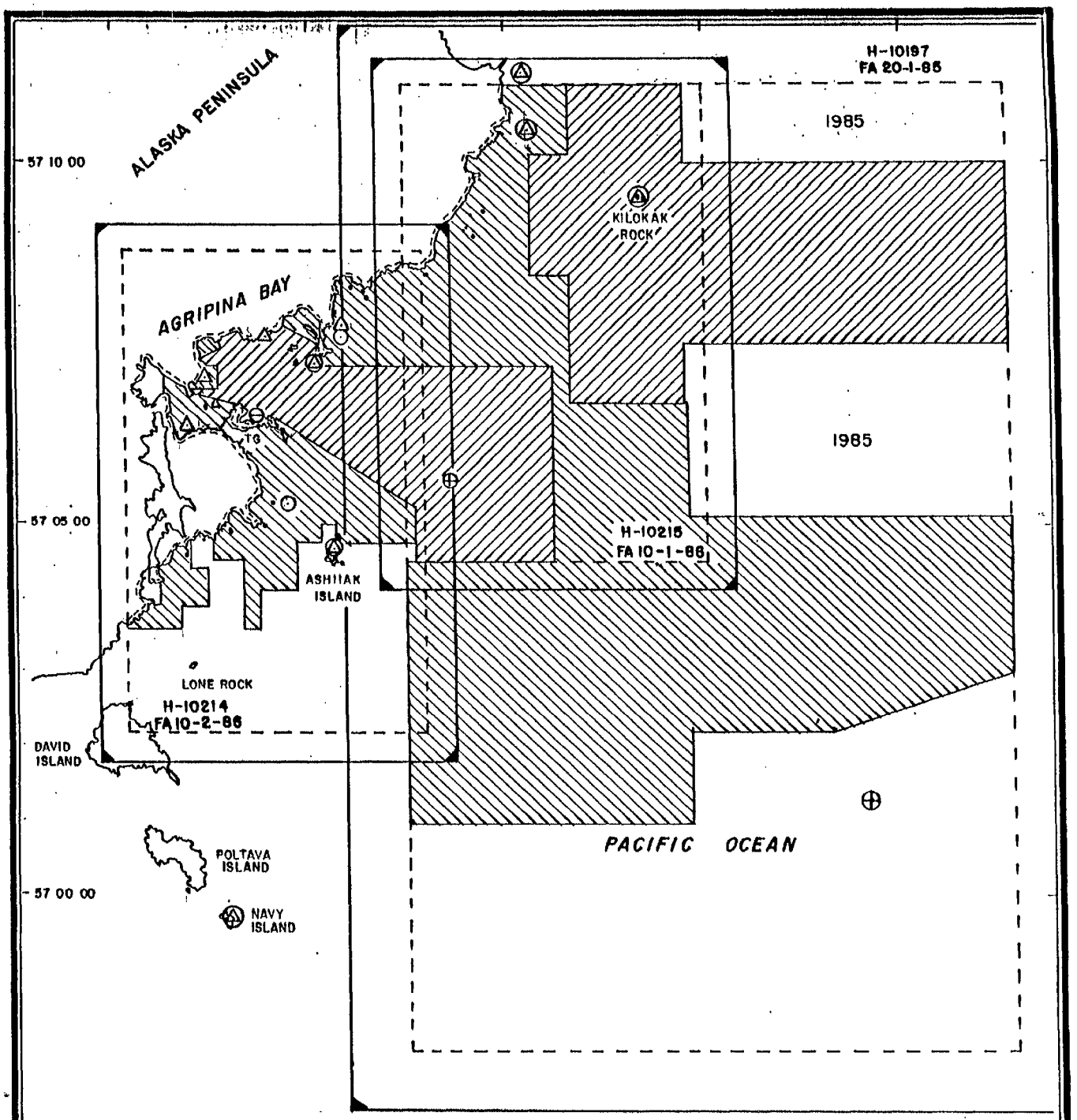
⊙ - Aerotriangulated Positions

△ - Geodetic Positions

ATTACHMENT B - Station Locations



ATTACHMENT C - Project Area (1986 field season)



	JUNE	JULY	AUG	SEPT
SQ NM SOUNDING LINE	30	37		
LNM SOUNDING LINE	352	818		
BOTTOM SAMPLE	30	80		
HYDRO CONTROL STATIONS	4	8		
SV/D-NANSEN CAST	3	2		
WATER SAMPLES ANALYZED	4	1		
TIDE GAGE INSTALLATIONS	1	0		
LNM S/L VERIFICATION	3.6	19.3		
HYDROGRAPHY				

⊕ SV/D NANSEN CAST
STA RECOVERED
TG TIDE GAGE
STA ESTABLISHED
S/L VERIFICATION

MONTHLY PROGRESS SKETCH
OPR-P180-FA-86
SOUTHERN ALASKA PENINSULA
KILOKAK ROCKS TO DAVID ISLAND
NOAA SHIP FAIRWEATHER S-220
CAPT JOHN CARPENTER, CMDG
SCALE FROM NOS CHART 16568

115

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

OCT 8 1986 N/MOP21/TWR

RECEIVED
BY _____
OCT 20 1986
NOAA FAIRWEATHER (S220)
Seattle, Washington

TO: Commanding Officer
NOAA Ship FAIRWEATHER

FROM: N/MOP - Robert L. Sandquist

SUBJECT: Aerotriangulation Stations and Shoreline Accuracy for OPR-P180-FA-86.

