10304

Diagram No. 8802-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Basic Hydrographic

Field No. RA-10-2-89

Registery No. H-10304

LOCALITY

State Alaska

General Locality Alaska Peninsula

Sublocality Southwestern Chiginagak Bay

1989

CHIEF OF PARTY
CAPT J.C. Albright

LIBRARY & ARCHIVES

DATE August 6, 1990

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

10304

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NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

H-10304

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

RA-10-2-89

State Alaska

General locality Alaska Peninsula

Locality Southwestern Chiginagak Bay

Scale 1:10,000 Date of survey June 1 to August 15, 1989

Instructions dated May 1, 1989 Project No. OPR-P180-RA

Vessel Launches 2124, 2125, 2126, 2127, 2128, 2129

Chief of party CAPT John C. Albright, NOAA

Surveyed by LTJG Thomas Niichel, LTJG Gerd Glang, LTJG Keith Smith, LTJG Guy Noll, ENS Donald Haines, ENS Karen Schoonover, ENS Heidi Muench

Soundings taken by echo sounder, ~~hand lead, pole~~ DSF 6000N; Pneumatic depth gage

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

Verification by: ~~Protracted by~~ Matthew G. Sanders Automated plot by Xynetics Plotter

Evaluation by: ~~Verification by~~ Gordon E. Kay

Soundings in fathoms ~~feet~~ and tenths of Fathoms / at ~~MLW~~ MLLW

REMARKS: All times are UTC. Revisions and marginal notes in black were generated during office processing. All separates are filed with the hydrographic data, as a result page numbering may be interrupted or non-sequential.

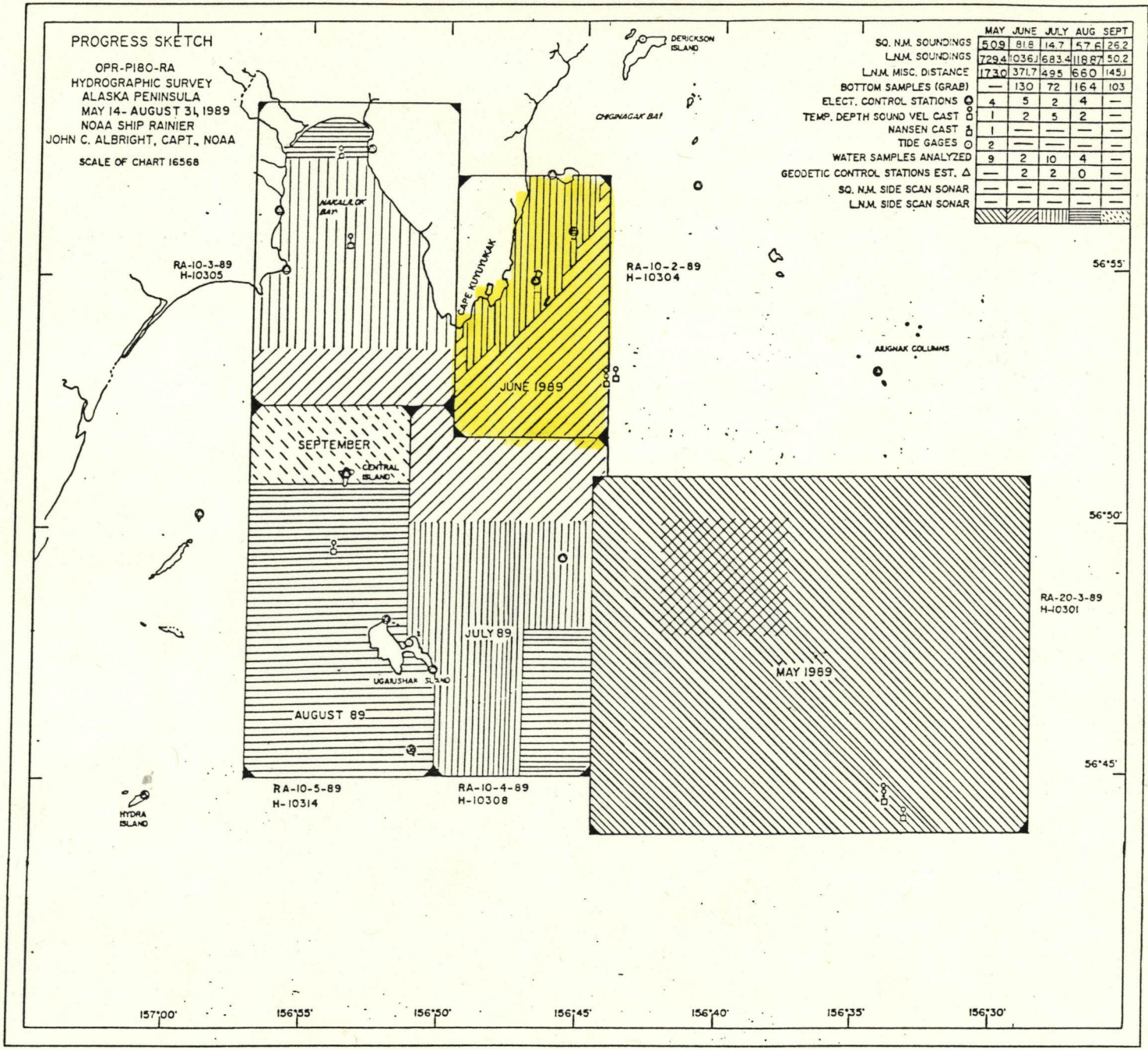
AWOIS/SURF M&M 8/16/90

SC 1-30-97

✓ K.W.W. 8/14/90

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

U.S. GOVERNMENT PRINTING OFFICE: 1986 - 652-007/41215



	MAY	JUNE	JULY	AUG	SEPT
SQ. N.M. SOUNDINGS	509	818	14.7	57.6	26.2
L.N.M. SOUNDINGS	7294	1036.1	683.4	1188.7	50.2
L.N.M. MISC. DISTANCE	1730	371.7	495	660	145.1
BOTTOM SAMPLES (GRAB)	—	130	72	164	103
ELECT. CONTROL STATIONS ⊙	4	5	2	4	—
TEMP. DEPTH SOUND VEL CAST ○	1	2	5	2	—
NANSEN CAST ⊼	1	—	—	—	—
TIDE GAGES ○	2	—	—	—	—
WATER SAMPLES ANALYZED	9	2	10	4	—
GEODETIC CONTROL STATIONS EST. △	—	2	2	0	—
SQ. N.M. SIDE SCAN SONAR	—	—	—	—	—
L.N.M. SIDE SCAN SONAR	—	—	—	—	—

Descriptive Report to Accompany Hydrographic Survey H-10304

Field Number RA-10-2-89
Scale 1:10,000
1989

NOAA Ship RAINIER
Chief of Party: Captain John C. Albright

A. PROJECT

A basic hydrographic survey along the Alaska Peninsula was completed as specified by Project Instructions OPR-P180-RA dated May 1, 1989 and Change No. 1 (May 5, 1989). The survey is designated Sheet K on the revised sheet layout dated September 16, 1987, AND CHANGE NO. 3 DATED AUGUST 3, 1989

This survey is one in a series which will provide contemporary hydrographic data for updating existing charts and for constructing a new series of proposed 1:80,000-scale nautical charts. It is part of a continuing program to improve chart coverage of the Alaska Peninsula in response to requests from the U.S. Coast Guard, Alaska Congressional delegates, NOAA, Defense Mapping Agency, Fishing Vessel Association, and Kodiak Shrimp Trawlers Association.

B. AREA SURVEYED

The survey is located along the central portion of the Alaska Peninsula, in southwestern Chiginagak Bay. The survey is bounded by latitudes 56°57'00"N and 56°51'45"N. The eastern limit is longitude 156°44'15"W; the western limit is longitude 156°49'40"W and Cape Kuyuyukak.

Numerous ledges, kelp beds and foul areas extend offshore from Cape Kuyuyukak. Several reefs, rocks, islets and islands exist within the northern half of the survey area. Depths range from zero fathoms alongshore to 88 fathoms in the southeast section of the survey area. The bottom is primarily composed of green mud and broken shell in the deeper areas, with gravel and coarse sand in the shallow areas. Some shallow bottom samples surfaced empty, thereby denoting a hard (rock) bottom.

Data acquisition was conducted from June 1 through August 15, 1989 (DN 152 - DN 227).

C. SOUNDING VESSELS

All data were acquired from RAINIER, three automated survey launches and three skiffs, as shown below:

Vessel	EDP No.	Operation
RAINIER	2120	Nansen/Plessey Casts
RA-4	2124	Hydrography
RA-5	2125	Hydrography
		Bottom Samples
		Shoreline Verification
RA-6	2126	Hydrography
		Shoreline Verification
RA-7	2127	Shoreline Verification
RA-8	2128	Shoreline Verification
RA-9	2129	Shoreline Verification

No changes to the standard sounding configurations were necessary.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

All survey launches were equipped with the Raytheon DSF-6000N echo sounders shown below. The echo sounders were operated in the HIGH + LOW (HIGH DIGITIZED) function, using manual gain controls on both high and low frequencies to obtain the best analog trace. Variations in the instrument initial, stylus arm length, and belt tension are not present in these echo sounders. Soundings were recorded in fathoms and tenths of fathoms. Two-fathom bar checks were conducted and recorded daily, using both the LOW and the HIGH + LOW (HIGH DIGITIZED) functions. The echo sounders were operated in accordance with the Provisional Instructions "Raytheon DSF-6000N Echo-Sounder Operating and Processing Instructions," dated July 5, 1983, and the N/CG2 memorandum "DSF-6000N Depth Errors as a Function of Receiver Gain," dated May 23, 1986.

Raytheon DSF-6000N Echo Sounders

Vessel	Serial No.	DN
2124	A117N	152-175
2125	A114N	152-178
	A117N	179-208
2126	B048N	160-224

The echo sounders were continuously monitored during data acquisition. All sounding data were scanned at least two times, not only to ensure all significant peaks and deeps were inserted, but also to verify the digitized depths. While running over extremely steep, irregular areas, the echo sounders sometimes failed to track properly. Running at minimum speeds usually alleviated this problem, but marginal analog traces could not always be avoided.

Diver-obtained least depths were determined with a 3D Instruments pneumatic depth gage (S/N 8504192N). The gage was operated in accordance with Hydrographic Survey Guideline #55, and was last calibrated March 1, 1989 by the Pacific Operations Group (N/OMA 1214). In addition, field system checks were performed each day the pneumatic gage was used.

Leadline calibrations were performed by RAINIER personnel during February 1989 at PMC. Calibration forms are included in the Summer 1989 Corrections to Echo Soundings Data Package for OPR-P180-RA.

Corrections to Echo Soundings

Corrections to echo soundings were determined for static draft, heave, velocity of sound through water, settlement and squat, and predicted tides. All correctors, except settlement and squat, were applied to the final field sheets. Sounding correctors apply to both narrow and wide beams of the echo sounder. Supporting data and computations for all corrections to echo soundings, except heave, are included in the Summer 1989 Corrections to Echo Soundings Data Package for OPR-P180-RA. ✓

Static Draft

For all launches, the distance from the transducer face to the gunwhale was measured with a large metal carpenter-square. Static draft measurements were then determined by dropping a leadline from the gunwhale to the water and subtracting this distance from the distance measured with the carpenter-square. The measurements from the gunwhale to the waterline were conducted with the fuel tanks averaging 3/4 full and three people aboard. A transducer depth of 0.3 fathom was determined for all launches on February 10, 1989. This transducer depth agrees with the launches' historical records. ✓

Heave

Corrections for heave were applied while scanning. The scanning technique used in comparing the analog trace with the digital record was chosen to eliminate fluctuations greater than 0.2 fathom resulting from sea action. In certain areas, the irregular bottom topography made it sometimes difficult to determine which fathogram features were caused by sea action. Concur. ✓

Sound Velocity

Correctors for the velocity of sound through water were determined from the six Plessey SVD casts listed below:

Cast No.	Deepest Depth (m)	DN	Geographic Position
1	190	148	56°44.0'N, 156°37.0'W OFF SHEET limits
N	200	148	56°44.4'N, 156°33.8'W " " "
2	200	163	56°44.4'N, 156°33.4'W " " "
3	140	176	56°52.8'N, 156°44.2'W
4	125	194	56°53.1'N, 156°43.9'W " " "
8	140	211	56°52.9'N, 156°44.3'W
9	140	224	56°53.4'N, 156°43.3'W " " "

N=Nansen cast

The Plessey Sound Velocity Sensor, S/N 5653, was connected to a Hewlett/Packard 5326B Universal Frequency Counter, S/N 1312A02159. The sound velocity sensor was calibrated at the Northwest Regional Calibration Center in Bellevue, WA on January 26, 1989. ✓

The thermometers used in the Nansen cast were calibrated between January 6, 1988 and January 19, 1989. The Beckman Salinometer, S/N 24663, was calibrated on ✓

March 1, 1989. The thermometers and the salinometer were also calibrated at the Northwest Regional Calibration Center.

