10314

10314

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 ..... Hydrographic

Field No. RA-10-5-89

Registery No. H-10314

LOCALITY

State ..... Alaska

General Locality ..... Alaska Peninsula

Sublocality ..... Ugaiushak Island to Central Island and Vicinity

1989

CHIEF OF PARTY
CAPT J.C. Albright

LIBRARY & ARCHIVES

DATE ..... September 21, 1990

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

"GP"

chts

16568 100,600
16013 969,761
16560 New chart
16006 1,534,076
16011 1,023,188
800
530
531

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

H-10314

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 10-5-89

State: Alaska

General locality: Alaska Peninsula

Locality: Ugaiushak Island to Central Island and Vicinity

Scale: 1:10,000 Date of survey: Aug 10 to Sept 10, 1989

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

Vessel: NOAA Ship RAINIER (2120), Launches RA-3 (2123), RA-4 (2124) and RA-5 (2125)

Chief of party: CAPT J.C. Albright

Surveyed by: LT Niichel, LTJG Glang, LTJG Noll, LTJG Duffy, ENS Haines, ENS Schoonover, ENS 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: M. Sanders, R. Shipley, R. Mihailov

~~Protracted by~~: J. Stringham, B. Brown Automated plot by: PHS Xynetics Plotter

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

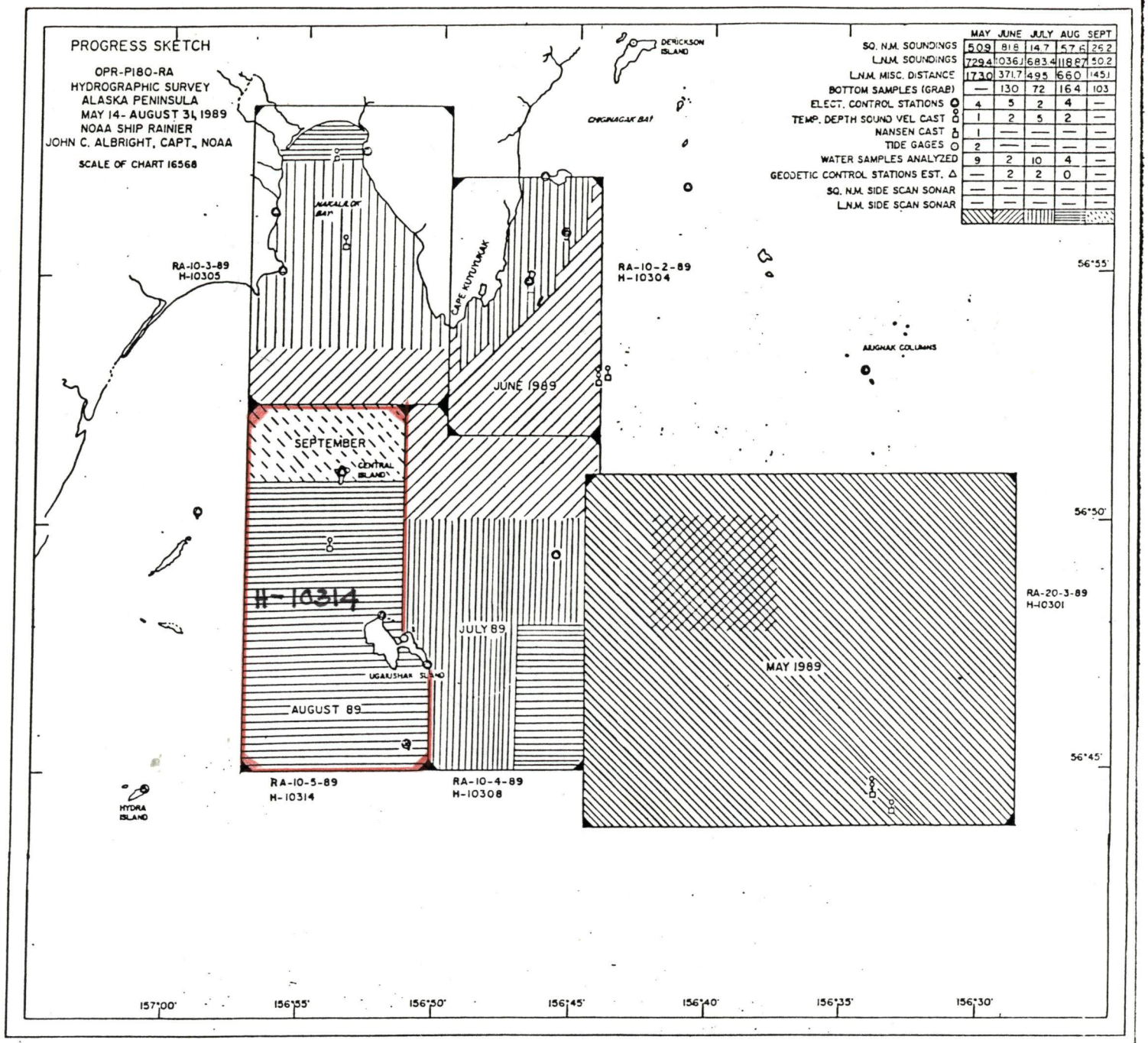
Soundings in fathoms ~~feet~~ at ~~MHW~~ MLLW and tenths of fathoms

REMARKS: All times in UTC. Revisions and marginal notes in black generated during office processing. Separates are filed with the hydrographic data.

AWOIS/SURF MSD 10/1/90

SC 1-30-97

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



	MAY	JUNE	JULY	AUG	SEPT
SQ. N.M. SOUNDINGS	509	818	147	57.6	25.2
L.N.M. SOUNDINGS	729.4	1036.1	683.4	118.67	50.2
L.N.M. MISC. DISTANCE	173.0	371.7	495	66.0	145.1
BOTTOM SAMPLES (GRAB)	—	130	72	16.4	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-10314

Field Number RA-10-5-89
Scale 1:10,000
1989

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

A. PROJECT

A basic hydrographic survey was completed along the Alaska Peninsula, Alaska, as specified by Project Instructions OPR-P180-RA dated May 1, 1989, Change No. 1 dated May 5, 1989, and Change No. 2 dated August 3, 1989. This survey is one of the optional 1:10,000-scale surveys, and is designated Sheet AN on the revised sheet layout, dated September 16, 1987.

The survey is one in a series that will provide contemporary hydrographic data for updating existing nautical charts and for constructing a new series of 1:80,000-scale charts. It responds to requests from the United States 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 southcentral Alaska Peninsula, south of Nakalilok Bay, and approximately six nautical miles south-southwest of Cape Kuyuyukak. The survey area includes Central Island, Ugaiushak Island, and the reef ~~one~~ 1.5 nautical mile south of Ugaiushak Island. The survey limits are latitudes 56°52'08"N and 56°45'00"N, and longitudes 156°57'02"W and 156°50'17"W. Data acquisition was conducted from August 10 through September 10, 1989 (DN 222-DN 253).

The shoreline around Central and Ugaiushak Islands is generally characterized by numerous rocks and rocky ledges rising to steep grass-covered hills. The cove on the north side of Ugaiushak Island is foul with rocks and kelp along the western shore; the eastern shore is a rock ledge.

The bathymetry is somewhat irregular due to intrusive and extrusive forms of igneous rock. Isolated shoals were found south of Central Island, and south and southwest of Ugaiushak Island. Depths ranged from zero alongshore to one hundred and five fathoms along the western limit of the survey.

