6991

Additional work

Diag'd on Diag. Ch. No. 9198

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. SU 2444 *Office No.* H 6991

Additional Work.

LOCALITY

State Alaska

General locality Near Islands

Locality Approaches to Sarana Bay,

Attu Island

194 5

CHIEF OF PARTY

L. C. Wilder

LIBRARY & ARCHIVES

DATE APR 24 1946

NOV 13 1946

8-1870-1 (1)

6991

Form 537
(Ed. Nov. 1941)

REG. NO.

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.

REGISTER NO. H-6991 - Add. Work

Field No. SU 2444

State Alaska

General locality Near Islands

Locality Approaches to Sarana Bay, Attu I.

Scale 1:20,000 Date of survey 12 June - 8 August 1945

Instructions dated 16 April 1945

Vessel DERRICKSON

Chief of party L. C. Wilder

Surveyed by L.C.Wilder, W.F. Malnate, J. Laskowski, J.E. Waugh

Soundings taken by fathometer, graphic recorder, hand lead, wire

Protracted by Betty B. Jones

Soundings penciled by Betty B. Jones

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

REMARKS:

Plotted in the Seattle Processing Office

U. S. GOVERNMENT PRINTING OFFICE 428975

DESCRIPTIVE REPORT

To Accompany

Hydrographic Survey H-6991 (Field No. SU-2444) Ad WK.

Scale 1:20,000

Approaches to Sarana Bay, Alaska

L. C. Wilder, Chief of Party

U.S.C.& G.S.S. DERICKSON

1945

PROJECT: The hydrography was accomplished under Project CS-218 dated 16 April 1943. Supplemental instructions were dated 1 February 1944 and 29 January 1945, and instructions (Project 20) by Capt. F. B. T. Siems, Liaison Officer, 17th Naval District, dated 12 April 1945.

SURVEY LIMITS AND DATES: The area covered by the survey extends from Longitude 173° 16' E. to Longitude 173° 30' E. The work was accomplished between 12th June and 8th August 1945. It joins survey H 7017 (1944), scale 1:20,000 on the west, north of Cooper Islands; survey DE-1145, H-4875 scale 1:10,000 on the ~~south~~ west, between Gibson Islands and Khlebnikof Point; survey H 6990 (1944), scale 1:10,000 on the west in the vicinity of Sarana Bay; survey H ~~6939~~ (~~1944~~-1945), H-7088 scale 1:20,000, on the south off Chirikof Point; and survey DE-4245, H-4874 scale 1:40,000, on the north , north east, and east.

This survey consisted primarily of the development of the ~~reconnaissance~~ survey began by the Ship SURVEYOR in 1944.

VESSEL AND EQUIPMENT: Launch parties from and the Ship SURVEYOR in 1944 covered most of the area. They did not undertake development of critical areas or the running of inshore lines along the north side of Chirikof Point. The DERICKSON'S 24-foot Motorsailer and the EXPLORER'S 30-foot Launch No. 3 were used for inshore development. They were equipped with 808A Depth Recorders, Nos. 56 and 61 respectively. The Ship DERICKSON, equipped with 808A Depth

Recorder No. 66 and NMC Fathometer, was used on the balance of the survey. The NMC is calibrated for a velocity of 800 fms./sec. It was used generally in depths greater than 125 fathoms.

The turning radius of the Motorsailer is from 10 to 15 meters and the Launch is from 15 to 25 meters. The Ship DERICKSON has a turning radius of 75 to 250 meters depending on whether one or two engines are used on the turn.

TIDES AND CURRENTS: A tide note is attached to this report. No current stations were occupied.

CONTROL STATIONS: The triangulation in this area was executed by parties from the Ship SURVEYOR and the Ship EXPLORER in 1944. In addition at the time the SURVEYOR'S parties executed the triangulation numerous white washes were cut in by theodolite and the geographic positions computed. Additional hydrographic signals were located by parties from the Ship DERICKSON on the north east end of Chirikof Point in 1945. Additional topographic signals were located by parties from the Ship DERICKSON on Khlebnikof Point, Gibson Islands, and Cooper Islands in 1945. Pisa Tower 1945 and Yellow Beacon 1945 were located by theodolite cuts. The balance of the topographic signals in this area were located by topographic methods. One of the white washes located by the EXPLORER'S parties on survey T 6972 B (1944), scale 1:20,000, (Holtz Bay), was transferred from a photostat to this sheet and used a few times. All signals outside the high water line are white washed rocks.

SHORELINE AND TOPOGRAPHY: No shoreline or topography was detailed by this party except for small detached delineation of shore line. This shore line was rodded in when the topographic signals were being cut in on the *graphic control sheets. The shore line shown on the boat sheet was placed on the sheet in 1944 and was evidently obtained from air photographs. No discrepancies were found. It was impossible to define the low water line by soundings due to the small range of the tides, the thick kelp through which a launch could not be driven, numerous sunken rocks close to the beach, and the steep rise of the off shore edge of the rock reef. *G.C. T-7003 and T-7004b (1945) - Temporary registry No. are to be superseded by planimetric mchs.

