7134

Diag'd. on Diag. Ch. No. 8865

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. EX-10146 Office No. H-7134

LOCALITY

State Alaska - Aleutian Islands

General locality Near Islands

Locality West of Attu Island

194 6

CHIEF OF PARTY

F.L.Gallen

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7134

Form 537
Ed. Dec. 1930

REG. NO. 7134

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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. EX 10146

REGISTER NO. H-7134

State Alaska - Aleutian Islands

General locality Near Islands

Locality West of Attu Island

Scale 1:100,000 Date of survey 1 Aug. to 12 Aug., 1946

Vessel EXPLORER SURVEYOR

Chief of Party F. L. Gallen A. P. Ratti

Surveyed by J.C.Partington, G.R. Shelton, C.A. Schanck, J. Waugh, and J.C.Ellerbe

Soundings taken by fathometer and graphic recorder

Protracted by W. M. Martin and H. C. Parsons

Soundings penciled by H. C. Parsons

Soundings in fathoms ~~feet~~

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated CS-218, 3 Feb. 1938; Supp.Instr. 18 March 1938

Remarks: Smooth Sheet and Plotting by the Seattle Processing Office

DESCRIPTIVE REPORT

to

ACCOMPANY HYDROGRAPHIC SURVEY H-7134

(Field No. EX-10146)

Vicinity of Cape Wrangell to Longitude 170° East

1 9 4 6

Scale 1:100,000 U.S.C. & G.S.S. EXPLORER

F.L. Gallen, Comdg.

Surveyed by J.C. Partington
G.R. Shelton
C.A. Schanck
J.C. Ellerbe

A. Project: Instructions, C.S.-218 dated February 3, 1938, Revised April 16, 1943, Supplemental Instructions 18 March 1946 (sub-project No. 33 Liaison Officer), Amended 24 April 1946.

B. SURVEY LIMITS AND DATES:

Locality - Alaska, west of Attu Island. Survey includes the area between the 170th E. and 172th E. meridians and the parallels 52° 40 N. and 53° 40 N.

Hydrography was executed during the period 1 August - 12 August 1946.

See Index Limit Sheet for junctures with and scales of contemporary surveys. No juncture with H-7137 (1946)

C. VESSELS & EQUIPMENT:

The Ship EXPLORER executed the hydrography with the Ship SURVEYOR acting as a Shoran Ground Station. A launch from the Ship SURVEYOR made a detailed survey of the area in the vicinity of the mooring buoy which was anchored near the least depth found on the shoal.

The turning radius of the EXPLORER is 275 and 360 meters to port and starboard respectively. The EXPLORER sounded at standard speed except on the shoal and when it was necessary to reduce speed to obtain soundings in rough weather.

The N.M.C. (U.S. navy type) and 808 (USC&GS No. 60) fathometers were used by the EXPLORER. The 808 fathometer was used in depths of less than 100 fathoms.

D. TIDE STATION:

Reduction for tides was based on Massacre Bay standard gage during the period of survey.

E. SMOOTH SHEET:

Function of Processing Office. Pos. 1-C to 11-C should be plotted on Sheet EX-8246. H-7141 (1946) Accomplished

F. CONTROL STATIONS:

Datum, USN GANNET, 1934. Local triangulation Roland D. Horne, 1944 and 1945 and F.L. Gallen, 1946. Shoran triangulation, 1946.

G. SHORELINE AND TOPOGRAPHY:

There is very little shoreline in the area covered by this sheet. The details can be obtained from air photographs flown by the U.S. Navy in 1946 at the request of the U.S. Coast & Geodetic Survey on a scale of 1:10,000. Shoreline not necessary.

H. SOUNDINGS:

The sounding lines were spaced in accordance with the original instructions. Additional lines were run in areas where the depth curves could not be drawn with sufficient accuracy.

I. CONTROL OF HYDROGRAPHY:

The U.S. Coast Guard buoy tender CLOVER planted a mooring buoy on the shoal, the position of the anchor being marked with a small buoy with a short scope. The shoal had been previously located by the Ship SURVEYOR using distances as obtained from the shoran station DAR on Cape Wrangell and

For supplemental data on Control See Note of the Seattle Processing Office.

the course steered.

The ship SURVEYOR held her position at the marker buoy and took several readings of the distance to shoran station DAR by shoran. The Ship EXPLORER took up a position northwest of Cape Wrangell where shoran distances to stations CHICO, DAR and SAM (the SURVEYOR) could be obtained. Several pairs of readings to CHICO-DAR and DAR-SAM were obtained. The distance DAR-CHICO was obtained by inverse position computation. The angles of the triangles were computed using the three known sides. Once the angles of the triangles were obtained the geographic position of the marker buoy (SAMBO) was computed. Before the EXPLORER took the above mentioned readings the SURVEYOR tied up to the mooring buoy and started her shoran ground station equipment to operating and took distances and bearings to the marker buoy.

Comps. filed with fathograms

The position of the marker buoy (SAMBO) was plotted on the boat-sheet and distance circles were swung around this point at five statute mile intervals. Distance circles were also swung around station DAR using the same interval. An Odessey protractor was constructed on transparent plastic with a scale of 1:100,000, the outer circle having a radius of five statute miles. The mile circles were subdivided to 0.2 mile. This protractor was used in plotting the shoran fixes and for plotting single arcs when only one station was received.