REF: NOAA Ship FAIRWEATHER Memorandum Dated 8/19/86 Same Subject

REF: N/CG2311 Memorandum Dated ~~8/19~~ 9/18/86 Same Subject

co
xo Nep
OPS/CST
Action/c

The Photogrammetry Branch has determined that the shoreline map discrepancy reported by FAIRWEATHER was due to photogrammetry using geodetic control based upon a 1948 adjustment during aerotriangulation bridging rather than using the most recent 1976 adjustment. They recommend mean adjustment values of 17.4 meters in longitude and 2.3 meters in latitude be used when applying data from these manuscripts.

Your proposed solution of shifting all manuscript data 1.8 millimeters to the west before applying them to your 1:10,000 scale final field sheets is totally acceptable. The recommended values proposed by the Photogrammetry Branch will be used by the Nautical Chart Branch when compiling the smooth sheets for these surveys.

Further instructions for the future use of data from Job CM8200 will be contained in your 1987 project instructions for OPR-P180.

You are commended for your diligence in uncovering this discrepancy in the field. Well done.

w/Attachment (Ref. 2)
cc: N/CG24
N/MOP211

116

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
ROCKVILLE, MARYLAND 20852

September 18, 1986 N/CG2311:PD

TO: N/MOP - Robert L. Sandquist

FROM: N/CG2 - J. Austin Yeager

SUBJECT: Aerotriangulation Stations and Shoreline Accuracy for OPR-P180-FA-86

REF: Memorandum to N/MOP from Commanding Officer, NOAA Ship FAIRWEATHER, Same Subject, dated August 19,1986

The Commanding Officer, NOAA Ship FAIRWEATHER S220, has established that the control points furnished by the Aerotriangulation Unit, Photogrammetry Branch (PB), for Job CM-8200, Cape Kilokak to Cape Kumlik, Alaska, have a datum shift of approximately 18 meters. PB investigated this discrepancy and found it correct. When this project was bridged by aerotriangulation, the control points used were based on a 1948 geodetic adjustment. A new geodetic adjustment was performed in 1976. This adjustment caused a datum shift in longitude of approximately 1 second and .05 to .1 second in latitude.

Five geodetic control stations were selected from Job CM-8200 extending over the whole project. A comparison was made between the 1948 and 1976 adjustments.

Station	1948 Adjustment	1976 Adjustment	Datum Shift	Meters
Lagoon	57°06'02.626"	57°06'02.722"	.096"	2.97
1944	156°30'28.250"	156°30'29.290"	1.040"	17.50
Port	57°00'40.699"	57°00'40.792"	.093"	2.87
1944	156°35'41.795"	156°35'42.836"	1.041"	17.57
Yant	56°50'45.505"	56°50'45.579"	.074"	2.29
1944	157°06'22.039"	157°06'23.072"	1.033"	17.51
Sut	56°34'17.611"	56°34'17.673"	.062"	1.92
1925	157°12'56.916"	157°12'57.916"	1.000"	17.08
Lag	56°40'38.729"	56°40'38.779"	.050"	1.55
1954	157°31'53.263"	157°31'54.285"	1.022"	17.40

The mean value of this adjustment is 17.4 meters in longitude and 2.3 meters in latitude. This should be taken into consideration when applying these manuscripts.

A copy of this Memorandum will be inserted in each Descriptive Report for Job CM-8200.

cc:
N/MOP21 - Richards ✓
N/CG22 - Nortrup
N/CG23 - Brewer
N/CG24 - Matsushige

FILE COPY

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

JAN 28 1987 N/MOP21x2/MM

TO: Commanding Officer
NOAA Ship FAIRWEATHER

FROM: N/MOP - Robert L. Sandquist

SUBJECT: Preprocessing Examination of:
H-10214 Alaska, Southern Entrance to Shelikof Strait, Agripina Bay and Approaches

H-10215 Alaska, Southern Entrance to Shelikof Strait, Kilokak Rocks to Ashiiak Island

Hydrographic surveys H-10214 and H-10215 have been reviewed in accordance with Hydrographic Survey Guideline No. 15, and the Preprocessing Examination Critique for this survey is attached. Surveys H-10214 and H-10215 are accepted for Pacific Marine Center processing.

The Preprocessing Examination Critique is designed to provide information which will be useful to the Command for maintaining the quality of future hydrographic surveys. I encourage you to use this information constructively. Your comments on specific critique items are welcome.