SOUNDINGS: Soundings were obtained with the 808A Depth Recorders and the NMC Fathometer. In addition numerous hand lead soundings were taken in critical areas and on shoals. No unusual methods were used to correct the soundings. A detail report on the computation of correctors has been submitted for the season of 1945 under separate cover.

A list of the velocity correctors used is attached to this report.

CONTROL OF HYDROGRAPHY: Horizontal control was by three point fixes with sextants on shore objects. ✓

ADEQUACY OF SURVEY: The survey is considered complete and adequate. A satisfactory junction has been made with all adjoining surveys and no holidays or excessive differences exist except as noted below. All depth curves can be adequately drawn at the junctions.

1. In the general vicinity of Latitude 53° 00', Longitude 173° 16'; excessive differences exist between this survey and survey H 7017. It is thought that these differences can be adjusted by careful rescanning of the fathograms obtained on both surveys. (underscored in the field) agreement is adequate

CROSSLINES: Crosslines of approximately 5% of the regular spaced sounding lines have been run. No excessive discrepancies were found except as noted below.

1. Between positions 3F and 6F (DERICKSON) in Longitude 173° 16'.8, between Latitudes 52° 59' and 53° 00', the cross line is too shoal. When the smooth sheet is plotted the fathograms should be examined. no disagreement

2. Between positions 23G and 26G (DERICKSON) in the same vicinity as above, the general conditions as described above hold.

COMPARISON WITH PRIOR SURVEYS: No detailed prior surveys were made in in this area and no comparison has been made in the field.

COMPARISON WITH CHART: Inasmuch as charts 9127 & 9198 were published from the 1944 surveys by the SURVEYOR and the SURVEYOR'S boat sheets were used to carry on the 1945 surveys, it is not considered necessary to make any comparisons. ✓

DANGERS AND SHOALS: All dangers and shoals on the survey are marked by kelp patches. If vessels navigating in these waters give the kelp patches a wide berth no dangers will be encountered. Your attention is invited to the 2½ fathom sounding reported in Restricted Notice to Mariners R12, item #909, in 1945; Latitude 52° 52'.2, Longitude 173° 22'.95. This sounding is thought not to exist. See the records for

this year. A lead line sounding was taken on the rock. Five fathoms was the shoalest depth obtained (90c Motorsailer). The fathogram gives shoaler soundings which could not be verified by the lead line. On careful examination of the fathogram and after extensive search both with the Depth Recorder and lead line, in this area, it is the opinion of the hydrographer that the only certain way to prove or disprove the shoaler sounding would be by wire drag methods. The source of the $2\frac{1}{2}$ fathom sounding is not known; however, unless wire drag work be accomplished it is recommended that the sounding be retained. The importance of the area does not warrent additional work at this time.

$2\frac{1}{2}$ fm. on reef from survey work is superseded by 4.2 fm.

All other charted dangers, shoals, and bare rocks were found as charted, or shoaler depths were found except as noted above.

COAST PILOT NOTES were submitted for the entire season's work by the chief of party under separate cover.

AIDS TO NAVIGATION: Your attention is invited to the submarine cable area shown as a "Prohibited Anchorage" on the charts. There are no Aids to Navigation in this area.

LANDMARKS FOR CHARTS have been submitted by the chief of party as a separate report.

GEOGRAPHIC NAMES: 8114 The charted names are the only ones known in this area.

J. E. Waugh
Lieut., USC&GS

Approved and forwarded:

L. C. Wilder
Lt. Comdr., USC&GS
Chief of Party

STATISTICS FOR HYDROGRAPHIC SURVEY H 6991 (1945)
U. S. C. & G. S. S. DERICKSON - Project CS 218

Vol. No.	Day Letter	Date 1945	No. Sdgs. H. L.	Number Positions	Statute Miles Sdgs.
		LAUNCH No. 3			
1	a	12 June	-	10	2.3
1	b	16 June	1	149	27.5
1	c	22 June	0	8	0.0
		TOTALS	1	167	29.8
		MOTORSAILER			
2	a	8 July	1	90	14.6
2	b	12 July	1	65	13.7
2	c	13 July	13	109	18.3
2 & 3	d	23 July	-	102	10.4
		TOTALS	15	366	57.0
		Ship DERICKSON			
4	A	22 June	-	70	20.3
4	B	4 July	-	170	55.8
4	C	6 July	-	19	5.7
4 & 5	D	7 July	-	109	30.5
5	E	11 July	-	60	14.2
5	F	1 Aug.	-	18	7.3
5	G	8 Aug.	-	60	22.0
		TOTALS	-	506	155.6
		TOTALS FOR SHEET	16	1031	242.4

Sounding with Type 808A Depth Recorders and NMC Fathometer.
Continuous profile on all lines.

Area covered by survey = 43.2 square statute miles
" " " 1945
survey (est. 50%) = 21.6 " " "

TIDE NOTE

A portable automatic tide gage was maintained at the U.S.A.A.F. pier in Chichagof Harbor; Latitude 52° 55.9' N., Longitude 173° 14.4' E. The observed tides at this station were used as a basis for the reduction of soundings taken on this survey. Several days' tides are missing during the series. The height of mean lower low water and mean high water correspond to readings of 3.3 feet and 6.9 feet, respectively, on the tide staff. (See Director's letter of 24 August 1945, reference 36-mlh). No time or height corrections have been applied to the observed tides.