Bottom characteristics throughout the survey area consisted generally of green mud, black sand and pebbles, with occasional broken shell and gravel. An increase in the amount of broken shell and coral was observed in the vicinity of Ugaiushak Island.

C. SOUNDING VESSELS

All data were acquired by NOAA Ship RAINIER and three automated survey launches, as shown below:

Vessel	EDP No.	Operation
RAINIER	2120	Hydrography
		Bottom Samples
		Nansen/Plessey Casts
RA-3	2123	Hydrography
RA-4	2124	Hydrography
RA-5	2125	Hydrography
		Bottom Samples

No changes to the standard sounding configurations were necessary.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

NOAA Ship RAINIER and 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

EDP No.	Serial No.	DN
2120	B046N	158-226
	A103N	236-252
2123	A114N	197-253
2124	A103N	209-222
	A119N	227-251
2125	A117N	179-251

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 bottom, 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 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 for all launches was determined on February 10, 1989. This transducer depth agrees with the launches' historical records.

While RAINIER was in dry-dock in February 1989, the distance from the transducer to the gunwhale was measured with a leadline. The distances from the gunwhale to the water were then measured when the ship was refloated and the fuel tanks were at 60% and 100% capacity. A transducer depth of 2.4 fathoms was calculated from these measurements.

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 extremely irregular bottom topography made it sometimes difficult to determine which fathogram features were caused by sea action. *No problems noted during office processing.*

Sound Velocity

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

Cast No.	Deepest Depth (m)	DN	Geographic Position
9	140	224	56°53.4'N, 156°43.3'W
10	180	240	56°49.5'N, 156°54.4'W

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.

A Nansen cast was taken on the same day as Plessey Cast #1 (DN 148) 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	Vessels
7	9	221-229	Launches
1	9	224-229	RAINIER (not used)
8	10	234-253	Launches
9	10	234-253	RAINIER

Velocity correctors within each table were computed at 0.1-fathom increments using the PC program VELOCITY. HDAPS listings of each velocity table used are appended to this report. (Filed with hydrographic data.)

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. The correctors were determined for RAINIER near Turnabout Island, Frederick Sound, Alaska on April 1, 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. S&S correctors applied to vessels' static draft in the TRA tables during office processing.

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.

An HDAPS listing of the settlement and squat correctors applied during data acquisition is appended to this report. (Filed with the hydrographic data.)

Tide Correctors

Tidal zoning and correctors applicable to predicted tides for the Kodiak, Alaska tide station (945-7292) were provided on the chartlet 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. An HDAPS listing of the applied predicted tide correctors is appended to this report.

Tide stations at Ugaiushak Island (945-8553) and Derickson Island (945-8522) were established and maintained by RAINIER personnel. Only the Ugaiushak Island tide data was required for this survey, but data from the Derickson Island tide gages 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 appended to this report. (Filed with the hydrographic data.)

E. HYDROGRAPHIC SHEETS

All field sheets were prepared aboard RAINIER, on an automated Bruning Zeta 924-A plotter. The HDAPS system draws graticules based on a Universal Modified Transverse Mercator projection. The two 1:10,000-scale final field sheets are designated RA-10-5E-89 and RA-10-5W-89; each has an accompanying 1:10,000-scale overlay showing mainscheme splits, bottom sample characteristics and detached positions (DPs). In addition, one 1:5,000-scale sheet was used to portray soundings in the two small coves on the southwest side of Ugaiushak Island. A 1:2500-scale development sheet was drawn to legibly depict soundings acquired from a sounding disproval development (10-meter line spacing). The limits of the development are shown on the two overlays and the final field sheet. See EVAL RPT Sec. F

Depth contours are drawn on the final field sheets in accordance with the Hydrographic Manual, except in areas of steep bathymetry where all prescribed 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/CG245) for ~~verification~~ office processing. ✓

F. CONTROL STATIONS

A listing of the geodetic stations used to control this survey is appended to this report. A "*" on the listing marks stations located on offshore islands where the station symbols may obscure the depiction of the islands' shoreline. ✓

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 field positions for new stations are unadjusted. All stations meet or exceed Third-order, Class I standards for positioning. 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 Falcon 484 microwave, multi-range positioning equipment. Bottom sample positions were acquired using Motorola Mini-Ranger III equipment in HYDROPLOT's range-range mode. ✓

Positioning Equipment

Three Mini-Ranger Falcon 484 console/R-T pairs, one Mini-Ranger III console/R-T pair, and eleven 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	Days
2120	RAINIER	Falcon	E0138/F3413	236-253
2123	RA-3	Falcon	F0247/D2395	222-253
2124	RA-4	Falcon	D0051/911615	222-253
2125	RA-5	MR III	720/B1405	222-253

Shore Equipment

Transponder Serial No.	Code	Transponder Serial No.	Code
911697	A	B1412	0
C1883	B	D2384	1
911711	D	B1106	2
F3256	E	E2713	3
G3501	F	F3248	4
		B1413	5

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, 3[new], 5 and B)
Seattle, WA	966 m	262-272	Lake Union (MR CAL 2)

The final field sheets were plotted with the opening baseline calibration correctors, except for data collected by Vesno 2124 and 2125 using Code 1 (S/N D2384), which was plotted with the Chiginagak Bay corrector. Differences between opening and closing baseline correctors agreed within limits specified by FPM 3.1.2.3 for all codes except those listed in the tables below. The hydrographer recommends that opening baseline calibration correctors be applied during final processing, except for the following console-R/T combinations:

Recommended Prorated Correctors for Console-R\T: D0051/911615

CODE A			CODE B		
DN	Corrector (m)	USED	DN	Corrector (m)	USED
222-240	-18	-22	238-241	-9	-8.68
241-253	-17	-22	242-244	-8	-8.68
			245-247	-7	-8.68
			248-250	-6	-8.68
			~~251-253~~	~~-5~~	

Recommended Prorated Correctors for Console-R/T: F0247/D2395

CODE A		
DN	Corrector (m)	USED
222-225	+3	-1.0
226-244	+4	-1.0
~~245-253~~	~~+5~~	

The present HDAPS configuration does not allow field units to change baseline correctors. Prorated correctors are recommended for final processing, if N/CG245 HDAPS processing system hardware and software allow for changes to baseline correctors. PHS presently unable to change baseline correctors.

See EVAL RPT Sec. 2.

On DN 251-252, Vesno 2120 acquired soundings (Pos. Nos. 7908-7911) and bottom samples using Code B, which had no baseline correctors. HDAPS provided a default corrector of +0 meters. Positioning fell within allowable rejection limits at the time, but closing calibrations for Falcon console-R/T E0138/F3413 with Code B indicated a corrector of +11 meters. A corrector of +11 meters is recommended for final processing, if system hardware and software allow for changes to baseline correctors.

Pos. 7908 – 7911 were rejected.

See VSSL 2123 DN 242

Vesno 2125 used code B while acquiring soundings in the two bays on the southwest side of Ugaiushak Island on DN 241, and while collecting bottom samples on DN 241 and DN 251. This code was received while in the working grounds, but was not calibrated in Chiginagak Bay with console-R/T 720/B1405. As data acquired with this code plotted well in relation to shoreline features, the hydrographer recommends that no calibration correctors be applied to this code. Concur. Data agrees with shoreline features and has been accepted.