Attachment

cc: N/MOP2x1
N/MOP21x2
N/MOP211
N/CG2

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Pacific Marine Center
Nautical Chart Branch
7600 Sand Point Way NE
Seattle, Washington 98115-0070

January 20, 1987 N/MOP21x2/MM

TO: N/MOP - Robert L. Sandquist

FROM: N/MOP 21 - Thomas W. Richards

SUBJECT: Preprocessing Examination for H-10214 and H-10215

I. SURVEY INFORMATION:

A. Field No. FA-10-2-86 Registry No. H-10214
FA-10-1-86 H-10215

B. State: Alaska

General Locality: Southern Entrance to Shelikof Strait

Sublocality: Agripina Bay and Approaches
Kilokak Rocks to Ashiiak Island

C. Project Instructions: OPR-P180-FA-85

Original dated: May 14, 1985

Change No. 1 dated: June 6, 1985
Change No. 2 dated: July 26, 1985
Change No. 3 dated: September 16, 1985
Change No. 4 dated: April 7, 1986
Change No. 5 dated: June 9, 1986
Change No. 6 dated: September 26, 1986

D. Dates:

	H-10214	H-10215
Field Work Commenced:	June 17, 1986	June 18, 1986
Field Work Completed:	Sept. 27, 1986	Sept. 14, 1986
plus 6 weeks =	Nov. 10, 1986	Oct. 27, 1986
* Data received at Marine Center:	Dec. 22, 1986	Dec. 18, 1986
plus 2 months =	Feb. 23, 1987	Feb. 18, 1987

Examination critique transmitted to field January 28, 1987

Target for completion of Marine Center processing July 28, 1987

* Submission dates extension requested November 24, 1986 and approved.

II. PREPROCESSING EXAMINATION CRITIQUE

Hydrographic surveys H-10214 and H-10215 were performed by personnel of the NOAA Ship FAIRWEATHER, CAPT John W. Carpenter, Commanding Officer. The following personnel supervised portions of the data acquisition: LT Kenny, LT Moen, LT(jg) Hurst, LT(jg) Brezinski, ENS Crozer, ENS Abbott, ENS Cone, ENS Lynch, ENS Bernard, ENS Nodine and CST Krick.

In accordance with the Preprocessing Examination System set forth in Hydrographic Survey Guideline (HSG) No. 15, Section III, the following items are brought to your attention:

A. Danger to Navigation Report

There were fourteen dangers to navigation reported by FAIRWEATHER for surveys H-10214 and H-10215. The Danger to Navigation report is included in both Descriptive Reports.

Five additional dangers to navigation were found during the preprocessing examination. A Dangers to Navigation report for each survey was sent to the Seventeenth Coast Guard District for inclusion in the Local Notice to Mariners (see Attachments A and B).

B. Compliance with Instructions

Surveys H-10214 and H-10215 generally comply with the Project Instructions and Changes #1-6. Four AWOIS items within the limits of the examined surveys were investigated by the hydrographer.

C. Final Field Sheets

Some rock symbols on the final field sheets for both surveys are difficult to see due to congestion of depth curves, soundings or feature descriptions (see Attachment C). Rock symbols should not be obliterated by soundings or other symbols (HM 1.5.6).

Depth curves were particularly well drawn at the junctions of the two surveys.

Poor intersection angles (less than 30 degrees or greater than 150 degrees) were found for 1.5 nm of mainscheme lines (H-10214) and 0.5 nm of mainscheme splits (H-10215). The minimum angle of intersection should not be less than 30 degrees (HM 4.4.3.2.2).

A 10-fathom shoal within the limits of H-10215 was not completely developed (see Attachment D). The development should have extended farther north to establish the shoal's full extent and depth. The least depth over detached features in navigable waters should be determined (HM 1.4.3).

The hydrographer is commended for discovering an 18-meter positional error in the compilation of shoreline manuscript TP-01149.

D. Descriptive Report

Section D of both Descriptive Reports states that the same 8 velocity casts apply to both surveys; 9 casts and 1 cast are listed in Section O of the reports for H-10214 and H-10215, respectively.

Section H of the Descriptive Report (H-10214) states one charted rock was not investigated. Each isolated rock should be located and accurately described (HM 4.5.8).

F. Sounding Volumes and/or Raw Data Printouts

In general all data printouts are well-annotated.

The total number of sounding volumes for both surveys is listed as "1" on the covers of all volumes. Sounding volumes should be numbered consecutively as each survey progresses (HM 4.8.3.1).

The sketches of verified shoreline features (rocks, etc.) included in the sounding volumes are excellent and will aid in the processing of both surveys.

G. Sounding Correctors

Only 2 of the 8 velocity casts were conducted within the survey limits of H-10214; the other casts were taken south or east of the area. Three of the 8 casts were also south of the survey area for H-10215. Velocity casts should be taken within the deepest part of the survey area (HM 4.9.5).

The hydrographer states that the water column characteristics changed significantly during the periods of hydrography for both surveys. More velocity casts taken inshore or within each survey's limits would more accurately depict the characteristics of the water column.

J. Positioning Control

The signal tape for H-10215 did not include two stations (470 and 485) which were used for hydrographic positioning control.

K. Special and/or Ancillary Reports

The Corrections to Echo Soundings Report and the Electronic Control Report are not available for consideration in this critique.

L. Automated Data Check

In several instances on both surveys where the last position of a line was either rejected or extrapolated ("T & C"), the ends of these lines were not assigned position numbers. The first and last soundings of a sounding line must be assigned position numbers. The master tapes should have been edited and position numbers assigned to the last good sounding on each line.

The labelling of some "N.S.P." data within the Abstract of Positions for H-10215 does not correspond with the same position numbers on the corrector tapes. The position numbers designated "N.S.P." in the abstracts were used to spool both surveys.

One corrector tape was not forwarded with the data package from H-10214; a new tape was cut during spooling of the survey.

Five data tapes (master and corrector) from H-10214 were labelled backwards, causing parity errors during spooling of the survey.