A standard automatic tide gage was maintained at Massacre Bay; Latitude 52° 51'N., Longitude 173° 12'E. The height of mean lower low water corresponds to 3.6 feet on the tide staff. (See Director's letter of 24 August 1945, reference 36-mlh). No time or height corrections have been applied to the observed tides. Massacre Bay tides were used on those days when the Chichagof Harbor gage was not in operation.

It was necessary to interpolate for the hourly heights on the 8th August 1945. Neither gage was in operation. Hourly heights on the 7th & 9th August 1945 at Massacre Bay were used.

VELOCITY CORRECTIONS - 6 TO 29 JUNE 1945

Ship
SOSA - Velocity of 820 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
0.0	---	---
- 0.1	---	6.5
- 0.2	6.6	12.8
- 0.3	12.9	17.3
- 0.4	17.4	21.9
- 0.5	22.0	26.1
- 0.6	26.2	31.0
- 0.8	31.1	39.9
- 1.0	40.0	48.8
- 1.2	48.1	56.1
- 1.4	56.2	----

Launches
SOSA - Velocity of 820 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
0.0	0.0	2.7
- 0.1	2.8	8.0
- 0.2	8.1	12.4
- 0.3	12.5	16.9
- 0.4	17.0	21.2
- 0.5	21.3	25.7
- 0.6	25.8	30.1
- 0.8	30.2	39.1
- 1.0	39.2	47.8
- 1.2	47.9	56.2
- 1.4	56.3	----

Ship
M90 -- Velocity of 800 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
0.0	0	61

VELOCITY CORRECTIONS - 3 TO 17 JULY 1945

Ship
SOSA - Velocity of 820 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
0.0	0.0	4.5
- 0.1	4.6	9.9
- 0.2	10.0	15.0
- 0.3	15.1	19.8
- 0.4	19.1	24.8
- 0.5	24.9	29.8
- 0.6	29.9	34.1
- 0.8	34.2	43.1
- 1.0	43.2	52.2
- 1.2	52.3	61.4
- 1.4	61.5	70.5
- 1.6	70.6	79.9
- 1.8	80.0	88.8
- 2.0	88.9	97.8
- 2.5	97.9	123
- 3.0	124	145
- 3.5	146	---

Launches
SOSA - Velocity of 820 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
0.0	0.0	3.5
- 0.1	3.6	9.2
- 0.2	9.3	14.2
- 0.3	14.3	19.2
- 0.4	19.3	24.2
- 0.5	24.3	29.0
- 0.6	29.1	33.9
- 0.8	34.0	42.9
- 1.0	43.0	51.8
- 1.2	51.9	----

Ship
NMC -- Velocity of 800 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
0.0	0.	131
+ 0.5	132	300
+ 1.0	301	408
+ 1.5	409	470
+ 2.0	471	540
+ 2.5	541	600
+ 3.0	601	645
+ 3.5	646	680
+ 4.0	681	738
+ 4.5	739	780
+ 5.0	781	815
+ 5.5	816	851
+ 6.0	852	883
+ 6.5	884	920
+ 7.0	921	950
+ 7.5	951	980
+ 8.0	981	1012
+ 8.5	1013	1045
+ 9.0	1046	1071
+ 9.5	1072	1100

Ship (Cont.)
NMC -- Velocity of 800 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
+ 10.0	1101	1128
+ 10.5	1129	1150
+ 11.0	1151	1178
+ 11.5	1179	1200
+ 12.0	1201	----

VELOCITY CORRECTIONS - 20 JULY TO 8 AUGUST 1945

Ship
SOGA - Velocity of 820 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
0.0	0.0	5.0
- 0.1	5.1	12.5
- 0.2	12.6	19.0
- 0.3	19.1	25.0
- 0.4	25.1	31.0
- 0.6	31.1	42.0
- 0.8	42.1	52.8
- 1.0	52.9	63.0
- 1.2	63.1	73.4
- 1.4	73.5	83.4
- 1.6	83.5	93.4
- 1.8	93.5	103.5
- 2.0	103.6	113.4
- 2.5	113.5	142
- 3.0	143	---

Lemnahee
SOGA - Velocity of 820 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
0.0	0.0	5.0
- 0.1	5.1	12.5
- 0.2	12.6	19.0
- 0.3	19.1	25.1
- 0.4	25.2	30.8
- 0.6	30.9	42.0
- 0.8	42.1	52.0
- 1.0	52.1	---

Ship
ENC -- Velocity of 800 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
0.0	0	40
+ 0.5	41	143
+ 1.0	144	235
+ 1.5	236	300
+ 2.0	301	350
+ 2.5	351	400
+ 3.0	401	440
+ 3.5	441	480
+ 4.0	481	520
+ 4.5	521	560
+ 5.0	561	590
+ 5.5	591	630
+ 6.0	631	660
+ 6.5	661	700
+ 7.0	701	730
+ 7.5	731	770
+ 8.0	771	805
+ 8.5	806	839
+ 9.0	840	865
+ 9.5	866	900
+ 10.0	901	925
+ 10.5	926	955

Ship (Cont.)
ENC -- Velocity of 800 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
+ 11.0	956	980
+ 11.5	981	1010
+ 12.0	1011	1038
+ 12.5	1039	1065
+ 13.0	1066	1090
+ 13.5	1091	1115
+ 14.0	1116	1138
+ 14.5	1139	1160
+ 15.0	1161	1185
+ 15.5	1186	---

APPROVAL SHEET

11 December 1945

The records and boat sheet for Survey H 6991 (1945) are approved.