The Nansen cast was taken on the same day as Plessey Cast #1 to ensure the Plessey sensors were operating properly. The sound velocities determined by the two methods showed good agreement. Surface water temperatures and samples were obtained during each Plessey cast as additional checks on the Plessey system.

The surface water temperature, and the corresponding sound velocity, increased over time. The casts used for each velocity table, and the days to which each velocity table is applied, are shown below:

Velocity Table No.	Cast No.	Applicable DN
1	1	137-152
2	2	157-166
3	3	172-179
4	4	188-200
8	8	208-215
9	9	221-224

See E.R., Sect 1 for additional information re. Table 2

Velocity correctors within each table were computed at 0.1-fathom increments using the PC program VELOCITY. The velocity tapes have been forwarded with the survey data; tape listings are appended to this report.

*filed with field records

Settlement and Squat

Settlement and squat correctors were determined for the automated survey launches in Shilshole Bay, Washington on February 23 and March 3, 1989. All tests were conducted over a hard bottom in depths well exceeding seven times the vessels' drafts. Both sea and wind were calm. Observations were made through a Zeiss Ni2 leveling instrument (S/N 103453) to a rod held vertically on deck, directly over the transducer.

Ten level readings were made at each speed tested, and the average taken, to compute the correctors. Tide staff readings were taken concurrently with each set of level readings, and all tidal height differences were normalized to the tidal height of the dead-in-the-water level readings before the correctors were computed.

Soundings on the final field sheets are not corrected for settlement and squat. TC/TI tapes for each sounding vessel have been submitted with this survey. *Sounding correction abstracts and TC/TI tape listings are appended to this report.

*filed with field records

Tide Correctors

Final correctors contained in smooth tide file listing

Tidal zoning and correctors applicable to predicted tides for the Kodiak, Alaska tide station (945-7292) were provided on the chart accompanying the Project Instructions. The zone applicable to this survey has a height correction ratio of "x 1.18" and time corrections of plus 20 minutes for high water and plus 40 minutes for low water. Predicted tide tape listings are included with the survey data.

Tide stations at Ugaiushak Island (945-8553) and Derickson Island (945-8522) were established and maintained by RAINIER personnel. Only the Derickson Island tide data was required for this survey, but data from the Ugaiushak Island tide station may be applicable. The field tide records and the Field Tide Note for both stations have been forwarded to N/OMA121 in accordance with Hydrographic

Survey Guideline #50 and Section 4.3 of the Field Procedures Manual (FPM). A request for approved tides has been forwarded to N/OMA121. Copies of the Field Tide Note and the request for approved tides are included with this report.

1 REQUEST is Filed with SURVEY DATA

E. HYDROGRAPHIC SHEETS

All field sheets were prepared aboard RAINIER, on a Houston Instrument Complot DP-3 roll plotter, using the PDP8/e HYDROPLOT system and program RK201, "Grid, Signal, Lattice Plot". Program RK201 draws a Modified Transverse Mercator projection. The two 1:10,000-scale final field sheets are designated RA-10-2E-89 and RA-10-2W-89; each has an accompanying 1:10,000-scale overlay showing detached positions and bottom characteristics. Mainscheme splits were run over the entire survey area in order to better define the bathymetry and to locate shoals. The splits are plotted on two additional 1:10,000-scale sheets. One 1:5,000-scale sheet and one 1:2,500-scale sheet were used to legibly depict soundings from numerous developments. The limits of developments are shown on the two 1:10,000-scale overlays. Some soundings, including least depths, have been transferred by hand to the final field sheets from NSP data.* Parameter tape listings for all sheets are appended to this report.

* filed with field records

Depth contours are drawn on the final field sheets in accordance with the Hydrographic Manual except in areas of steep bathymetry where all standard contours could not be drawn without degrading the legibility of the sheets.

All field sheets, accompanying field records, and this Descriptive Report are being forwarded to the Pacific Hydrographic Section (N/CG 245) for ~~verification.~~ processing

F. CONTROL STATIONS

A listing of the geodetic stations used to control this survey is appended to this report. All stations located on offshore islands are noted on the listing.

Positions for all existing stations are from the NGS data base. All existing stations were recovered in accordance with methods stated in FPM 5.2.4. New stations were positioned in 1989 by RAINIER personnel via closed traverse. The one fixed-point calibration site within the survey area was established using an angle and distance from station KAYAK. In addition, one temporary point, CUPCAKE TP1, was established from KAYAK, and was used to position a small number of 50-meter splits in the vicinity of KAYAK. A fixed-point critical systems check was conducted on DN 213 for the code placed on CUPCAKE TP1. The system check closed within the requirements stated in FPM 3.1.2.2; therefore, the position of the temporary station was considered adequate for hydrographic positioning.

The field positions for new stations are unadjusted. All stations, except CUPCAKE TP1, meet or exceed Third-order, Class I standards for positioning. The position of CUPCAKE TP1 will not be submitted for entry into the NGS data base; computation forms for CUPCAKE TP1 are included with ~~this report.~~ the Horizontal Control Report. Geographic positions are based on the North American Datum of 1927 and Clarke Ellipsoid of 1866. Further information can be found in the Summer 1989 Horizontal Control Report for OPR-P180-RA.

G. HYDROGRAPHIC POSITION CONTROL

Soundings were located using Motorola Mini-Ranger III microwave positioning equipment in HYDROPLOT's range-range acquisition mode. Two diver-obtained least depths were acquired with Motorola Mini-Ranger Falcon 484 multiple-LOP equipment, and were converted to HYDROPLOT's paper tape medium. Several shoreline detached positions were positioned via range/azimuth method.

Positioning Equipment

Three Mini-Ranger III console/R-T pairs, one Mini-Ranger Falcon 484 console/R-T pair, and twelve shore transponders were used during the survey. The following tables summarize the mobile and shore equipment used.

Mobile Equipment

EDP No.	Vessel	Equipment	Console/R-T	DN
2124	RA-4	MR III	720/B1405	152-177
"	"	Falcon	D0051/911615	178-226
2125	RA-5	MR III	711/F3413	152-213
2126	RA-6	MR III	506042/E2716	152-226

Shore Equipment

Transponder Serial No.	Code	Transponder Serial No.	Code
911697	A	B1412	0
C1883	B	D2384	1
G3500	C	911635	3
911711	D	F3248	4
F3256	E	B1413	5
G3501	F		

Several shoreline detached positions were obtained by Vesno 2127, 2128, and 2129 using the following equipment:

Instrument	Serial No.	From Station No.
Wild T2 Theodolite	320734	111
Wild T2 Theodolite	320734	127
Wild DI-3000 EDMI	67306	111
Wild DI-3000 EDMI	67384	111
HP 3808A EDMI	1723A00202	111
HP 3808A EDMI	1723A00202	127

Baseline Calibrations

Opening and closing baseline calibrations were conducted over water, and in accordance with FPM 3.1.2.1 (see table below). Calibration data and descriptions of the baselines can be found in the Summer 1989 Electronic Control Data Package for OPR-P180-RA.

Location	Distance	DN	Description
Kodiak, AK	1626 m	130-131	Bell Flats-USCG tidal BM
Chiginagak Bay, AK	1351 m	207	Nonrecoverable shore-to-shore (Codes 1, 5 and B)
Seattle, WA	966.4 m	262-272	Lake Union (MR Cal 2)

The final field sheets were plotted with the opening baseline calibration correctors, except for Code 1 (S/N D2384), which was plotted with the Kodiak correctors until DN 207, and thereafter plotted with the Chiginagak Bay correctors. Differences between opening and closing baseline correctors agreed within limits specified by FPM 3.1.2.3 for all codes except Code 0 (S/N B1412). The hydrographer recommends that opening baseline calibration correctors be applied during final processing for all codes except Code 0. The prorated correctors for Code 0 (with Console 506042; R/T E2716 (Vesno 2126)) are: CORRECTORS HAVE BEEN UPDATED AND APPLIED.

DN	Prorated Corrector
157-174	+0m
175-196	-1m
197-218	-2m
219-226	-3m

System Check Procedures

Critical systems checks were conducted in accordance with FPM 3.1.2.2. Fixed-point critical systems checks were acquired at the following stations: CAL POINT KAY(200), CAL POINT UGAI (201). Theodolite-EDMI critical systems checks were also used for checking the Mini-Ranger systems. The following Wild T-2/EDMI serial numbers were used: 320734 / 67306.

Noncritical systems checks were obtained daily when critical checks were not acquired. Noncritical system checks were conducted using the launch-to-launch, baseline crossing, three-range, or multiple-LOP methods. In general, noncritical system checks fell within the allowable rejection limits; no systematic discrepancies with opening baseline correctors were observed.

Problems and Unusual Position Configurations

Null zones and erratic ranges were occasionally experienced due to the destructive interference of direct and reflected microwaves. Time-and-course interpolations were used during data processing to correct the position of soundings taken when launches approached null zones (as indicated by the launches' erratic steering needles and automated plotters).

A small amount of positioning data was acquired with signal strengths one unit below the computed cutoff values. No soundings acquired during these periods plotted off-line; therefore, positional quality was not affected.

Antenna Offset Distances (ANDIST)

The ANDIST corrector was 0.0 meter for all launches as each launch had its antenna located over the transducer.

H. SHORELINE

Shoreline features on the final field sheets were transferred from a 1:10,000-scale enlargement of shoreline map ("T-sheet") TP-01152 (1:20,000; 1984). The 18-meter westward shift of all shoreline detail was applied to the T-sheet and all final field sheets in accordance with N/CG2's memorandum dated September 18, 1986 (See Supplemental Appendix).

Shoreline verification was conducted either at or near low water in accordance with FPM 7.0. Verification of all shoreline detail was accomplished with the exception of ledges and the high water line along the south shore of Cape Kuyuyukak. Based on visual inspection and estimated distance from low water detached positions, the high water line is accurately portrayed on the T-sheet. The ledges do exist and were visually verified, but no detached positions were obtained due to the foul nature of the area and the limited number of days when southerly swells were not a hazard to small boats. Foul area limits were delineated, and are shown on the final field sheet. The ledges inshore of the foul limits which were visually verified are shown in brown on the final field sheet. Shoreline details which were verified or added to the T-sheet are shown in black.

The T-sheet shows a ledge extending along the eastern shore of Cape Kuyuyukak from 56°56'15"N to 56°56'39"N, 156°47'10"W. The area was seen several times during shoreline verification and hydrography, and is a gradually sloping shore covered with kelp. The kelp was possibly identified as ledge on aerial photographs. The area offshore of the T-sheet ledge is scattered with rocks. The final field sheet shows the positions and heights of the most off-lying rocks.

Recommendation: Delete the ledge shown at the position listed above. Apply to the smooth sheet foul area limits and soundings from this survey. CONCUR CHART AREA AS SHOWN ON SMOOTH SHEET

Large concentrations of kelp were seen on the water's surface from PR-54 to KAYAK, and offshore as far as Cupcake Island. Photographs appended to this report show some kelp areas and also the complexity of the northern half of the survey area.

Recommendation: Add to the ~~smooth sheet~~ CHART kelp limits as shown on the ~~overlay~~ SMOOTH SHEET. CONCUR

Detached positions taken at low water prove that the photography for the T-sheet was flown during a stage of tide higher than MLLW, possibly as high as mid-tide. Ledges were found to be more extensive, isolated rocks often were high points of ledges, and numerous isolated rocks, foul areas, and ledges which did not appear on the T-sheet were found and positioned. Some T-sheet islets were also found to be rocks on ledges, once heights were reduced to the sounding datum. All changes to the T-sheet are shown in red on the final field sheets.

