9817

Diag. Cht. No. 8202-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey .... Hydrographic

Field No. RA-5-1-79

Office No. H-9817

LOCALITY

State ..... Alaska

General Locality .... Auke Bay

Locality ..... Inner Auke Bay

19 79

CHIEF OF PARTY
W. L. Mobley

LIBRARY & ARCHIVES

DATE ..... March 13,1981

☆U.S. GOV. PRINTING OFFICE: 1980—668-537

9817

Area 6
CHT
17315
17316
17320

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H-9817

HYDROGRAPHIC TITLE SHEET

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

FIELD NO.

RA-5-1-79

State ALASKA

General locality Auke Bay

Locality Inner Auke Bay

Scale 1:5,000 Date of survey Apr 4, 1979 - June 9, 1979

Instructions dated 2/8/79 Project No. OPR-0329-RA-79

Vessel NOAA Ship RAINIER, Launches RA-3 (1007) and RA-5 (1003)

Chief of party CAPT Wayne L. Mobley

Surveyed by LT Alan D. Anderson, LT(JG) Douglas D. Smith, LT(JG) Michael McCluskey, LT(JG) Bruce F. Hillard

Soundings taken by echo sounder, hand lead~~, pole~~ Ross Fineline Echo Sounder

Graphic record scaled by RAINIER Survey Department

Graphic record checked by RAINIER Survey Department

Positions verified ~~Protracted~~ by A. E. Eichelberger Automated plot by PMC Xynetics Plotter

Soundings ~~Verification~~ by A. E. Eichelberger

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

REMARKS: This survey is complete and adequate to supersede prior surveys.

Time Meridian: 0° (GMT)

Misc. items have been removed from the D.R. and are filed with the field records.

STANDARDS CHECKED 7-27-82.
Glory

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

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

PROGRESS SKETCH
OPR-0329-RA-79

NAVIGABLE AREA SURVEY

AUKE BAY, ALASKA

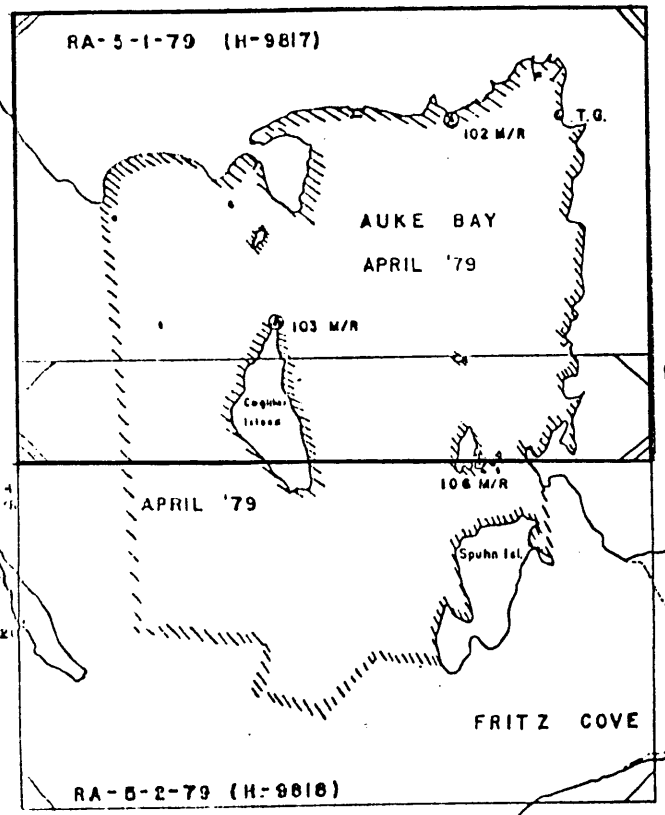
APRIL 4 - MAY 31, 1979

NOAA SHIP RAINIER

WAYNE L. MOBLEY, CAPT., NOAA

COMD'G.

FROM CHART NO. 17315



APRIL	MAY	
7.37	0.01	SQ. N.M. SOUNDING
288.0	15.0	L.N.M. MISCELLANEOUS DISTANCE
571.5	8.20	L.N.M. SOUNDING LINE
178	0	BOTTOM SAMPLES (GRAB)
14	0	WATER SAMPLES ANALYZED (SALINITY)
6	0	CONTROL STATIONS (ELECTRONICS)
6	0	TEMPERATURE, DEPTH, CONDUCTIVITY
1	0	NANSEN CAST
1	0	TIDE GAGE
3	0	STATIONS LOCATED BY TRAVERSE
0	0	SQ. N.M. SOUNDING, WIRE DRAG
0	0	L.N.M. SOUNDING LINE, WIRE DRAG

DESCRIPTIVE REPORT
H-9817, RA-5-1-79

A. PROJECT

This project was accomplished in accordance with PROJECT INSTRUCTIONS -OPR-0329-RA-79, Navigable Area Survey, Auke Bay, Alaska, dated February 8, 1979.

B. AREA SURVEYED

Survey H-9817 was conducted in Auke Bay, Alaska (11 miles west of Juneau) from April 4, 1979 to June 9, 1979. The area surveyed was a rough rectangle of approximately 5.94 square nautical miles bounded on the south by latitude 58° 21' 17.5" N, on the west by longitude 134° 43' 37" W, and on the north and east by the shoreline of Auke Bay. The general inshore limit of the survey was the 2 fathom depth curve (per navigable area project instructions).

C. SOUNDING VESSELS

Vessel	Hull No.	Usage
RA-3 (2123)	1007	RANGE AZIMUTH HYDROGRAPHY
RA-5 (2125)	1003	BOTTOM SAMPLES
C6 (2128)		Visual Hydro

D. SOUNDINGS EQUIPMENT

Echo soundings for H-9817 were recorded with a Ross fineline fathometer system modified to display two transducer returns ($7\frac{1}{2}^{o}$ narrow beam transducer & 22^{o} medium beam transducer) simultaneously on the analog recorder. Although two returns were displayed on the analog recorder depths were digitized only from the narrow beam ($7\frac{1}{2}^{o}$) transducer. The medium beam transducer was used only to aid the hydrographer in locating obstructions and determining areas where closer line spacing was needed. In cases where the medium beam return was shoaler than the narrow beam return the digitizing mark on the analog trace appeared to initiate below the shoalest edge of the return. These are not misdepths but indicate only that the narrow beam digitized depth was slightly deeper than the medium beam return.

See Verifications Report Section I

The Ross system consisted of the following components:

Component	$7\frac{1}{2}^{o}$ Transducer	22^{o} Transducer
Transceiver (Ross mod. 4000)	1080	1041
Analog Recorder (Ross mod. 5000)	1071	1071
Digitizer (Ross mod. 6000)	1080	----

For Details concerning corrections to echo soundings refer to ECHO SOUNDING REPORT - OPR-0329-RA-79.

E. HYDROGRAPHIC SHEETS

The hydrographic sheet was divided into two field sheets (RA-5-1A-79 and RA-5-1B-79) which junction at longitude 134° ~~14'~~ 00" W. The sheets were constructed on a transverse mercator projection with control latitude 6,446,000 meters north of latitude zero and central meridian 134° 30' 00" west. Rough sounding plots were made daily and a semi-smooth sounding plot collated at the end of the survey. The smooth field sheet was begun May 15, 1979 and finished June 14, 1979. No discernable distortion was detected. Preliminary TRA correctors and predicted tides were applied to all data on the smooth field sheet. Field sheets were constructed and plotted by RAINIER personnel using a PDP-8/e Complot system.

F. CONTROL STATIONS

Horizontal control for this survey was provided by existing triangulation stations, newly established triangulation stations and geodetically positioned visual signals.

Existing triangulation stations used for control on H-9817 were: ~~George 1959~~, ~~George 1959 Rm 1~~, Cow 2-Portland 1917, Cow 2-Portland 1917 Rm 1, ~~and~~ Coghlan Rock-Man 1917 and George Rock Light 1961.

New Stations Nancy 1979, Cog 1979 and Morsy 1979 were established by Third order Class I techniques using spur traverse and intersection methods. All of the above were monumented and described.

George Rock Light 1961 and Gibby Rock Light 2 1974 were geodetically positioned using Third order Class I techniques by intersection and spur traverse methods and were described.

The following stations were used on H-9817 for electronic control stations: ~~George 1959~~, Cow 2-Portland 1917, Nancy 1979, Cog 1979, ~~Morsy 1979~~ and George Rock Light 1961.

For a complete discussion of the positioning methods used for each control station refer to HORIZONTAL CONTROL REPORT - OPR-0329-RA-79, AUKE BAY, S.E. ALASKA, APRIL-MAY 1979.

G. HYDROGRAPHIC POSITION CONTROL

Sounding line position control during this survey was provided by utilizing the Range-Azimuth method. Range measurements were provided by a motorola MiniRanger III system.

~~Three~~ Two RAINIER launches, RA-3 (EDP-2123), RA-5 (EDP-2125) and ~~RA-6 (EDP-2126)~~ were used during the survey. Positioning equipment used aboard the ~~three~~ two launches was as follows:

RA-3 (2123) MiniRanger Console: S/N 720 thru JD III
S/N 715 after JD III

MiniRanger R/T Unit: S/N 720 thru JD III
S/N 727 after JD III

RA-5 (2125) MiniRanger Console: S/N 715 thru JD III
S/N 720 after JD III

MiniRanger R/T Unit: S/N 727 thru JD III
S/N 720 after JD III

~~RA-6 (2126) Mini Ranger Console: S/N 711~~
~~Mini Ranger R/T Unit: S/N 718~~

~~Six~~ Four shore stations were established and used for Range measurements during Range-Azimuth hydrgraphic operations. Shore station numbers, corresponding transponder code numbers and other relevent data were as follows:

Station No.	Station Name	M/R Code	M/R Transponder S/N	Dates on Station
~~101~~	~~George 1959~~	~~1~~	~~1628~~	~~094-098~~
		~~1~~	~~4950(unit #1)~~	~~099-102~~
		~~4~~	~~4950(unit #1)~~	~~117~~
		~~2~~	~~4708~~	~~145~~
102	Nancy 1979	2	1629(unit #775)	094-110
		4	4950(unit #1)	112-117
103	Cog 1979	3	1570	094-102
		3	1570	108-110
		2	1629(unit #775)	110-114
		3	1570	120-120
104	Cow II/Portland	4	4950(unit #1)	094-098
		3	1570	102-107
		3	1570	110-111 AM
		4	4950(unit #1)	111-112
		3	1570	114-120
		3	1570	121-121
105	George Rock ~~Beacon~~ Light 1961	1	1628	098 AM
		1	4950(unit #1)	098 PM
		1	4950(unit #1)	102-103 AM
		4	4950(unit #1)	103-110
~~106~~	~~Morsy 1979~~	~~3~~	~~1570~~	~~111-112~~

At no time were weak geometric configurations encountered or unusual atmospheric conditions experienced that might have degraded the positional accuracy of the soundings taken during the survey.

Three equipment casualties occurred during the survey involving electronic positioning equipment. Two MiniRanger shore stations failed, necessitating the replacement of two transponder units by PMC. The other equipment problem involved the MiniRanger console aboard launch RA-3 (EDP-2123). This unit was replaced by the unit in RA-5 (EDP-2125), complete with R/T unit, to facilitate scheduling. The defective unit was subsequently repaired and replaced in launch RA-5 (EDP-2125).

Four MiniRanger baseline calibrations were performed in conjuction with this survey. An initial calibration was conducted in Seattle, Washington on March 14, 1979. This calibration established the electronic corrector values and minimum signal strength values which were utilized throughout the survey. A final baseline calibration was conducted on May 25, 1979 in Juneau, Alaska. The ending baseline calibration indicated only minimal changes in the baseline electronic correctors. However, the two values were averaged to obtain the final correctors that should be used for smooth plotting. Two other calibrations were conducted in Juneau, Alaska on April 16, 1979 and May 15, 1979 in order to perform initial calibrations on two transponder units received from PMC as replacements for the defective units.