N. Survey Acceptance

The preprocessing examination for H-10214 and H-10215 were conducted under the time constraints of HSG 15. All comments contained herein are based on a spot check of the data, and it is possible that some problem areas have not been addressed.

Except for the items noted in the critique, H-10214 and H-10215 are in compliance with the project instructions. I recommend that H-10214 and H-10215 be accepted for Nautical Chart Branch processing.

Prepared by:

Marlene Mozgala

Marlene Mozgala
Lieutenant, NOAA Corps

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

ATTACHMENT A

JAN 14 1987 N/MOP21x2/MM

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

Dear Sir:

During office review of hydrographic survey H-10214, Southern Entrance to Shelikof Strait, Agripina Bay and Approaches, Alaska, the following changes affecting chart 16568 (NAD27 datum) were noted. Questions concerning the survey may be directed to Cdr. Thomas W. Richards, Chief, Nautical Chart Branch, telephone (206) 526-6835.

The following statements are recommended for inclusion in the Local Notice to Mariners:

"An uncharted shoal covered by 6.2 fathoms (MLLW based on predicted tides) is at latitude 57°07'09"N, longitude 156°26'41"W."

"An uncharted shoal covered by 5.3 fathoms (MLLW based on predicted tides) is at latitude 57°04'50"N, longitude 156°25'50"W."

Sincerely,

Robert L. Sandquist
Rear Admiral, NOAA
Director, Pacific Marine Center

Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

ATTACHMENT B

JAN 7 1987 N/MOP21x2/MM

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

Dear Sir:

During office review of hydrographic survey H-10215, Southern Entrance to Shelikof Strait, Kilokak Rocks to Ashiiak Island, Alaska, the following changes affecting chart 16568 were noted. Questions concerning the survey may be directed to Cdr. Thomas W. Richards, Chief, Nautical Chart Branch, telephone (206) 526-6835.

The following statements are recommended for inclusion in the Local Notice to Mariners:

"An uncharted rock covered by 3.0 fathoms (MLLW based on predicted tides) is at latitude 57°05'00"N, longitude 156°22'10"W."

"An uncharted rock covered by 4.8 fathoms (MLLW based on predicted tides) is at latitude 57°04'52"N, longitude 156°21'57"W."

"An uncharted rock covered by 4.4 fathoms (MLLW based on predicted tides) is at latitude 57°04'44"N, longitude 156°21'44"W."

Sincerely,

Original Signed By

Robert L. Sandquist
Rear Admiral, NOAA
Director, Pacific Marine Center

bc: N/OC222

FILE COPY

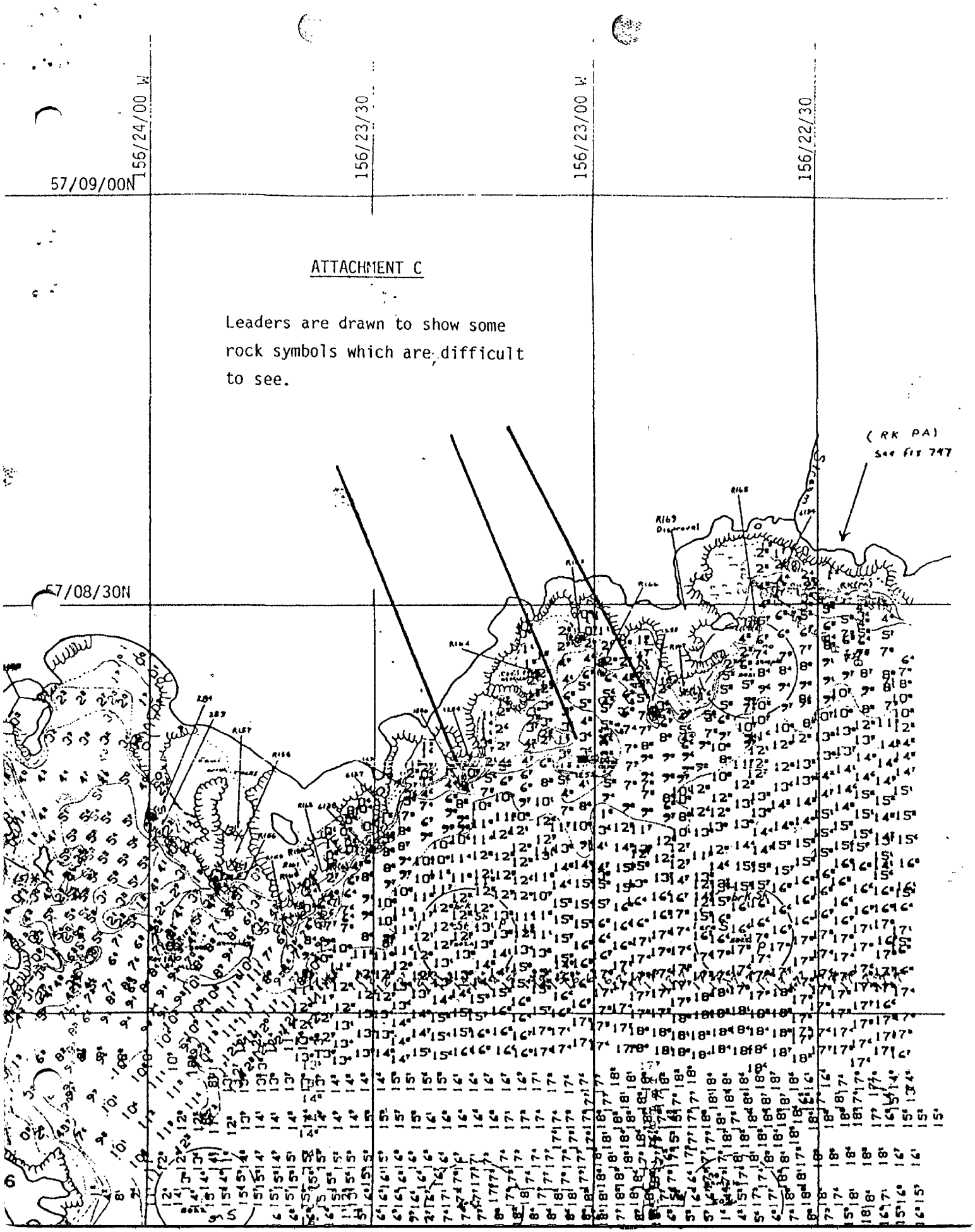
CODE	SURNAME	DATE	CODE	SURNAME	DATE
N/MOP21	Richards TWR	1/6/87	N/MOP	Sandquist	1/7
N/MOP2	Mordock TM	1/7/87			
N/MOPx1	Austin	1/7/87			