Detached positions for alongshore and offshore features were recorded on the raw master printouts and in one sounding volume. Two detailed paper plots showing all detached positions are included with the sheets submitted with this survey. Position numbers for all detached positions are plotted on the two D.P. overlays. Cartographic codes have been included in the field records. Heights are recorded in feet, and are corrected for predicted tides. The heights recorded for islets refer to the features' highest points.

I. CROSSLINES

A total of 26.4 nautical miles of crosslines were run perpendicular to the mainscheme sounding lines, representing 8% of the mainscheme hydrography. Crossline soundings agree very well (within one fathom) with mainscheme soundings. In several instances, the vessel acquiring the crossline data did not acquire the mainscheme data. The agreement between soundings obtained by different echo sounders in a common area is as stated above.

J. JUNCTIONS

This survey junctions with H-10274 (1:10,000; 1988; north) and H-10281 (1:10,000; 1988; east). Surveys H-10305 (1:10,000; 1989) and H-10308 (1:10,000; 1989) were begun after H-10304, and will junction with this survey along the west and south boundaries, respectively. Junction agreements will be discussed in the Descriptive Reports for H-10305 and H-10308. No irregularities were found when comparing soundings. Minor discrepancies exist in areas of steep bathymetry, but overall agreement of overlapping soundings between surveys is excellent, with all soundings agreeing to within two fathoms.

SEE EVALUATION REPORT SECTION 5

K. COMPARISON WITH PRIOR SURVEYS

There are no prior surveys within the limits of this survey.

L. COMPARISON WITH THE CHART

This survey was compared to NOS Preliminary Chart 16568, 6th edition, April 29/89, 1:106,600. NAD 1983

Comparison of Sounding Features

The forty-eight charted soundings which lie within the limits of this survey originate from BP 39179, BP 39180, and BP 40357. These blueprints were compiled from 1949 1:20,000-scale and 1945 1:80,000-scale USC&GS reconnaissance surveys but were not available for comparison. Sounding agreement between this survey and the chart is good (within two fathoms). There is no uniform shift in the positions of charted depths, and no general shoaling or deepening trends were observed. The techniques used for positioning and sounding during the reconnaissance surveys, coupled with irregularity of the bottom, are the probable causes of any discrepancies found.

Line spacing was reduced to 50 meters over most of the survey area in order to locate shoal depths and to better define depth contours. Additional shoal

developments of 25-meter line spacing were run parallel to mainscheme hydrography.

Dive investigations resulted in least depths determined for 68 features identified within the areas of shoal developments. Each echo sounder depth considered for a dive operation was assigned a dive site number. One hundred eight possible dive sites were identified (95 on the east sheet, 13 on the west sheet). The 40 features which were not dove upon were investigated with 10-meter or 25-meter developments. In order to account for each dive site on the east sheet, a mylar worksheet showing the location of each dive site was overlaid on a paper copy of the rough sounding plot; this work-sheet was included with the survey data. Dive site numbers also appear on the dive investigation forms. The dive investigation forms contain detailed descriptions of each feature; the forms are included within the accordion files submitted with this survey.

Significant diver-obtained least depths which could be legibly plotted on the chart were reported as dangers to navigation. A copy of the dangers to navigation radio messages appended to this report include the position number of each dive. Dive investigations which were not reported as dangers are listed below.

Feature	Dive Site No.	Pos. No.	Geographic Position	Least Depth (fms)
Plateau	1	4289	56°54'00.5"N, 156°48'22.7"W	4.6 Excessed by 4.3
Ridge	2	4282	56°53'58.2"N, 156°48'15.9"W	5.1 Pos # 116914
Pinnacle	6	4290	56°53'26.5"N, 156°48'49.3"W	8.1
Pinnacle	7	4966	56°53'36.2"N, 156°49'23.2"W	6.7
Outcrop	8	4287	56°53'49.0"N, 156°49'22.4"W	~~0.3~~ * Covered at MLLW
Ridge	9	4286	56°53'00.5"N, 156°48'31.2"W	1.3
Pinnacle	10	4281	56°52'57.8"N, 156°48'17.1"W	13.1
Ridge	11	4288	56°52'47.3"N, 156°48'38.3"W	8.6
Pinnacle	14	7990	56°56'55.4"N, 156°45'~~12.0~~"W	2.4
Ridge	15	7988	56°56'52.1"N, 156°45'08.6"W	7.9
Ridge	16	7989	56°56'49.0"N, 156°45'12.4"W	6.5
Plateau	17	5872	56°56'38.5"N, 156°45'27.6"W	7.0
Rock	18	5871	56°56'45.5"N, 156°44'33.9"W	7.8
Ridge	19	5869	56°56'41.1"N, 156°44'28.7"W	9.2
Ridge	21	5875	56°56'38.0"N, 156°44'35.7"W	6.8
Ridge	22	5874	56°56'36.5"N, 156°44'30.6"W	8.0
Ridge	23	5873	56°56'40.3"N, 156°44'49.6"W	8.4
Ridge	24	5878	56°56'34.7"N, 156°44'56.6"W	6.8
Ridge	25	5876	56°56'27.8"N, 156°45'00.3"W	8.1
Ridge	27	7992	56°56'36.1"N, 156°46'11.6"W	~~3.9~~ 4.0
Ridge	28	5879	56°56'21.8"N, 156°46'03.7"W	6.1
Ridge	30	5880	56°56'04.1"N, 156°45'40.7"W	7.3
Ridge	34	5885	56°55'30.7"N, 156°46'14.8"W	3.6
Pinnacle	35	5889	56°55'24.9"N, 156°46'29.3"W	3.7
Ridge	37	5884	56°55'25.2"N, 156°46'13.7"W	6.6
Ridge	38	5883	56°55'21.0"N, 156°45'57.8"W	8.1
Pinnacle	40	5890	56°55'36.5"N, 156°45'52.9"W	1.3
Plateau	41	5887	56°55'33.0"N, 156°45'50.4"W	8.3
Ridge	54	5896	56°55'02.5"N, 156°46'15.4"W	4.0
Ridge	64	4967	56°54'33.0"N, 156°45'45.2"W	7.3
Pinnacle	66	5895	56°54'25.3"N, 156°46'08.2"W	4.3
Pinnacle	67	3263	56°54'33.5"N, 156°46'18.3"W	1.5
Pinnacle	70	5893	56°54'17.3"N, 156°47'05.0"W	3.5

Pinnacle	75	5900	56°54'08.8"N, 156°46'50.4"W	3.5
Plateau	80	5899	56°54'05.4"N, 156°45'46.2"W	7.9
Plateau	82	5903	56°53'48.4"N, 156°46'02.5"W	8.0
Ridge	84	5905	56°53'50.3"N, 156°46'21.9"W	6.4
Ridge	86	5904	56°53'57.9"N, 156°46'21.0"W	5.01
Plateau	87	5907	56°53'54.8"N, 156°46'40.2"W	7.15
2 Pinnacles	91	3068	56°53'37.0"N, 156°46'33.2"W	8.3
Pinnacle	92	5911	56°53'32.2"N, 156°46'44.8"W	7.98
Ridge	96	5908	56°53'31.1"N, 156°48'03.0"W	6.4
Ridge	97	3110	56°53'29.1"N, 156°48'03.1"W	4.9
Ridge	103	5909	56°53'08.0"N, 156°47'10.6"W	4.96
Ridge	104	3109	56°52'58.6"N, 156°47'09.0"W	7.7
Ridge	105	3159	56°52'56.0"N, 156°46'53.9"W	6.1

Recommendation: The hydrographer recommends least depths and general soundings found within the survey data be used to update the chart. CONCUR CHART AREA AS SHOWN ON SMOOTH SHEET

Non-Sounding Features

In general, all non-sounding features do exist at the positions charted. However, several charted rocks were reefs, islets or ledges, some charted islets were rocks, and many ledges were found to be more extensive. Several new features were found and are shown on the final field sheets.

The following charted non-sounding features were disproved:

1. The islet charted at 56°56.8'N, 156°46.7'W, was investigated both visually and with an echo sounder. Depths in this area ranged from ~~1.5~~ 0.9 to 4 fathoms.

2. Three islets at 56°56.0'N, 156°47.6'W were not seen during shoreline verification. The entire area is foul with small scattered rocks.

3. A rock charted at 56°54.7'N, 156°47.1'W, was searched for visually and with an echo sounder. Depths in this area ranged from 2 to 4 fathoms.

4. The foul area charted at 56°56'41"N, 156°44'35"W, was investigated by echo sounder and divers. The area had kelp on the surface of the water, but a least depth of 5.2 3 fathoms (DN 178, Fix #7991) was found by divers at the charted location.

Recommendation: The hydrographer recommends the four disproved non-sounding features be deleted from the chart. Apply to the chart shoreline features and sounding data from this survey. CONCUR CHART AREA AS SHOWN

There are no AWOIS items within the limits of this survey.

Dangers to Navigation

Twenty-three dangers* to navigation originating from dive investigations and shoal developments were reported, by radio messages and letters, to the Seventeenth Coast Guard District and Defense Mapping Agency Hydrographic and Topographic Center. Copies of these correspondence are appended to this report. Position numbers assigned to the reported dangers are noted on the radio messages.

* THERE ARE TWO DIFFERENT REPORTS, ONE FOR JULY 3, 1989 1 DANGER
ANOTHER REPORT FOR OCT. 20, 1989 22 DANGERS
23 TOTAL

M. ADEQUACY OF SURVEY

This is the first basic hydrographic survey to be conducted in this area. The survey is complete and adequate to be used for charting purposes, and to supersede any historical data.

N. AIDS TO NAVIGATION

There are no aids to navigation, submarine cables, pipelines or ferry routes within the limits of the survey.

O. STATISTICS

Vessel:	2124	2125	2126	2127	2128	2129	Total
# of Pos	~~847~~ 936	~~1323~~ 1501	~~2069~~ 2170	~~101~~ 115	10~~43~~	6~~42~~	~~4508~~ 4887
NM Hydro	118.7	180.6	308.0	0	0	0	607.3

NM^2 Hydrography	15.2	Velocity Casts	6
Bottom Samples	99	Tide Stations	2
Detached Positions	529	Current/Magnetic Stations	0

P. MISCELLANEOUS

The bottom topography within the survey area was found to be extremely complex. Several shoals were detected on mainscheme lines and were further investigated with reduced line spacing. Large concentrations of kelp were seen between stations KAYAK and PR-54, denoting a shallow and rocky bottom. The extensive number of developments and dive investigations performed during this survey were deemed necessary in order to adequately locate and determine least depths over rock shoals and narrow pinnacles.* FROM: LATITUDE 56°56'57.5"N LONGITUDE 156°46'21.8"W TO: LATITUDE 56°54'52.5"N LONGITUDE 156°56'48.8"W

The hydrographer requested and received approval from N/CG241 to obtain bottom samples at 6-cm spacing except in depths greater than 30 fathoms, where samples were collected at 12-cm intervals (see appended radio message). All samples have been submitted to the Smithsonian Institution.

During dive operations, a westward-flowing current was observed up to 1.5 NM south of Cape Kuyuyukak. This current reached its greatest estimated velocity (1.5-2.0 knots) during maximum ebb. No east-flowing current was ever observed.

A proposal to name the island located at 56°55'45"N, 156°45'24"W ("Cupcake Island") will be submitted to the U.S. Board on Geographic Names. SEE Attached letters

The format recommended in Hydrographic Survey Guideline #66 for reporting dangers to navigation was modified for submission by radio message. All the information required in the guideline was included in the radio message forwarded from RAINIER.

Q. RECOMMENDATIONS

The hydrographer strongly endorses the Nautical Charting Division's current plan to correct and republish Preliminary Chart 16568 in March/April 1990, and annually thereafter as long as new surveys are available. See subject memos dated July 17, 1989 and August 21, 1989 in Supplemental Appendix.