Sounding lines were run north and south for the most part and positions were obtained at six minute intervals and at each turn in the line. There was, of necessity, an interval on either side of the base line between
see Processing Office notes.
the two stations where the positions could not be plotted, the length of this interval depended on the distance from either of the stations, the nearer the ship was to one of the stations the shorter the interval. The positions were spaced by time between plottable fixes, the direction of the lines being con-

trolled by the distance arcs. From longitude 170° 30' E. to longitude 170° 00' the sounding lines were run east and west. They were controlled by a combination of shoran fixes, single arcs and dead reckoning.

Buoy data was observed hourly by the SURVEYOR and radioed to the EXPLORER. These data were used in reducing the observed distance to shoran station SAM to the buoy position, SAMBO. These corrections were obtained graphically using polar coordinate paper. The following is a description of the method used. Plot the position of SAM from the buoy data, using SAMBO as the pole and the distance in thousandths of statute miles. Scale the bearing of SAMBO from the estimated position of the EXPLORER and plot this as a bearing on the polar coordinate sheet. Drop a perpendicular from the position of SAM to this bearing. Read the correction as the distance from the pole to the foot of this perpendicular. If the perpendicular falls between the EXPLORER and SAMBO the correction is plus. If the perpendicular falls on the opposite side of SAMBO or the bearing extended the correction is minus. Another method is to swing the distance circles on a thin transparent plastic such as vinylite and placing this over the smooth sheet with the center at the position of SAM as plotted from the buoy data. This method would perhaps take more time but the plastic sheet would act as a cover for the smooth sheet. Both methods presupposes the use of an Odessey protractor rather than swinging arcs with a beam compass. Plotting with an Odessey protractor is much more accurate than swinging arcs since practically all error due to distortion is eliminated.

J. ADEQUACY OF SURVEY:

The survey of this area is adequate. ✓

Ja. BOAT SHEET JUNCTURES:

Boat sheet junctures with current hydrographic surveys are in close agreement, however, the smooth sheet examination when accomplished will govern.

Depth curves can be adequately drawn on the boat sheet at the junctures.

K. CROSSLINES:

There were no discrepancies in the crossings. Crossings are in adequate agreement.

M. COMPARISON WITH CHART:

No previous surveys with adequate control existed.

N. DANGERS AND SHOALS:

There are no dangers to navigation within the limits of this survey. The least water found on the shoal was ~~19~~ 18 5 fathoms and is in the area covered by a large scale survey by a launch from the SURVEYOR.

There is a shoal with a least depth of 34 fathoms between positions 121-122 G at Latitude 52° ~~52.3~~ 57.7 N. Longitude 176° 52'.2 E.

Respectfully submitted,

J. C. Partington,
Lt. Comdr.

G.R. Shelton,
Lt. Comdr.

C.A. Schanck,
Lt. Comdr.

J.C. Ellerbe
Lt. Comdr.

Approved and forwarded:

F.L. Gallen
Lt. Comdr.
Commanding Ship EXPLORER

STATISTICS FOR HYDROGRAPHIC SURVEY H- 7134

FIELD NO. EX-10146

U.S.C. & G.S.S. EXPLORER

Survey Unit	Vol.	Day Letter	Date 1946	No. of Position	Stat. Mi. Sdg. Lines	Area Sq. Stat. Mi.
EXPLORER	1	A	Aug. 1	77	113.4	
EXPLORER	1&2	B	Aug. 2	246	335.0	
EXPLORER	2&3	C	Aug. 7	210	272.0	
EXPLORER	3&4	D	Aug. 8	257	290.0	
EXPLORER	4&5	E	Aug. 9	250	272.0	
EXPLORER	5&6	F	Aug. 10	171	196.6	
EXPLORER	6&7	G	Aug. 11	288	318.0	
EXPLORER	7&8	H	Aug. 12	117	182.0	
Totals				1616	1979.0	5495

TIDAL NOTE

Reduction of soundings for H ydrographic Sheet No. H-7134,

Field No. EX-10146, is based on tide gage maintained at Massacre Bay, Attu Island, Alaska.