✓

System Check Procedures

See EVAL RP Sec. 2

Critical systems checks were conducted in accordance with FPM 3.1.2.2. Printouts of HDAPS screen graphics displaying multiple lines of position confirmed that the error circle radius and maximum residual did not exceed allowable rejection limits.

✓

Problems and Unusual Position Configurations

soundings and bottom samples 241, 242, 248, 249

Some shoreline detached positions were acquired by Vesno 2125 on DN ~~248~~. These HYDROPLOT ranges were converted to easting and northing values by RK 300 Utilities, then entered in HDAPS Contact File No. 33 for ease of plotting. Bottom sample positions acquired by Vesno 2125 were also plotted in this fashion. See EVAL RPT sec. 1

On DN 241, Vesno 2125 acquired soundings in the two coves on the southwest side of Ugaiushak Island. As only one code could "see" into the coves, hydrography was accomplished by beginning and ending sounding lines an approximate distance from shore and steering along a constant distance (arc) from the one visible station. Arcs were run at a spacing of 25 meters. The soundings in the coves were plotted by hand on a 1:5,000-scale sheet, and are shown in blue on the final field sheet. See EVAL RPT sec. 1

On Vesno 2123, Mini-Ranger Falcon F0247/D2395 displayed signal strengths of 99 when nearing its signal strength cut-off value. The HDAPS on-line feature of displaying and recording position quality information (residual and ECR values) for each sounding allowed these data to be examined on-line and off-line to ensure that residual values never exceeded 0.5 mm at the scale of the survey. If residuals exceeded the maximum allowed, the position was flagged and checked for accuracy.

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 higher ECR and residual values). See EVAL RPT sec 2

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. Concur.

Antenna Offset Distances (ANDIST)

The ANDIST corrector was 0.0 meters for all launches as each launch had its antenna located over the transducer. For RAINIER, the antenna layback was -6.6 meters, entered in Offset Table No. 2.

H. SHORELINE

Two shoreline maps (T-sheets) were used to transfer shoreline detail to the final field sheets. Ugaiushak Island shoreline originates from TP-01156 (1:10,000); Central Island shoreline originates from a 1:10,000-scale enlargement of TP-01152 (1:20,000). The 18-meter westward shift of all T-sheet shoreline was applied to T-sheets and all field sheets in accordance with N/CG2's memorandum dated September 18, 1986 (see Supplemental Appendix). There was no photo-coverage for the reef 1.0NM south of Ugaiushak Island. Copy attached.

Shoreline verification was conducted either at or near low water in accordance with FPM 7.0. Verification was completed in all areas except the south shore of the bay on the north side of Ugaiushak Island and the northeast side of the island's south bay. Rocks do exist within the north bay as shown on the T-sheet, but no DPs were obtained due to the high seas and winds prevailing during days when low-water verification would have been possible. This bay was visually inspected several times on days when soundings could be obtained; the south shore is foul with rocks, with a

sand beach inshore of the rocks. In the south bay, the submerged T-sheet rocks were not seen while acquiring sounding data nor during shoreline verification. However, kelp was visible and it is likely that submerged rocks do exist. High seas again prevented further investigation. Foul area limits, shown in brown on the final field sheet, were drawn at the inshore limits of sounding lines, as they are the approximate limits of safe navigation. Unverified T-sheet rocks and islets which were carried through to the final field sheet are shown in brown; details which were verified or added are shown on the final field sheet in black.

DPs taken at low water prove that the T-sheet photography was flown during a stage of tide higher than MLLW, possibly as high as mid-tide. T-sheet ledges were found to be more extensive and isolated rocks were often high points within foul areas or on ledges. All changes to T-sheet features are shown in red on the final field sheets.

The two rocks located within a small cove on the southwest side of Ugaiushak Island (56°47.6'N, 156°52.4"W) were not seen while acquiring sounding data. As shoreline verification was not possible in this area when the tide was low enough for positioning shoreline features, the rocks were brought through to the final field sheet. **Recommendation:** Retain the two rocks as shown on TP-01156. Concur. Chart as shown on smooth sheet.

Limits of the reef south of Ugaiushak Island were determined from DPs and are shown in black on the final field sheet. The reef extends for approximately 0.6NM in the northwest-southeast direction, with a maximum width of 0.1NM and a maximum height of 50 feet. The positions and heights of islets within the reef were estimated from the DPs taken at low water; the approximate high-water line of larger islets is shown with a dashed red line on the final field sheet. TOEE REEF, the proposed geographic name for this reef, will be submitted to the U.S. Board of Geographic Names. See EVAL RPT Sec 7(e)

DPs were recorded on the master printouts. A detailed paper plot showing all DPs and notes relating to each position is included with the sheets submitted with this survey. Position numbers for all DPs are plotted on the two DP 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 45.3 nautical miles of crosslines were run perpendicular to mainscheme lines, representing 10% of the mainscheme hydrography. Crossline soundings agree within two fathoms with mainscheme soundings, except in areas of steep bottom topography. In several instances, the vessel acquiring the crossline data did not acquire the corresponding 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-10305 (1:10,000; 1989) and H-10308 (1:10,000; 1989) along the northern and eastern boundaries, respectively. There are no contemporary surveys to the west or south of this survey. No irregularities were found when comparing soundings and depth contours. While minor discrepancies occur over steeply sloping areas, overall agreement of overlapping soundings between surveys is excellent, with all soundings agreeing to within 2 fathoms of the junction soundings. See EVAL RPT Sec. 4

K. COMPARISON WITH PRIOR SURVEYS

No prior surveys lie within the limits of this survey.

L. COMPARISON WITH THE CHART

This survey was compared to NOS Preliminary Chart 16568, 6th Edition, Apr29/89, 1:106,600 (NAD83).

Comparison of Sounding Features

Thirty-three charted soundings, originating from BP39180, lie within the survey area. This blueprint was compiled from 1:20,000-scale USC&GS reconnaissance surveys in 1944, but was not available for comparison with this survey. Sounding agreement between this survey and the chart is very good, with all charted soundings being within 0.5NM of soundings from this survey. The techniques used for positioning and sounding during the reconnaissance surveys, coupled with the irregularity of the bottom, are the probable causes of any discrepancies found.

Line spacing was reduced to 50 meters in depths less than 30 fathoms in order to locate shoal depths and to better define depth contours. Additional developments consisting of 25-meter line spacing were run to determine the shoalest depths on which to conduct a dive investigation.

Dive investigations resulted in least depth determinations of three shoals. Each echo sounder depth considered for a dive operation was assigned a dive site number; these numbers, along with the least depths originally investigated, appear on the dive investigation forms. The forms contain detailed descriptions and sketches of each feature and are included within the accordion files submitted with this survey.

The three dive-obtained least depths were reported as dangers to navigation. A copy of the dangers to navigation correspondence appended to this report includes the position number of each dive.

Recommendation: The hydrographer recommends that least depths and general soundings found within the survey area be used to update the chart. concur.

Comparison of Non-Sounding Features

In general, the charted shoreline for Central and Ugaiushak Islands and the reef south of Ugaiushak Island are good representations of the area. Charted rocks shown around Ugaiushak Island are ledges, foul areas or individual rocks.

Recommendation: The hydrographer recommends that shoreline features positioned within the limits of this survey be applied to the chart. concur.

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

Dangers to Navigation

Four dangers to navigation originating from three dive investigations and one shoal investigation were reported to the Seventeenth Coast Guard District and the

Defense Mapping Agency/Hydrographic and Topographic Center by radio message and letter. A copy of the dangers to navigation correspondence is appended to this report. Position numbers associated with each item have been noted on the radio message.