Refer to the ELECTRONIC CONTROL REPORT - OPR-0329-RA-79, NAVIGABLE AREA SURVEY, AUKE BAY for further information pertaining to electronic positioning control, computation of baseline correctors, daily calibrations and equipment deficiencies.

H. SHORELINE

Shoreline was transferred to the field sheet from 1:5,000 scale enlargements of chart 17315 - 16th Edition, February 4, 1978 provided for this project. Although no field edit requirement accompanied this survey obvious changes in the MHWL were noted and corrections outlined on aerial photos NOS-8 July 75E 327 and NOS-8 July 75E 329. Features such as piers, bulkheads and dolphins visible on the photos were verified and noted with the position numbers of D.P.'s taken on the features during hydrography. Control stations which could be photo identified were pricked and noted on the photos to provide additional control for photo revision of the shoreline.

See Verifications Report - Section 2

Three major corrections to shoreline were noted on the photos:

INDIAN ISLAND MHWL - Two features shown as small islets off the shore of Indian Island on chart 17315 are connected to the island at MHW. The correct MHWL is indicated on photo #329.

PT. LOUISA MHWL - A feature shown on chart 17315 as a small islet off Pt. Louisa is connected to the peninsula at MHW. The correct MHWL is shown on photo #329.

AUKE BAY FERRY TERMINAL - The Auke Bay Ferry terminal complex is located incorrectly on chart 17315. The correct location is approximately 300 meters west of the location shown on the chart. The configuration of the pier on photo #329 is correct. D.P.'s locating pier corners and dolphins are noted on photo #329.

The National Park Service pier located in Indian Cove (Lat. 58° 22' 37", Long. 134° 41' 54") was not visible from any control stations established for hydrography and was not located as a detached position. The position and configuration shown on photo #329 are correct.

The facilities at the head of Auke Bay are correct as shown on the chart except for the ommission of a floating pier and boat launching ramp (pos #2800) which are noted on photo #327.

I. CROSSLINES

Crosslines on the survey total 40 N.M., 14% of mainscheme mileage. Crossline agreement was excellent with 99% of the crossings agreeing exactly and no crossings differing by more than 1 fathom. Most differences occured in areas of steep relief and can be attributed to a slight difference in the positions of the soundings compared.

J. JUNCTIONS

No junctions with prior surveys were required by the PROJECT INSTRUCTIONS.

This survey junctions with contemporary survey H-9818 along latitude 58° 21' 17.5" N. Agreement was excellent with 98% of the overlapping soundings agreeing exactly and depth curves showing good continuity across the junction. The junction between field sheet RA-5-1A-79 and RA-5-1B-79 (along long. 134° 41' 00" W) also showed excellent agreement of overlapping soundings (99% agreed exactly) and good continuity of depth curves across the junction.

See Verifiers Report Section 5

K. COMPARISON TO PRIOR SURVEYS

This survey area was covered by ~~two~~ three prior surveys, H-2058, 1:40,000, 1890 and H-2056, 1:40,000, 1890. These are contemporary 1890 surveys which junction at long. 134° 42' 15" W with H-2058 extending east and H-2056 extending west. Agreement with the prior surveys in general was fair with 69% of the soundings compared agreeing within 1 fathom, 79% within 2 fathoms, and 21% differing by more than 3 fathoms. Soundings tended to agree closely in areas of smooth bottom and agree poorly in areas of steep rough bottom. Most differences could be attributed to the low sounding density of the prior surveys and position errors in the prior surveys which tended to be exaggerated when the prior surveys were enlarged from 1:40,000 to 1:5,000 scale for comparison to the new survey. Position of prior soundings in the area between Indian Cove and Cohlan Island was particularly erratic making comparison difficult. Displacement of the prior soundings was evident when they plotted on what the new survey determined to be land above the MHWL, but there did not appear to be any consistent pattern to this displacement. Specific discrepancies investigated were resolved as follows:

H-3986 WD 1917 1/20,000

ROCK AWASH, Lat. 58° 22' 54" N, Long 134° 38' 45" W - A rock is shown on prior survey H-2058 (1890) directly off the National Marine Fisheries Service (NMFS) pier in 19 fathoms of water. This area was developed at 20 meter line spacing and searched visually at low tide (water visibility 30 ft.). The rock does not exist as shown and should be deleted from the chart. A rock awash (pos. #4887) was located 100 meters S.E. of the rock shown and should be added to the chart.

concur

18 FATHOM SOUNDING, Lat. 58° 22' 49" N, Long. 134° 38' 51" W - A development surrounding this 18 fathom sounding on prior survey H-2058 indicated a shoalest depth of 20 fathoms. This sounding should be deleted from the chart and depth revised from the present survey.

concur

(Charted as 8 fms)

8¼ FATHOM SOUNDING, Lat 58° 22' 37" N, Long. 134° 38' 40" W - The area surrounding the 8¼ fathom sounding (prior survey H-2058) was developed with no indication of depths less than 16 fathoms. The sounding should be deleted from the chart and depth revised from the present survey

concur

14 FATHOM SOUNDING, Lat. 58° 21' 55" N, Long. 134° 38' 40" W - concur
A development surrounding this sounding (prior survey H-2058) indicated a shoalest depth of 24 fathoms. The sounding should be deleted from the chart and depth revised from the present survey.

(26 charted, 28 not charted)

26 & 28 FATHOM SOUNDINGS, Lat. 58° 22' 00" N, Long. 134° 40' 35" W - concur
A development of the area surrounding these soundings (prior survey H-2058) indicated a least depth of 31 fathoms. The 26 fm soundings should be deleted from the chart and depth revised from the present survey. Disregard the 28 fm sdg.

(not charted)

12 3/4 FATHOM SOUNDING, Lat. 58° 21' 28" N, Long. 134° 39' 40" W - Disregard the 12 3/4 fm sdg.
The area surrounding this sounding (prior survey H-2058) was developed finding a shoalest depth of 18 fathoms. The sounding should be deleted from the chart and depth revised from the present survey.

4 FATHOM SOUNDING, Lat. 58° 21' 25" N, Long. 134° 39' 55" W - Disregard the 4 fm. sdg., it is not charted
The area surrounding this sounding (prior survey H-2058) was developed finding a shoalest depth of 7.6 fathoms. The sounding should be deleted from the chart and depth revised from the present survey.

L. COMPARISON WITH THE CHART

This survey was compared to chart 17315, 16th Edition, February 4, 1978. The sounding comparison was essentially the same as that already discussed in section K (COMPARISON TO PRIOR SURVEYS) as the soundings were transfered to the chart from the survey on a one to one basis. Two additional soundings from ~~an unidentified source other than~~ the prior surveys were disproved:

charted from H-2058 (1890), originates as a 5 ft. sdg.

3/4 FATHOM SOUNDING, Lat. 58° 22' 09" N, Long. 134° 42' 18" W - concur
The area surrounding this sounding was searched visually at a negative tide with water visibility of 30 ft. Neither the sounding lines or the visual search located any depth approaching 3/4 fathom although a slight repositioning of the sounding to the east would place it on a reef where the sounding would be reasonable. The sounding was disproved and should be deleted from the chart.

charted from H2056 (1890), originates as 9 in 8' sdg.

1¼ FATHOM SOUNDING, Lat. 58° 22' 12" N, Long. 134° 40' 24" W - concur
The area surrounding this sounding off Pt. Louisa was searched visually with water visibility of 30 ft. and no bottom was sighted. Sounding lines show no depths under 12 fathoms in this vicinity. The sounding should be deleted from the chart.

Three newly discovered hazards to navigation were reported to the U. S. Coast Guard for broadcast and publication in the LOCAL NOTICE TO MARINERS: (Copies of messages sent to USCG are inserted in this report.

ROCK AWASH, Lat. 58° 22' 07.1" N, Long. 134° 43' 08.1" W - A rock awash (pos. #3752) was discovered off Pt. Louisa in an area charted at 11 fathoms and should be added to the chart. This rock is shown on chart 17300 but not on chart 17315 or 17316. concur ✓ The sunken rock on Cht 17300 (1:294,000) symbolizes the 1¼ fm sdg charted on 17315 (1:40,000)

10⁹ ~~11~~ FATHOM SHOAL, Lat. 58° 22' 11.0" N, Long. 134° 40' 43.9" W - A shoal with a least depth of ~~11~~ 10⁹ fathoms was developed off the Auke Bay ferry terminal in an area charted at 27 fathoms and should be added to the chart. (10.5 fm. Sndg. #376702) ✓ concur ✓

1.6 FATHOM SHOAL, Lat. 58° 21'19.5" N, Long. 134° 39' 13.3" W - A shoal with a least depth of 1.6 fathoms was developed in an area now charted at 6 3/4 fathoms and should be added to the chart. concur ✓ Sndg. #519204, #933200

Three shoreline discrepancies discussed in section "H" of this report (Pt. Louisa Shoreline, Indian Is. Shoreline and Auke Bay Ferry Terminal Position) were reported to the Coast Guard in addition to the hazards to navigation. See Section "H" of O.R.

Several mooring ~~bouy~~ buoy symbols are shown on the chart in the vicinity of the small boat moorages at the head of Auke Bay. These are small plastic ~~bouys~~ buoys used to moor pleasure craft and are frequently moved or removed. It is recommended that the mooring ~~bouy~~ buoy symbols be removed from the chart and replaced with a note stating that numerous mooring ~~bouys~~ buoys are located in this area. One steel mooring ~~bouy~~ buoy (shown as position approximate on chart 17315) marked "CG" is maintained by the Coast Guard and should be shown on the chart as a ~~bouy~~ mooring buoy symbol (D.P. #5214). concur ✓

The area between Indian Point and Coghlan Island was surveyed (PER PROJECT INSTRUCTIONS) and a navigable passage was located. The navigable channel runs between the north tip of Coghlan Island and a rock awash lying 200 meters off shore. Dense soundings in the area define a channel 75 meters wide at the narrowest point with a controlling depth of 5 fathoms. The rock awash bares only at very low tides making transit of the channel deceptive and risky without local knowledge. Installation of a ~~bouy~~ buoy or fixed aid to navigation on the rock would clarify the limits of the channel and make it safe for passage without local knowledge. See Verifiers Report Section 8 concur

M. ADEQUACY OF SURVEY

Survey H-9817 is complete and adequate to supersede all prior surveys for charting purposes. All fathograms were scanned for peaks and deeps with appropriate changes made to the original records.

N. AIDS TO NAVIGATION

No fixed or floating aids to navigation were located in the survey area.

O. STATISTICS

Launch	N.M. of Hydro	Sq. N.M. of Hydro	Bottom Samples	No. of Positions
RA-3(2123)	414	5.94	0	4,117
RA-5(2125)	0	0	11Ø[2]	116

P. MISCELLANEOUS

At times during the progress of this survey when two MiniRanger rates were within line-of-sight at the same time the launches actually collected three lines of position (2 MiniRanger rates and one azimuth). The second MiniRanger rate was available as a check only as it could not improve the accuracy of the fix information without the use of new software. The extra MiniRanger rate was removed from the data during processing to comply with the standard format for range azimuth data. However copies of the original printouts have been kept on board in the event that the additional line of position data could be used by an interested party in the near future.

Because of the relationship between the location of the horizontal control stations and the angle of the depth contours it became advantageous at times to use range-azimuth control while running other than an arc around the azimuth control station. This option however is not entirely compatible with the RK216 (RANGE-AZIMUTH POSITION AND SOUNDING PLOT, February 5, 1976) plotting program which was used to field plot the data. The RK216 program interpolates the azimuths used to plot the in - between soundings assuming that the launch is running an arc around the azimuth station. If that is not the case, the program is using erroneous azimuths to plot the in - between soundings. The magnitude of the error varies with range from the azimuth station and the angle between the azimuth line-of-position and the true path of the sounding vessel. Long ranges and angles of intersection near 90^{0} produce the least plotting errors. These plotting errors occurred to varying degrees during field smooth plotting of the Auke Bay data but their magnitude was not such that inconsistencies were noticeable in the plotted data. The data was not hand plotted to remove the errors because of the magnitude of the work that would be involved and the absence of inconsistencies in the plotted data.