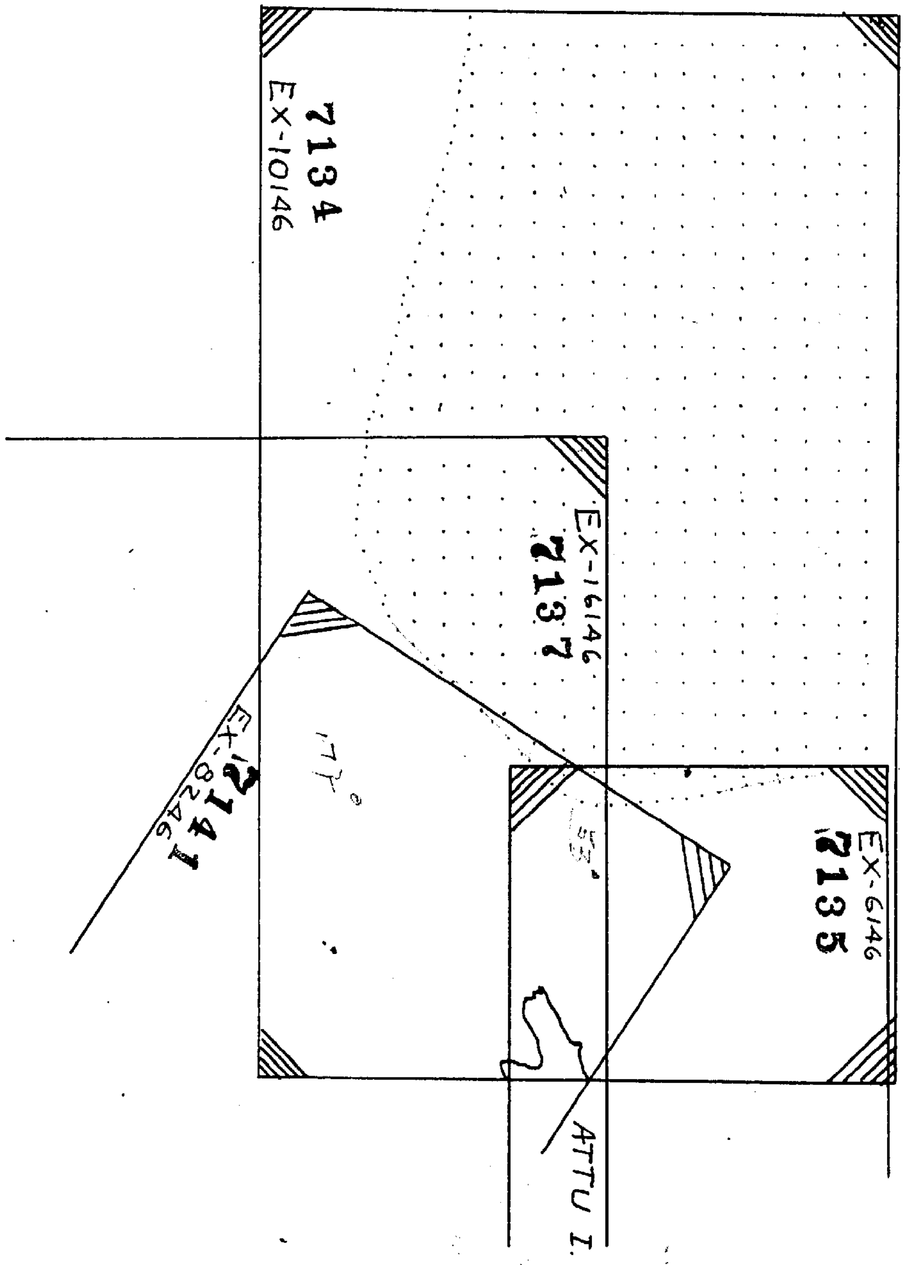
Massacre Bay gage: Located in Massacre Bay (Navy Pier No. 2) Attu, Island, Alaska; standard gage No. 401; Latitude 52° 51'N., Longitude 173° 12'E. The hourly heights for reduction of the records were scaled from the tide gage record. The plane of reference, MLLW is 3.4 feet as determined by leveling on May 8, 1946 to existing bench marks.

INDEX LIMIT SHEET

to

Accompany Hydrographic Sheet

Field No. EX-10146 7134



This is the launch work plotted in the sub-plan, scale 1/20,000, on H 7134. (1946)

DESCRIPTIVE REPORT

To ACCOMPANY

HYDROGRAPHIC SURVEY H-7134 (Field No. EX-10146)

SPECIAL SURVEY ON TWENTY SIX FATHOM BANK FIFTY SIX NAUTICAL MILES WEST OF CAPE WRANGELL, ATTU ISLAND

PROJECT CS- 218 ---1946

Scale of Survey:	1:100,000 (Sub-Plan 1:20,000)
Chief of Party:	A. P. RATTI, Commanding Ship SURVEYOR
Field Work by:	Ship's Officers.

A. PROJECT:

Project CS-218, Original instructions dated February 3, 1938. Supplemented instructions issued by Liaison Officer, Dated March 18, 1946.

B. SURVEY LIMITS AND DATES:

This survey covers the immediate area surrounding the survey buoy " SAMBO ", which was placed in position by the Coast Guard Ship CLOVER on July 19, 1946, at 170° ~~54~~ 56.7' E. Longitude and 53° 04.~~2~~8 5' N Latitude.

Field work was accomplished on June 30, and August 2, and August 12, 1946.

C. VESSELS AND EQUIPMENT:

The hydrography was done by Launch No. 4, operating from the Ship. All soundings were obtained using 808 type No. 47-S fathometer.

D. TIDE AND CURRENT STATIONS:

Tidal data were obtained from the standard tide gage at Massacre Bay direct.

Currents were observed during the time the SURVEYOR was anchored on the shoal.

E. SMOOTH SHEET:

The smooth sheet will be constructed and plotted by personnel of the Seattle Processing Office on sheet no. EX-10146. H-7134 (1946)

This survey should be fitted in with the soundings as obtained from the EXPLORER'S survey on sheet no. EX-10146. H-7134 (1946)

F. CONTROL STATIONS:

1. CONTROL OF HYDROGRAPHY

The anchor buoy " SAMBO " and vertical angles taken from the launch to the mast of the Ship SURVEYOR, with a bearing taken from the SURVEYOR to the launch were used as control for this survey

Pertinent information pertaining to this survey can be obtained on pages 15 and 35, Volume 1.