The records were examined frequently in the field, generally daily.

The survey is considered complete and adequate. The descriptive report covers all pertinent details.

L. C. Wilder
Chief of Party

H-6991 - Add. Work

Sarana Bay, Attu I.

Seattle Processing Office Notes

The smooth sheet H-6991 was returned from Washington to Seattle for plotting the additional work.

The hydrographic signals along the north side of Chirikof Point were plotted from the sounding records.

The reef line shown on the overlay tracing is taken from the boat sheet where it was sketched by the field party while sounding.

In plotting the additional work of 1945, all positions were plotted on the smooth sheet and the ship's soundings plotted as usual. As the addition of launch soundings over already developed shoals would be confusing, all launch work was plotted on a linen overlay showing positions and soundings. The launch positions and sounding lines show on the smooth sheet. These position numbers were ~~not~~ lettered on the smooth sheet ~~but~~ and show on the overlay.

Attention is called to the full explanatory notes by the Hydrographer in Volume 2 on Pages 16, 32, 47, 48, 49, 50, 51, 54, 58, 62, 66, 67 and 68.

A comparison between the 1944 and 1945 soundings is noted as shown below:

Launch Soundings-

Latitude	Longitude	Fms. 1944	Fms. 1945	Pos. 1944	Pos. 1945	Remarks
52° 52.24	173° 22.92	Rejected (2.5)	4.5 2			Thoroughly examined in 1945. The 2.5 fm. spot not found. Rejection recommended by field party. See Page 32, Vol. 2.
52 52.25	173 21.77	5.0	4.3		85c 6	
52 52.36	173 24.08	14	14		44-45d 46-47d	
52 52.25	173 24.3	11	11.5		3d	
52 52.22	173 24.8	17	14.5		18d	
52 51.75	173 25.0	11	11.5		4-5a	
52 51.9	173 26.2	7.8	8.1 6.9		26-27a	

Ship Soundings-

Latitude	Longitude	Fms. 1944	Fms. 1945	Pos. 1944	Pos. 1945	Remarks
53° 00.2	173° 16.6	48	63	96G	6-7F	No fath. for 63 fms on slope - adequate
52 58.8	173 16.9	81	65	75-76C	12F	The 81 fms. seems too deep.
52 58.2	173 17.3	~~45~~ 61	60	65-66C	23G	The 45 fms. seems too shoal. ~~No fath.~~ for the 45 fms.
52 58.2	173 17.7	~~59~~ 96	86	65-66C	38-39G	The 59 fms. seems too shoal.

Corrected from YMC fathograms

~~(Pos. 65-66C of 1944 appears too shoal by 15 to 25 fms.)~~

52	53.1	173	22.5	27.5	23.5	9-10A	58A	The 23.5 fms. is a sharp pinnacle.

H-6991 - Add. Work

Geographic Names on Sheet

No new geographic names were added to the sheet as a result of the 1945 work.

Respectfully submitted,

Edgar E. Smith
Cartographic Engineer
Seattle Processing Office

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

Extra copy

23 January 1946

To: The Director
U. S. Coast and Geodetic Survey

Subject: Request for return of H-6991 and H-7017 to Seattle Processing Office.

1. It is requested that the following hydrographic sheets now at the Washington Office be returned to the Seattle Processing Office for completion.

H-6991 - Approach to Sarana Bay, Attu Island
H-7017 - Approach to Holtz Bay, Attu Island.

2. Additional field work has been accomplished in 1945 in the areas of these sheets, and it is recommended that this work be plotted by this office because of its extent in the case of H-6991 and because of the use of new hydrographic signals in the case of H-7017.

F. B. T. Siems
Officer in Charge,
Seattle Processing Office

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

17 April 1946

To: The Director
U. S. Coast and Geodetic Survey

Subject: Smooth sheets H-7017 and H-6991, Aleutian Is.

Upon examining the additional soundings made in 1945 on boat sheets H-6991 and H-7017, it seems that these soundings should be plotted on the smooth sheets carrying those numbers which are in your office.

The new work on H-6991 is development of shoals in the previously sounded area of Sarana Bay, Attu Island; that on H-7017 fills in a small holiday left between 1944 soundings and the shore west of Holtz Bay, Attu.

All pertinent topographic sheets are already in Washington. We are forwarding the field records to you for plotting.

Two photostat copies of each completed smooth sheet, one for this office and one for the Liaison Officer, are requested when available.

Edgar E. Smith
Cartographic Engineer
Seattle Processing Office

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ...H6991 Additional work

Records accompanying survey:

Boat sheets 2...; sounding vols. 5...; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 3...;

special reports, etc. .....

.....

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

Number of positions on sheet		1031
Number of positions checked		245
Number of positions revised		7
Number of soundings revised (refers to depth only)		76
Number of soundings erroneously spaced		54
Number of signals erroneously plotted or transferred		2 on T8478 (1946)
Topographic details	Time	16 hrs
Junctions	Time	24 "
Verification of soundings from graphic record	Time	16 "

Verification by A.R. STIRNI Total time 156 hrs. Date 9/26/47.