CONCUR

R. AUTOMATED DATA PROCESSING

Data acquisition and processing were accomplished with a PDP 8/e HYDROPLOT computer system, using the following programs:

NUMBER	DESCRIPTION	VERSION
RK 112	HYPERBOLIC, R/R HYDROPLOT	3/01/86
RK 116	R/AZ REAL TIME HYDROPLOT	3/01/86
RK 201	GRID, SIGNAL, AND LATTICE PLOT	4/18/75
RK 221	COMB R/R & HYPER PLOT NON-RT	7/25/86
RK 226	R/AZ POSITION PLOT NON-RT	7/25/86
RK 300	UTILITY COMPUTATIONS	10/21/80
RA 362	RK 330 AND AM 602 COMBINED	8/20/84
RK 407	GEODETIC INVERSE/DIRECT COMP	9/25/78
RK 409	GEODETIC UTILITY PACKAGE	9/20/78
AM 500	PREDICTED TIDE GENERATOR	11/10/72
RK 561	H/R GEODETIC CALIBRATION	12/01/82
AM 602	ELINORE - LINE ORIENTED EDITOR	12/08/82
RK 606	TAPE DUPLICATOR	8/22/74
AM 607	SELF-STARTING BINARY LOADER	8/10/80
RK 610	BINARY TAPE DUPLICATOR	1/31/85
RK 900	PLOT TEST TAPE GENERATOR FOR AM902	5/07/76
PM 901	CORE CHECK	3/01/72
AM 902	REAL TIME CHECKOUT	11/10/72
DA 903	DIAGNOSTIC-INSTRUCTION TIMER	2/27/76
RK 905	HYDROPLOT CONTROLLER CHECKOUT	3/18/81
RK 935	HYDROPLOT HARDWARE TESTS	3/15/82
RK 950	HARDWARE TESTS (DOCUMENTATION ONLY)	6/02/75
	VELOCITY (Version 1.0)	3/11/88

Two detached positions (Fix #4967, 4968) acquired by HDAPS-equipped RA-4 (Vesno 2124) were converted to the HYDROPLOT paper tape format. These positions were rejected from the HDAPS files.

The following position numbers were duplicated by RA-5 (Vesno 2125):

Position No.	DN	Vesno Duplicated
6000-6036	196	2126
6043-6063		
6066-6076		
6078-6087		
6095-6248		
3094	199	2125

S. REFERRAL TO REPORTS

The following supplemental reports and data packages contain additional information relevant to this survey:

Title	Date Sent to N/CG 245
1989 Horizontal Control Report for OPR-P180-RA	October, 1989
1989 Electronic Control Data Package for OPR-P180-RA	October, 1989
1989 Corrections to Echo Soundings Data Package for OPR-P180-RA	October, 1989
1989 Coast Pilot Report, OPR-P180-RA	October, 1989

Respectfully submitted,

Donald W. Haines
Ensign, NOAA

Approved and forwarded,

John C. Albright
Captain, NOAA
Commanding Officer

MASTER STATION LIST
OPR-P180-RA
ALASKA PENINSULA

FINAL VERSION

101 3 56 53 03001 156 34 16924 250 0031 000000
* /AIUGNAK 1944

102 3 56 56 42909 156 41 05540 250 0015 000000
* /CHIG 1944

110 1 56 56 57521 156 46 21810 250 0033 000000
/PR-54 1988

111 3 56 54 52504 156 46 48812 250 0037 000000
/KAYAK 1988

112 1 56 48 55108 156 45 39204 250 0017 000000
* /RADIAL 1988

115 3 56 51 04244 156 53 50796 250 0109 000000
/CENTRAL 1944

~~117 3 56 47 07929 156 50 25485 250 0025 000000~~
~~/HAWK 1944~~

119 3 56 55 04147 156 55 52580 250 0030 000000
/NAKOL 1944

124 3 56 48 07757 156 52 01751 250 0044 000000
/PENNY 1989

127 3 56 55 49100 156 45 28800 254 0002 000000
/CUPCAKE TP1 1989

(200 3 56 55 15310 156 46 40990 243 0000 000000
* /KAY CAL POINT 1989 Calibration point not used for control)

(201 3 56 47 51264 156 50 57735 243 0000 000000
/UGI CAL POINT 1989 Calibration point not used for control)

* Stations located on offshore islands where station symbol may obscure the depiction of the island.

F00

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship RAINIER S221
1801 Fairview Avenue East
Seattle, Washington 98102-3767

July 3, 1989

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

Dear Sir:

Attached is a confirmation copy of the radio message sent to your office regarding five dangers to navigation which I recommend for inclusion in the Local Notice to Mariners for the Seventeenth Coast Guard District. A copy of a chartlet showing the area in which the dangers exist is also attached.

Sincerely,

John C. Albright
Captain, NOAA
Commanding Officer

Enclosure

cc: DMAHTC
N/CG221
N/MOP

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship RAINIER S221
1801 Fairview Avenue East
Seattle, Washington 98102-3767

July 3, 1989

Director
DMAHTC
6500 Brooks Lane
Washington, D.C. 20315

Dear Sir:

While conducting hydrographic survey operations south of Chiginagak Bay, Alaska Peninsula, NOAA Ship RAINIER discovered five dangers to navigation. They have been reported to DMAHTC (NAVWARN) and the Seventeenth Coast Guard District. A copy of the correspondence describing them is enclosed.

Sincerely,

John C. Albright
Captain, NOAA
Commanding Officer

Enclosure

NOJ | 052149Z JUL 89
DPS | 6423 KHZ

PTTUZYUW RUHPTEF0039 1861907-UUUU--RUHPSUU.
ZNR UUUUU
P 051907Z JUL 89
FM NOAAS RAINIER
TO CCGDSEVENTEEN JUNEAU AK
DMAHTC (NAVWARN) WASHINGTON DC//MCNM//
INFO NOAAMOP SEATTLE WA
ACCT CM-VCAA
BT
UNCLAS
NOAA SHIP RAINIER HAS FOUND FIVE DANGERS TO NAVIGATION NEAR CHIGINAGAK BAY, ALASKA PENINSULA, ALASKA (PROJECT OPR-P180-RA) WITHIN THE LIMITS OF HYDROGRAPHIC SURVEYS H-10301 (SIX MILES SW OF AIUGNAK COLUMNS; ITEMS A-D) AND H-10304 (SOUTHWESTERN CHIGINAGAK BAY; ITEM E). REQUEST THE FOLLOWING BE PUBLISHED IN LOCAL NOTICE TO MARINERS FOR THE SEVENTEENTH COAST GUARD DISTRICT:

A. "ROCK SUBMERGED 10-1/2 FATHOMS AT LATITUDE 56/48/35.8N, LONGITUDE 156/38/23.3W."

B. "ROCK SUBMERGED 7.0 FATHOMS AT LATITUDE 56/48/53.9N, LONGITUDE 156/40/04.7W."

C. "ROCK SUBMERGED 9-1/4 FATHOMS AT LATITUDE 56/49/01.5N, LONGITUDE 156/42/36.1W."

D. "ROCK SUBMERGED 10-1/2 FATHOMS AT LATITUDE 56/49/46.7N, LONGITUDE 156/43/49.9W."

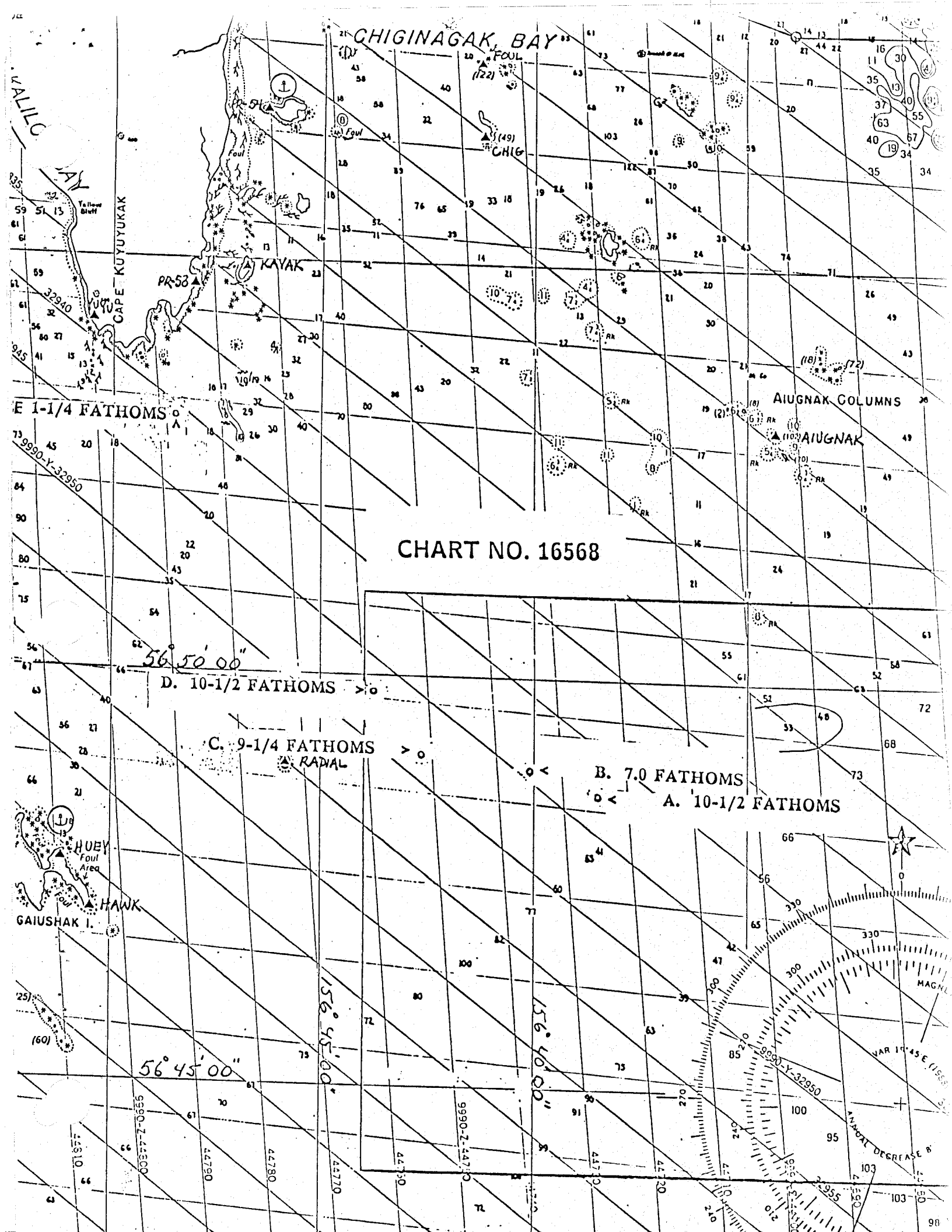
E. "ROCK RIDGE SUBMERGED 1-1/4 FATHOMS AT LATITUDE dive site #9 pos # 4286.
56/53/00.8N, LONGITUDE 156/48/31.2W." 1.2 Fathom
.48" .23"

DEPTHS ARE REDUCED TO MLLW BASED ON PREDICTED TIDES. POSITIONS ARE BASED ON NAD 27 DATUM.
THE FOLLOWING PRELIMINARY CHART IS AFFECTED:

16568 6TH ED APR.29/89 1:106,600 NAD 83 DATUM

THIS IS ADVANCE INFORMATION SUBJECT TO OFFICE REVIEW. QUESTIONS CONCERNING THIS MESSAGE SHOULD BE DIRECTED TO THE PACIFIC MARINE CENTER AT (206) 526-6835. A LETTER WITH AN ATTACHED CHARTLET IS BEING MAILED TO YOU TO CONFIRM THIS MESSAGE.
BT
#0039

NNNN


CHIGINAGAK BAY
KALILO BAY
CAPE KUYUYUKAK
KAYAK
PR-58
CHIG
AIUGNAK COLUMNS
AIUGNAK
E 1-1/4 FATHOMS
9990-Y-32950
CHART NO. 16568
56° 50' 00"
D. 10-1/2 FATHOMS
C. 9-1/4 FATHOMS
RADAL
B. 7.0 FATHOMS
A. 10-1/2 FATHOMS
HUEY
Foul Area
HAWK
GAIUSHAK I.
156° 45' 00"
156° 40' 00"
56° 45' 00"
9990-Z-44770
9990-Z-44780
9990-Z-44790
9990-Z-44810
MAGNE
VAR 19°45 E (1955)
ANNUAL DECREASE 8'

F00

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

NOAA Ship RAINIER
1801 Fairview Avenue East
Scattle, Washington 98102-3767

October 20, 1989

Director
DMAHTC
6500 Brooks Lane
Washington, DC 20315

Dear Sir:

While conducting hydrographic survey operations in Chiginagak Bay, Alaska, the NOAA Ship RAINIER discovered 22 dangers to navigation. They have been reported to DMAHTC (NAVWARN) and the Seventeenth Coast Guard District. A copy of the correspondence describing them is enclosed.