See Verifies Report Section 1

The final plot of RA-5-1A-79 disclosed a small holiday at the head of Auke Bay, off the ends of the piers. This was due to numerous fishing boats previously moored in this location. ✓

On June 9, 1979 one of the RAINIER's officers traveling through Juneau was assigned the task of gathering data to fill in a small holiday. The work was done with the help of the Coast Guard Auxiliary in Juneau. ✓

~~Leadline~~ Fathometer depths were ~~calibrated~~ located by sextant using the position of signals and piers which were previously marked. This data was scaled and the approximate position of the ends of each line were logged as range azimuth control. The final plot was completed on June 14, 1979. The Auke Bay tide gage was not in operation but it is recommended that this data be accepted and smooth plotted using Juneau actual tides or predicted tides since there is little difference between Auke Bay and Juneau actual and predicted tides. See Verifiers Report Item 7

Q. RECOMMENDATIONS

This survey is considered complete and adequate for charting.

Because of the heavy pleasure boat, fishing boat, cruise ships and ferry traffic in Auke Bay it is recommended that future charts include a large scale inset of the bay, or that a new chart be published consisting of two seperate representations - Auke Bay at 1:20,000 and Juneau Harbor and Gastineau Channel at 1:10,000. The Juneau Harbor representation should be extended to the northwest approximately one mile. ✓

R. AUTOMATED DATA PROCESSING

Data acquisition and processing were accomplished per instruction instructions in the Hydrographic Manual, Fourth Edition, Manual Automated Hydrographic Surveys and the PMC OPORDER.

Soundings and positions were taken by a Hydroplot system using program FA181. There were daily master tapes and corresponding corrector tapes which included the launches' TRA and all depth corrections and baseline calibration correctors for M/R consoles and R/T units. The following is a list of all computer programs used for data acquisition or processing: ✓

PDP 8/e Programs	Version Date
FA 181 RANGE AZIMUTH LOGGER	2/23/78
RK 201 GRID, SIGNAL AND LATTICE PLOT	4/18/75
RK 212 VISUAL STATION TABLE LOAD	4/01/74

PDP 8/e Programs	Version Date
RK 216 RANGE-AZIMUTH NON-REAL TIME PLOT	2/05/76
RK 300 UTILITY COMPUTATIONS	2/05/76
RK 330 REFORMAT AND DATA CHECK	5/04/76
AM 500 PREDICTED TIDE GENERATOR	11/10/72
RK 530 LAYER CORRECTIONS FOR VELOCITY	5/10/76
AM 602 ELINORE-LINE ORIENTED EDITOR	5/20/75
AM 603 TAPE CONSOLIDATOR	10/10/72
RK 606 TAPE DUPLICATOR	8/22/74

The WANG series 700 and HP97 calculators were used to compute geographic positions of electronic control stations and visual signals for calibrations.

S. REFERENCES TO REPORTS

The following reports contain information related to the survey:

HORIZONTAL CONTROL REPORT, OPR-039-RA-79
ECHO SOUNDING REPORT, OPE-039-RA-79
ELECTRONIC CONTROL REPORT, OPE-039-RA-79
TIDE STATION REPORT, OPR-0229-RA-79

Respectfully Submitted

Alan D Anderson
For Douglas D. Smith
LT(JG), NOAA

MASTER STATION LIST
OPR-0329-RA-79
AUKE BAY, AK.

FINAL VERSION

```
101 5  58 18 56747 134 41 56278  250 0005 000000
/GEORGE 1959   M/R                          581343(1042)

102 0  58 22 52946 134 39 49054  250 0000 000000
/NANCY 1979  M/R                            581343

103 6  58 21 47685 134 41 43554  250 0000 000000
/COG 1979  M/R                              581343

104 5  58 20 47578 134 44 59822  250 0002 000000
/COW 2-PORTLAND 1917  M/R                   581343(1026)

105 4  58 18 56696 134 41 55857  250 0005 000000
/GEORGE ROCK LIGHT 1961                     581343

106 2  58 20 59442 134 39 32575  250 0000 000000
/MORSY 1979  M/R                            581343

201 3  58 21 57288 134 37 58071  139 0000 000000
/MENDENHALL PEN STEEL TWR OBSTR. LT 1960  581343(1076)

202 3  58 21 38175 134 38 08052  139 0000 000000
/MENDENHALL PEN POLE OBSTR. LT 1960         581343(1075)

203 3  58 19 47766 134 43 54701  139 0000 000000
/PORT 1937                                  581343(1089)

204 0  58 18 56887 134 41 56125  250 0000 000000
/GEORGE 1959 RM 1                           581343(1042)

205 3  58 19 37480 134 41 12465  139 0000 000000
/GIBBY ROCK LIGHT 2 1974 (CALIBRATION POINT) 581343

206 4  58 22 55282 134 38 40620  243 0000 000000
/FISHERIES PIER(CALIBRATION POINT)

207 2  58 20 47620 134 44 59846  139 0000 000000
/COW 2-PORTLAND 1917 RM                     581343(1026)
```

208 4 58 21 10046 134 42 09242 139 0002 000000
/COGHLAN ROCK-MAN 1917 581343(1022)

STATIC CALIBRATION DATA:

AT STATION (206) NMFS PIER		AT STATION (205) GIBBY RK LT	
(101)	8037	(101)	1448
(102)	1114	(102)	6197
(103)	3636	(103)	4060
(104)	7323	(104)	4290
(105)	8036	(105)	1446
(106)	3682	(106)	3012

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

~~NONFLOATING AIDS OR~~ LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [X] HYDROGRAPHIC PARTY
- [X] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [X] TO BE CHARTED
- [ ] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office): N.O.A.A. SHIP RAINIER

STATE: ALASKA

LOCALITY: AUKE BAY, S.E. ALASKA

DATE: 18 MAY 1979

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.: OPR-0329-RA-79

JOB NUMBER:

SURVEY NUMBER: H-9817, H-9818

DATUM: N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
OBSTRUCTION LIGHT	MENDENHALL PENINSULA STEEL TOWER OBSTRUCTION LIGHT 1960	058 21	57.288	134 37	58.071		F-2-6-~~79~~ V 18 APRIL 79	17315 17300
	(off sheet limits)							
	Copy MADE INTO L-771(82)							

FIELD TIDE NOTE
OPR-0329-RA-79
H-9817, 9818
Auke Bay, Alaska

Primary gage #945-2210, Juneau, Alaska was used as the control gage for all hydrography in Auke Bay. GMT tide correctors for field reduction of soundings were based on the predicted tides for Auke Bay and were generated using program AM 500 - Predicted Tide Generator, version November 10, 1972.

As per project instructions, one tide station was established and maintained throughout the period of hydrography. The gage time was G.M.T.

T1, #945-2263, Auke Bay

A Fischer-Porter ADR tide gage, S/N 2R6406A5853M7, was installed on March 31, 1979 and was subsequently removed on May 25, 1979. The gage operated without problems for the duration of the project. Only small changes (in minutes) in time occurred, which were corrected by observers and can be noted on the ADR tape itself. Also, the tape was discovered to have misaligned sprocket holes near the end of the recorded data.

The gage site was the NOAA, NMFS pier near the entrance to Auke Lake (from the bay.). The geographical position was 58°22.9'N and 134°38.7'W. A previous floatwell, left by Oregon State University, provided an easy set-up.

One tide staff (2 sections at 14.0 ft ea), totaling 28.0 feet in length was installed on a piling supporting the pier. The staff stop, a piece of angled aluminum was placed at 14.0 feet above the zero of the staff. Level records indicate that the staff did not move.

Metric installation levels connected the tide staff to 5 bench marks on March 31, 1979. Metric removal levels connected the same 5 bench marks on April 26, 1979. Of these 5 bench marks, 3 were historical marks from 1917 that were recovered as described. The remaining two were stamped "2263 A 1979" and "2263 B 1979" as per bench mark instructions - see Users Guide for the Establishment of Tidal Bench Marks, by LCDR A. Nicholas Bodnar. All leveling was done using Precise, Three Wire methods and was done to Second Order, Class One standards.

The following table relates the differences in elevation between marks for installation and removal of gage no. 945-2263:

Bench marks	March 31, 1979	April 26, 1979
(a) to 2263 A 1979	+3.4246	+3.4226
2263 A 1979 to AUKE BAY NO. 3 1917	-0.1106	-0.1102
AUKE BAY NO. 3 1917 to AUKE BAY NO. 2 1917	* +0.0275	+0.0182
AUKE BAY NO. 2 1917 to 2263 B 1979	+1.8223	+1.8310
2263 B 1979 to AUKE BAY NO. 1 1917	-1.4518	-1.4516

*It should be noted that the (approx.) one centimeter difference is due to orientation of the rod. Bench mark "NO. 2 1917" is tilted upon the top of a granite boulder. The installation rodman chose to use the highest point (edge of disk) while the removal rodman placed the edge of his rod in the center of the disk.

A staff/gage comparison was conducted on April 4, 1979, which yielded 6 minute observations for a period of nearly 10 hours. The ADR tape reads 29.96 ft. greater than the staff, based on an average of the 9-hour observations.

RECOMMENDED ZONING

It is recommended that the Auke Bay gage (T1, 945-2263) be used to correct soundings on both H-9817 and H-9818.

NOAA FORM 77-27 (5-77) | U. S. DEPARTMENT OF COMMERCE NOAA | HYDROGRAPHIC SURVEY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

H-9817

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	13
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS. ARC, EXCESS	8

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	2					
VOLUMES	2					
BOXES						

T-SHEET PRINTS *(List)*

SPECIAL REPORTS *(List)*

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS: PRE-VERIFICATION	AMOUNTS: VERIFICATION	AMOUNTS: TOTALS
POSITIONS ON SHEET			3761
POSITIONS CHECKED		3761	
POSITIONS REVISED		354	
SOUNDINGS REVISED		575	
SOUNDINGS ERRONEOUSLY SPACED		0	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME – HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	6		
VERIFICATION OF CONTROL		3	
VERIFICATION OF POSITIONS		104	
VERIFICATION OF SOUNDINGS		333	
COMPILATION OF SMOOTH SHEET		66	
APPLICATION OF TOPOGRAPHY		11	
APPLICATION OF PHOTOBATHYMETRY		N/A	
JUNCTIONS		14	
COMPARISON WITH PRIOR SURVEYS & CHARTS		16	
VERIFIER'S REPORT		30	
OTHER		14	
TOTALS	6	591	597

Pre-Verification by James S. Green	*Beginning Date* 8/6/79	*Ending Date* 8/6/79
Verification by A. E. Eichelberger	*Beginning Date* 10/2/79	*Ending Date* 12/10/80
Verification Check by James S. Green	*Time (Hours)* 13	*Date* 12/12/80
Marine Center Inspection by HIT	*Time (Hours)* 27	*Date* 1/27/81
Quality Control Inspection by J. P. Saulsbury	*Time (Hours)* 148	*Date* 5/22/81
Requirements Evaluation by D. Hill	*Time (Hours)* 4	*Date* 3/25/82

G. Myers 31hrs 8/20/81

REGISTRY NO. H-9817

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

PACIFIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9817 FIELD NO. RA-5-1-79

Alaska, Auke Bay, Inner Auke Bay

SURVEYED: April 4 - June 9, 1979

SCALE: 1:5,000 PROJECT NO: OPR-0329

SOUNDINGS: Ross Fineline ~~Fathometer~~ Echo Sounder Leadline CONTROL: Mini-Ranger R/AZ, R/R

Chief of Party.....CAPT Wayne L. Mobley
Surveyed by.....LT A.D. Anderson, LT(JG) D.D. Smith, LT(JG) M. McCluskey, LT(JG) B.F. Hillard

Automated Plot by.....PMC Xynetics Plotter
Verified by.....A. E. Eichelberger December 10, 1980

1. INTRODUCTION

NOAA Ship RAINIER conducted this navigable area survey of Auke Bay, Alaska from April 4 to June 9, 1979.