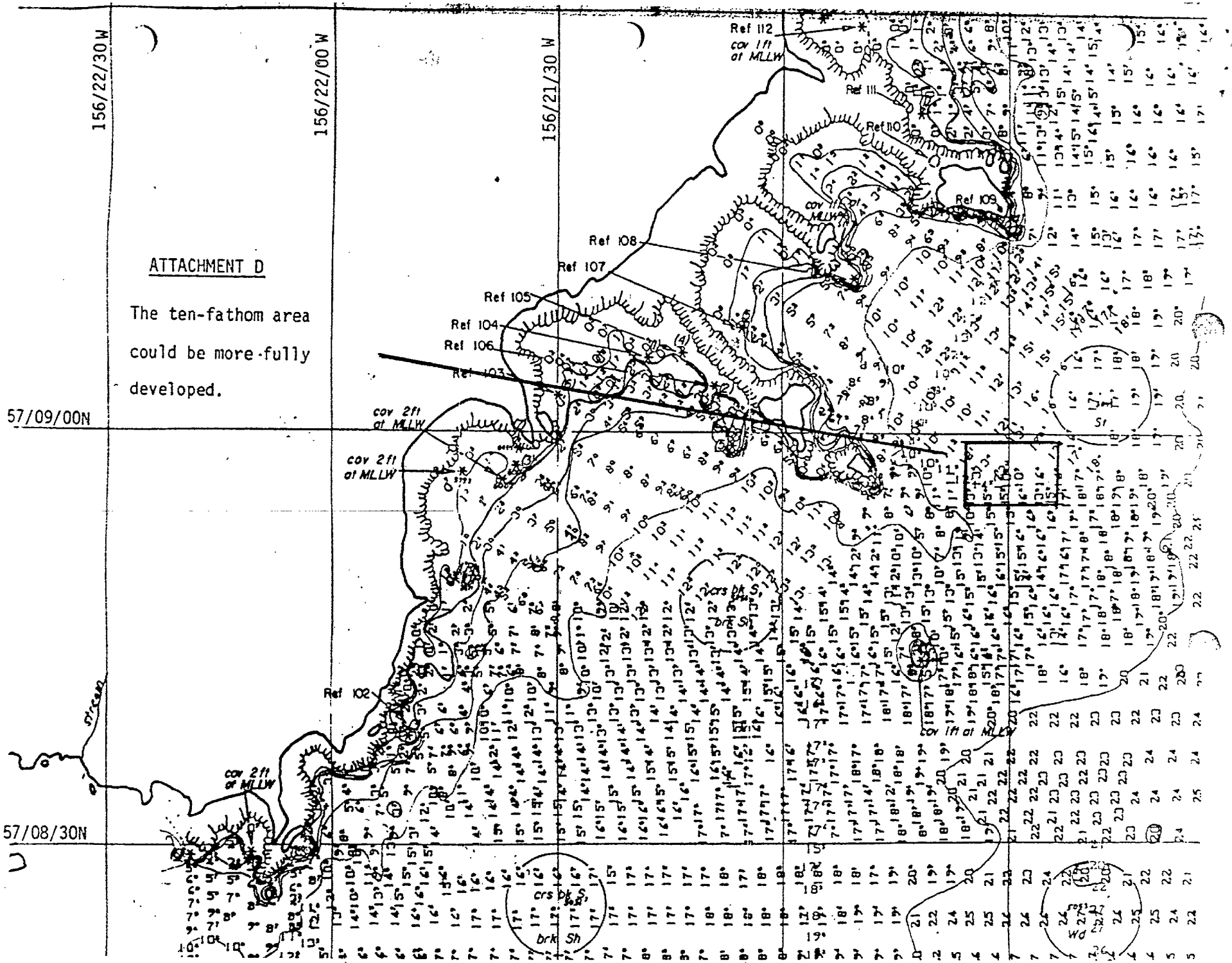
NOAA FORM 61-2

* U.S. GPO: 1985-567-601

ATTACHMENT C

Leaders are drawn to show some rock symbols which are difficult to see.