Sincerely,

John C. Albright
Captain, NOAA
Commanding Officer

Enclosures

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship RAINIER S221
1801 Fairview Avenue East
Seattle, Washington 98102-3767

October 20, 1989

Commander
Seventeenth Coast Guard District
Post Office Box 3-5000
Juneau, Alaska 99802

Dear Sir:

Attached is a confirmation copy of the radio message sent to your office regarding dangers to navigation which I recommend for inclusion in the Local Notice to Mariners for the Seventeenth Coast Guard District. A copy of a chartlet showing the areas in which the dangers exist is also attached.

Sincerely,

John C. Albright
Captain, NOAA
Commanding Officer

Enclosures

cc: DMAHTC
N/CG221
N/MOP

NOJ | [illegible] 89
MC | 6260

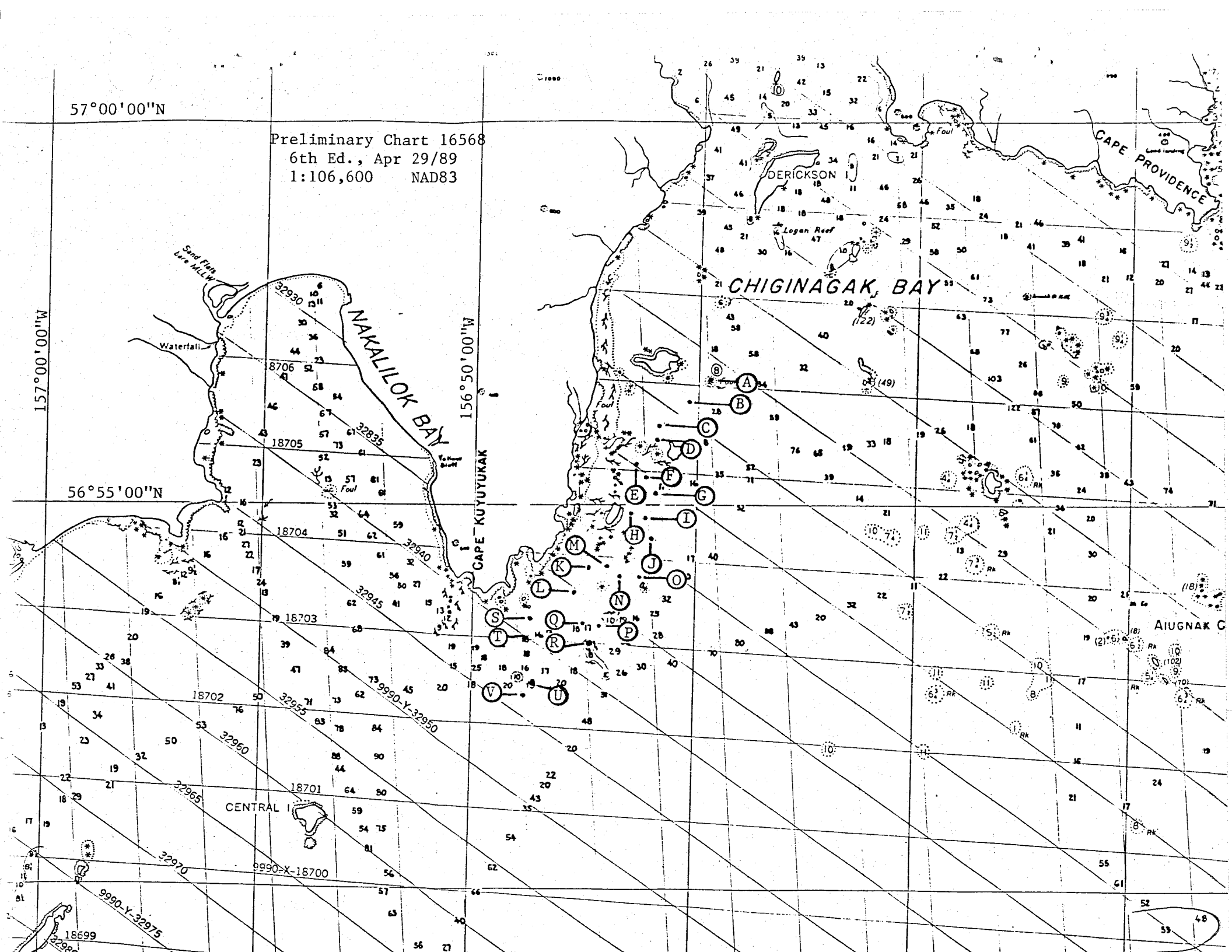
NOJ DE WTEF

T

PTTUZYUW RUHPTEF2412 2930400-UUUU--RUHPSUU.
ZNR UUUUU
P 200400Z OCT 89
FM NOAAS RAINIER
TO CCGDSEVENTEEN JUNEAU AK
DMAHTC (NAVWARN) WASHINGTON DC//MCNM//
INFO NOAAMOP SEATTLE WA
ACCT CM-VCAA
BT
UNCLAS
NOAA SHIP RAINIER HAS FOUND 22 DANGERS TO NAVIGATION ALONG THE ALASKA PENINSULA; ALASKA (PROJECT OPR-P180-RA) WITHIN THE LIMITS OF HYDROGRAPHIC SURVEY H-10304 (SOUTHWESTERN CHIGINAGAK BAY). REQUEST THE FOLLOWING BE PUBLISHED IN LOCAL NOTICE TO MARINERS:

NUMEROUS SUBMERGED ROCK SHOALS, REEFS, FOUL GROUND, AND KELP BEDS EXTEND 1.5NM OFFSHORE FROM THE SOUTHERN TIP OF CAPE KUYUYUKAK AND CONTINUE EAST AND NORTH TO THE ISLAND LOCATED AT LATITUDE 56/57/00N. FEATURES ARE TOO NUMEROUS TO DESCRIBE INDIVIDUALLY; THE MOST SIGNIFICANT HAZARDS ARE LISTED BELOW. MARINERS ARE URGED TO USE EXTREME CAUTION WHEN NAVIGATING IN THIS AREA.

	Dive Site #	Pos. No.
A. ROCK SHOAL SUBMERGED 5-1/4 FATHOMS AT LATITUDE 56/56/~~28.~~40.76"N, LONGITUDE 156/44/~~42.~~35.12"6W. 5.3 Fathoms	20	7991
B. ROCK SHOAL SUBMERGED 7-1/2 FATHOMS AT LATITUDE 56/56/~~21.~~23.87"2N, LONGITUDE 156/45/~~10.~~03.36"8W. 7.6 Fathoms	26	5877
C. ROCK PINNACLE SUBMERGED 4-1/2 FATHOMS AT LATITUDE 56/56/~~02.~~04.68"0N, LONGITUDE 156/45/~~50.~~42.80"2W. 4.7 Fathoms	30A	5881
D. ROCK SHOAL SUBMERGED 1-1/2 FATHOMS AT LATITUDE 56/55/~~50.~~53.28"6N, LONGITUDE 156/45/~~52.~~44.77"2W. 1.5 Fathoms	31	5882
E. ROCK SHOAL SUBMERGED 3 FATHOMS AT LATITUDE 56/55/~~31.~~34.37"7N, LONGITUDE 156/46/~~20.~~13.19"6W. 3.0 Fathoms	33	5886
F. ROCK PINNACLE SUBMERGED 5 FATHOMS AT LATITUDE 56/55/~~21.~~24.44"8N, LONGITUDE 156/~~46/06.~~45/58.73"1W. 5.0 Fathoms	39	5888
G. ROCK SHOAL SUBMERGED 6-1/2 FATHOMS AT LATITUDE 56/55/~~09.~~11.61"0N, LONGITUDE 156/45/~~53.~~45.63"0W. 6.5 Fathoms	49	3261
H. ROCK PINNACLE SUBMERGED 1 FATHOM AT LATITUDE 56/54/~~58.~~56.15"5N, LONGITUDE 156/46/~~25.~~18.30"5W. 1.2 Fathoms	55	5897
I. ROCK SHOAL SUBMERGED 6-1/2 FATHOMS AT LATITUDE 56/54/~~50.~~52.94"3W, LONGITUDE 156/~~45/06~~45/58.91"3W.	57	3262
J. ROCK PINNACLE SUBMERGED 6-3/4 FATHOMS AT LATITUDE 6.8 Fathoms		


57°00'00"N
56°55'00"N
157°00'00"W
156°50'00"W
Preliminary Chart 16568
6th Ed., Apr 29/89
1:106,600 NAD83
CHIGINAGAK BAY
NAKALILOK BAY
CAPE KUYUYUKAK
CAPE PROVIDENCE
DERICKSON I
CENTRAL I
Logan Reef
Sand Flats bare MLLW
Waterfall
Foul
AIUGNAK C
18706
18705
18704
18703
18702
18701
18699
32930
32935
32940
32945
32950
32955
32960
32965
32970
9990-Y-32950
9990-Y-32975
9990-X-18700
A
B
C
D
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		Dive Site #	Pos No.
	56/54/~~24~~.2N, LONGITUDE 156/45/~~57~~.4W. 36.79 49.87"	63	5874
K.	ROCK SHOAL SUBMERGED 4-1/4 FATHOMS AT LATITUDE 56/54/~~16~~.~~8~~N, LONGITUDE 156/47/~~20~~.~~5~~W. 4.4 FATHOMS 13.96 12.96"	71	5892
L.	ROCK PINNACLE SUBMERGED 6-3/4 FATHOMS AT LATITUDE 56/53/~~51~~.8N, LONGITUDE 156/47/41.5W. 6.8 FATHOMS 54.52" 34.29"	73	5891
M.	ROCK PINNACLE SUBMERGED 2-1/4 FATHOMS AT LATITUDE 56/54/~~12~~.1N, LONGITUDE 156/46/~~56~~.6W. 2.4 FATHOMS 14.89" 49.35"	76	5898
N.	ROCK PINNACLE SUBMERGED 3-1/2 FATHOMS AT LATITUDE 56/54/04.~~4~~N, LONGITUDE 156/46/~~37~~.9W. 3.4 FATHOMS 07.06" 32.49"	77	5901
O.	ROCK PINNACLE SUBMERGED 3/4 FATHOM AT LATITUDE 56/54/04.0N, LONGITUDE 156/46/~~13~~.8W. 0.9 FATHOMS 06.68 06.36"	79	5906
P.	ROCK SHOAL SUBMERGED 4-3/4 FATHOMS AT LATITUDE 56/53/~~26~~.0N, LONGITUDE 156/47/04.8W. 4.8 FATHOMS 28.66 46/57.41	94	3070
Q.	ROCK SHOAL SUBMERGED 7-1/2 FATHOMS AT LATITUDE 56/53/~~27~~.~~2~~N, LONGITUDE 156/47/~~27~~.~~5~~W. 7.6 FATHOMS 30.50" 20.15"	95	3067
R.	ROCK SHOAL SUBMERGED 2-3/4 FATHOMS AT LATITUDE 56/53/~~12~~.~~9~~N, LONGITUDE 156/47/~~17~~.1W. 2.4 FATHOMS 15.58" 09.66'	101	5910
S.	ROCK PINNACLE SUBMERGED 2-1/2 FATHOMS AT LATITUDE 56/53/~~32~~.0N, LONGITUDE 156/48/~~39~~.~~5~~W. 2.3 FATHOMS 34.61 32.09'	4	4283
T.	ROCK PINNACLE SUBMERGED 3-3/4 FATHOMS AT LATITUDE 56/53/~~17~~.~~8~~N, LONGITUDE 156/48/~~23~~.~~7~~W. 3.6 FATHOMS 20.41 16.32"	5	3160
U.	ROCK SHOAL SUBMERGED 8-1/2 FATHOMS AT LATITUDE 56/52/~~41~~.~~6~~N, LONGITUDE 156/48/~~37~~.~~7~~W. 8.6 FATHOMS 44.26" 32.31"	12	~~1585~~ 1583
V.	ROCK PINNACLE SUBMERGED 10-1/4 FATHOMS AT LATITUDE 56/52/~~32~~.~~2~~N, LONGITUDE 156/48/~~45~~.~~6~~W. 10.1 FATHOMS 34.89 36.17'	13	4285