Projection parameters used to prepare the field sheets have been revised to center the hydrograpy on the smooth sheet. Smooth sheet parameters and correctors used to reduce the soundings by the Pacific Marine Center are appended in the smooth printouts. Smooth tide correctors are included in the raw data cahiers. ✓

Field tide reducers were based on predicted tides for Auke Bay from the primary gage #945-2210, Juneau, Alaska. Approved tide correctors for reduction of smooth sheet soundings were derived from a temporary ADR gage at Juneau. The temporary gage at Auke Bay was removed on May 25.

The major problem encountered during verification of the survey was an innovative field procedure of steering the sounding launch on an arc from a control station (#103) while the control rates and theodolite azimuths originated from control stations #102 and #104. This resulted in a series of chords around station #103 instead of concentric arcs. All in-between soundings were erroneously computed and plotted. ✓ Special procedures were required to compensate for this deficiency. The verifier consulted the rates from the steering station #103 in the raw data printouts (not used for computation) and manually corrected the path of the vessel around the steering station. Computed azimuths to scaled G.P.'s were inserted in the position printout and location of in-between soundings were recomputed. This procedure was conducted

to the 800 meter arc from station #103 with rates from station #102 and to 1000 meters with rates from station #104. Beyond this distance, the error of displacement was less than 1mm or 5 meters at the scale of the survey. ✓

In conjunction with the research required to correct the above problem, significant software modifications were made to the Marine Center range/azimuth computations. The modifications allow for a more probable depiction of vessel tracks from existing data when interpolation or extrapolation must be performed, and the vessel is deviating from a course that can be linearly deduced from velocity vectors. ✓

A second problem encountered was the use of two transducers on the analog, a narrow beam 7 1/2° and a 22° medium beam width. The digitizer was designed to record only from the narrow beam transducer. However, when the vessel was approaching or descending steep slopes, the event marks on the analog and the digitizer alternated recorded depths between the narrow and wide beam returns. At times the wide beam pulse was received by the narrow beam transducer and was digitized. This necessitated rescanning of the fathograms to verify recorded depths from the narrow beam only. This occurred because the initial trace on the analog was set at zero for both transducers operating at the same frequency. A separation of 1-2 fathoms on the analog as noted on days 94 and 95 was prescribed by the Electronics Division and Operations Division at PMC. The use of the wider beam transducer was authorized as a search tool for undisclosed least depths to be developed and was not intended to be used throughout the entire survey. ✓ concur

2. CONTROL AND SHORELINE

Control for this survey adequately described in Sections F and G of the Descriptive Report.

Two ASCII signal tape listings were included in the Descriptive Report. Two stations, No. 204 and 208 differ in location. The final version and Master Station List G.P.'s are correct, and were used to plot the smooth sheet. ✓

No photogrammetric support was supplied or field edit required on this survey. The shoreline was transferred from enlargements of Chart 17315, 16th Edition, February 4, 1978. Several changes to the MHWL and existing piers were made on aerial photos as noted in Section H of the Descriptive Report. These changes are indicated on the smooth sheet. A correlation of the photos and D.P.'s taken on ends of piers was made to indicate the present location and configuration of shoreline features. ✓

Two extra position overlays have been plotted in multiple colors for evaluation by the Quality Control Group. This is an experimental procedure to aid in indentifying positions and accompanying soundings on congested smooth sheets. Good idea - would like to see more of this.

An enlarged scale plan
~~A subplan~~ of the pier, with accompanying soundings, at the head of Auke Bay at Latitude 58°23'05"N, Longitude 134°38'41"W was drafted on the smooth sheet at a scale of 1:2,500. See Vol. 2, pg. 11.

3. HYDROGRAPHY

Crosslines are in good agreement with main scheme hydrography. In both inshore areas of steep slopes and in deeper water where the bottom is irrugular, soundings agree within one fathom. Do not concur see Q.C. Report-Item 1

Standard depth curves could be adequately drawn, except for the zero and one fathom curve, which are not required in the project instructions for this navigable area survey. Do not concur, see Q.C. Report- Item 1

Two soundings, 3.8 fm. and 3.9 fm. along the face of the ferry wharf, have been offset south of their true position on the smooth sheet. Vicinity of lat. 58°22'54.1" long 134°41'11"

This survey is considered adequate in development of bottom configuration and determination of least depths. Do not concur, see Q.C. Report - Item 1

Data for a rock, ~~bare~~ uncov. 5ft, at MLLW, at Latitude 58°21'21.7"N, Longitude 134°38'43.3"W (D.P. position #9108) was transferred from the original records for H-9818. This rock was not plotted on the smooth field sheet. A rock located on position #2841 of H-9817 is plotted 15 meters WSW and is 1 ft. higher in reduced elevation. It is possible that position #9108 and #2841 are duplicate locations for the same rock. Recommend the offshore and higher rock be charted.
* H-9818 (1979) has not been used in this work
* No reference to rock in H-9818 (1979) records. 12/8/82

Two offshore soundings, #330201 reducing to -0.3 fms. at Latitude 58°22'07.2"N, Longitude 134°42'06.9"W, and #483406 reducing to -1.2 fms. at Latitude 58°22'08.9"N, Longitude 134°42'11.7"W, were converted to ~~a~~ rocks awash at MLLW. T-3681 (1917) shows a sunken rock & a rock uncov. at MLLW at these locations

Sounding vessel 2128 was a Coast Guard Auxiliary boat equipped with an echo sounder (unknown type) used to fill in a holiday north of the NMFS pier, positions 1 thru 6. Leadline comparisons were made to determine the corrections to the echo sounder. A maximum correction of -0.6 fms. was applied to depths obtained, including both TRA and velocity corrections. Velocity Table 2 was constructed to apply the corrections. See Sounding Volume 2, pg. 8.

There are 112 bottom samples within the limits of this survey, consisting primarily of green mud or sand.

4. CONDITION OF SURVEY

The hydrographic records, overlays, field sheet and reports are adequate and conform to the requirements of the Hydrographic Manual, except for the following:

a. Daily calibration sheets were not included in the raw data cahier for all days. No electronic corrector abstract was included in the Descriptive Report.

b. Duplication of position numbers 5000-5116, Launch 2123 (hydro) and Launch 2125 (bottom samples). ✓

c. Changes of launch speed between fixes or a missed theodolite azimuth when approaching the shoreline resulted in erroneously spaced soundings interpolated on time and course between positions. Slow starts of the launch from shoal water near the shoreline also produced improperly spaced soundings and erratic depth curves. These soundings were adjusted to compensate for the deficiency during verification. Concur, see also Q.C. Report Item 1

d. Scanning of fathograms: When trace was lost on analog, the digitizer logged the depth at the point where the trace was lost and not on the event mark where it should have been a miss. This was due to the software of the range/azimuth program. These depths were corrected during verification. This statement was accepted as fact. These depths were not checked during Q.C.I.

5. JUNCTIONS

H-9817 junctions to the south with contemporary survey H-9818 (1979). Difficulty was encountered effecting a satisfactory junction alongshore the mainland and Coghlan Island, due to the steep slope and irregular bottom. A junction was made with soundings rejected, excessed or transferred from H-9818. No junction was required to the west. This survey joins prior Survey H-2056 (1890) scale 1:40,000 to the west. Due to the sparse soundings on H-2056, no continuity of depths could be established. H-9818 was not available during the inspection of the present survey.

6. COMPARISON WITH PRIOR SURVEYS

H-1602a	(1884)	1:40,000
H-2056	(1890)	1:40,000
H-2058	(1890)	1:40,000
H-3986WD	(1917)	1:20,000

H-1602a contains no soundings in the area covered by H-9817. Topographic features on H-1602a were superseded by H-2056 and H-2058. concur

H-2056 soundings appear to be generally deeper, varying from reasonable agreement to a maximum of seven fathoms. The HWL at Point Louisa has shifted southward and the configuration of some topographic features have changed. Differences can be attributed to natural changes and more accurate surveying methods than employed on the prior survey. concur

H-2058 soundings vary from good agreement to a plus or minus three fathoms in isolated comparisons. Specific greater differences are itemized in Sections K and L of the Descriptive Report. In addition, the following significant differences were noted:

T-3681 (1917) The positions of offshore rocks are in excellent agreement with counterpart rocks on the pres. survey. Elevations of high water features were carried fwd to the pres. survey during Q.C.I.

H-2058	H-9817	Latitude	Longitude
17 ft	9 fm	58°22'27"N	134°42'22"W
9 3/4 fm	24 fm	58°22'20"N	134°42'23"W
4 fm	30 fm	58°22'15"N	134°42'21"W
3 1/2 fm	13 fm	58°22'22"N	134°38'42"W

18 fm	35 fm	58°22'15"N	134°42'23"W disregard prior survey
17 fm	9 fm	58°21'40"N	134°39'43"W sdgs - chart depths as shown on the pres. survey

Minor changes to topographic features have occurred, attributable to manmade and natural causes.
With the addition of items carried fwd from T-3681 (1917), H-9817 is adequate to supersede all prior survey in areas of common hydrography.

H-3986WD covers an area on H-9817 by one sweep, 800 meters wide, starting east of Coghlan Island and continuing northeasterly to the head of Auke Bay. Adjoining drags cover an area west of Coghlan Island continuing northwest into Favorite Channel. There are no conflicts between the effective wire drag depths and soundings on H-9817. concur

Two rocks plotted on H-3986WD are also located & verified on H-9817.

H-3986 WD.	H-9817	Latitude	Longitude	
*(2)	*(2)	58°21'59"N	134°41'39"W	chart rocks as shown on the present survey
+ cov 3' MLLW	*Cov 2 ft at MLLW	58°21'51"N	134°41'56"W	

Pre-Survey review items consist of unnumbered solid circles applied to a reduction of Chart 17315 by the Marine Chart Division.

The facilities at the head of Auke Bay have been investigated and revised as noted in Section H of the Descriptive Report and Section 2 of the Verifier's Report.

Four circled items, requesting rock elevations, have been determined on H-9817. Three rocks are disposed of in Section 7 and one rock in Section 6 of the Verifier's Report.

7. COMPARISON WITH CHART 17315 (16th Edition, Feb. 4, 1978)

a. The source of all charted hydrography originate with the prior surveys mentioned in Section 6, and as indicated on the chartlet included with the Verifer's Report. The shoreline and configuration of the offshore islands have been ~~updated from unknown sources subsequent to the prior surveys.~~ charted T-3681 (1917)

The following rocks are charted from ~~unknown sources~~ T-3681 (1917) and are located & verified on H-9817: Chart the rocks as shown on the present survey.

Chart	H-9817	Latitude	Longitude
* (two) T-3681 (1917)	* (three)	58°22'20"N	134°42'07"W
* + "	* (two)	58°22'09"N	134°42'12"W
* + "	*	58°22'07"N	134°42'07"W
* "	*	58°21'36"N	134°39'55"W
* "	*	58°21'37"N	134°38'52"W
* (two) "	* (three)	58°21'33"N	134°39'20"W
* "	*	58°21'33"N	134°38'43"W
* "	*	58°21'28"N	134°40'04"W

MASTER STATION LIST
OPR-0329-RA-79
AUKE BAY, AK.