M. ADEQUACY OF SURVEY

This is the first basic hydrographic survey to be conducted in this area. The survey is considered complete and adequate for updating the chart, and to supersede any historical data. Although shoreline verification was unable to be conducted along the south shore of the cove on the north side of Ugaiushak Island, the hydrographer believes the data acquired in this area is adequate for updating the present chart and the proposed 1:80,000-scale chart of the area.

See EVAL RPT Secs 2 & 9

N. AIDS TO NAVIGATION

There are no fixed aids to navigation within or near the limits of this survey. There are no floating aids to navigation, bridges, overhead cables, pipelines or ferry routes within the limits of the survey.

O. STATISTICS

Vessel:	2120	2123	2124	2125	Total
# of Pos	1066	2264	1032	122	~~4484~~ 3269
NM Hydro	198.3	206.6	149.9	1.4	556.2

NM^2 Hydrography	23.8	Velocity Casts	2
Detached Positions	199	Tide Stations	2
Bottom Samples	82	Current/Magnetic Stations	0

P. MISCELLANEOUS

All bottom samples have been submitted to the Smithsonian Institution.

No current measurements were made during this survey, as no anomalous currents were observed.

The format recommended in Hydrographic Survey Guideline #66 for reporting dangers to navigation was modified for submission by radio message. All of 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 NOS 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 the Supplemental Appendix. Filed w/ separates.

R. AUTOMATED DATA PROCESSING

HDAPS programs "SURVEY" (version 3.03), "FILESYS" (version 1.20), and "POSTSUR" (version 3.03) were used in the creation of all field sheets, and the acquisition and processing of data. Version 4.00 of "POSTSUR", field-modified to plot without position numbers, was used in plotting the final field sheets. The survey data, stored according to sheet number, were forwarded to N/CG245 on 32-track tape cartridges. A listing of the acquisition and processing hardware components is appended to this report. (Filed with the hydrographic data) See EVAL RPT Sec. 1

S. REFERRAL TO REPORTS

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

Title	Date Sent to N/CG245
Summer 1989 Horizontal Control Report for OPR-P180-RA	October, 1989
Summer 1989 Electronic Control Data Package for OPR-P180-RA	October, 1989
Summer 1989 Corrections to Echo Soundings Data Package for OPR-P180-RA	October, 1989
Summer 1989 Coast Pilot Report for OPR-P180-RA	October, 1989

Respectfully Submitted,

Karen L. Schoonover
Ensign, NOAA

Approved and Forwarded,

John C. Albright
Captain, NOAA
Commanding Officer

CONTROL STATIONS

No	Type	Latitude	Longitude	H	Cart	Freq	Vel	Code	MM/DD/YY
101	F	056:53:03.001	156:34:16.924	33	250	0.0	0.0	0	06/09/89
115	F	056:51:04.244	156:53:50.796	109	250	0.0	0.0	5	07/28/89
102	F	056:56:42.909	156:41:05.540	16	250	0.0	0.0	0	06/09/89
116	F	056:56:14.461	156:56:03.847	44	250	0.0	0.0	F	08/02/89
117	F	056:47:02.929	156:50:25.485	28	250	0.0	0.0	E	08/24/89
118	V	056:47:42.226	156:51:10.038	29	139	0.0	0.0		06/09/89
111	F	056:54:52.504	156:46:48.812	39	250	0.0	0.0	4	06/09/89
119	F	056:55:04.147	156:55:52.500	32	250	0.0	0.0	3	07/28/89
120	V	056:58:04.612	156:53:23.217	7	139	0.0	0.0		06/09/89
121	F	056:57:09.164	156:53:00.506	6	250	0.0	0.0	2	06/09/89
110	F	056:56:57.521	156:46:21.810	34	250	0.0	0.0	E	06/09/89
112	F	056:48:55.108	156:45:39.204	20	250	0.0	0.0	1	06/09/89
125	V	056:47:51.458	156:52:27.133	138	139	0.0	0.0		06/22/89
010	V	056:47:51.214	156:50:56.714	1	139	0.0	0.0		06/09/89
122	V	056:54:32.546	156:50:18.558	167	139	0.0	0.0		06/22/89
123	V	056:48:03.186	157:00:53.913	11	139	0.0	0.0		06/22/89
124	F	056:48:07.757	156:52:01.751	45	250	0.0	0.0	D	06/22/89
126	F	056:50:15.116	156:50:54.445	32	250	0.0	0.0	F	08/27/89
128	V	056:45:38.956	156:51:05.936	15	139	0.0	0.0		08/11/89
100	V	056:58:33.386	156:32:48.468	11	139	0.0	0.0		00/00/00
129	F	056:44:38.595	157:00:49.893	32	250	0.0	0.0	0	08/21/89
511	F	056:51:04.244	156:53:50.796	109	250	0.0	0.0	2	08/15/89
103	F	046:51:29.174	084:04:08.541	0	250	0.0	0.0		00/00/00
104	F	046:50:10.861	083:51:42.973	0	250	0.0	0.0		00/00/00
165	F	046:59:57.636	083:55:13.153	0	250	0.0	0.0	1	00/00/00

CONTROL STATIONS (By Station Number, Name, and Year)

~~101~~	~~AIUGNAK~~	~~1944~~
~~102~~	~~CHIG~~	~~1944~~
~~110~~	~~PR-54~~	~~1988~~
111	KAYAK	1988
*112	RADIAL	1988
115	CENTRAL	1944
116	CLIFF	1944
117	HAWK	1944
~~118~~	~~HUEY~~	~~1982~~
119	NAKOL	1944
~~120~~	~~NAKOLILOK EAST BASE~~	~~1944~~
~~121~~	~~PR 52~~	~~1989~~
~~122~~	~~YUYU~~	~~1944~~
~~123~~	~~LONG~~	~~1944~~
*124	PENNY	1989
~~125~~	~~UGAI~~	~~1944~~
*126	WOLFF	1989
~~127~~	~~CUPCAKE TP~~	~~1989~~
*128	TOEE	1989
*129	HYDRA	1944
~~200~~	~~KAY CAL PT~~	~~1989~~
201	UGI CAL PT	1989

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

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

September 25, 1989

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

Dear Sir:

While conducting hydrographic survey operations along southcentral Alaska Peninsula, NOAA Ship RAINIER discovered 19 dangers to navigation and six information items. They have been reported to DMAHTC (NAVWARN) and the Seventeenth Coast Guard District. A copy of the correspondence describing them is enclosed.

Sincerely,

for John C. Albright
Captain, NOAA
Commanding Officer

Enclosures

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

September 25, 1989

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

Dear Sir:

Enclosed is a confirmation copy of the radio message forwarded to your office regarding the dangers to navigation which I recommended 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 enclosed.