ATTACHMENT D

The ten-fathom area could be more fully developed.

NOAA FORM 77-27(H) (9-81)

U S DEPARTMENT OF COMMERCE

HYDROGRAPHIC SURVEY STATISTICS

REGISTRY NUMBER: H-10214

RECORDS ACCOMPANYING SURVEY To be completed when survey is processed

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS POS., ARC, EXCESS	6
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	5

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS SOURCE DOCUMENTS	
ACCORDION FILES	5					
ENVELOPES						
VOLUMES	5					
CAHIERS						
BOXES						

SHORELINE DATA

SHORELINE MAPS (List) TP-01149

PHOTOBATHYMETRIC MAPS (List)

NOTES TO THE HYDROGRAPHER (List)

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List): 16568 (Preliminary Chart), 5th Edition

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS VERIFICATION	AMOUNTS EVALUATION	AMOUNTS TOTALS
POSITIONS ON SHEET			5850
POSITIONS REVISED	—	—	
SOUNDINGS REVISED	—	—	306
CONTROL STATIONS REVISED	—	—	

	TIME-HOURS VERIFICATION	TIME-HOURS EVALUATION	TIME-HOURS TOTALS
PRE-PROCESSING EXAMINATION	—	—	—
~~VERIFICATION OF CONTROL~~	—	—	—
VERIFICATION OF POSITIONS	153.5	—	153.5
VERIFICATION OF SOUNDINGS	215.5	—	215.5
~~VERIFICATION OF JUNCTIONS~~	—	—	—
~~APPLICATION OF PHOTOBATHYMETRY~~	—	—	—
~~SHORELINE APPLICATION VERIFICATION~~	—	—	—
COMPILATION OF SMOOTH SHEET	115.5	—	115.5
COMPARISON WITH PRIOR SURVEYS AND CHARTS	—	15.0	15.0
~~EVALUATION OF SIDE SCAN SONAR RECORDS~~	—	—	—
~~EVALUATION OF WIRE DRAGS AND SWEEPS~~	—	—	—
~~EVALUATION~~ REPORT		24.0	24.0
~~GEOGRAPHIC NAMES~~	—	—	—
OTHER: DIGITIZING	—	—	
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	484.5	39.0	

	Beginning Date	Ending Date
Pre-processing Examination by M. Mozgala	12/11/86	1/28/87
Verification of Field Data by L. Deodato	Time (Hours) 484.5	Ending Date 9/2/87
Verification Check by S. Otsubo, B. Olmstead	Time (Hours) 79.5	Ending Date 9/3/87
Evaluation and Analysis by I. Almacen	Time (Hours) 39.0	Ending Date 9/14/87
Inspected by D. Hill	Time (Hours) 2.0	Ending Date 9/28/87

U S GOVT PRINTING OFFICE 1983 784-006-6061

PACIFIC MARINE CENTER
EVALUATION REPORT
H-10214

1. INTRODUCTION

H-10214 is a basic hydrographic survey accomplished by the NOAA Ship FAIRWEATHER under the following project instructions.

OPR-P180-FA-85, dated May 14, 1985
Change Number 1, dated June 6, 1985
Change Number 2, dated July 26, 1985
Change Number 3, dated September 16, 1985
Change Number 4, dated April 7, 1986
Change Number 5, dated June 9, 1986
Change Number 6, dated September 26, 1986

This is a survey in the most southern portion of Shelikof Strait, along the southeastern coast of the Alaska Peninsula from latitude 57°02'00"N, east of David Island, north to latitude 57°08'30"N. It covers Agripina Bay and the area around Lone Rock and Ashiiak Island. The coast is generally rough and composed of numerous small bights and steep rocky islands. The offshore portion is characterized by small islands, isolated rocks, reefs and scattered shoal areas. The bottom is composed of sand and sticky mud. Depths range from 0 to 127 fathoms.

Predicted tides for Kodiak, Alaska were used during field processing. Tide correctors used during office processing for the final reduction of soundings are based on approved hourly heights zoned from the Agripina Bay gage (945-8464).

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. Sound velocity correction table No.5 was updated to provide correctors for deeper depths not covered by the correction tables generated by the hydrographer. The TRA and electronic control correctors were found adequate. An accompanying computer printout contains the revised data.

A digital file, generated for this survey, includes 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.

2. CONTROL AND SHORELINE

Sections F and G of the hydrographer's report and the Horizontal and Electronic Control Reports for OPR-P180-FA-86, contain adequate discussions of horizontal control and hydrographic positioning.

Positions of horizontal control stations used during hydrography are 1944 (adjusted 1976) NGS published and 1985-1986 field values based on the NAD 1927. The computation of positions accomplished during office processing used these same values.

The smooth sheet and accompanying overlays have been annotated with NAD 1983 adjustment ticks based on adjustment values determined by N/CG121. Geographic positions based on NAD 1983 may be plotted on the smooth sheet utilizing NAD 1927 projection by applying the following corrections.

Latitude: 2.607 seconds (80.7 meters)
Longitude: -7.395 seconds (-124.5 meters)

The year of establishment of control stations originates with the hydrographer's signal list and is subject to change pending certification of the data by NGS.