FINAL VERSION

```
101 5  58 18 56747 134 41 56278  250 0005 000000
/GEORGE 1959   M/R                          581343(1042)

102 0  58 22 52946 134 39 49054  250 0000 000000
/NANCY 1979  M/R                            581343

103 6  58 21 47685 134 41 43554  250 0000 000000
/COG 1979  M/R                              581343

104 5  58 20 47578 134 44 59822  250 0002 000000
/COW 2-PORTLAND 1917  M/R                   581343(1026)

105 4  58 18 56696 134 41 55857  250 0005 000000
/GEORGE ROCK LIGHT 1961                     581343

106 2  58 20 59442 134 39 32575  250 0000 000000
/MORSY 1979  M/R                            581343

201 3  58 21 57288 134 37 58071  139 0000 000000
/MENDENHALL PEN STEEL TWR OBSTR. LT 1960    581343(1076) *

202 3  58 21 38175 134 38 08052  139 0000 000000
/MENDENHALL PEN POLE OBSTR. LT 1960         581343(1075) *

203 3  58 19 47766 134 43 54701  139 0000 000000
/PORT 1937                                  581343(1089) *

204 0  58 18 56887 134 41 56125  250 0000 000000
/GEORGE 1959 RM 1                           581343(1042)

205 3  58 19 37480 134 41 12465  139 0000 000000
/GIBBY ROCK LIGHT 2 1974 (CALIBRATION POINT) 581343

206 4  58 22 55282 134 38 40620  243 0000 000000
/FISHERIES PIER(CALIBRATION POINT)

207 2  58 20 47620 134 44 59846  139 0000 000000
/COW 2-PORTLAND 1917 RM                     581343(1026)
```

* NOT USED FOR THIS SURVEY

208 4 58 21 10046 134 42 09242 139 0002 000000
/COGHLAN ROCK-MAN 1917 581343(1022)

STATIC CALIBRATION DATA:

AT STATION (206) NMFS PIER		AT STATION (205) GIBBY RK LT	
(101)	8037	(101)	1448
(102)	1114	(102)	6197
(103)	3636	(103)	4060
(104)	7323	(104)	4290
(105)	8036	(105)	1446
(106)	3682	(106)	3012

ASCII SIGNAL TAPE LISTING
RA-5-1-79(H-9817)
RA-5-2-79(H-9818)

FINAL VERSION

101	5	58	18	56747	134	41	56278	250	0005	000000
102	0	58	22	52946	134	39	49054	250	0000	000000
103	6	58	21	47685	134	41	43554	250	0000	000000
104	5	58	20	47578	134	44	59822	250	0002	000000
105	4	58	18	56696	134	41	55857	250	0005	000000
106	2	58	20	59442	134	39	32575	250	0000	000000
~~201~~	~~3~~	~~58~~	~~21~~	~~57288~~	~~134~~	~~37~~	~~58071~~	~~139~~	~~0000~~	~~000000~~
~~202~~	~~3~~	~~58~~	~~21~~	~~38175~~	~~134~~	~~38~~	~~08052~~	~~139~~	~~0000~~	~~000000~~
~~203~~	~~3~~	~~58~~	~~19~~	~~47766~~	~~134~~	~~43~~	~~54701~~	~~139~~	~~0000~~	~~000000~~
204	0	58	18	56887	134	41	56125	250	0000	000000
205	3	58	19	37480	134	41	12465	139	0000	000000
206	4	58	22	55282	134	38	40620	243	0000	000000
207	2	58	20	47620	134	44	59846	139	0000	000000
208	4	58	21	10046	134	42	09242	139	0002	000000

VELOCITY CORRECTOR TAPE LISTING
RA-5-1-79(H-9817)
RA-5-2-79(H-9818)

```
000800 0 0000 0001 001 212600 000000
999999 0 0001
```

PARAMETER TAPE LISTING
RA-5-2-79(H-9818)

```
RA-5-2A-79
SKEW:0,22,45
SCALE - 1:5000
FEST=20000
CLAT=6446000
CMER=134/30/0
GRID=15
PLSCL=5000
PLAT=58/19/50
PLON=134/44/10
VESNO=2123
YR=79
ANDIST=0.0

RA-5-2B-79
SKEW:0,15,22
SCALE - 1:5000
FEST=20000
CLAT=6446000
CMER=134/30/0
GRID=15
PLSCL=5000
PLAT=58/19/15
PLON=134/42/45
VESNO=2123
YR=79
ANDIST=0.0

RA-5-2-79
EXPANSION SHEET
SCALE - 1:2500
FEST=20000
CLAT=6446000
CMER=134/30/0
GRID=10
PLSCL=2500
PLAT=58/19/30
PLON=134/42/08
VESNO=2123
YR=79
ANDIST=0.0
```

TC/TI TAPE LISTING
RA-5-2-79(H-9818)

LAUNCH - 2123(RA-3)

174451 0 0003 0001 121 212300 000000
212600 0 0003 0001 131 000000 000000

TC/TI TAPE LISTING
RA-5-2-79(H-9818)

LAUNCH - 2126(RA-6)

224940	0	0003	0001	094	212600	000000
212519	0	0000	0000	110	000000	000000
214347	0	0003	0001	110	000000	000000
212934	0	0000	0000	115	000000	000000
213219	0	0003	0001	115	000000	000000
174127	0	0000	0000	117	000000	000000
175844	0	0003	0001	117	000000	000000
171100	0	0003	0001	145	000000	000000

LAUNCH - 2125(RA-5)
BOTTOM SAMPLES ONLY

231617	0	0000	0000	099	212500	000000
221408	0	0000	0000	110	000000	000000

FIELD TIDE NOTE
OPR-0329-RA-79
H-9817, 9818
Auke Bay, Alaska

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As per project instructions, one tide station was established and maintained throughout the period of hydrography. The gage time was G.M.T.

T1, #945-2263, Auke Bay

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One tide staff (2 sections at 14.0 ft ea), totaling 28.0 feet in length was installed on a piling supporting the pier. The staff stop, a piece of angled aluminum was placed at 14.0 feet above the zero of the staff. Level records indicate that the staff did not move.

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2263 A 1979 to AUKE BAY NO. 3 1917	-0.1106	-0.1102
AUKE BAY NO. 3 1917 to AUKE BAY NO. 2 1917	* +0.0275	+0.0182
AUKE BAY NO. 2 1917 to 2263 B 1979	+1.8223	+1.8310
2263 B 1979 to AUKE BAY NO. 1 1917	-1.4518	-1.4516

*It should be noted that the (approx.) one centimeter difference is due to orientation of the rod. Bench mark "NO. 2 1917" is tilted upon the top of a granite boulder. The installation rodman chose to use the highest point (edge of disk) while the removal rodman placed the edge of his rod in the center of the disk.

A staff/gage comparison was conducted on April 4, 1979, which yielded 6 minute observations for a period of nearly 10 hours. The ADR tape reads 29.96 ft. greater than the staff, based on an average of the 9-hour observations.

RECOMMENDED ZONING

It is recommended that the Auke Bay gage (T1, 945-2263) be used to correct soundings on both H-9817 and H-9818.

U.S. DEPARTMENT OF COMMERCE
September 10, 1979 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 945-2263 Auke Bay, AK

Period: April 5 - May 25, 1979

HYDROGRAPHIC SHEET: H-9818

OPR: O 329

Locality: Auke Bay, Alaska

Plane of reference (mean lower low water): 9.16 ft.

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

REMARKS: Zone direct.

James R Hubbard
Chief, Datums and Information Branch

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-9818

Name on Survey	A ON CHART NO. 17315	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	
COGHLAN ISLAND	X									1
GIBBY ROCK	X									2
SPUHN ISLAND	X									3
SPUHN PT	X									4
SUEDLA ISLAND				X						5
SMUGGLERS COVE										6
MENDENHALL PENINSULA										7
AUKE BAY										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
					Approved:					18
										19
					Chas. E. Harrington					20
					Chief Geographer - N/CG2x ?					21
					21 DEC. 1982					22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

H-9818

GEOGRAPHIC NAMES REPORT
OPR-0329-RA-79
AUKE BAY, ALASKA
APRIL-MAY 1979

During the 1979 field season, the RAINIER surveyed the waters of Auke Bay, Alaska. There were several islands in the project area deserving of names. These islands are shown on chart 17315 (chartlet enclosed).

Investigation and inquiry was made with local residents for possible geographic names. The persons contacted did know a great deal about the area surveyed, and it was found that the islands had local names in use. These names are shown on the chartlet. The names are also shown on the USGS quad map of the area. It is recommended that these names be added to the next edition of chart 17315.

Respectfully Submitted

for William D. Bickford Jr.
P. N. Neal, CQM
NOAA Ship RAINIER

Approved and Forwarded

for R. L. Mauer
Wayne L. Mobley
Captain NOAA
Commanding

REFERENCES:

Mr. Robert Millard
P.O. Box 251
Auke Bay, AK 99821

Family has been in Auke Bay area since 1897.

Eng. Tech, City of Juneau

Mrs. Edie Trambitas
P.O. Box 237
Auke Bay, AK 99821

Family has been in Auke Bay area since 1884.

NOS	6423 PMT
AVC	TOD 24 0221 Z APR 79

RT. ZYUW RUHPTEF0010 1140040-UUUU--RUHPSUU.
ZNR UUUUU
R 240040Z APR 79
FM NOAAS RAINIER
TO CCGDSEVENTEEN JUNEAU AK
INFO DPMC NOS NOAA SEATTLE WA
CM GRNC
BT
UNCLAS
RA-PMC-010.
REQUEST THAT THE FOLLOWING INFORMATION BE PUBLISHED AND BROADCAST IN THE LOCAL NOTICE TO MARINERS FOR THE 17TH DISTRICT: THE NOAA SHIP RAINIER IS PRESENTLY ENGAGED IN A NAVIGABLE AREA HYDROGRAPHIC SURVEY OF AUKE BAY ALASKA. AT THIS TIME TWO HAZARDS TO NAVIGATION HAVE BEEN LOCATED ON CHART 17315-16TH EDITION, FEBRUARY 4, 1978. HAZARD NUMBER 1 IS A ROCK AWASH AT MLLW AND LOCATED 0.8 NAUTICAL MILES AT 294 DEGREES TRUE FROM THE NORTH TIP OF COGHLAN ISLAND, LATITUDE 58 DEGREES 22 MINUTES 07.12 SECONDS NORTH AND LONGITUDE 134 DEGREES 43 MINUTES 08.075 SECONDS WEST. ROCK IS PRESENT IN AN AREA CHARTED AT 11 FATHOMS. HAZARD NUMBER 2 IS A SHOAL COVERED BY 11 FATHOMS AT MLLW AND LOCATED 0.65 NAUTICAL MILES AT 054 DEGREES TRUE FROM THE NORTH TIP OF COGHLAN ISLAND, LATITUDE 58 DEGREES 22 MINUTES 10,98 SECONDS NORTH AND LONGITUDE 134 DEGREES 40 MINUTES 43.90 SECONDS WEST. SHOAL IS LOCATED IN AN AREA CHARTED AT 27 FATHOMS.
BT
#0010

Both items located on H-9817, only

NNNN

DE WTEF INT QSL K

TELEGRAPHIC MESSAGE

NAME OF AGENCY	PRECEDENCE ACTION: INFO:	SECURITY CLASSIFICATION UNCLAS
ACCOUNTING CLASSIFICATION	DATE PREPARED	TYPE OF MESSAGE ☐ SINGLE ☐ BOOK ☐ MULTIPLE-ADDRESS
FOR INFORMATION CALL NAME	PHONE NUMBER	
THIS SPACE FOR USE OF COMMUNICATION UNIT		

MESSAGE TO BE TRANSMITTED *(Use double spacing and all capital letters)*

XQ:
R

CY

FM NOAAS RAINIER

XO

TO CCGDSEVENTEEN JUNEAU AK

CO

INFO DPMC NOS NOAA SEATTLE WA

CM GRNC

BT

UI AS

RA-PMC-____. REQUEST THAT THE FOLLOWING INFORMATION BE PUBLISHED AND BROADCAST IN THE LOCAL NOTICE TO MARINERS FOR THE 17TH DISTRICT:

THE HYDROGRAPHIC SURVEY OF AUKE BAY HAS REVEALED THESE ADDITIONAL HAZARDS TO NAVIGATION ON CHART 17315 - 16TH EDITION, FEBRUARY 4, 1978. HAZARD NUMBER ONE IS A 12 FATHOM SHOAL LOCATED 0.53 NAUTICAL MILE AT 315 DEGREES TRUE FROM GIBBY ROCK LIGHT, LATITUDE 58 DEGREES 20 MINUTES 00 SECONDS NORTH AND LONGITUDE 134 DEGREES 41 MINUTES 54 SECONDS WEST. HAZARD NUMBER 2 IS A 3.5 FATHOM SHOAL LOCATED 1.425 NAUTICAL MILES AT 031 DEGREES TRUE FROM GIBBY ROCK LIGHT, LATITUDE 58 DEGREES 20 MINUTES 50 SECONDS NORTH AND 134 DEGREES 39 MINUTES 48.5 SECONDS WEST.