Sincerely,

John C. Albright
FOR Captain, NOAA
Commanding Officer

Enclosures

cc: DMAHTC
N/CG221
N/MOP

KVJ | 261650Z SE
JA | HAND

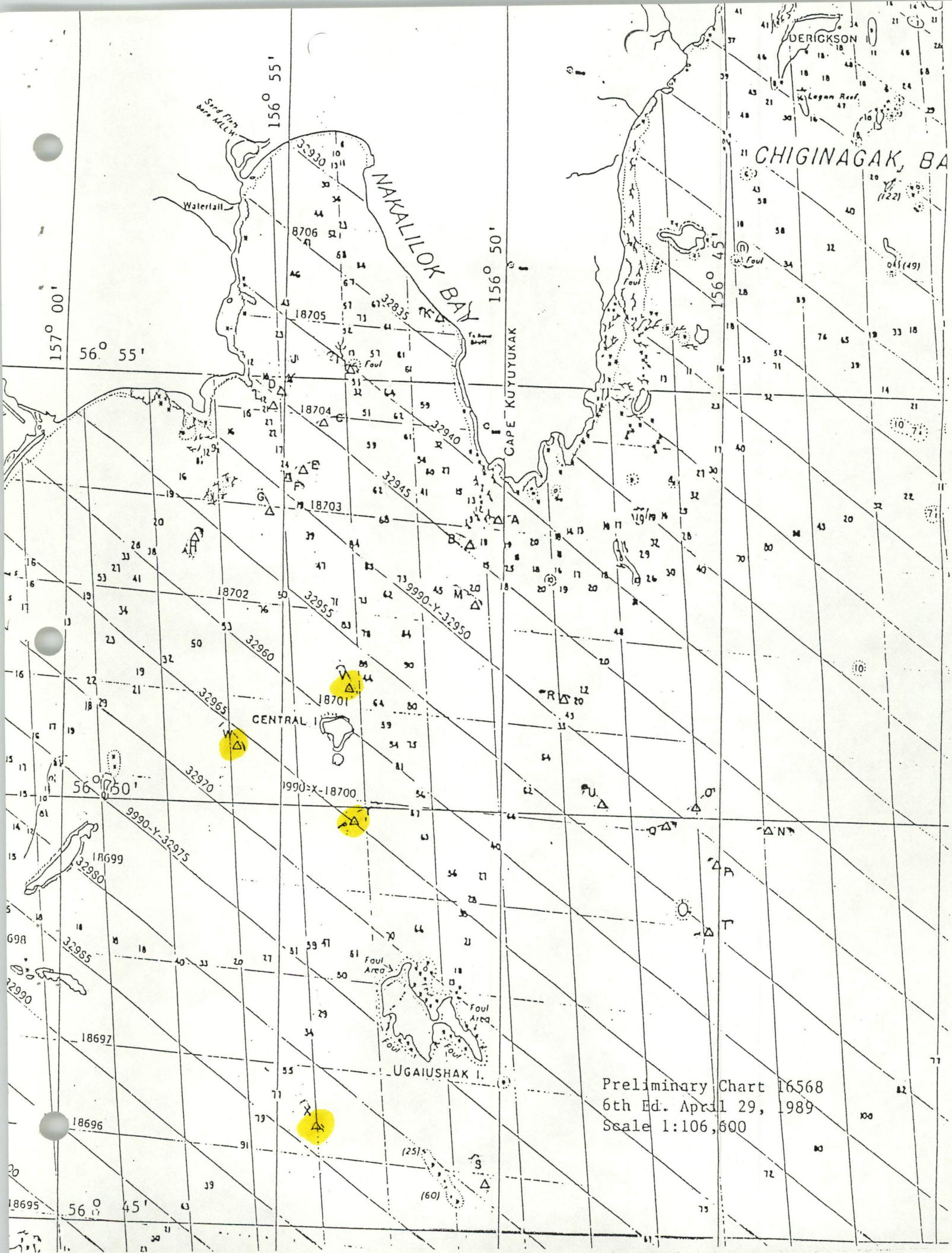
PTTUZYUW RUHPTEF2307 2691646-UUUU--RUHPSUU.
ZNR UUUUU
P 261644Z SEP 89
FM NOAAS RAINIER
TO CCGDSEVENTEEN JUNEAU AK
DMAHTC (NAVWARN) WASHINGTON DC//MCNM//
INFO NOAAMOP SEATTLE WA
ACCT CM-VCAA
BT
UNCLAS
NOAA SHIP RAINIER HAS FOUND NINETEEN DANGERS TO NAVIGATION AND SIX INFORMATION ITEMS ALONG THE ALASKA PENINSULA, ALASKA (PROJECT OPR-P180-RA) WITHIN THE LIMITS OF HYDROGRAPHIC SURVEYS H-10305 (EASTERN NAKALILOK BAY; ITEMS A-M), H-10308 (RADIAL ISLAND AND VICINITY; ITEMS N-U) AND H-10314 (UGAIUSHAK ISLAND AND VICINITY; ITEMS V-Y). REQUEST THE FOLLOWING BE PUBLISHED IN LOCAL NOTICE TO MARINERS FOR SEVENTEENTH COAST GUARD DISTRICT:

	dive site #	Pos #
A. "ROCK SUBMERGED 2 FATHOMS AT LATITUDE 56/53/24.4N, LONGITUDE 156/50/12.9W."	1	1579
B. "ROCK PINNACLE SUBMERGED 1-1/2 FATHOMS AT LATITUDE 56/53/07.3N, LONGITUDE 156/50/51.3W."	3	1582
C. "ROCK SUBMERGED 7-1/2 FATHOMS AT LATITUDE 56/54/31.1N, LONGITUDE 156/54/13.7W."	4	1586
D. "ROCK SUBMERGED 2-1/2 FATHOMS AT LATITUDE 56/54/54.5N, LONGITUDE 156/55/12.6W."	5	1587
E. "ROCK SUBMERGED 7-1/2 FATHOMS AT LATITUDE 56/53/56.5N, LONGITUDE 156/54/39.0W."	6	1633
F. "ROCK SUBMERGED 6-1/2 FATHOMS AT LATITUDE 56/53/51.4N, LONGITUDE 156/55/01.2W."	7	1589
G. "ROCK SUBMERGED 2-1/2 FATHOMS AT LATITUDE 56/53/29.5N, LONGITUDE 156/55/25.9W."	8	6819+4
H. "ROCK SUBMERGED 2-1/4 FATHOMS AT LATITUDE 56/53/06.3N, LONGITUDE 156/57/11.7W."	9	6786
I. "ROCK PINNACLE SUBMERGED 1/2-FATHOM AT LATITUDE 56/55/09.9N, LONGITUDE 156/53/37.6W."	10	1620
J. "ROCK SUBMERGED 3/4-FATHOM AT LATITUDE 56/55/03.2N, LONGITUDE 156/55/02.6W."	11	1631
K. "ROCK PINNACLE SUBMERGED 1-3/4 FATHOMS AT LATITUDE 56/55/48.9N, LONGITUDE 156/51/36.9W."	13	1626