The location of the anchor buoy is fully covered in the EXPLORER'S report of sheet no. EX- 10146. H-7134 (1946)

H. SOUNDINGS:

All soundings were obtained by standard methods.

J. ADEQUACY OF SURVEY:

This survey is not considered adequate as it was ~~the notion~~ to serve as ~~to~~ a reconnaisance survey. Development adequately reveals the least depth

L. COMPARISON WITH PRIOR SURVEYS AND CHARTS:

There are no existing large scale charts or prior surveys of this area.

N. DANGERS AND SHOALS:

A least depth of 18.5 fathoms was obtained by means of the 808 depth recorder. A poor hand lead sounding of 19.6 fathoms was obtained.

The location and explanation of these soundings are explained on page 35 of volume 1 of this survey

Character of bottom was rocky.

O. COAST PILOT INFORMATION:

See Coast Pilot Report, Aleutian Islands, 1946.

Z. TABULATION OF APPLICABLE DATA:

Tide observations. Tabulated by personnel of Ship EXPLORER.
Velocity Corrections. Compiled by personnel of Ship EXPLORER.

Respectfully submitted
Henry O. Fortin
HENRY O. FORTIN,
Lt. Comdr., C. & G. Survey

Approved; A.P. Ratti

A. P. RATTI
Comdr., C. &. G. Survey
Commanding Ship SURVEYOR

DRAFT & INSTRUMENTAL CORRECTIONS SHIP SURVEYOR

Season 1946

Aleutian Islands
Near Islands Grp.

* = Fathometer Number

In Fathoms

Date	Osc Draft-Fathoms	NMC Red Light-Init-2.0 Fms.	NMC-Graph Init.0.0 Fms.	808 Initial 2.0 Fms. A-Scale			808 Initial 2.0 Fms. B-Scale			808 Initial 2.0 Fms. C-Scale			(D-Scale) 808 Init.2.0 Fms.		808 #46 A-Scale
*				47-S	52	104-S	47-S	52	104-S	47-S	52	104-S	47-S	52	Inst.Er. + 0.1
		Inst. Err. -0.3	Inst. Err. + 0.1	Inst. Error + 0.4	-0.1	+ 0.3	Inst. Error + 0.5	—	-0.8	Inst. Error —	0.0	—	Inst.Err. —	-0.3	
5/25/46	+ 2.3	0.00	+ 2.4	+ 0.7	+0.2	+ 0.6	+0.8	+0.3	-0.5	+0.3	+0.3	+0.3	+0.3	0.0	
5/26/46	2.3	0.00	2.4	0.7	0.2	0.6	0.8	0.3	0.5	0.3	0.3	0.3	0.3	0.0	
5/27/46	2.2	- 0.1	2.3	0.6	0.1	0.5	0.7	0.2	0.6	0.2	0.2	0.2	0.2	-0.1	
5/28/46	2.2	- 0.1	2.3	0.6	0.1	0.5	0.7	0.2	0.6	0.2	0.2	0.2	0.2	-0.1	
5/30/46	2.2	- 0.1	2.3	0.6	0.1	0.5	0.7	0.2	0.6	0.2	0.2	0.2	0.2	-0.1	
5/31/46	2.2	- 0.1	2.3	0.6	0.1	0.5	0.7	0.2	0.6	0.2	0.2	0.2	0.2	-0.1	
6/6/46	2.4	+ 0.1	2.5	0.8	0.3	0.6	0.9	0.4	0.4	0.4	0.4	0.4	0.4	+0.1	
6/14/46	2.3	0.0	2.4	0.7	0.2	0.6	0.8	0.3	0.5	0.3	0.3	0.3	0.3	0.0	
6/20/46	2.2	- 0.1	2.3	0.6	0.1	0.5	0.7	0.2	0.6	0.2	0.2	0.2	0.2	-0.1	
7/3/46	2.3	0.0	2.4	0.7	0.2	0.6	0.8	0.3	0.5	0.3	0.3	0.3	0.3	0.0	
7/23/46	2.4	+ 0.1	2.5	0.8	0.3	0.7	0.9	0.4	0.4	0.4	0.4	0.4	0.4	+0.1	
7/24/46	2.3	0.0	2.4	0.7	0.2	0.6	0.8	0.3	0.5	0.3	0.3	0.3	0.3	0.0	
7/28/46	2.2	- 0.1	2.3	0.6	0.1	0.5	0.7	0.2	0.6	0.2	0.2	0.2	0.2	-0.1	
7/29/46	2.2	- 0.1	2.3	0.6	0.1	0.5	0.7	0.2	0.6	0.2	0.2	0.2	0.2	-0.1	
7/31/46	2.2	- 0.1	2.3	0.6	0.1	0.5	0.7	0.2	0.6	0.2	0.2	0.2	0.2	-0.1	
8/26/46	2.0	- 0.3	2.1	0.4	-0.1	0.3	0.5	0.0	0.8	0.0	0.0	0.0	0.0	-0.3	
8/27/46	2.0	- 0.3	2.1	0.4	-0.1	0.3	0.5	0.0	0.8	0.0	0.0	0.0	0.0	-0.3	
8/28/46	2.4	+ 0.1	2.5	0.8	0.3	0.7	0.9	0.4	0.4	0.4	0.4	0.4	0.4	+0.1	
8/30/46	2.3	0.0	2.4	0.7	0.2	0.6	0.8	0.3	0.5	0.3	0.3	0.3	0.3	0.0	
9/19/46	2.4	+ 0.1	2.5	0.8	0.3	0.7	0.9	0.4	0.4	0.4	0.4	0.4	0.4	+0.1	
9/26/46	2.2	- 0.1	2.3	0.6	0.1	0.5	0.7	0.2	0.6	0.2	0.2	0.2	0.2	-0.1	
9/27/46	2.2	- 0.1	2.3	0.6	0.1	0.5	0.7	0.2	0.6	0.2	0.2	0.2	0.2	-0.1	
10/1/46	2.4	+ 0.1	2.5	0.8	0.3	0.7	0.9	0.4	0.4	0.4	0.4	0.4	0.4	+0.1	
10/3/46	2.3	0.0	2.4	0.7	0.2	0.6	0.8	0.3	0.5	0.3	0.3	0.3	0.3	0.0	
10/5/46	2.3	0.0	2.4	0.7	0.2	0.6	0.8	0.3	0.5	0.3	0.3	0.3	0.3	0.0	