There are 305 weak fixes (angles of intersection less than 30 degrees or more than 150 degrees) noted on this survey. However, there are no significant plotting differences identified between these fixes and those in the adjacent areas. None of these fixes are used to position dangers to navigation or other significant features. These fixes are considered acceptable.

The following shoreline manuscript was used in processing this survey.

	Photo Date	Class
TP-01149	July 1982, Aug. 1983	III

It was during this project that a discrepancy in the compilation of the shoreline manuscripts for this survey was discovered in the field. The use of the 1946 instead of the most recent 1976 geodetic adjustment during aerotriangulation bridging resulted in the displacement of the shoreline and other features within the limits of the manuscripts. The mean adjustment values of 2.3 meters in latitude and 17.4 meters in longitude specified by the Photogrammetry Branch and contained in the attached memo from N/CG2, were taken into consideration when transferring information from the manuscripts to the smooth sheet.

Shoreline and alongshore features were verified as required by the project instructions with the exception of the manuscript rock at latitude 57°04'42.0"N, longitude 156°27'30.0"W. This rock was not verified during this survey; however, it is not considered a danger to navigation. It is recommended that this rock be charted as depicted on the smooth sheet. Section H of the hydrographer's report contains adequate discussions of changes to ledge configuration, reef limits and location of rocks.

3. HYDROGRAPHY

Hydrography within the limits of the sheet is adequate to:

a. Delineate the bottom configuration, determine least depths and draw the standard depth curves;

b. Reveal there are no significant discrepancies or anomalies requiring further investigation and;

c. Show that the survey had been properly controlled and soundings plotted correctly.

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 No.3, the Hydrographic Survey Guidelines, and the PMC OPORDER, except as noted in the attached copy of Preprocessing Examination Report, dated January 20, 1987.

5. JUNCTIONS

H-10214 junctions with the following surveys.

Survey	Year	Scale	Area
H-10197	1985-86	1:20,000	southeast
H-10215	1986	1:10,000	east
H-10225	1986	1:20,000	southeast
H-10242	1987	1:10,000	southwest

The junctions with H-10197, H-10215 and H-10225 are complete. Comparisons are good; however, soundings were transferred from H-10197 and H-10215 to justify depth curves and portray shoaler information within the adjoining areas.

H-10242 (1987) junctions to the west and southwest of this survey. The hydrographer had not completed H-10242 at the time of this report. The junction will be addressed in the Evaluation Report for that survey.

6. COMPARISON WITH PRIOR SURVEYS

H-6925 (1943-44) 1:200,000

H-6925 covers part of the present survey area. Comparison with this prior survey is satisfactory and no significant differences were found between the two surveys. However, due to the few soundings on the H-6925 an adequate assessment of change in the area is not possible.

There are no AWOIS items originating from H-6925 applicable to the survey.

H-10214 is adequate to supersede the prior survey within the common area.

7. COMPARISON WITH CHART

Chart	Edition	Date	Scale
16568	5th	Dec. 9, 1978	1:106,600

a. Hydrography - Charted information originates from H-6925, 1944 USC&GS reconnaissance surveys (BP39178 & BP39630), topographic map T-8616 and some old Russian surveys. Other than H-6925 none of these documents were available during processing; however, comparison with data originating from these surveys as depicted on the chart indicates satisfactory agreement.

An indication of shoaling was noted in the middle of the passage between the mainland and Ashiiak Island in the vicinity of the charted 19-fathom depth located at latitude 57°05'00.0"N, longitude 156°24'55.0"W. Shoal depths of 13 fathoms at latitude 57°04'48.4"N, longitude 156°25'12.4"W and 14.1 fathoms at latitude 57°05'00.2N, longitude 156°25'00.9"W were found in the area. It is recommended that this shoaling be charted according to this survey.

Except for the rock noted in Section L of the hydrographer's report, H-10214 is adequate to supersede charted hydrography within the common area.

b. AWOIS - Items 50854, 50858 and 50859 are adequately discussed in section K of the hydrographer's report.

c. Controlling Depths - There are no charted channels with controlling depths within the area of this survey.

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

e. Dangers to Navigation - The hydrographer, on September 30, 1986, sent a Danger to Navigation Report (copy attached) to the 17th Coast Guard District concerning the uncharted rocks and shoals noted during this survey. Two additional dangers were identified during the Preprocessing Examination. A copy of the report forwarded to the USCG is attached.

f. Geographic Names - Names appearing on the smooth sheet have been approved by the Chief Geographer and are plotted in accordance with this chart.

8. COMPLIANCE WITH INSTRUCTIONS

H-10214 adequately complies with the project instructions mentioned in section 1 of this report.

9. ADDITIONAL FIELD WORK

This is a good basic hydrographic survey. No additional field work is recommended.

Isagani A. Almacen
Cartographer

This survey has been examined and it meets Charting and Geodetic Services' standards and requirements for use in nautical charting. Approval is recommended.

Dennis Hill
Chief, Hydrographic Section

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10214

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.

9/30/87
Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:LWMordock 9/30/87

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.