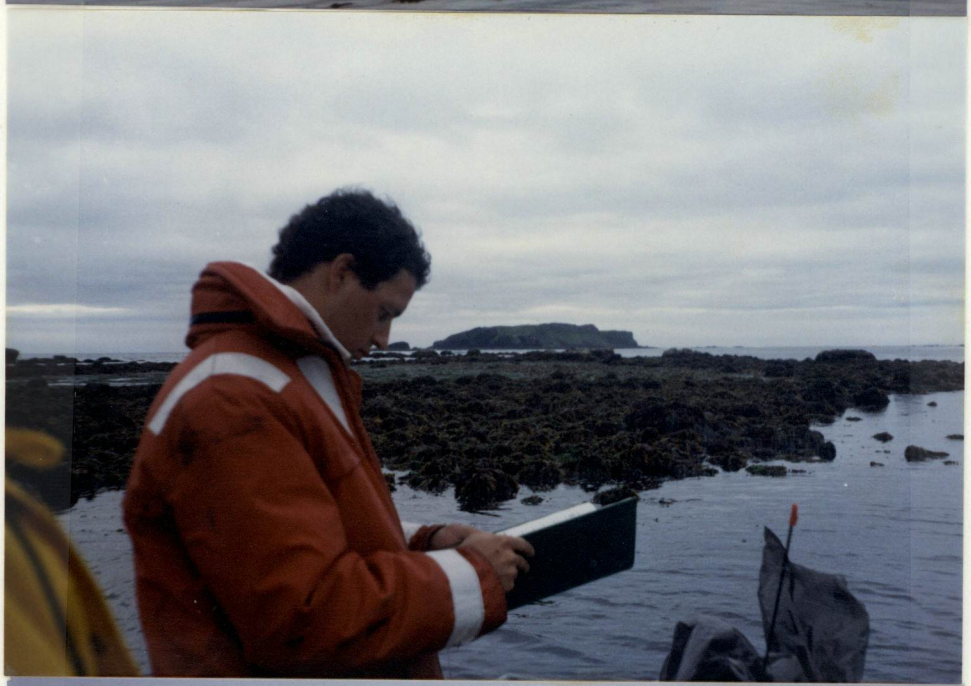
DEPTHS ARE REDUCED TO MLLW BASED ON ~~PREDICTED~~ ACTUAL TIDES.
GEOGRAPHIC POSITIONS ARE BASED ON NAD83 DATUM.
LARGEST-SCALE CHART AFFECTED: NOS PRELIMINARY CHART 16568, 6TH EDITION, APR 29/89, NAD83, 1:106,600.
NOTE: CROSSED OUT LAT. LONGS IS ON NAD83, NEW VALUES NAD27
THIS IS ADVANCE INFORMATION SUBJECT TO OFFICE REVIEW. LETTER WITH ATTACHED CHARTLET WILL BE FORWARDED TO CONFIRM THIS MESSAGE. QUESTIONS CONCERNING THIS MESSAGE SHOULD BE DIRECTED TO CHIEF, PACIFIC HYDROGRAPHIC SECTION AT (206) 526-6835.
BT
#2412

No. 1

No. 2

No. 3

No. 4



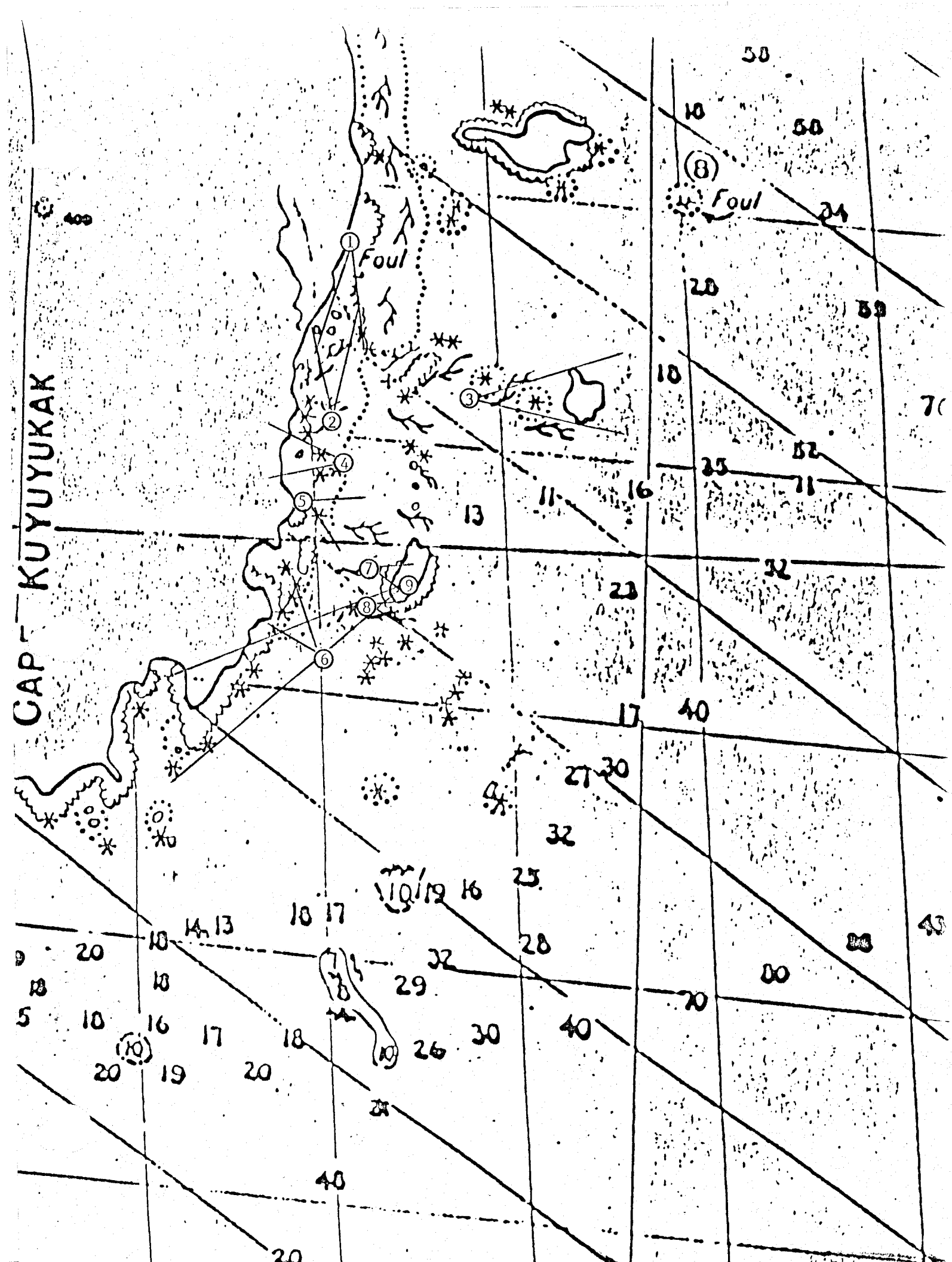
No. 5

No. 6

No. 7

No. 8

No. 9


CAP KUYUKAK
Foul
Foul
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(10)
(10)
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JCA

F00 M2

R 211820Z JUN 89
FM NOAAMOP SEATTLE WA
TO NOAAS RAINIER
ACCT CM-VCAA
BT
UNCLAS
RA079-092/MOP2
REF TELCON WILDER 06/20/89. PERMISSION GRANTED BY N/CG241
TO EXPAND BOTTOM SAMPLE SPACING TO 12 CM ON SHEET K IN DEPTHS
GREATER THAN 30 FA.
BT

KUJ | 231800Z JUN 8
JH | TPOST

F00

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
NOAA Ship RAINIER
1801 Fairview Avenue East
Seattle, Washington 98102

July 17, 1989

MEMORANDUM FOR: Rear Admiral Sigmund R. Petersen, NOAA
Director, Pacific Marine Center

FROM: Captain John C. Albright, NOAA
Commanding Officer, NOAA Ship RAINIER

SUBJECT: New Edition Chart 16568

We recently received the new edition of Preliminary Chart 16568 which includes 1987 and previous survey data. A cursory comparison of the chart compilation with FAIRWEATHER field sheet H-10243 (1987) in the Cape Providence area raises several concerns. Either crucial survey data exists but was not shown on the final field sheet or excessive cartographic license was taken during chart complilation. The items below are numbered correspondingly on the attached copies of portions of Chart 16568 and survey H-10243.

1. Does a rock awash really exist at this location, as the chart indicates? Survey H-10243 shows only a least depth of 5.5 fathoms over a rock, as determined by divers. Last summer I selected a route into Chiginagak Bay which passed just south of this feature, between it and the 4-fathom shoal to the south, based on all information available on our copy of field sheet H-10243. Consequently, RAINIER has passed close aboard to this feature many times both last year and this, at various stages of tide. We've seen no evidence of a rock awash. The same is true of our launches and small boats working in the area. If this rock awash exists I will give this area a wider berth. If not, the chart should be revised to accurately portray the available depth.

2. The survey records need to be examined to determine if this feature really has a least depth of 4 1/4 fathoms, as charted. I suspect the true depth may be 14 fathoms. Close inspection of a mylar copy of the field sheet reveals that a "1" in front of the "4.2" may have been partially erased to make room for the hand-lettered "11.9." The sounding just to the west is 15.7 fathoms, the "1" just barely discernible on the mylar copy. Adding to my doubt is the absence of a dive investigation on this feature, even though a deeper sounding 0.4 n.m. west, 7.1 fathoms, was dove, and the fact that the feature was apparently not reported as a danger to navigation, as far as I can tell from the marginal notes. Also, the field sheet shows neither the 10- nor 5-fathom depth contours around this feature.

	Chart	Survey H-10243
3.	Rock Awash	Least depth 7.6 fathoms - dive
4.	Rock Awash	Least depth 2.5 fathoms - dive
5.	Rock Awash	Least depth 4.5 fathoms - dive

There are additional discrepancies of this nature near Cape Providence. I haven't examined other areas of the chart.

On a related issue, I'd appreciate knowing when the next edition of Preliminary Chart 16568, compiled with 1988 and 1989 data, is scheduled for publication so I can respond to inquiries from local users.

Attachments

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

JCA

Action:	Date to MOP
PMC x 3	
Org. x 3	CC: X1 CO, RA, PMC
Initial	
Remarks	

RECEIVED
AUG 21 1989
PACIFIC MARINE CENTER

COPY FOR YOUR INFORMATION

XO
FOO
Rtn co

MEMORANDUM FOR: Rear Admiral Sigmund R. Petersen, NOAA
Director, Pacific Marine Center

FROM: Christian Andreasen
Captain Christian Andreasen, NOAA
Chief, Nautical Charting Division

SUBJECT: New Edition Chart 16568

We have not been able to determine how the rocks awash, referred to in your memorandum of July 17, 1989, came to be charted on the 6th edition of chart 16568. The most likely explanation is a misinterpretation of the labels "Rk" on the survey.

The final version of H-10243 will be reexamined prior to the publication of the next edition of chart 16568 and the chart will be brought into agreement with the survey. Chart 16568 is scheduled to be published in March or April 1990; a Notice to Mariners will be issued in the interim. Following the spring 1990 edition, the chart will be republished each year, as long as new surveys are available, then revert to its normal 8-year cycle.

cc:
PMC RA - Albright

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.