Reviewed by G.F. Jordan Time 14 Date 10/15/47

M-2232-1

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

May 29, 1946

~~Division of Hydrography and Topography:~~

Division of Charts: H. W. MURRAY

Plane of reference approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 6991 (Additional work)

Locality Approaches to Sarana Bay, Near Islands, Alaska

Chief of Party: L. C. Wilder in 1945
Plane of reference is mean lower low water, reading
3.3 ft. on tide staff at Chichagof Harbor
12.8 ft. below B. M. 1
3.4 ft. on tide staff at Massacre Bay
6.8 ft. below B. M. 1
Height of mean high water above plane of reference is 3.5 feet.

Condition of records satisfactory except as noted below:

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

U. S. GOVERNMENT PRINTING OFFICE 154327

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-6991 Ad. Wk.

FIELD NO. SU-2444

Alaska--Aleutian Islands, Attu Island, Sarana Bay and Approaches
Surveyed June to August, 1945
Scale 1:20,000
Project CS-218

Soundings:

NMC and 808 Fathometers

Control:

Sextant fixes on shore signals

Chief of Party - L. C. Wilder
Surveyed by - L. C. Wilder, W. F. Malnate, J. Laskowski, and J. E. Waugh
Protracted by - B. B. Jones
Soundings plotted by - B. B. Jones
Verified and inked by - A. R. Stirni
Reviewed by - G. F. Jordan, October 15, 1947
Inspected by - R. H. Carstens

1. Purpose and Extent

The purpose of this additional work was to complete the 1944 survey of Sarana Bay. Additional hydrography was necessary over most of the area of the 1944 work.

2. Shoreline and Signals

The signal control is based on triangulation of 1944 and 1945, supplemented by topographic signals from graphic control surveys T-6972b (1944), T-7003 (1945) and T-7004b (1945), and by hydrographic signals established on the present survey.

The shoreline has been transferred from advance prints of air photographic surveys T-8476, T-8477, and T-8478.

3. Results of the Survey

As a result of the number of split lines, crosslines and close development, the survey is now complete and basic. In particular, the cartographer should note that the 2½-fm. sounding on Chart 9127 (print date March 17, 1947) at Lat. 52°51.97', Long. 173°22.85', is superseded by 4.2 fms. The shoaler sounding on the 1944 work was investigated in 1945 and found to be kelp traces on the fathogram.

The charted 59-fm. sounding from the 1944 work at Lat. 52°57.98', Long. 173°17.68', is erroneous and is superseded by deeper soundings. A rescanning of the fathograms of the 1944 work revealed a discrepancy in the recorded depths.

4. Condition of the Survey

The Descriptive Report and sounding records are complete and comprehensive. The smooth plotting was well executed.

No additional field work is required.

NAUTICAL CHARTS BRANCH

SURVEY NO. H6991 Additional work

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
12/27/47	9127	V.J. Hegman	~~Before~~ After Verification and Review Three changes in critical depths made. Inspection only.
11/29/49	9127	[signature]	Before After Verification and Review Reconstruction.
8/8/51	9128	N.W Burgoyne	Partially Applied - added critical sdgs. & rocks awash ~~Before~~ After Verification and Review
4/2/59	9128	J. H Eaton	~~Before~~ After Verification and Review Reconstruction
5-6-63	8865	[signature]	~~Before~~ After Verification and Review Exam Partially applied Revised & Sndgs
11-4-92	16423	Ed Wentz	~~Before~~ After Verification and Review Updated Chart
			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.

6991

6991

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey: Hydrographic

Field No. SU-2444 Office No. H-6991

LOCALITY

State: ALASKA - Aleutian Islands

General locality: Attu Island

Locality: Sarana Bay and Approaches

1944

CHIEF OF PARTY

C. D. MEANEY

LIBRARY & ARCHIVES

DATE: MAY 17 1945

B-1870-1 (1)

Form 537
Ed. Dec. 1930

REG. NO. H6991

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. SW 2444

REGISTER NO. H-6991 (1944)

State Alaska - Aleutian Islands

General locality ~~Aleutian Islands~~ - Attu Island

Locality Sarana Bay and Approaches

Scale 1:20,000 Date of survey Sept. 24-28, 1944

Vessel Ship SURVEYOR

Chief of Party C. D. Meaney

Surveyed by L.S. Hubbard, R.C. Rowse, H.H. Randall

Protracted by Betty B. Jones

Soundings penciled by Betty B. Jones

Soundings in fathoms ~~feet~~ Fathoms and tenths

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by G.B. Woolley

Verified by G.B. Woolley

Instructions dated 2/3/38; 4/16/43; 2/1/44 19

Remarks: Instructions from Liaison Officer dated 10/14/44
Smooth sheet and Plotting by the Seattle Processing Office

U. S. GOVERNMENT PRINTING OFFICE

Descriptive Report to Accompany Hydrographic Survey

H-6991 (Field No. 2444)

Sarana Bay & Approaches, Attu Island, Alaska

Scale 1 to 20,000	Ship SURVEYOR
Chief of Party:	C.D. Meaney, Lt. Comdr. C&GS
In Charge of field work:	L.S. Hubbard, Lt. Comdr. R.C. Rowse, Lt. Comdr. R.H. Randall, Lieut.