H-7134

(EX 10146)

West of Attu Island

Seattle Processing Office Notes

Smooth Sheet-

The projection is hand made on K & E Paper N 124H.

No shoreline is shown because it is an offshore sheet.

Plotting-

The observed Shoran distances at Ship Station EDDIE, 50 miles northward from DAR are on pages 25 and 26 of Vol. 4, sounding records for sheet H-7135. (1946) These are the distances used to compute SAMBO.

The field party supplied us with the following position for SAMBO, the anchor point for the watch buoy used as the central plotting position 65 miles westward of Cape Wrangell:

Lat. 53° 04' 46."375
Long. 170 56 48.239.

In plotting the smooth sheet, it was found that the speed of the ship apparently slowed down on approaching the Shoran base, DAR-SAMBO, and increased after crossing the line. It was observed that the sum of the Shoran distances was slightly greater than the base when crossing between the Shoran station, and that the difference in the distances was greater than the base length when crossing the extension of the base line west of SAMBO. When the field party was consulted, they suggested that we use the distances in the sounding records when crossing the Shoran base line to compute a new position for SAMBO.

They explained that the SURVEYOR observed a distance SAMBO-DAR when the ship was alongside the watch buoy. Then the SURVEYOR made fast to the mooring buoy in an eccentric position and made the necessary changes to serve as the slave station, and while serving as the slave station, the SURVEYOR could not measure distances from SAM to DAR or to EDDIE. Further, the Shoran equipment in use can observe only two distances at a time, and the distances from EDDIE to CHICO, DAR, and SAM could not all three be observed simultaneously.

The EXPLORER at EDDIE made ten observations of distances to DAR at half minute intervals (see pages 25 and 26, Vol. 4, H-7135). (1946) Simultaneously, they made five observations on SAM and five on CHICO, alternately. The series of observations appears to be very good. During the observations, the EXPLORER drifted approximately toward DAR - 0.043 statute miles.

Three computations of SAMBO were made, as follows:

one using the first half of the observations at EDDIE
" " " last " " " " " "
" " all " " " " " .

For the distance DAR-SAMBO, the recorded distances of 18 sounding positions near the Shoran base were used. These were selected from the boat sheet near the Shoran base, the most distant point from the base line being 8 millimeters, the average distance from the base being 2.3 millimeters. Corrections were applied in the sounding record for the eccentricity of the SURVEYOR from the watch buoy. These corrected distances were reduced to a distance along the base line by solving for the difference between the hypothenuse and leg of the right angle triangle. The mean of the eighteen distances so obtained for DAR-SAMBO is 64.894 statute miles. (The observation of the SURVEYOR was 64.813 stat. miles.) Comps. filed with fathograms. ✓

On the line SAMBO-EDDIE a difference was found which slightly shortened the line. (SAMBO is the position of the watch buoy. SAM is the SURVEYOR and is eccentric from SAMBO at various directions and distances.)

The results of the three computations follow:

SAMBO	First half of observations at EDDIE	Mean of all observations at EDDIE	Last half of observations at EDDIE
Latitude	53° 04' 52".666	51".486	50".906
Longitude	170 56 42.765	42.462	42.311.

✓

The position from the mean of all observations was plotted on the smooth sheet. New circles were swung in <u>pencil</u>, making due allowance for changes from original scale of the projection. The inked circles from the first center were not removed. Smooth sheet positions plotted using pencil circles

In spite of the efforts to find a better location for SAMBO, a good deal of careful adjustment has been required. In crossing the line DAR-SAMBO when the sum of the distances varied from the average slightly, a disproportionate displacement of the position towards or from the base line was experienced. These had to be adjusted, as well as places where only one return was received, and the dead reckoning areas at the western part of the sheet.