PAGE NO.	NO. OF PGS.	SECURITY CLASSIFICATION
1	2	UNCLAS

14-306

STANDARD FORM 14
REVISED AUGUST 1967
GSA FPMR (41 CFR) 101-35.306

☆ U.S.Government Printing Office: 1975—565-242

HAZARD NUMBER 3 IS TWO ROCKS AWASH AT MEAN LOWER LOW WATER, ONE LOCATED 1.44 NAUTICAL MILES AT 024.5 DEGREES TRUE FROM GIBBY ROCK LIGHT, LATITUDE 58 DEGREES 20 MINUTES 56.7 SECONDS NORTH AND LONGITUDE 134 DEGREES 40 MINUTES 03.2 SECONDS WEST AND THE SECOND LOCATED 1.5 NAUTICAL MILES AT 026.3 DEGREES TRUE FROM GIBBY ROCK LIGHT, LATITUDE 58 DEGREES 20 MINUTES 57.9 SECONDS NORTH AND LONGITUDE 134 DEGREES 39 MINUTES 55.1 SECONDS WEST. HAZARD NUMBER 4 IS A 1.8 FATHOM SHOAL LOCATED 1.4 NAUTICAL MILES AT 110 DEGREES TRUE FROM THE NORTH TIP OF COGHLAN ISLAND, LATITUDE 58 DEGREES 21 MINUTES 19.5 SECONDS NORTH AND LONGITUDE 134 DEGREES 39 MINUTES 13.3 SECONDS.

Hazard # 4 falls on H-9817.

BT

September 10, 1979

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 945-2263,, Auke Bay, AK

Period: April 4 - May 25, 1979

HYDROGRAPHIC SHEET: H-9817

OPR: O 329

Locality: Auke Bay, Alaska

Plane of reference (mean lower low water): 9.16 ft.

Height of Mean High Water above Plane of Reference is 15.1 ft.

REMARKS: Zone direct.

James R. Hubbard
Chief, Datums and Information Branch

GEOGRAPHIC NAMES REPORT
OPR-0329-RA-79
AUKE BAY, ALASKA
APRIL-MAY 1979

During the 1979 field season, the RAINIER surveyed the waters of Auke Bay, Alaska. There were several islands in the project area deserving of names. These islands are shown on chart 17315 (chartlet enclosed).

Investigation and inquiry was made with local residents for possible geographic names. The persons contacted did know a great deal about the area surveyed, and it was found that the islands had local names in use. These names are shown on the chartlet. The names are also shown on the USGS quad map of the area. It is recommended that these names be added to the next edition of chart 17315.

concur

Respectfully Submitted

for William D. Bickford Jr.
P. N. Neal, CQM
NOAA Ship RAINIER

Approved and Forwarded

R. L. Mobley
for Wayne L. Mobley
Captain NOAA
Commanding

REFERENCES:

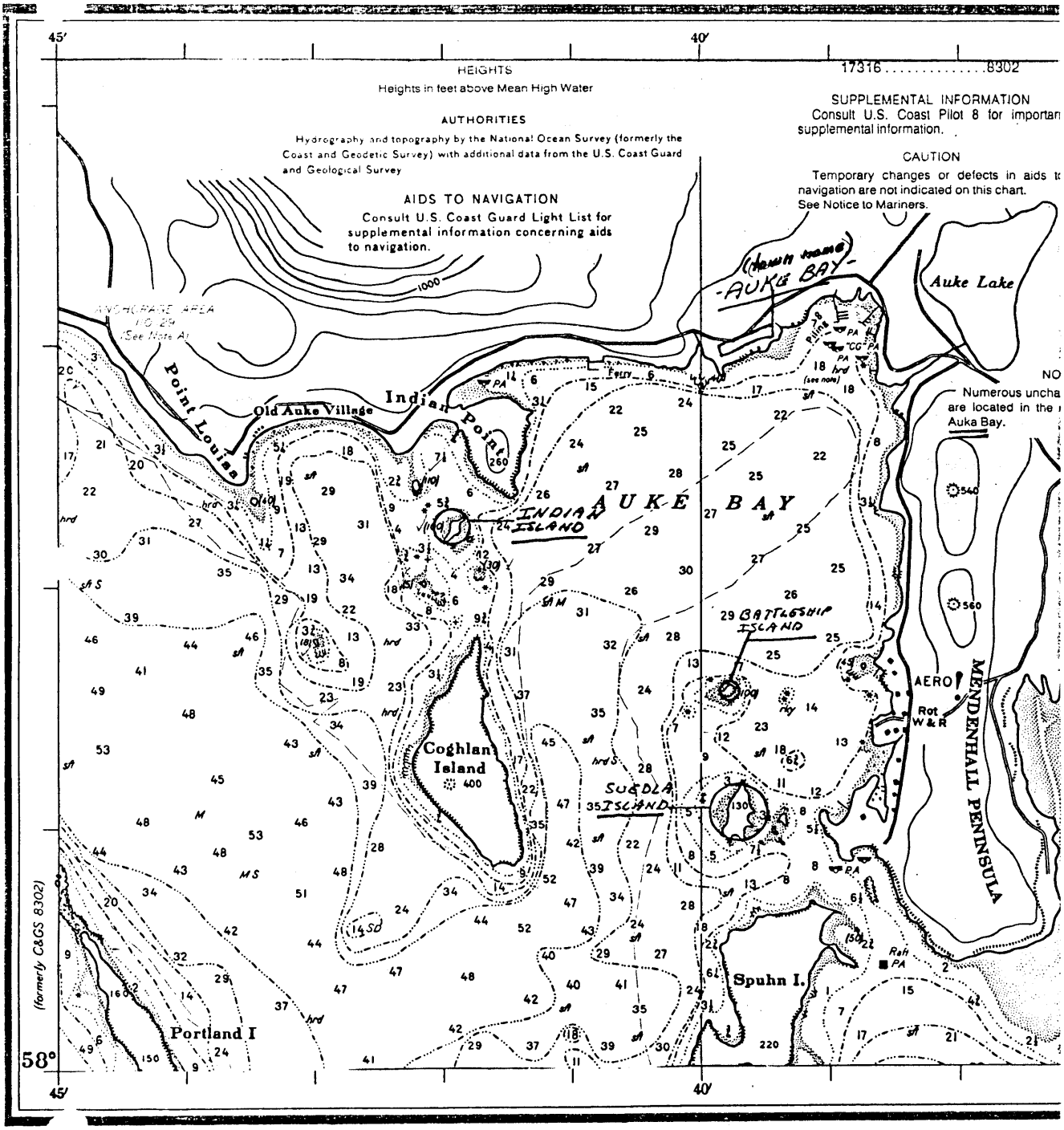
Mr. Robert Millard
P.O. Box 251
Auke Bay, AK 99821

Family has been in Auke Bay area since 1897.

Eng. Tech, City of Juneau

Mrs. Edie Trambitas
P.O. Box 237
Auke Bay, AK 99821

Family has been in Auke Bay area since 1884.



16th Ed., Feb. 4/78

17315

(formerly C&GS 8235)

CAUTION

This chart has been corrected from the Notice to Mariners published weekly by the Defense Mapping Agency Hydrographic Center and the Local Notice to Mariners issued periodically by each U.S. Coast Guard district to the print date shown in the lower left hand corner

SOUN

NOAA FORM 76-155
(11-72)

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

SURVEY NUMBER

H-9817

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
AUKE BAY ✓	X									1
BATTLESHIP ISLAND ✓			X	X						2
COGHLAN ISLAND ✓	X									3
INDIAN ISLAND ✓			X	X						4
INDIAN POINT ✓	X									5
INDIAN COVE ✓										6
~~OLD AUKE VILLAGE~~	X									7
POINT LOUISA ✓	X									8
AUKE BAY (Pol) ✓										9
AUKE CAPE ✓										10
AUKE NU COVE ✓										11
FAIRHAVEN ✓										12
										13
										14
										15
										16
										17
					Approved:					18
										19
					Chas. C. Harrington					20
					Chief Geographer - C3x5					21
					1 JUNE 1981					22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

APPROVAL SHEET

FOR

SURVEY H- 9817

A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position print-out has been made. A new final sounding print-out has been made.

B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual. Exceptions are listed in the verifier's report.

Date: 12/29/84

Signed: [signature]

Title: Chief, Verification Branch

* chtd from T-3681(1917)	* (two)	58°21'22"N	134°38'44"W

Recommend the above rocks be charted from H-9817. Elevations on offshore islands should be retained as charted. Charted elevations are from T-3681(1917) & were carried fwd to the present survey. Elevations on tops of trees were disregarded.

Additional rocks located on H-9817 to be charted:

Feature	Latitude	Longitude
*	58°22'52"N	134°38'42"W
*	58°22'34"N	134°41'20"W
*	58°22'07"N	134°43'08"W
Islet	58°21'21"N	134°38'43"W

This survey is adequate to supersede all charted hydrography of common areas. concur

b. There are no controlling depths charted.

c. No fixed or floating aids to navigation exist within the survey area. Several mooring buoys are noted to exist at the head of Auke Bay

8. COMPLIANCE WITH INSTRUCTIONS

This survey adequately complies with the Project Instructions dated February 8, 1979 except for the following comment:

Reference paragraph 1.3 instructions and Section L of the Descriptive Report. A navigable passage between Coghlan Island and Indian Point should also consider marking the rock, awash at MLLW, 370 meters north of Coghlan Island at Latitude 58°21'59.3"N, Longitude 134°41'38.9"W. concur

9. This is a good Navigable Area hydrographic survey, adequate for charting purposes. It would have been improved and more complete with photogrammetric support and field edit to update the mooring facilities, the shoreline of the mainland and the HWL of the offshore islands. No additional field work is required at this time. See also O.C. Report Item 9

Respectfully submitted,

for

A. E. Eichelberger
Cartographic Technician
December 10, 1980

Examined and approved

James S. Green
Chief, Verification Branch

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102

January 28, 1981 OA/CPM3/JWC

TO: OA/CPM - Charles K. Townsend

FROM: OA/CPM3 - John W. Carpenter

SUBJECT: PMC Hydrographic Inspection Team Report for Survey H-9817

This survey is a navigable area hydrographic survey of Inner Auke Bay, Auke Bay, Alaska. This survey was conducted by NOAA Ship RAINIER in 1979 in accordance with Project Instructions OPR-0329-RA-79 dated February 8, 1979.

The following items were noted:

1. The parts of the shoreline shown in dashed red on the smooth sheet originates solely from uncontrolled photography and as such is of lesser accuracy than expected from shoreline provided in the hydrographic records. It is shown on the smooth sheet because it is considered more accurate than that presently charted. In view of the discrepancies noted in this survey with the charted shoreline, we recommend that updating photography be flown and the chart updated from that source. Low water & high water photography is recommended.

2. Since there are numerous islands within the survey area, the limits of this navigable area hydrographic survey may not be clear. Note that the limits of this survey around these islands are the limits of hydrography and not beyond, therefore hazards to navigation between the hydrography and the islands must be charted from another source. No other source

3. In many instances along the shoreline course changes were not documented and accompanied by fix information as required by paragraph 4.4.5 of the Hydrographic Manual. what about the gravity of these Data?

NOTE: In reference to item #3, the data shown on the smooth sheet along the shoreline was computed using an actual range and a prorated azimuth between fixes. Because this data does not meet the Hydrographic Manual requirements and the fact that the project requirements call for the inshore limits to be the twelve foot curve, the following note has been added to the smooth sheet: THE POSITIONS OF SOUNDINGS LESS THAN 2 FATHOMS ALONG THE SHORELINE ARE APPROXIMATE AND ARE INCLUDED FOR ORIENTATION PURPOSES ONLY.