A. Project. - This survey is a part of Project CS-218. The original instructions are dated February 3, 1938: revised instructions, April 16, 1943; supplemental instructions, February 1, 1944; and instructions, for sub-project 20, dated August 14, 1944 issued by Casper M. Durgin, Lt. Comdr., C. & G. S., Liaison Officer. Instructions dated September 29, 1944 were issued by Lt. Comdr. Casper M. Durgin to discontinue the project.

B. Survey Limits and Dates. - The general locality of the area is Attu Island, Alaska. The survey covers the outer part of Sarana Bay and approaches.

Field work began on September 24, 1944 and ended on September 28, 1944.

Junctions were made on the west with contemporary surveys H-6990 (1944) and EX-2344.
H-7017 (1944)

C. Vessel and Equipment. - The survey was made by the Ship SURVEYOR and Launch No. 2, operating from the SURVEYOR.

The turning radius of the launch is from 10 to 15 meters. The turning radius of the SURVEYOR with a hard over helm is about 200 meters.

808 Fathometer No. 52 was used for all launch sounding.

The Dorsey III fathometer No. 40 was used for the majority of the ship sounding, the R.C.A. (NMC) and 808 fathometers were run as a check and for deep soundings.

D. Tide and Current Station. - The tide station at Holtz Bay with-out time or range correction was used in the reduction of all soundings.

E. Smooth Sheet. - The smooth sheet projection was constructed by hand at the Seattle Processing Office. The smooth sheet is to be completed by the personnel of that office.

F. Control Stations. - A base line was measured and triangulation stations established and located in 1944 by personnel of the Ship SURVEYOR, C. D. Meaney, Chief of Party. The topographic ~~and hydrographic~~ stations were located by triangulation cuts (computed as 4th order triangulation).

The 1943 hydrographic positions of signals CHI and LIME as determined on survey H-6939 were used on this survey.

G. Shoreline and Topography. - No plane-table work was done. Shoreline may be obtained from air-photographs taken by the Army. Control inadequate for compilation, hence sketched shoreline on smooth sheet.

H. Soundings. - The soundings were taken in the usual manner using equipment as noted in paragraph C.

I. Control of Hydrography. - Standard methods were used to control the hydrography - sextant angles between shore stations.

J. Adequacy of Survey. - The survey is not complete. Instructions were received on September 29, 1944 from the Liaison Officer to discontinue the project and to transfer the records and work to the Ship EXPLORER. No additional work was accomplished, however, by that vessel.

The present survey is of standard accucacy except that additional development is necessary. Junctions were not made with surveys H-6536 and H-6939 on the east and southeast respectively. Splits, development and additional cross-lines are necessary.

K - N. - These paragraphs are omitted and should be supplied by the Processing office when the smooth plotting is completed.

O. Coast Pilot Information. - For Coast Pilot information of Sarana Bay, see descriptive report for survey H-6990 (1944).

P. Aids to Navigation. - There are no fixed or floating aids to navigation in the area covered by this survey.

U. Velocity Corrections. - Velocity corrections determined by the Ship EXPLORER and dated September 29, 1944 were applied to the soundings on this survey. The SURVEYOR was in the area such a short time that sufficient temperature and salinity observations to furnish adequate determination of the velocity were not made. The corrections furnished by the EXPLORER were for a longer period. An abstract of the corrections used, is included as a separate entry in this report.

V. Tidal Data. - No tide station was established in Sarana Bay. In accordance with the Director's letter dated December 6, 1944, 36McC, Holtz Bay tides were used for the reduction of soundings on this survey. The tide gage at Holtz Bay was maintained by the Ship EXPLORER and hourly heights for the period required were furnished by that vessel. A tidal note is included as a separate entry in this report.

Respectfully submitted,

Clarence A. George

Clarence A. George
Lt. Comdr., C. & G. S.

Approved:

C. D. Meaney

C. D. Meaney
Lt. Comdr., C. & G. S.
Chief of Party

- CAS

TIDE NOTE FOR HYDROGRAPHIC SURVEY

H-6991 (1944)

Tide Station: Holtz Bay.

Latitude - 52° -55.54N
Longitude- 173° - 09.57E

The plane of mean lower low water for Holtz Bay corresponds to a staff reading of 3.4 feet.

No correction for difference in time or height was applied (See Director's letter of December 6; 1944, Ref. 36, McC.)

The hourly heights were furnished by the Ship EXPLORER.

VELOCITY CORRECTION ABSTRACT
For Hydrographic Survey H- 6991
September 29,1944

808 Ship 820 Fms/Sec.
Dorsey III

Fms		Fms	Ft
0	to	10-4	-1/2
10-5	to	16-3	-1
16-4	to	22-3	-1 1/2
22-4	to	27-3	-2
27-4	to	33-0	-2 1/2
33-0	to	38-2	-3
38-3	to	48-0	-4
48-1	to	55-4	-5
55-5	to	63-3	-6
63-4	to	72-0	-7
72-1	to	79-2	-8
79-3	to	88-0	-9

808 Launch 820 Fms/Sec.

Fms		Fms	ft
0-0	to	1-3	0
1-4	to	7-4	-1/2
7-5	to	16-3	-1
16-4	to	21-0	-1 1/2
21-1	to	26-0	-2
26-1	to	33-0	-2 1/2
33-1	to	38-2	-3
38-5	to	48-1	-4
48-2	to	54-3	-5
54-4	to	62-3	-6
62-4	to	71-3	-7
71-4	to	79-2	-8
79-3	to	88-0	-9

See pg.8 for depths over 88 fms.