Correction for eccentricity of the SURVEYOR*

In correcting the eccentricity from the SURVEYOR (SAM) to the marker (SAMBO), a large paper protractor was centered at SAMBO. The hourly positions of the SURVEYOR as given on the typed sheets attached hereto were plotted on a large scale, and connected by lines. The positions of the ship were interpolated between the hourly positions. As the EXPLORER proceeded along the sounding line, (1) an estimated point for the next position would be spotted; (2) a straight edge laid from this point to SAMBO (3) a triangle placed against the straight edge to drop a perpendicular from SURVEYOR's eccentric position to the straight edge; (4) the eccentric distance from the foot of the perpendicular to SAMBO was read in thousandths of a mile on a scale centered on SAMBO. The difference in azimuth between the estimated position and the final position is too trivial to make a difference of .001 mile in the eccentricity correction. It is here remarked that while distances have been carried to thousandths of a statute mile in the records, these minute divisions can only be estimated in fact. The smallest practical unit on this scale is a hundreth of a statute mile which is .016 millimeters.

Hourly pos. filed with fathograms.

Launch Survey of Stalemate Bank-

This work was done on a, b, and c days. It is plotted as a subplan on scale of 1:20,000. The principal part was on b day, which was plotted by distance and direction from the SURVEYOR. The SURVEYOR's position relative to SAMBO is given each hour on the tabulated sheet which is a part of this report. In plotting b day, the shift in the SURVEYOR's position was considered.

Ranges filed with fathograms.

C day's work consisted of a search for the shoalest depth and a short line from this point to the marker buoy. The shoals of b and c days are a quarter of a mile northwest of SAMBO.

The work on a day was done before the marker buoy was placed. It was a preliminary investigation of the area. An 18½ fm. spot was found, and this was marked by a small buoy. This small buoy was not in place when the Coast Guard ship arrived to plant the mooring buoy. (See correspondence with Mr. Waugh and sketch.) So there is no direct connection through control between a day and b day. The field party presumed that the a day shoal is the same point found on b day and c day. They indicated that the shoals should be held as a common point to coordinate the a day soundings. When this was tried, the rest of a day did not fit.

Sketch filed with fathograms.

The plotter proceeded thus:

(1) The original sounding record for a, b, and d days was copied into a new book having spaces for additional soundings. New soundings were taken from the fathogram at 15 second intervals.

(2) The new record for each day was plotted on scale 1:10,000 on separate pieces of tracing paper.

(3) a day was then matched to b and c days by soundings.

(4) This was combined on one sheet of tracing paper and then replotted on the 1:20,000 plan.

This puts the 18½ fm. spot of a day 300 meters SW. of the marker buoy SAMBO. The nearby 22½ and 23½ fm. soundings of b day lend support to this solution. The 1:10,000 tracings accompany the smooth sheet. The extra sounding record, not numbered, will go with the nine sounding records made in the field to be disposed of by the reviewer.

18.5 fm. sdg. in adequate agreement with adjacent hydrography.

Extra sdg volume registered with other sdg records.

The shoalest soundings were plotted on the 1:100,000 scale sheet. ✓

H-7134

(EX 10146)

West of Attu Island

Geographic Names on Smooth Sheet 814

Attu Island

Bering Sea

Pacific Ocean

Stalemate Bank

Seattle Processing Office, 1500 Westlake Ave.N.,Seattle 9,Wash.

31 July 1947

To: The Commanging Officer
US C&GS S SURVEYOR
17 NA District Headquarters
Kodiak

Subject: Buoys Stalemate Bank.

Attention of Mr. Waugh.

In fitting together the three days of launch hydrography on Stalemate Bank west of Cape Wrangell we find that more information about the buoys is desirable. We would like a complete history of all buoys placed on this bank as well as you can now recall. We would also like some answers to specific questions.

A sketch has been prepared showing all buoys mentioned in the launch record each day, supplemented by the ship's record of distance and bearings to the marker buoy "SAMBO". We request that the shetch be returned with your reply.

On "a" day June 30 1946 we note a buoy ten meters south of Pos. 24 a, near the 18 fm. shoal. We presume that this buoy remained in place until July 19 when the Coast Guard vessel placed the mooring buoy but would like this confirmed.

(1) Did they then plant the mooring at this point? Do you know the relation between the Mooring buoy and the "a" day buoy?

(2) Is this "a" day buoy the same marker (or anchor) buoy shown for "b" day, and also shown nearest the ship on "c" day?

(3) Or, is this "a" day buoy the same as the one at Pos. 1 c, the one which fouled the launch propellor and was moved to Pos. 2 c? If not, when was the buoy at Pos. 1 c day placed?

(4) Was the "a" day buoy removed before "b" day work began?

(5) About how much was the scope of the mooring Buoy?

(6) Was SAMBO the marker buoy at the anchor position of the mooring buoy.

We would appreciate an answer to each of these questions by number.

We understand that the ship will be in Kodiak shortly. If you could reply by air mail before the ship leaves port we would be very much obliged to you. The sheet can be completed quickly when this information is available.

Very truly yours,

Edgar E. Smith
Cartographic Engr.
Seattle Processing Office.

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

POST-OFFICE ADDRESS: Ship SURVEYOR
c/o Headquarters, 17th Naval District
TELEGRAPH ADDRESS: Kodiak, Alaska

EXPRESS ADDRESS:

4 August 1947

To: E. E. Smith, Cartographic Engr.
Seattle Processing Office
1500 Westlake Ave. N.,
Seattle 9, Washington

Subject: Buoys - Stalemate Bank

Reference: Your letter dated 31 July 1947.

Your letter was received in the evening mail on the last day in port. Please bear in mind that the following information is entirely from memory and written in haste to comply with your request in the last paragraph of referenced letter. The letter has been discussed with Officers who assisted on the survey and also with Mr. Schanck who was on the EXPLORER at the time. It is impossible for me to say exactly which position number refers to which buoy with out access to the sounding volumes and the boat sheet.