The inspection team finds H-9817 adequate to supersede common areas of prior surveys and charted hydrography. Administrative approval is recommended. with the addition of items carried fwd. during O.E.I. - Concur

Stanley H. Otsubo
Stanley H. Otsubo

James W. Wintermyre
James W. Wintermyre

James W. Steensland
James W. Steensland

James S. Stringham
James S. Stringham

ADMINISTRATIVE APPROVAL

H-9817

The smooth sheet and reports of this survey have been examined and the survey is adequate for charting and to supersede common areas of prior surveys. with the addition of items carried fwd. during O.C.I. —concur

Charles K. Townsend, RADM
Director
Pacific Marine Center

2/10/81
Date

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

OA/C352:FPS

May 22, 1981

TO: Glen R. Schaefer
Chief, Hydrographic Surveys Division

THRU: Chief, Quality Control Branch

FROM: F. P. Saulsbury
Quality Evaluator

SUBJECT: Quality Control Report for H-9817 (1979), Alaska, Auke Bay, Inner Auke Bay

A quality control inspection of H-9817 was accomplished to monitor the survey for adequacy with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, junctions, sounding line crossings, shoreline transfer, smooth plotting, decisions and actions taken by the verifier, and the cartographic presentation of data. In general, it was found to conform to the National Ocean Survey's standards and requirements except as stated in the Verifier's Report, the HIT Report, and as follows:

1. Reference section 3 of the Verifier's Report:

Minor irreconcilable conflicts in inshore depths from the mainscheme lines and crosslines were noted. These differences are attributed to the effects of changes in the speed of the launches when approaching or departing from the inshore areas. It appears that efforts were made during verification to reconcile and/or minimize the noted discrepancies. Crossline depths are in adequate agreement with mainscheme soundings in offshore areas.

Contrary to the verifier's statement that depth curves could be adequately drawn, the depth curves as delineated on the smooth sheet in the inshore areas are considered unnatural and could not be adequately drawn from excess sounding level "0." Inadequate survey methods compromised the positions of these inshore soundings which, in turn, influenced the delineation of the 1-, 2-, 3-, 5-, and occasionally 10-fathom depth curves. Frequent positional fixes obtained by reliable control would have eliminated or minimized these problems.

Sparse development compromised the delineation of the depth curves in the following locations:

Latitude (N)	Longitude (W)
58°21.87'	134°38.62'
58°21.58'	134°38.72'
58°21.51'	134°39.75'
58°22.82'	134°39.91'
58°21.73'	134°43.05'

Depth curves in some areas are generally mechanically drawn and do not necessarily reflect a natural bottom configuration. In most cases such depth curves were not revised during the quality control inspection.

2. Section 4 of the Verifier's Report is supplemented by the following:

e. Bottom samples should have been obtained over the following rises in order to determine the character of these features.

Shoal with a least depth of 10.9 fathoms in latitude 58°22.18'N, longitude 134°40.72'W

Shoal with a least depth of 1.8 fathoms in latitude 58°21.29'N, longitude 134°39.65'W

Shoal with a least depth of 18.5 fathoms in latitude 58°21.48'N, longitude 134°40.67'W

3. The mooring buoy, PA charted from a miscellaneous source in the vicinity of latitude 58°22.85'N, longitude 134°41.70'W is not mentioned by the hydrographer. Because the charted position of the mooring buoy falls in an area on the present survey that uncovers at MLLW, its existence is considered unlikely.

4. Detached position 2801 which purportedly determines the location of a finger pier in the vicinity of latitude 58°23.14'N, longitude 134°38.83'W was rejected during quality control. This position places the pier in conflict with adequately controlled sounding lines in the area. The pier was revised from 1975 photography (Photo #328) which accompanied the survey records. The photo location of the pier agrees with present hydrography and is considered a more reliable source.

5. Besides elevations of some islands, bottom characteristics depicted as rocky and ledges alongshore have been carried forward from T-3681 (1917) during quality control to supplement the present survey. With these additions, the present survey is adequate to supersede the prior surveys in the common area.

6. The portrayal of bottom relief on the smooth sheet of the present survey as on previous surveys forwarded to this office reveals certain deficiencies in excess sounding practices:

a. Overprinted sounding numbers in conflict with one another are generally considered to be valid depths with the shoaler sounding retained on the smooth sheet. The deeper depth is excessed. Since this practice precludes an examination of the affected depths, a faulty appearance of bottom relief is presented. Conflicts between depths should be resolved and the most reasonable soundings retained where irreconcilable differences occur. Invalid soundings should be rejected rather than excessed during verification.

b. Soundings are often needlessly excessed in areas where two or more sounding lines cross. Here, the removal of all sounding numbers that touch precludes a selection of depths that adequately portray the bottom configuration.

c. Detailed investigations of shoals are sometimes represented by a minimum number of soundings. Consequently, the features are depicted to be inadequately developed on the smooth sheet.

d. Meaningful soundings that affect the delineation of depth curves are frequently overlooked.

7. The ends of three lines of soundings addressed in the survey records (see Sounding Volume II and section P, paragraph 5, of the Descriptive Report) are noted to have been graphically scaled from approximate positions and logged as range-azimuth control. The final listing assigned a strong fix strength (code 9) to these positions. This is considered misleading since the control is not strong but weak. The user is cautioned not to rely on the indicated fix strength code to determine the accuracy of the position.

8. While survey accuracy in inshore areas is considered compromised, hydrography on the present survey at a scale of 1:5,000 is considered adequate for charting at a scale of 1:40,000. However, if the hydrographer's recommendation to chart this area at a larger scale is accepted, additional work in the inshore areas to depths of 11 fathoms is recommended.

9. Because of cultural and natural change and the plentiful existence of ledge and rock in the foreshore areas, both low water and high water photography should be obtained at an opportune time.

cc:
OA/C351

APPROVAL SHEET

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY

H-9817

RA-5-1-79

OPR-039-RA-79

In producing this sheet standard procedures were observed in accordance with the Hydrographic Manual, PMC OPORDER, and the instruction Manual for Automated Hydrographic Surveys. The data was examined daily during the execution of the survey.

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

R. L. Spear

for Wayne L. Mobley
Captain NOAA
Commanding

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

JUN 28 1982

OA/C351:DJH

TO: OA/CPM - Charles K. Townsend

FROM: OA/C35 - CC. William Hayes

SUBJECT: H-9817 (1979), OPR-0329, Alaska, Auke Bay, Inner Auke Bay, Report of Compliance with Project Instructions

The smooth sheet and Descriptive Report for the subject survey have been examined. This survey, except as noted in the Quality Control Report, dated May 22, 1981 (copy attached), and the Hydrographic Survey Inspection Team Report, dated January 28, 1981, is complete and adequate for the purposes intended and is in compliance with Project Instructions OPR-0329-RA-79, dated February 8, 1979.

Attachment

cc:
OA/C352 w/o att.

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

ORIGINATING ACTIVITY
- [X] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

- [ ] TO BE CHARTED
- [X] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
NOAA Ship RAINIER S221	ALASKA	S.E., AUKE BAY	MAY 18, 1979

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPE-0329-RA-79		H-9817 H-9818	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
LIGHT	GEORGE ROCK LIGHT falls off survey (GEORGE ROCK LIGHT 1979)	058 18	56.696	134 41	55.857		F-2-3-6-L APRIL 6, 1979	17315 17300
LIGHT	GIBBY ROCK LIGHT 2 1974 (GIBBY ROCK LIGHT 2, ~~1979~~)	058 19	37.480	134 41	12.465		F-2-6-L APRIL 6, 1979	17315 17300
LIGHT	PORTLAND ISLAND LIGHT falls off survey (PORTLAND ISLAND LIGHT 1979)	058 21	08.307	134 45	24.631		F-3-6-L APRIL 20,1979	17300
	NC							

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	Jeffrey W. Greene, LTJG, NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED ~~XXXXXXXXXXXXXX~~	Jeffrey W. Greene, LTJG, NOAA	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1974-665-073/1030 Region 6

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [X] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [ ] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

[X] TO BE CHARTED [ ] TO BE REVISED [ ] TO BE DELETED	REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
	NOAA Ship RAINIER S221	ALASKA	AUKE BAY, S.E. ALASKA	MAY 18, 1979

The following objects HAVE [X] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-0329-RA-79		H-9817 H-9818	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
OBSTRUCTION LIGHT	MENDENHALL PENINSULA STEEL TOWER OBSTRUCTION LIGHT 1960 fr. off survey	058 21	57.288	134 37	58.071		F-2-6-L APRIL 18,1979	17315 17300
	DC							

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	Jeffrey W. Greene, LTJG, NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	Jeffrey W. Greene, LTJG, NOAA	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS
Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.
EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED
Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.
EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.
EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED
When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.
EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH
Enter 'V-Vis.' and date.
EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

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NOS-8 JUL 75 E
1:20,000
HWL changes by field
Photo # 327 July 1975

5

40'

NOTE A

Navigation regulations are published in Chapter 2, U. S. Coast Pilot 8, or weekly Notice to Mariners which include new or revised regulations. Information concerning the regulations may be obtained at the Office of the District Engineer, Corps of Engineers in Anchorage, Alaska.

Anchorage regulations may be obtained at the Office of the Commander, 17th Coast Guard District in Juneau, Alaska.

Refer to section numbers shown with area designation.

NATIONAL OCEAN SURVEY

UNITED STATES

ALASKA

SOUTHEAST COAST

GASTINEAU CHANNEL AND TAKU INLET

Mercator Projection
Scale 1:40,000 at Lat. 58°18'
North American 1927 Datum

SOUNDINGS IN FATHOMS
AT MEAN LOWER LOW WATER

HEIGHTS
Heights in feet above Mean High Water

AUTHORITIES
Hydrography and topography by the National Ocean Survey (formerly the Coast and Geodetic Survey) with additional data from the U.S. Coast Guard and Geological Survey.

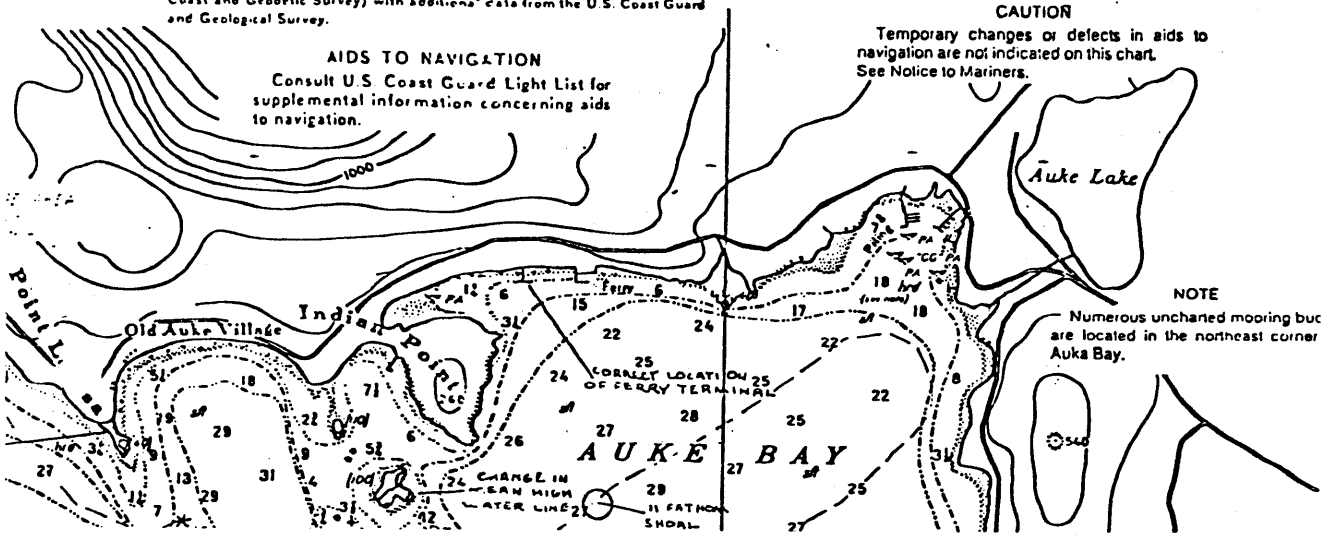
AIDS TO NAVIGATION
Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