9/30/87
Director, Pacific Marine Center (Date)

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

Hydrographic Index No. 117A

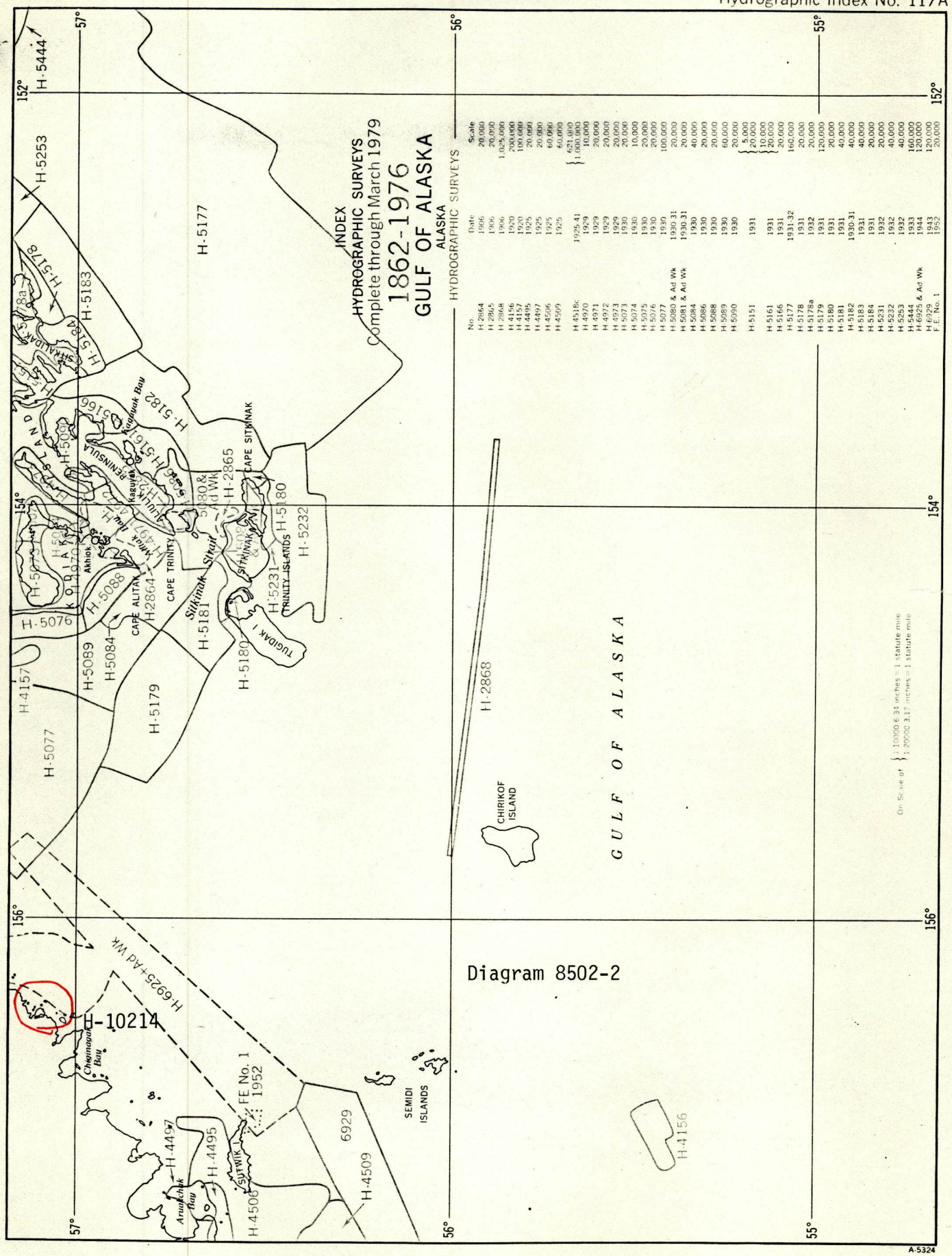


Diagram 8502-2

A-5324

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

EXAMINED FOR NM
GDBU
B. Hanna 10-17-88
GLS - 11-28-89

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10214

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
16568	6-13-88	JP	Full Part Before After Marine Center Approval Signed Via Drawing No. 7;
16568	10-17-88	BHanna	Full Part Before After Marine Center Approval Signed Via Drawing No. 8; EXAMINED FOR CRITICAL CORRECTIONS; N/C
16013	10-17-88	BHanna	Full Part Before After Marine Center Approval Signed Via Drawing No. 28: EXAMINED FOR CRITICAL CORRECTIONS; N/C
16006	10-17-88	BHanna	Full Part Before After Marine Center Approval Signed Via Drawing No. 26: EXAMINED FOR CRITICAL CORRECTIONS: N/C
531	10-17-88	BHanna	Full Part Before After Marine Center Approval Signed Via Drawing No. 19: EXAMINED FOR CRITICAL CORRECTIONS N/C
500	10-17-88	BHanna	Full Part Before After Marine Center Approval Signed Via Drawing No. 6: EXAMINED FOR CRITICAL CORRECTIONS; N/C
530	10-17-88	BHanna	Full Part Before After Marine Center Approval Signed Via Drawing No. 34: EXAMINED FOR CRITICAL CORRECTIONS; N/C
16006	3-20-90	John Pierce	Full ~~Part Before~~ After Marine Center Approval Signed Via Drawing No. Appl thru 16568
531	2-24-97	Daniel Montgomery	Full ~~Part Before~~ After Marine Center Approval Signed Via Drawing No. 22
530	1/14/98	RSturtfelp	Full ~~Part Before~~ After Marine Center Approval Signed Via Drawing No. #30

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.

appl to Stds 11-13-87 pm