September 29,1944

RCA :- 800 Fms/Sec.

Fms	Fms	Ft
0	12.0	0
12-1	30.0	+1
30-1	62.0	+2
62-1	100.0	+3
*100-1	300	0 Fms

Use August 4,1944 Temp-Salinty Car. for depths greater than 100 fathoms.

August 4,1944

RCA 800 Fms/Sec.

4-5	to	12-0	0 Ft.
12-1	to	95-0	+1 "
95-1	to	200	0 "
201	to	330	+ 0 Fms.
331	to	455	+ 1 "
456	to	565	+ 2 "
566	to	650	+ 3 "
651	to	722	+ 4 "
723	to	787	+ 5 "
788	to	850	+ 6 "
851	to	908	+ 7 "
909	to	964	+ 8 "
965	to	1012	+ 9 "

Above data furnished by Ship EXPLORER.

copy - CMB

+ ABSTRACT OF VELOCITY CORRECTIONS

for Hydrographic Survey H-6991

Dorsey III and 508 Fathometers

820 fathoms per second.

+ Extension of values furnished by the Ship EXPLORER to cover soundings in the range 88 to 160 fathoms.

Feet	Fms. & Feet		
- 9	79 - 3	to	88 - 0
- 10	88 - 1	to	95 - 3
- 11	95 - 4	to	103 - 3

Fms.	Fathoms		
- 2.0	100	to	115
- 2.5	115	to	140
- 3.0	140	to	164

H-6991

(SW 2444)

Seattle Processing Office Notes

Datum-

USN 1934 approximate, assuming CHIC 1943 as a recovery of the Navy astronomical station.

Control-

Triangulation by Scaife 1943, Horne, 1944, and Meaney 1944. Most of the signals used were located on the boat sheet by theodolite cuts from the lists of triangulation directions. Fourth order geographic positions were later computed for these points and plotted on the smooth sheet.

Hydrographic signals LIME and CHI are transferred from H-6939. (1943-44) JAP and PISA are located by cuts as indexed in Vol. 1.

Shoreline-

Sketched from photographs to show the land limits of the water area. It is not represented to be accurate in detail. The rocks in the vicinity of station KOF near the center of Sarana Bay are not complete, and the reef between KOF and NIX is not shown. See sheet H-6990 (1944)

Dangers-

The only hidden danger developed is the 2 1/2 fm. sounding at Lat. 52° 52'.25 Long. 173° 22'.9. This was originally read as 4 fms. and was reduced on rescanning to 2 5/6 fms., less corrections of 2 ft. It could also be read as 2 fms. The record does not note the presence of kelp. The 2 fms., less corrections, could be kelp, but it could also be rock. This was charted as 4 fms. on chart no. 9198. Accept 2

Shoals and Shoal Indications-

Depth	Latitude	Longitude
~~5 6/10 fms.~~	~~52° 52'.25~~	~~173° 21'.8~~
5 "	52 52.25	173 21.8
3 8/10	52 52.15	173 19.9
10 8/10	52 51.95	173 25.5

The 18 fm. sounding at Lat. 52° 53'.5 Long. 173° 20'.1 is clearly supported by the fathogram. (10½ fms. 100 m. west of H-6990)

H-6991

SU 2444

Geographic Names Penciled on Smooth Sheet

Attu Island

Sarana Bay

Chirikof Pt.

Chichagof Hbr.

H-6991

STATISTICS

Date	Day Letter	Vol. #	Vessel	Miles of Sdg. Line	No. of Positions	Soundings Wire	Soundings H.L.
1944							
9/24	A	1	SURVEYOR	16	27*		
9/25	B	1	"	53.5	105		
9/26	C	1	"	77	153		
9/27	D	1	"	29	68	1	
9/27	D	2	"	38.5	72		
9/28	E	2	"	9	26		
9/26	a	3	Lch. #2	26.4	101		
9/27	b	3	"	50.5	196		4
		Totals:		299.9	748	1	4

Area - Square Statute Miles ---------- 47

Respectfully submitted,

Edgar E. Smith

Edgar E. Smith
Cartographic Engineer
Seattle Processing Office

Approved and Forwarded,

F. H. Hardy

F. H. Hardy
Officer in Charge,
Seattle Processing Office

GEOGRAPHIC NAMES

Survey No. H6991

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Aleutian Islands			(for title)							1
Attu Island									USGB	2
Sarana Bay				525 730E						3
Chirikof Point				"					"	4
Chichagof Harbor				"						5
Bering sea									"	6
										7
										8
										9
			L Heck 11/1145							10
										11
Holtz Bay		(location of tide staff)							USGB	12
										13
										14
Additional Work Names: (10/30/47)										15
Cooper Islands										16
Khlebnikof Point										17
Gibson Islands				L. Heck						18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO. H6901

Records accompanying survey:

Boat sheets ....; sounding vols. ..3..; wire drag vols. ....;

bomb vols. .....; graphic recorder rolls ..2..;

special reports, etc. .....