	Dive site #	Pos #.
L. "SHOAL SUBMERGED 9 FATHOMS AT LATITUDE 56/54/43.3N, LONGITUDE 156/55/25.0W."	———	1689 +2
M. "SHOAL SUBMERGED 11-1/4 FATHOMS AT LATITUDE 56/52/26.2N, LONGITUDE 156/50/39.4W."	———	3554
N. "SHOAL SUBMERGED 10-1/2 FATHOMS AT LATITUDE 56/49/44.1N, LONGITUDE 156/43/56.8W."	———	8112 +3
O. "SHOAL SUBMERGED 10 FATHOMS AT LATITUDE 56/50/00.7N, LONGITUDE 156/45/37.5W."	———	8232 +2
P. "SHOAL SUBMERGED 9 FATHOMS AT LATITUDE 56/49/17.8N, LONGITUDE 156/45/06.6W."	———	8160 +2
Q. "SHOAL SUBMERGED 12-3/4 FATHOMS AT LATITUDE 56/49/45.2N, LONGITUDE 156/46/17.4W."	———	8212 +2
R. "SHOAL SUBMERGED 13-1/4 FATHOMS AT LATITUDE 56/51/17.1N, LONGITUDE 156/48/38.5W."	———	6646 +3
S. "SHOAL SUBMERGED 8-1/4 FATHOMS AT LATITUDE 56/45/22.4N, LONGITUDE 156/50/20.0W."	———	4000
T. "SHOAL SUBMERGED 14-3/4 FATHOMS AT LATITUDE 56/48/27.7N, LONGITUDE 156/45/14.6W."	———	7076 +3
U. "SHOAL SUBMERGED 12-3/4 FATHOMS AT LATITUDE 56/50/09.3N, LONGITUDE 156/47/44.3W."	———	1523 +5-6
V. "ROCK PINNACLE SUBMERGED 7-3/4 (7.9) FATHOMS AT LATITUDE 56/51/24.2N, LONGITUDE 156/53/37.6W."	1	4734 H-10314
W. "ROCK SUBMERGED 4-3/4 (4.8) FATHOMS AT LATITUDE 56/50/39.2N, LONGITUDE 156/56/07.0W."	2	4763 H-10314
X. "ROCK SUBMERGED 4-1/4 (4.3) FATHOMS AT LATITUDE 56/48/01.7N, LONGITUDE 156/54/12.7W."	3	4764 H-10314
Y. "SHOAL SUBMERGED 15-1/4 (15.4) FATHOMS AT LATITUDE 56/49/42.4N, LONGITUDE 156/53/23.1W."	4	2250 +10 H-10314

DEPTHS ARE BASED ON PREDICTED TIDES AND REFERENCED TO MEAN LOWER LOW WATER. GEOGRAPHIC POSITIONS ARE BASED ON NAD83 DATUM. THE NOS CHART AFFECTED IS PRELIMINARY CHART 16568, 6TH EDITION, APR 29/89, 1:106,600.

THIS IS ADVANCE INFORMATION SUBJECT TO OFFICE REVIEW. A LETTER WITH ATTACHED CHART/T WILL BE FORWARDED TO YOUR OFFICE TO CONFIRM THIS MESSAGE. QUESTIONS CONCERNING THIS MESSAGE SHOULD BE DIRECTED TO NOAA PACIFIC MARINE CENTER AT (206) 526-6835.
BT



Preliminary Chart 16568
6th Ed. April 29, 1989
Scale 1:106,600

N-10309

FILE COPY

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

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

COPY FOR YOUR INFORMATION

December 6, 1989 S221/JCA

MEMORANDUM FOR: Charles E. Harrington
Chief Geographer, National Ocean Service

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

SUBJECT: Proposed New Geographic Names

Proposals for two new geographic names submitted by NOAA Ship RAINIER are attached for your consideration. I recommend their approval.

RAINIER conducted basic hydrographic surveys along the southern Alaska Peninsula from May - September 1989. This area is essentially uncharted. Although undeveloped, it sees considerable coastal traffic and is heavily fished by the Chignik and Kodiak fleets. RAINIER personnel visited a number of the fishing vessels to evaluate the effectiveness of NOS products. The need for additional named features to serve as points of reference for navigation in this area became very apparent during these discussions.

The two new geographic names proposed should satisfy this need.

Attachments

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

DEC 18 1989

COPY FOR YOUR INFORMATION

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

FROM: Charles E. Harrington
Chief Geographer, NCD

SUBJECT: Proposed New Geographic Names

H-10314

Your proposals regarding Cupcake Island and Toee Reef were received.

Do you have any more information on the origin of Toee? Why did the NOAA Ship RAINIER personnel name the geodetic control station TOEE?

I appreciate the thoroughness of the report. Please pass on a "Well Done" to RAINIER personnel. I do not anticipate any problems with the Alaska State Geographic Board or the U.S. Board on Geographic Names.

Have a blessed and safe holiday.

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
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

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

for

H-10314

RA-10-5-89

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-10314

LOCALITY: Alaska Peninsula, Gulf of Alaska, Ugauishak Island and vicinity

TIME PERIOD: August 10 - September 10, 1989

TIDE STATION USED: 945-8553 Ugaiushak Island, Ak

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 7.91 feet

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 9.2 feet

REMARKS: RECOMMENDED ZONING
Zone direct

James R. 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-10314

Name on Survey
ALASKA, ALASKA PENINSULA
UGAIUSHAK ISLAND TO
CENTRAL ISLAND AND VICINITY

	A ON CHART NO. 16013	B ~~XXXXXXXXXXXX~~ Chart 16568	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 (TITLE)	X	X								1
ALASKA PENINSULA (TITLE)	X	X								2
CENTRAL ISLAND		X								3
SHELIKOF STRAIT	X	X								4
TOEE REEF									X	5
UGAIUSHAK ISLAND	X	X								6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
				Approved:						17
				Charles E. Harrington						18
				Chief Geographer - N/CG2x5						19
										20
				APR 23 1990						21
										22
										23
										24
										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-10314

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	7
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	4

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDION FILES	2					
ENVELOPES						
VOLUMES						
CAHIERS						
BOXES						

SHORELINE DATA

SHORELINE MAPS (List): TP-01152 & TP-01156

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List): Chart 16568, 6th Edition, 4/29/89

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	*EVALUATION*	*TOTALS*
POSITIONS ON SHEET			3269
POSITIONS REVISED			147
SOUNDINGS REVISED			307
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	171.0		171.0
VERIFICATION OF SOUNDINGS	221.0		221.0
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	119.0		119.0
COMPARISON WITH PRIOR SURVEYS AND CHARTS		17.0	17.0
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		42.5	
GEOGRAPHIC NAMES			
OTHER*			
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	511.0	59.5	570.5

Pre-processing Examination by D. Hill	*Beginning Date* 11/20/89	*Ending Date* 11/30/89
Verification of Field Data by J. Stringham, B. Brown, M. Sanders, R. Shipley, R. Mihailov	*Time (Hours)* 511.0	*Ending Date* 7/19/90
Verification Check by J. Stringham	*Time (Hours)* 68.0	*Ending Date* 6/26/90
Evaluation and Analysis by I. Almacen	*Time (Hours)* 59.5	*Ending Date* 8/20/90
Inspection by D. Hill	*Time (Hours)* 10	*Ending Date* 9/5/90

EVALUATION REPORT

H-10314

1. INTRODUCTION

Survey H-10314 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, off the coast of southern Alaska Peninsula and about 6 nautical miles southwest of Cape Kuyuyukak in Shelikof Strait. It covers the area around Central Island and the western portion of Ugaiushak Island including a prominent reef formation located 1.5 nautical miles south of this island. The surveyed area extends from latitude 56°45'00"N to latitude 56°52'10"N and stretches from longitude 156°50'15"W to longitude 156°57'05"W. The shoreline around the islands is generally steep and rugged. The area is characterized by ledges, islets, reefs, rocks, off-lying shoals and patches of kelp. The bottom generally consists of mud and sand with some isolated rocky areas offshore. Depths range from 0 to 105 fathoms.