It was the plan for the Coast Guard Buoy Tender to place a mooring buoy near a marker buoy that the Ship SURVEYOR planted in the shoal water. Before this could be accomplished a storm sank the original marker buoy. There is NO relation, other than soundings, between the work accomplished in June and that accomplished in August. This is unfortunate but unavoidable. As stated in paragraph J of the Descriptive Report, it was the intentions that this launch work be in the nature of a reconnaisance survey, only the shoal soundings found to be fitted in by depth curves after the EXPLORER'S work was completed.

If position 24a is included in a regular sounding line this was the buoy planted by the SURVEYOR. It sank before the Coast Guard planted the mooring buoy. If 24a is one end of a line run between it and the Ship or a detached position it was a five (5) gallon can anchored by me to mark the shoalest depth found and to assist in the development of same. The buoy was removed the same day.

Seattle Processing Office 4 August 1947

The answers to your specific questions are:

1. No. No. (see above)

2. No. (see above)

3. No. It was planted at the time the fix was taken on position 1c by throwing the anchor over.

4. Yes. (see above)

5. It was our understanding that approximately one hundred fifty (150) fathoms of chain was attached to the mooring buoy placed by the Coast Guard. However; the scope was apparently shortened when this anchor chain fouled on the bottom. The marker buoy "SAMBO" was a "Nan" buoy placed by the Coast Guard over the anchor of the mooring buoy to mark the position of the anchor of the mooring buoy. This marker buoy had a relative short scope. The position of "SAMBO" was computed by the EXPLORER. The anchor of the mooring buoy is approximately in the same position, depending on the scope of the marker buoy. This scope is very small.

Mooring Buoy not shown on Smooth Sheet. Mooring Buoy plots approximately 160 m S.E. of marker buoy.

6. That is my understanding. (see above). This information had best be checked with the EXPLORER'S Descriptive Report for Sheet No. H-7134 (Ex-10146).

Please keep in mind that the method used was not one that gave rigid control. It was our intentions to outline the shoal area to assist the EXPLORER in planning her part of the Survey, by using the best methods available. I trust that this additional information will clear up all questions pertaining to this work.

Yours truly,

J. E. Waugh

J. E. Waugh
Lieut., USC&GS

Noted & forwarded:

A. P. Ratti

A. P. Ratti, Comdr., USC&GS
Commanding, Ship SURVEYOR

Seattle Processing Office, 1500 Westlake Ave. N., Seattle 9, Wash.

11 February 1947

To: Commanding Officers,
USC&GSS EXPLORER
USC&GSS SURVEYOR

Subject: Plotting Shoran sheet H-7134 (EX 10146), west of Cape Wrangell.

In plotting the subject Shoran sheet, the following difficulty has been encountered. When the EXPLORER is running North-South sounding lines and approaches the Shoran base DAR-SAMBO, the speed of the ship is decreased progressively until the base line is crossed, then the speed is similarly accelerated as the ship proceeds away from the base line.

The sum of the recorded Shoran distances as the EXPLORER crosses the base line east of SAMBO is 0.05 to 0.10 miles greater than the base length used to compute the G. P. for SAMBO. The difference of recorded distances on the line west of SAMBO is greater than the base by distances up to 0.05 miles. These differences are noted after applying the correction for eccentricity of the SURVEYOR.

As the distance circles become tangent to each other, at the base line, the small difference in distance affects the speed of the ship on the N-S lines disproportionally.

We wish to ask if you know (1) of any factors which might make the base line slightly longer, such as anchor dragging to westward or distances observed and discarded or eccentricity at DAR; or of (2) any corrections not already applied that would reduce the recorded Shoran distances. Did the SURVEYOR when on station maintain a record of distances from DAR? It is requested that we be advised as early as convenient whether to adjust on time, etc., or to consider additional information.

Edgar E. Smith
Cart. Engineer, S.P.O.

Respectfully submitted,

Edgar E. Smith

Edgar E. Smith
Cartographic Engineer
Seattle Processing Office

SUTVEYOR8S Launch work.

HYDROGRAPHIC SURVEY H* 7134

TIDAL DATA

Tide reducers were obtained from the following tide gage.

Massacre Bay, Attu Island. Standard Automatic Tide Gage.

Latitude	52° 50.5'	N
Longitude	173° 11.6'	E

Mean lower low water was used as the plane of reference and is 3.4 feet above the zero mark of the tide staff.

No time or height differences were applied in obtaining reducers from this gage.

Tide reducers have been extended and checked.

SURVEYOR8S Launch.

STATISTICS FROM SPECIAL HYDROGRAPHY SURVEY H# 7134

PROJECT CS-218

Launch # 2

DAY	DATE	VOL. NO.	NO. POS.	STATUTE MILES OF SOUNDINGS
a	30 June 1946	1	25	21.6
b	2 August 1946	1	59	23.2
c	12 August 1946	1	5	0.0
			89	44.8

Area, Square Statute Miles------------------ 6.0

GEOGRAPHIC NAMES
Survey No.