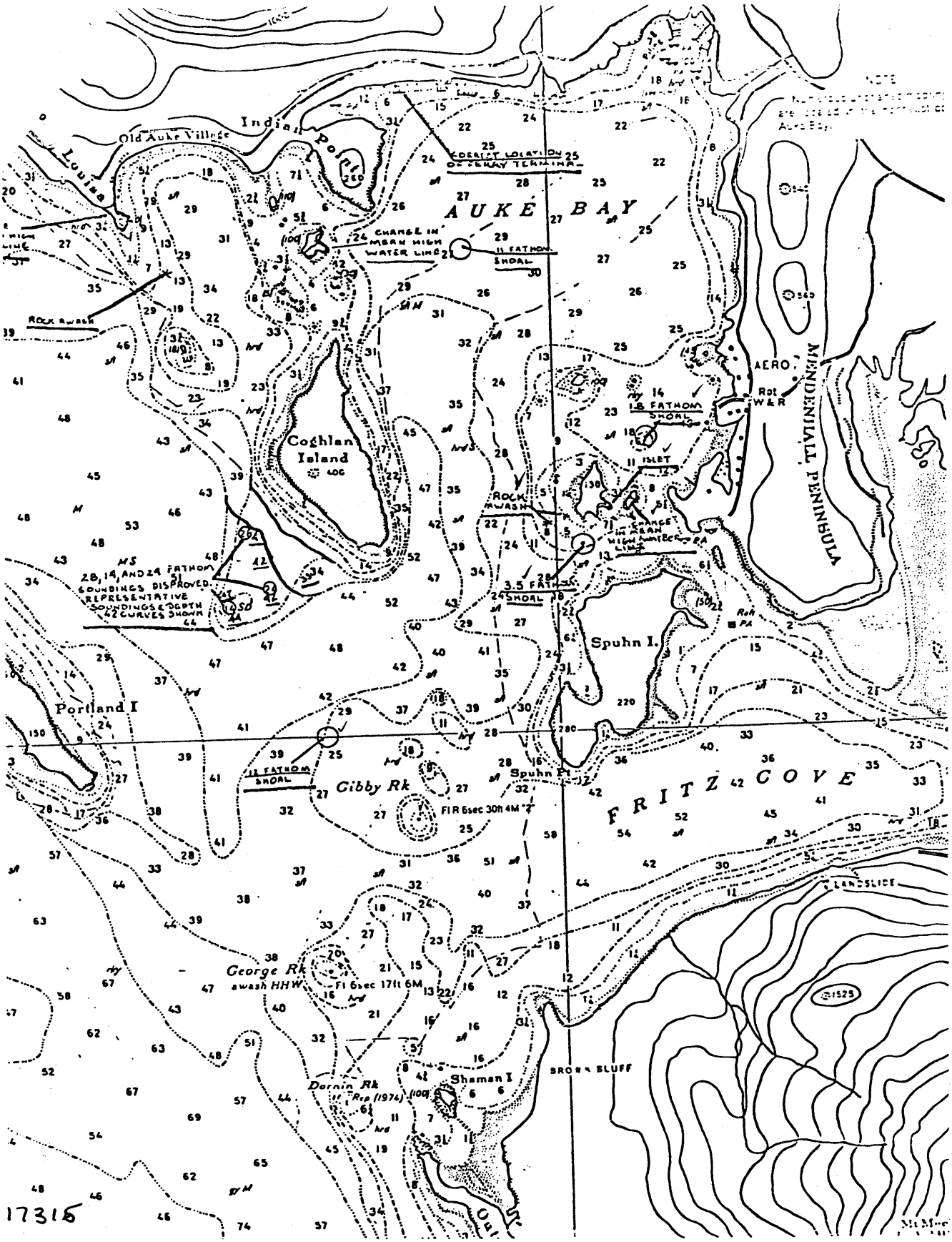
NEW CHART NUMBERING SYSTEM
The National Ocean Survey, in cooperation with the Defense Mapping Agency Hydrographic Center, is in the process of adopting a new national chart numbering system. See Notice to Mariners No. 19, May 11 1974, or Nautical Chart Catalog for cross references of old and new chart numbers.

Chart Number	
New System	Old System
17316	8302

SUPPLEMENTAL INFORMATION
Consult U.S. Coast Pilot 8 for important supplemental information.

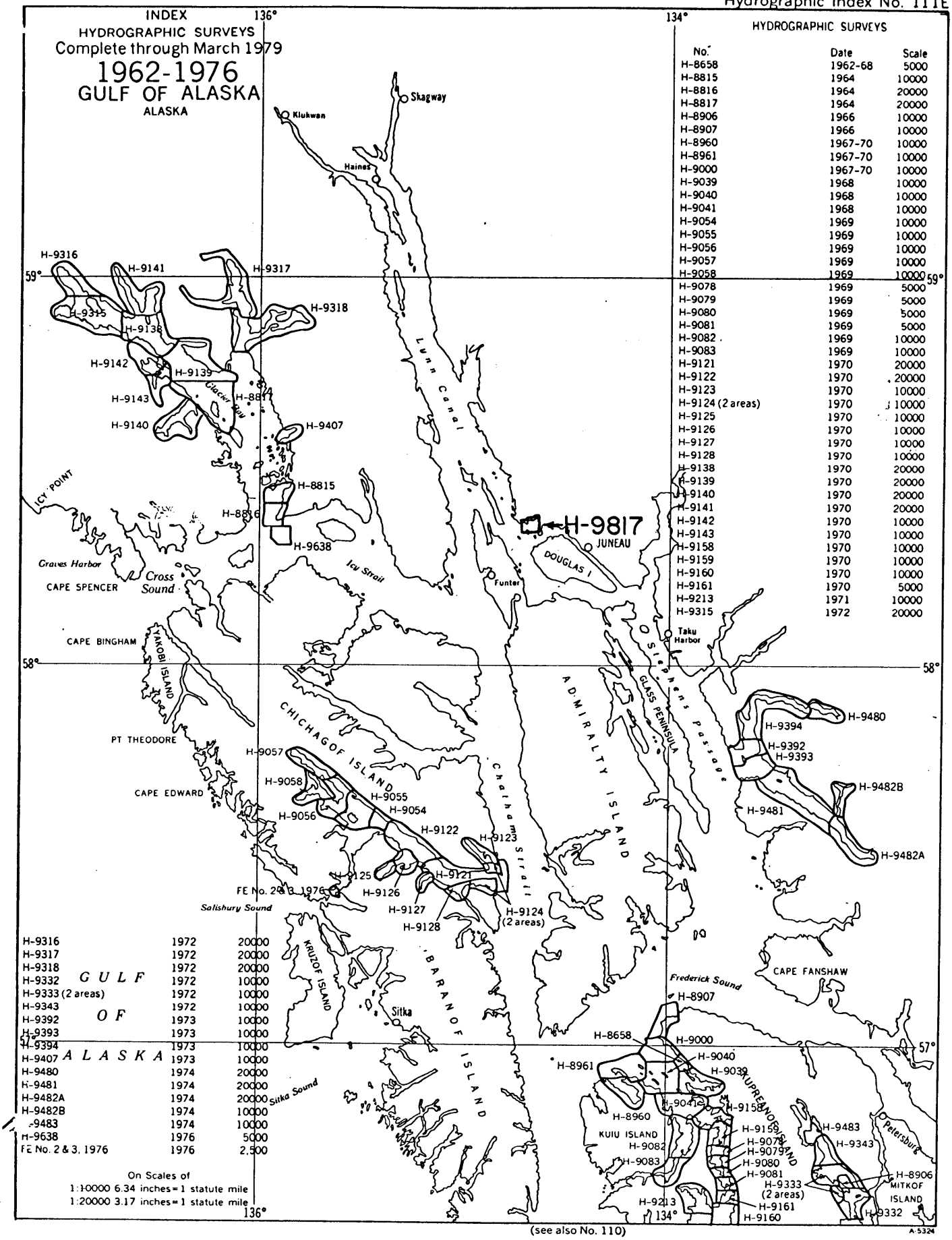
CAUTION
Temporary changes or defects in aids to navigation are not indicated on this chart. See Notice to Mariners.




AUKE BAY
Old Auke Village
Indian Point
Louise
CHANGE IN MEAN HIGH WATER LINE
11 FATHOM SHOAL
ROCK awash
Coghlan Island
406
ROCK awash
CHANGE IN MEAN HIGH WATER LINE
3.5 FATHOM SHOAL
28, 14, AND 24 FATHOM SOUNDINGS DISPROVED
REPRESENTATIVE SOUNDINGS & DEPTH CURVES SHOWN
Spuhn I.
Portland I
12 FATHOM SHOAL
Cibby Rk
FIR 6sec 30ft 4M
Spuhn Pt
FRITZ COVE
George Rk
awash HHW
Fl 6sec 17ft 6M
Dornin Rk
Rep (1974)
Shaman I
BROWN BLUFF
LANDSLIDE
1525
AERO
Rot W&R
18 FATHOM SHOAL
11 ISLET
MENDENHALL PENINSULA
17315

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

Hydrographic Index No. 111E



HYDROGRAPHIC SURVEYS

No.	Date	Scale
H-8658	1962-68	5000
H-8815	1964	10000
H-8816	1964	20000
H-8817	1964	20000
H-8906	1966	10000
H-8907	1966	10000
H-8960	1967-70	10000
H-8961	1967-70	10000
H-9000	1967-70	10000
H-9039	1968	10000
H-9040	1968	10000
H-9041	1968	10000
H-9054	1969	10000
H-9055	1969	10000
H-9056	1969	10000
H-9057	1969	10000
H-9058	1969	10000
H-9078	1969	5000
H-9079	1969	5000
H-9080	1969	5000
H-9081	1969	5000
H-9082	1969	10000
H-9083	1969	10000
H-9121	1970	20000
H-9122	1970	20000
H-9123	1970	10000
H-9124 (2 areas)	1970	10000
H-9125	1970	10000
H-9126	1970	10000
H-9127	1970	10000
H-9128	1970	10000
H-9138	1970	20000
H-9139	1970	20000
H-9140	1970	20000
H-9141	1970	20000
H-9142	1970	10000
H-9143	1970	10000
H-9158	1970	10000
H-9159	1970	10000
H-9160	1970	10000
H-9161	1970	5000
H-9213	1971	10000
H-9315	1972	20000

H-9316	1972	20000
H-9317	1972	20000
H-9318	1972	20000
H-9332	1972	10000
H-9333 (2 areas)	1972	10000
H-9343	1972	10000
H-9392	1973	10000
H-9393	1973	10000
H-9394	1973	10000
H-9407	1973	10000
H-9480	1974	20000
H-9481	1974	20000
H-9482A	1974	20000
H-9482B	1974	10000
H-9483	1974	10000
H-9638	1976	5000
FE No. 2 & 3, 1976	1976	2,500

On Scales of
1:10000 6.34 inches = 1 statute mile
1:20000 3.17 inches = 1 statute mile

(see also No. 110)

A-5324

C&GS-8352
(8-25-83)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9817

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
17315	8-19-82	M. Sager	Full ~~Part Before~~ After Verification Review Inspection Signed QC A Via
			Drawing No. 21
17316	8/27/82	M. Sager	QC Full ~~Part Before~~ After Verification Review Inspection Signed A Via
			Drawing No. No. 12 Applied Thru chart 17315
			Drwg No. 21
17300	8/30/82	M. Sager	QC Full ~~Part Before~~ After Verification Review Inspection Signed A Via
			Drawing No. 25 Applied THRU CHART 17316 Dwg #12
16016	12/15/82	Lois A. Simmons	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 23 Appl'd thru chart 17300 #25
531	6/13/84	Keith VanMeer Jr	Full ~~Part Before~~ After Verification ~~Review Inspection~~ Quality Control Inspection Signed Via
			Drawing No. 18 Appl'd thru chart 16016 #23 no corr.
			Hydro has been fully applied to all effected charts
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

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

USCOMM-DC 8558-P63