Predicted tides for Kodiak, Alaska were used for the reduction of soundings during field processing. Approved hourly heights zoned from Ugaiushak Island, gage 945-8553, were used during office processing except as noted below.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. The TRA correctors were revised during office processing to account for the effect of settlement and squat. The sound velocity correctors are found adequate. The opening baseline calibration correctors were used on this survey and are considered adequate. An accompanying computer printout contains the parameters and the correctors. Some soundings, as noted below, have not been completely reduced.

It was noted during a comparison between the final field plots and the office HDAPS and Xynetics plots that the field plots differs by up to 15 meters at times. This discrepancy was the result of a defective plotter. The office plot depicts the accurate positioning of soundings and other features for the survey.

The following soundings have been displaced to improve legibility. This displacement does not exceed one mm.

Depth (FM)	Latitude (N)	Longitude (W)
0.2	56° 48′ 01.26"	156° 51′ 39.23"
0.9	56° 48′ 00.28"	156° 51′ 47.87"
5.4	56° 47′ 29.58"	156° 52′ 31.94"
10.2	56° 47′ 17.45"	156° 52′ 15.85"
13.6	56° 46′ 58.20"	156° 51′ 32.43"

A digital file has been generated for this survey as required by 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.

Several position fixes were acquired using HYDROPLOT equipment. The line of position data supporting these fixes is not contained in the present survey digital file because of the inability to convert HYDROPLOT raw data to HDAPS format and subsequently archive the data in SDDEF format. The computed geographic positions were recorded however, in the HDAPS Contact File and then manually entered into the Harris computer where they were plotted and listed. These positions are as follows.

Vessel	DN	Position
2125	248/249	1-22, 26-56, 5000-5030

The following HYDROPLOT positions are not in the final file since a computed position was not supplied by the hydrographer. The soundings associated with these fixes were manually plotted on the smooth sheet. All soundings are reduced for actual tides, sound velocity and TRA.

Vessel	DN	Position
2125	241/242	1-36

The survey contains several "see-field-sheet" soundings which are not contained in the final digital file. Since no field data accompanied the soundings, the positions as plotted are unverifiable and are considered to be approximate. It is not known if the soundings have been corrected for TRA and sound velocity. It is assumed they are reduced based on predicted tides. These soundings are located in two small coves on the southwest coast of Ugaiushak Island. The coves are centered as follows.

	Latitude (N)	Longitude (W)
Area 1	56° 47′ 29"	156° 52′ 24"
Area 2	56° 47′ 16"	156° 51′ 58"

Section R, Automated Data Processing, of the hydrographer's report does not specify which HYDROPLOT software was used; however, it is assumed that appropriate versions of programs used during any other HYDROPLOT-based survey were used.

2. CONTROL AND SHORELINE

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

Positions of horizontal control stations used during hydrography are published and 1989 field 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: 2.666 seconds (82.5 meters)
Longitude: -7.369 seconds (-124.9 meters)

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

Most of survey H-10314 was accomplished utilizing the NOS Hydrographic Data Acquisition and Processing System (HDAPS). This system uses multiple lines of position for electronic control to improve the positional accuracy of hydrographic surveys. The position of soundings and other significant features are determined relative to shore control such that there is a 95% probability that the true position lies within a circle of 1.5 millimeters radius, at the scale of the survey. Likewise, the maximum line of position (LOP) residual should not exceed 0.5 millimeter at the scale of the survey or 3.0 meters whichever is larger. HDAPS constantly computes values for the 95% Error Circle Radius (ECR) as well as LOP residuals during the progress of the survey.

In some instances during this survey, the maximum allowable limits of ECR and residual values have been exceeded. However, the positioning of soundings and other features were found consistent with the surrounding areas. None of these survey positions are used to locate dangers to navigation. The data obtained at these particular areas

have been accepted as the effect of the larger residuals on the survey appear to be within the acceptable accuracy.

The following shoreline maps apply to this survey.

	Photo Date	Class
TP-01152	July 1982	III
TP-01156	July 1982	III

A shift of approximately 18.0 meters in both the shoreline and the aerotriangulated control points was discovered by NOAA Ship FAIRWEATHER during the 1986 field season. This discrepancy was the result of an error in aerotriangulation bridging. The 1976 mean adjustment values of 2.3 meters in latitude and 17.4 meters in longitude were used in compiling the smooth sheet as recommended by the Photogrammetry Branch in the attached memorandum from N/CG2, dated September 18, 1986

The following hydrographic revisions to the shoreline, without adequate supporting positional information, are depicted as dashed red lines on the smooth sheet. Updated photography of these areas to supersede the shoreline shown on TP-01152 and TP-01156 is recommended.

Feature	Latitude (N)	Longitude (W)
HWL (Central Island)	56° 51′ 03"	156° 53′ 17"
HWL (Ugaiushak Island)	56° 47′ 02"	156° 50′ 25"
HWL (Ugaiushak Island)	56° 47′ 06"	156° 50′ 33"
Islet (Ugaiushak Island)	56° 47′ 23"	156° 52′ 29"
Islet (Toee Reef)	56° 45′ 26"	156° 50′ 58"
Islet (Toee Reef)	56° 45′ 35"	156° 51′ 03"
Islet (Central Island)	56° 50′ 34"	156° 53′ 37"
Islet (Central Island)	56° 50′ 33"	156° 53′ 36"

3. HYDROGRAPHY

With the exceptions noted in this report, 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-10314 junctions with the following surveys.

Survey	Year	Scale	Area
H-10305	1989	1:10,000	North
H-10308	1989	1:10,000	East

The junctions with surveys H-10305 and H-10308 are complete. Comparison is good; however, some soundings from survey H-10308 have been transferred to survey H-10314 to justify depth curves and portray shoaler information within the adjoining area.

There are no contemporary surveys covering the southern and western limits of this survey. There are too few charted depths in these undeveloped areas to make a meaningful comparison with the chart.

6. COMPARISON WITH PRIOR SURVEYS

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

7. COMPARISON WITH CHART

Chart 16568, 6th edition, dated April 29, 1989; scale 1:106,600

a. Hydrography

The charted hydrography originates with the 1944 USC&GS reconnaissance survey (BP-39180). This document was not available during processing. However, comparison with data originating from this survey as depicted on the chart indicates good agreement except for the 81-fathom depth charted at latitude 56°50'30"N, longitude 156°52'20"W. This sounding was charted in an area of 51 to 52 fathoms in the present survey. A suspected error in chart compilation could be the probable cause for this discrepancy.

Survey H-10314 is adequate to supersede charted hydrography within the common area.

b. AWOIS

There are no AWOIS items originating from miscellaneous sources.

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

With the exception of Toee Reef, all names appearing on the smooth sheet and in the survey title have been approved by the Chief Geographer. Toee Reef is the proposed name for a reef formation located about 1.5 nautical miles south of Ugaiushak Island. This geographic name was shown on the smooth sheet pending approval by Alaska State Geographic Board and the U.S. Board on Geographic Names. Copies of memoranda concerning this proposed geographic name are attached.

f. Dangers to Navigation

The hydrographer reported to the USCG and N/CG222 four (4) dangers to navigation located within the limits of the survey. Copies of the message and report are attached. No additional dangers were discovered during office processing.

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10314 adequately complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is a good hydrographic survey. However, updated photography is recommended to more accurately define the limits of the highwater line along the islets and other areas mentioned in section 2 of this report.