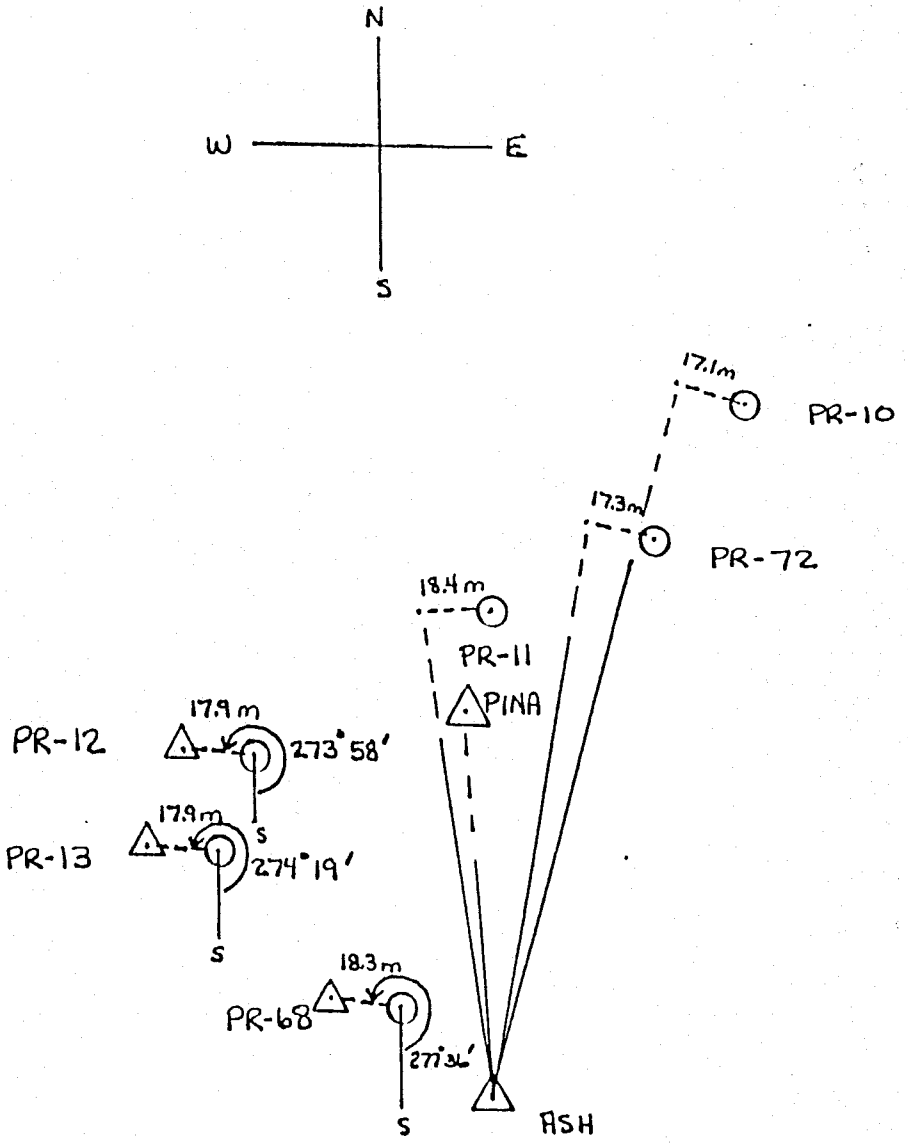
It is felt that to best display manuscript data on the final field sheets all features from the manuscript (including shoreline) should be shifted 1.8 millimeters to the west before application to the final field sheets. As work is beginning on final field sheets H-10214 and H-10215, resolution

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

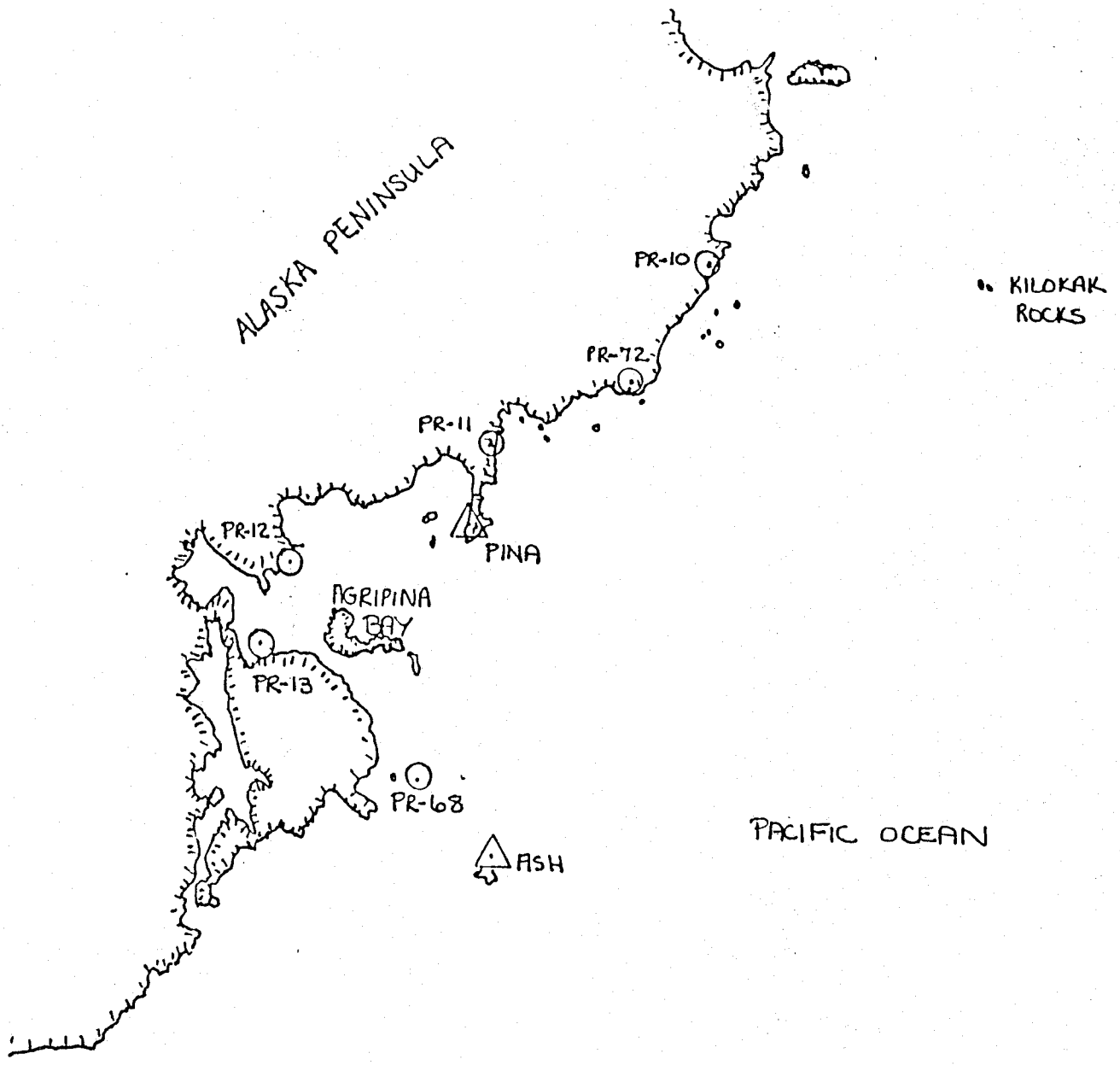
ATTACHMENT A - Displacement of Stations



⊙ - Aerotriangulated Positions

△ - Geodetic Positions

ATTACHMENT B - Station Locations



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
Tag	56°40'38.729"	56°40'38.779"	.050"	1.55
54	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

FW-11c

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 8/19/86 Same Subject

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

APPROVAL SHEET

Descriptive Report to Accompany

Hydrographic Survey

RA-10-2-89

H-10304

Standard procedures were followed in accordance with the Hydrographic Manual, Fourth Edition; the Hydrographic Survey Guidelines; and the Field Procedures Manual in producing this survey. The data were examined daily during data acquisition and processing.

The field sheet and accompanying records have been examined by me, are considered complete and adequate for charting purposes, and are approved.

John C. Albright
Captain, NOAA
Commanding Officer

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: Oct 31, 1989

MARINE CENTER: Pacific

OPR: P180

HYDROGRAPHIC SHEET: H-10304

LOCALITY: Alaska Peninsula, Gulf of Alaska, Southwestern Chiginagak Bay

TIME PERIOD: June 1 - August 14, 1989

TIDE STATION USED: 945-8522 Derickson Island, Ak

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 2.31 feet

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 9.3 feet

REMARKS: RECOMMENDED ZONING
Zone direct

James E. Hubbard

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

H-10304

Name on Survey	A ON CHART NO. 16568	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 Proposed	
ALASKA PENINSULA SOUTHWESTERN CHIGINAGAK BAY										
ALASKA (TITLE)	X									1
ALASKA PENINSULA (TITLE)	X									2
CAPE KUYUYUKAK	X									3
CHIGINAGAK BAY	X									4
* CUPCAKE ISLAND									X	5
SHELIKOF STRAIT	X									6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
				Approved:						17
										18
				Charles E. Harrington						19
				Chief Geographer - NOS/CG2x5						20
				JAN 23 1990						21
										22
										23
										24
* Tentative - Pending BGN decision										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

NOAA FORM 77-27(H) (9-83)

U.S. DEPARTMENT OF COMMERCE

HYDROGRAPHIC SURVEY STATISTICS

REGISTRY NUMBER: H-10304

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	8
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	8

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDION FILES	3					
ENVELOPES						
VOLUMES	1					
CAHIERS						
BOXES						

SHORELINE DATA

SHORELINE MAPS (List): TP-01152

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List): 16568 6th Ed., dated August 29, 1986; scale 1:106,600 NAD 1983

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			4887
POSITIONS REVISED			3854
SOUNDINGS REVISED			398
CONTROL STATIONS REVISED			
	TIME-HOURS VERIFICATION	TIME-HOURS EVALUATION	TIME-HOURS TOTALS
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	55		55
VERIFICATION OF SOUNDINGS	215		215
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	144		144
COMPARISON WITH PRIOR SURVEYS AND CHARTS		5	5
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		13	13
GEOGRAPHIC NAMES			
OTHER*			
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	414	18	432

Pre-processing Examination by D.J. Hill	*Beginning Date* 10/25/89	*Ending Date* 11/30/89
Verification of Field Data by M. Sanders, R. Shipley, E. Brown	*Time (Hours)* 414	*Ending Date* 6/22/90
Verification Check by J.S. Stringham	*Time (Hours)* 71	*Ending Date* 6/13/90
Evaluation and Analysis by G.E. Kay	*Time (Hours)* 18	*Ending Date* 7/19/90
Inspection by D.J. Hill	*Time (Hours)* 5	*Ending Date* 7/19/90

EVALUATION REPORT
H-10304

1. INTRODUCTION

Survey H-10304 is a basic hydrographic survey accomplished by the NOAA Ship RAINIER, under the following Project Instructions.

OPR-P180-RA, dated May 1, 1989
CHANGE NO. 1, dated May 5, 1989
CHANGE NO. 2, dated August 3, 1989

This survey occurred in Alaska and covers an area in Shelikof Strait off Cape Kuyuyukak and southwest of Chiginagak Bay. The surveyed area extends from latitude 56°57'00"N south to latitude 56°51'44"N and from longitude 156°44'12"W to longitude 156°49'40"W. The bottom configuration is rugged with many rock pinnacles breaking the water surface and a multitude of ledges protruding from the shoreline. The bottom consists of green mud and broken shells. Depths range from zero alongshore to 88 fathoms in the southeast section of the survey area.

Predicted tides for Kodiak, Alaska were used for the reduction of soundings during field processing. Approved hourly heights zoned from Derickson Island, Alaska, gage 945-8522, were used during office processing.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. The TRA table was expanded to include a zero corrector for rocks. Electronic control correctors for CODE 0 and vessel 2126 were updated to reflect corrected values. Table 2 sound velocity data as contained in the hydrographer's report was unverifiable. Data contained in the 1989 Corrections to Echo Sounders Data Package for OPR-P180-RA were substituted during office processing since supporting verifiable oceangraphic data were available. An accompanying computer printout contains the parameters and the correctors.