.....

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

Number of positions on sheet		748.
Number of positions checked		94.
Number of positions revised		5.
Number of soundings recorded		4480 (approx)
Number of soundings revised (refers to depth only)		25.
Number of soundings erroneously spaced		4.
Number of signals erroneously plotted or transferred		----
Topographic details	Time	6 hrs.
Junctions	Time	16 hrs
Verification of soundings from graphic record	Time	12 hrs

Verification by G.B. Woolley.....Total time 120 hrs Date Oct. 5, 1945

Review by ...J.A. McCormick..... Time ...17 hrs. Date 10/31/45.

H-6991

(SU 2444)

TIDAL NOTE

Tide Station - Holtz Bay, Attu I.

Latitude	52° 55!54 N
Longitude	173 09.57 E

The plane of mean lower low water for Holtz Bay corresponds to a staff reading of 3.4 feet.

No correction for difference in time or height was applied. (See Director's letter of Dec. 6, 1944, Ref. 36-McC.)

The hourly heights were furnished by the Ship EXPLORER.

X.Q.C.
H.W.M.

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

26 May 1945

~~Division of Hydrography and Topography~~

Division of Charts: Attention: H. W. MURRAY

Plane of reference approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 6991

Locality Sarana Bay and Approaches, Attu Island

Chief of Party: C. D. Meaney in 1944
Plane of reference is mean lower low water reading
3.4 ft. on tide staff at Holtz Bay
7.3 ft. below B. M. 1

Height of mean high water above plane of reference is 3.7 feet.

Condition of records satisfactory except as noted below:

C K Green

Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 154327

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY REGISTRY NO. 6991

FIELD NO. SU-2444

Aleutian Islands; Attu Island; Sarana Bay and Approaches
Surveyed in Sept. 1944 Scale 1:20,000
Project No. CS-218

Soundings:

808A Fathometer
Dorsey III "
N.M.C. "

Control:

Three-point fixes on shore signals

Chief of Party - C. D. Meany
Surveyed by - L. S. Hubbard; R. C. Rowse; R. H. Randall
Protracted by - B. B. Jones
Soundings plotted by - B. B. Jones
Verified and inked by - G. B. Woolley
Reviewed by - J. A. McCormick, Oct. 31, 1945
Inspected by - H. W. Murray

1. Shoreline and Signals

The descriptive report discusses control stations and penciled shoreline. Finished shoreline compilations are not available and probably will not be for some time because of shadowed photographs and lack of field inspection.

2. Sounding Line Crossings

Agreement at crossings is satisfactory.

3. Bottom Configuration

Bottom is typical of much of this general area - somewhat irregular inshore, fairly smooth outside the 30-fathom curve and dropping off rapidly outside the 100-fathom curve.

4. Adjoining Surveys

Satisfactory junctions were effected with H-6990 (1944) on the west and with H-7017 (1944) on the northwest. Other surveys were made in the area in 1945 but are not yet available for comparison.

5. Previous Surveys

The subject area had not previously been surveyed by this Bureau.

6. Comparison with Chart 9127 (Print of April 28, 1945)
Chart 9128 (Print of June 23, 1945)
Chart 9198 (Print of February 2, 1945)

The present survey has been applied to Charts 9127 and 9198 through an advance field compilation filed as B.P. 38966. It had not been applied to Chart 9128. Differences in depth between chart and reviewed survey are of the usual order of 1 to 3 fathoms, exceptions noted being one of 100 fathoms off the edge of the insular shelf and one of 10 fathoms in depths of 30.

7. Compliance with Project Instructions

Satisfactory except for lack of shoreline and scarcity of bottom characteristics.

8. Additional Field Work Recommended

Additional development was accomplished in this area in 1945. Recommendations are withheld pending its receipt and evaluation.

Examined and approved:

Robert W. Knox
Chief, Nautical Chart Branch

F. S. Borden
Chief, Chart Division

Carl O. Hewitt
Chief, Section of Hydrography

Raymond R. Eyman
Chief, Division of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. H 6991

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
9/12/45	9128	J.F. Walker	Before ~~After~~ Verification and Review
10/1/45	"	G.R.	After Verification only.
6/8/45	9198	FMA	Before ~~After~~ Verification and Review Six soundings applied
12-21-45	9127	F.M.A.	~~Before~~ After Verification and Review
3/18/46	9198	JFW	~~Before~~ After Verification and Review Completely –
			no additional correction necessary
11/29/49	9127	[illegible]	Before After Verification and Review Reconstruction.
4/7/59	9128	J.H. Eaton	~~Before~~ After Verification and Review Reconstruction
5-6-63	8865	[illegible]	~~Before~~ After Verification and Review Fully applied
			Reviewed 4 Surveys.
11-4-92	16423	Ed Martin	~~Before~~ After Verification and Review New Chart
			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.

Six soundings applied to chart 9198 from pencilled smooth sheet. J.M.A. 6-8-45