H7134

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Alaska			(for title)							1
Aleutian Islands			"	"						2
Near Islands			"	"						3
Pacific Ocean										4
Attu Island									USGB	5
Cape Wrangell										6
Stalemate Bank										7
										8
										9
			Names underlined in red are approved. 2/19/48 L. Heck							10
										11
										12
Massacre Bay			(location of tide staff)						USGB	13
										14
										15
										16
										17
										18
										19
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										24
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										27

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H7134.

Records accompanying survey:

Boat sheets ..2...; sounding vols.. ..10.; wire drag vols. ..0...;

bomb vols. ..0...; graphic recorder rolls ..5...;

special reports, etc. 3 overlay tracings..........................

....

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

Number of positions on sheet		1616
Number of positions checked		331
Number of positions revised		65
Number of soundings revised (refers to depth only)		16
Number of soundings erroneously spaced		26
Number of signals erroneously plotted or transferred		0
Topographic details	Time	0
Junctions	Time	16 hrs.
Verification of soundings from graphic record	Time	30 hrs

Verification by ..I. M. Zeskind / R. K. De Lawder.....Total time 15 / 284 hrs. Date 3-25-49 / 2-1-49.

Reviewed by ...I. M. Zeskind......... Time ..41.. Date 3-25-49

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY — REGISTRY NO. H-7134

FIELD NO. EX-10146

Alaska-Aleutian Islands, Near Islands, West of Attu Island
Surveyed in June and August 1946 — Scale 1:100,000
Project No. CS-218

Soundings:	Control:
NMC Fathometer	Shoran
808 Fathometer	Dead Reckoning

Chief of Party - F. L. Gallen and A. P. Ratti
Surveyed by - J. C. Partington; G. R. Shelton; C. A. Schanck; J. E. Waugh and J. C. Ellerbe
Protracted by - W. M. Martin and H. C. Parsons
Soundings plotted by - H. C. Parsons
Verified and inked by - R. K. DeLawder
Reviewed by - I. M. Zeskind, March 21, 1948
Inspected by - R. H. Carstens

1. Shoreline and Control

This is an offshore survey and no shoreline is shown.

The shoran control is adequately described in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in adequate agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated. Additional curves were also drawn to define more clearly the bottom configuration.

This survey covers an area of irregular bottom which lies west of Attu Island between long. 172° 00'E and long. 170° 00'E. The area is marked by well defined submarine valleys and ridges; The most prominent feature in this area is Stalemate Bank.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-7135 (1946) on the east and H-7141 (1946) on the southeast.

5. Comparison with Prior Surveys

There are no prior surveys of the area by this Bureau.

6. Comparison with Chart 8865 (Latest print date 3/8/48)
Chart 9102 (Latest print date 3/8/48)

A. Hydrography

The charted hydrography within the common area originates with the present survey before verification and review. Several revisions of 1-10 fms. in depths of 300-1100 fms. were made during verification.

Specific mention is made of the following charted soundings:

(1) The 1032-fm. sounding charted in lat. 53° 16.0', long. 171° 08.7', originates with the present survey before verification. This sounding was incorrectly reduced and should have been 1132 fms. The charted 1032 should, therefore, be disregarded. ✓

(2) The 363-fm. sounding charted in lat. 53° 02.2', long. 171° 11.3', originates with the present survey before verification. This sounding was changed to 408 fms. during verification. The charted 363 fms. should, therefore, be disregarded.

The present survey supersedes the charted information.

B. Aids to Navigation

No aids to navigation are charted in this area.

7. Condition of Survey

a. The protracting and plotting were accurately accomplished and are in compliance with the requirements of the Hydrographic Manual.

b. The sounding records and Descriptive Report are complete and comprehensive.

c. Except for one bottom characteristic on Stalemate Bank, no bottom characteristics were obtained within the area of the present survey.

8. Compliance with the Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

This is a good basic survey and no additional field work is recommended.

Examined and approved:

H. R. Edmonston
Chief, Nautical Chart Branch

Casper M. Durgin
Chief, Division of Charts

K. G. Crosby
Chief, Section of Hydrography

W. M. Scaife
Chief, Division of Coastal Surveys

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~DivisionxofxHydrographyxandxTopographyx~~ 15 October 1947

Division of Charts: H. W. MURRAY

Plane of reference approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 7134

Locality - West of Attu Islands, Alaska

Chief of Party: F. L. Gallen, A. P. Ratti in 1946
Plane of reference is mean lower low water, reading
3.5 ft. on tide staff at Massacre Bay
6.6 ft. below B. M. 1 (1943)

Height of mean high water above plane of reference is 3.3 feet.

Condition of records satisfactory except as noted below:

E. C. McKay
Chief, ~~Division~~ Section of Tides ~~and Currents.~~

NAUTICAL CHARTS BRANCH

SURVEY NO. H7134

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
12/10/47	9198	H. Stegman	(One line of soundings west of Cape Wrangell) Before ~~After~~ Verification and Review Completely applied from penciled smooth sheet.
12/11/47	8865	H. Stegman	Before ~~After~~ Verification and Review Partially applied from penciled smooth sheet.
12/12/47	9102	H. Stegman	Before ~~After~~ Verification and Review applied from penciled smooth sheet.
11/6/50	9102	GHE	~~Before~~ After Verification and Review
5-9-63	8865	[illegible]	~~Before~~ After Verification and Review Exam. Revised 15 Sndgs Consider as completely appl'd
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.