A digital file has been generated for this survey as required by N/CG2 Hydrographic Survey Guideline No. 23, Completion of Digital Hydrographic Surveys, September 7, 1983 and conforming to the specifications contained in Hydrographic Survey Guideline No. 52, Standard Digital Data Exchange Format, April 15, 1986. The file, however, is incomplete. Certain feature descriptive information, all line type data and miscellaneous isolated features are not in the digital record due to the present lack of digitizing resources. The user should refer to the smooth sheet for complete depiction of survey data.

2. CONTROL AND SHORELINE

Sections F and G of the hydrographer's report and the Horizontal and Electronic Control Reports for OPR-P180-RA, 1989, contain adequate discussions of horizontal control and hydrographic positioning.

Positions of horizontal control stations used during hydrography are 1989 field and published values based on NAD 27. These values were used during office processing for the computation of positions. The smooth sheet and accompanying overlays are annotated with NAD 83 adjustment ticks based on values determined by N/CG121. Geographic positions based on NAD 83 may be plotted on the smooth sheet utilizing the NAD 27 projection by applying the following corrections.

Latitude: -2.640 (-81.7 meters)
Longitude: 7.385 (124.9 meters)

The year of establishment of control stations shown on the smooth sheet originates with the survey records and published data.

There are 343 weak fixes, angles of intersection less than 30 degrees or more than 150 degrees, noted in this survey. However, there are no significant plotting differences between the soundings located by these fixes and those in adjacent areas. Also, none of these fixes are used to position dangers to navigation. These fixes are considered acceptable.

The following shoreline map applies to this survey.

	Photo Date	Class
TP-01152	July 1982, August 1983	III

Included in the hydrographer's report are two memoranda titled, "Aerotriangulation Stations and Shoreline Accuracy for OPR-P180-FA-86". The first memorandum, dated August 19, 1986, is from the NOAA Ship FAIRWEATHER and notes a problem between the map projection and the placement of the shoreline. The second memorandum, dated September 18, 1986, from N/CG2 confirms the problem as a datum shift. N/CG2 explains that the problem is related to the use of control points based on a 1948 geodetic adjustment when a 1976 adjustment should have been used. Use of 1976 adjustment results in a shift in longitude of approximately 1 second (17.4 meters), and .05 to .1 second in latitude (2.3 meters). The hydrographer's solution of shifting all shoreline data 1.8 millimeters to the west was approved by the Pacific Marine Center in the memorandum dated October 8, 1986.

The following shoreline changes are depicted in red on the smooth sheet and are supported with positional information. They are adequate to supersede the common photogrammetrically delineated shoreline.

Feature	Latitude North	Longitude West
HWL	56°56'57"	156°47'15"
Cupcake Island	56°55'50"	156°45'24"
HWL	56°55'48"	156°47'38"
HWL	56°55'45"	156°47'38"
Cupcake Island	56°55'43"	156°45'18"
Cupcake Island	56°55'39"	156°45'27"
HWL	56°54'47"	156°47'54"
HWL	56°54'36"	156°47'57"

3. HYDROGRAPHY

Hydrography 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 the survey was properly controlled and soundings are correctly plotted.

4. CONDITION OF SURVEY

The hydrographic records and reports received for processing are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change No. 3; the Hydrographic Survey Guidelines; and the Field Procedures Manual.

5. JUNCTIONS

Survey H-10394 junctions with the following surveys.

Survey	Year	Scale	Area
H-10274	1988	1:10,000	North
H-10281	1988	1:10,000	East
H-10305	1989	1:10,000	West
H-10308	1989	1:10,000	South and southwest

Surveys H-10305, H-10308 junctions are complete. The junction with surveys H-10274 and H-10281 have not been formally completed since those surveys were previously processed and forwarded for charting. The junction comparisons were made using copies. Soundings are in good agreement. Portions of the depth curves on surveys H-10274 and H-10281 should be adjusted to conform with those on survey H-10304. Some soundings have been transferred to surveys H-10305 and H-10308 to better portray the common area.

6. COMPARISON WITH PRIOR SURVEYS

There are no prior surveys within the limit of survey H-10304.

7. COMPARISON WITH CHART

Chart 16568, 6th Edition, dated April 29, 1989; scale 1:106,600 NAD 1983

a. Hydrography

All charted hydrography originates with miscellaneous sources. However, the shoreline and offshore rocks have been updated with revisions from the shoreline map TP-01152. For additional information see hydrographer's report section L, page 9.

Survey H-10304 is adequate to supersede charted hydrography within the common area.

b. AWOIS

There are no AWOIS items originating from miscellaneous sources on this survey.

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 area of this survey.

e. Geographic Names

Names appearing on the smooth sheet and in the survey title have been approved by the Chief Geographer.

f. Dangers to Navigation

The hydrographer reported twenty-three dangers in two danger reports dated, July 3, 1989 and October 20, 1989 to the U.S. Coast Guard and DMAHTC. The dangers consisted of submerged rocks and shoals. Copies of the messages are attached.

No additional dangers were discovered during office processing

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10304 adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is an adequate hydrographic survey. No additional field work is recommended.

Gordon E. Kay
Cartographer

APPROVAL SHEET
H-10304

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, comparison with prior surveys and verification or disproval of charted data. The digital data have been completed and all revisions and processing have been entered in the magnetic tape record for this survey. Final control, position, and sounding printouts have been made and are included with the survey records. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Dennis J. Hill Date: 7-20-90

Dennis J. Hill
Chief, Hydrographic Processing Unit
Pacific Hydrographic Section

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

Date: 7/20/90

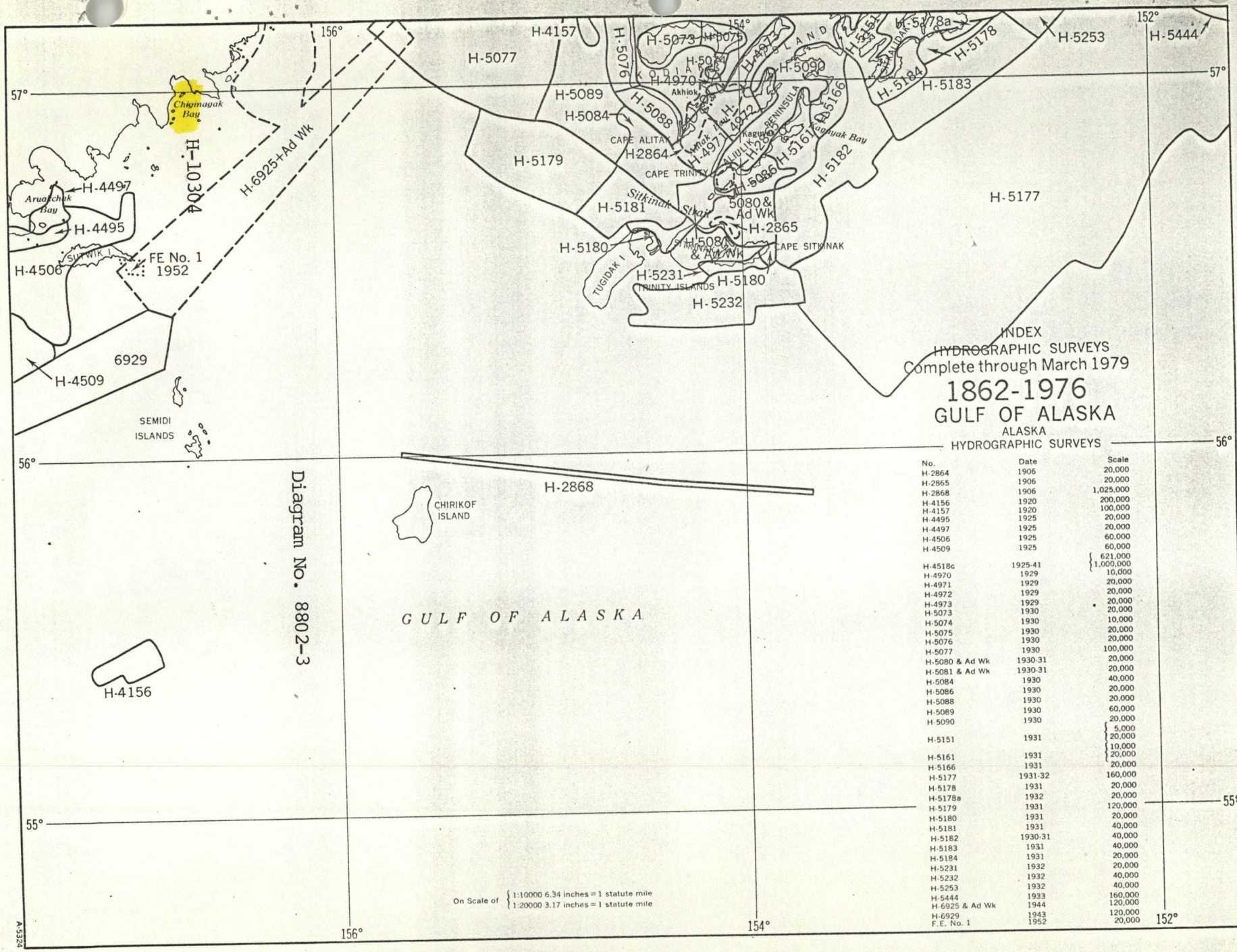
Commander Pamela Chelgren-Koterba, NOAA
Chief, Pacific Hydrographic Section

****

Final Approval

Approved: Wesley V. Hull Date: 8/10/90

Wesley V. Hull
Rear Admiral, NOAA
Director, Charting and Geodetic Services



INDEX
HYDROGRAPHIC SURVEYS
Complete through March 1979

1862-1976
GULF OF ALASKA

ALASKA
HYDROGRAPHIC SURVEYS

No.	Date	Scale
H-2864	1906	20,000
H-2865	1906	20,000
H-2868	1906	1,025,000
H-4156	1920	200,000
H-4157	1920	100,000
H-4495	1925	20,000
H-4497	1925	20,000
H-4506	1925	60,000
H-4509	1925	60,000
H-4518c	1925-41	621,000 1,000,000
H-4970	1929	10,000
H-4971	1929	20,000
H-4972	1929	20,000
H-4973	1929	20,000
H-5073	1930	20,000
H-5074	1930	10,000
H-5075	1930	20,000
H-5076	1930	20,000
H-5077	1930	100,000
H-5080 & Ad Wk	1930-31	20,000
H-5081 & Ad Wk	1930-31	20,000
H-5084	1930	40,000
H-5086	1930	20,000
H-5088	1930	20,000
H-5089	1930	60,000
H-5090	1930	20,000
H-5151	1931	5,000 20,000
H-5161	1931	10,000 20,000
H-5166	1931	20,000
H-5177	1931-32	160,000
H-5178	1931	20,000
H-5178a	1932	20,000
H-5179	1931	120,000
H-5180	1931	20,000
H-5181	1931	40,000
H-5182	1930-31	40,000
H-5183	1931	40,000
H-5184	1931	20,000
H-5231	1932	20,000
H-5232	1932	40,000
H-5253	1932	40,000
H-5444	1933	160,000
H-6925 & Ad Wk	1944	120,000
H-6929	1943	120,000
F.E. No. 1	1952	20,000

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

Hydrographic Index No. 117A

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10304

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	12/21/89	ALMACEN	~~Full~~ Part Before ~~After~~ Marine Center Approval Signed Via partial application
			Drawing No. of Sndgs. from field sheet.
16568	7/10/91	ALMACEN	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via full application
			Drawing No. of sndgs. from SS.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
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CHART	DATE	CARTOGRAPHER	REMARKS
16568	12-4-90	TRACY SANFORD	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 9
16011	6/28/93	Kenny O'Dell KOD	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 31 Applied Thru C-16568 # 10
16013	6/29/93	Kenny O'Dell KOD	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 30 APPLIED THRU C-16011 #31.
16006	6/30/93	Kenny O'Dell	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 27 APPLIED THRU C-16011 # 31.
500	9-30-93	K. Elliott KE	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 7 APPL'D THRU 16006 #27
530	9-30-93	K Elliott KE	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 7 APPL'D THRU 16006 #27
531	9-30-93	K. Elliott	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 7 APPL'D THRU 16006 #27
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.