Isagani A. Almacen
Cartographer

APPROVAL SHEET
H-10314

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 Hill Date: 9-5-90

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: 9/6/90

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

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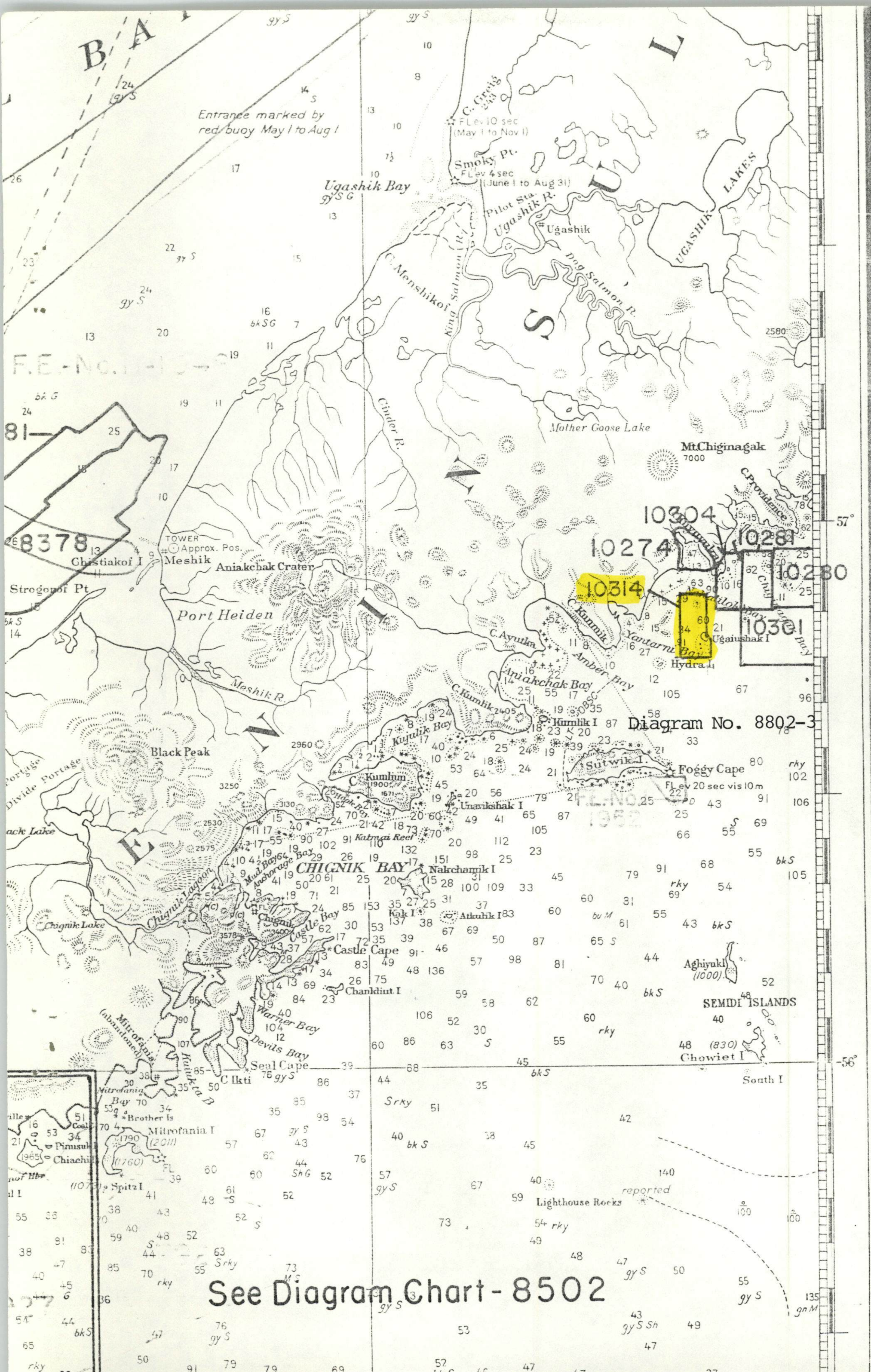
Final Approval

Approved: Wesley V. Hull Date: 9/28/90

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



Entrance marked by red buoy May 1 to Aug 1
C. Greig
FL ev 10 sec (May 1 to Nov 1)
Smoky Pt.
FL ev 4 sec (June 1 to Aug 31)
Ugashik Bay
Pilot Sta.
Ugashik R.
Ugashik
UGASHIK LAKES
Dog Salmon R.
King Salmon R.
C. Menshikof
Cinder R.
Mother Goose Lake
Mt.Chiginagak
7000
C. Providence
2580
10304
10274
1028
10280
10314
10301
8378
TOWER
Approx. Pos.
Meshik
Chistiakof I
Aniakchak Crater
Strogonof Pt
Port Heiden
Meshik R.
C. Ayutka
C. Kumlik
Yantarni Bay
Ugaiushak I
Hydra I
Amber Bay
Aniakchak Bay
Kumlik I
Diagram No. 8802-3
Kujulik Bay
Black Peak
Divide Portage
Sutwik I.
Foggy Cape
FL ev 20 sec vis 10 m
Kumlium
Unavikshak I
Katmai Reef
CHIGNIK BAY
Nakchamik I
Mud Bay
Anchorage Bay
Chignik Lagoon
Chignik Lake
Chignik
Castle Bay
Kak I
Atkulik I
Castle Cape
Chankliut I
Aghiyuk I
(1000)
SEMIDI ISLANDS
Warner Bay
Devils Bay
Seal Cape
C Ikti
Mitrofania (abandoned)
Kuiukta B
Mitrofania Bay
Brother Is
Mitrofania I
(2011)
Chowiet I
(830)
South I
Pinnacle
Chiachi I
Spitz I
Lighthouse Rocks
reported
F.L. No. 1352
See Diagram Chart - 8502
57°
56°

(10-83)

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10314

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	1/17/98	ALMACEN	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via partial application.
			Drawing No. of Sndgs from field sheet.
16568	9/13/90	ALMACEN	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via full application of
			Drawing No. sndgs. from SS.
530	1/10/91	[signature]	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via
			Drawing No. No sndgs. or corrections applied.
531	1/11/91	[signature]	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via
			Drawing No. No sndgs. or corrections applied.
500	1/14/91	[signature]	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via
			Drawing No. No sndgs. or corrections applied.
16013	4/4/91	ALMACEN	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via full application of sndgs
			Drawing No. from SS thru 16568.
16011	4/25/91	ALMACEN	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via full application of sndgs.
			Drawing No. from SS thru 16013.
16006	4/26/91	ALMACEN	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via applied and sndg (70 fms)
			Drawing No. and two subm rocks from SS thru 16013
			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

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-10314

INSTRUCTIONS

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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	1/2/90	ALMACEN	Full ~~Part Before~~ After Marine Center Approval Signed Via partial application
			Drawing No. of Sndgs from field sheet.
16568	9/13/90	ALMACEN	Full ~~Part Before~~ After Marine Center Approval Signed Via full application
			Drawing No. of sndgs. from SS.
500	10-4-93	R. Elliott	Full ~~Part Before~~ After Marine Center Approval Signed Via
		JK	Drawing No. 7 Re-exam, no corrs, thru 16006 #27
530	10-4-93	R. Elliott	Full ~~Part Before~~ After Marine Center Approval Signed Via
		JK	Drawing No. 36 Re-exam, no corrs, thru 16006 #27
531	10-4-93	R. Elliott	Full ~~Part Before~~ After Marine Center Approval Signed Via
			Drawing No. 21 Re-exam, no corrs, 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.
			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.