

8119

Diag. ChT. No. 8995

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. PF-2154 Office No. H-8119

LOCALITY

State Alaska

General locality Pribilof Islands

Locality Reef Pt., St. Paul Island and

Otter Island

19 54

CHIEF OF PARTY

K. G. Crosby

LIBRARY & ARCHIVES

DATE

8119

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-8119

Field No. PF-2154

State Alaska

General locality PRIBILOF ISLANDS

Locality Reef Pt., St. Paul Island and OTTER Island

Scale 1:20,000 Date of survey June 1954

Instructions dated 6 March 1951 and 14 December 1953

Vessel USC&GSS PATHFINDER Launches No. 1, No. 2

Chief of party K. G. Crosby

Surveyed by P. A. Weber, H. P. Demuth, F. J. Tucker, E. R. Stone, G. R. Schevon,
H. J. Weese

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

Fathograms scaled by Ship's Officers Bright, Witham, Nichols

Fathograms checked by Ship's Officers Tucker, Stone, Weese

Protracted by F. J. Tucker

Soundings penciled by F. J. Tucker

Soundings in fathoms ~~100~~ at ~~MLLW~~ and are based on a velocity
of sound of 800 fms./sec.

REMARKS: _____

70E

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SURVEY H-8119 (Field No. PF-2154)

ST. PAUL ISLAND

PRIBILOF ISLANDS
ALASKA

Scale 1:20,000

1954

USC&GSS PATHFINDER

Capt. K. G. Crosby, Comdg.

Surveyed by: Cdr. P. A. Weber, Lt. (jg) H. P. Demuth, Ens. F. J. Tucker,
Ens. E. R. Stone, Ens. G. R. Schevon and Ens. H. J. Weese

A. PROJECT

1. Project CS-343, Bering Sea, Alaska
2. Original Instructions dated 6 March 1951 with latest supplemental instructions, superseding all others, dated 14 December 1953.

B. SURVEY LIMITS AND DATES

1. This survey covers two areas.
 - (a) Inshore hydrography around Otter Island and
 - (b) Inshore hydrography around Reef Pt. on the south side of St. Paul Island. The area of the hydrography around Otter Island forms a triangle with the outer limits being at: Lat. $57^{\circ}-04.4'N$, Long. $170^{\circ}-24.0'W$; Lat. $57^{\circ}-020'N$, Long. $170^{\circ}-20.0'W$; Lat. $57^{\circ}-020'N$, Long. $170^{\circ}-28'W$. The outer limits of hydrography around Reef Pt. are: Lat. $57^{\circ}-07.0'N$, Long. $170^{\circ}-11.0'W$; Lat. $57^{\circ}-04.8'N$, Long. $170^{\circ}-16.5'W$; Lat. $57^{\circ}-08.0'N$, Long. $170^{\circ}-21.1'W$.
2. All field work was done from 7 June 1954 to 16 June 1954.
3. The outer limits of hydrography around Otter Island makes a junction with the Ship's hydrography accomplished in 1954 as shown on survey H-8121.
4. The survey around Reef Pt. falls within the limits of the prior surveys, H-7948, 1951, Scale, 1:40,000; H-8076, 1953, Scale 1:20,000, 1:10,000.

C. VESSEL AND EQUIPMENT

All hydrography was accomplished by the Ship's launches No. 1, and No. 2, operated from the Ship PATHFINDER using 808 Fathometers No. 61 and No. 74S respectively. The turning radio of launch No. 1 is 16 meters to starboard, 21 meters to port. Launch No. 2, 20 meters starboard and 13 meters to port.

D. TIDE AND CURRENT STATIONS

Tide reductions were obtained from data recorded by the portable automatic tide gage at Village Cove, St. Paul Island, Lat. $57^{\circ}-07.5'N$ and Long. $170^{\circ}-16.7'W$. No time or range corrections were applied.

There were no current stations within the limits of this survey. There were however current observations for a total of 118 hours at Lat. $57^{\circ}-03'$, Long. $170^{\circ}-10'$.

E. SMOOTH SHEET

The smooth sheet projection and shoran arcs were made by hand and verified by personnel in the Seattle Processing Office.

The shoreline was transferred to the smooth sheet in pencil by hand from a planetable survey in 1897 by Fremont Morse and G. R. Putman, scale 1:20,000. (*T-2295 and T-2297*)

F. CONTROL STATIONS

All hydrography was controlled by shoran. To control hydrography on the greater part of the survey, two shoran stations were established on St. Paul Island and located by third order triangulation. Shoran station SHO-MAST was established at triangulation station RAN, 1951. Station SHO-FAIR was located by distance and direction from triangulation station FAIR, 1951. The geographic position of the antenna during this survey is identical with the location used in 1953.

A third shoran station was aboard the Ship PATHFINDER which was anchored north of Otter Island acting as a floating station. In the records of this survey this floating station is called SHO-BOAT. On the days that station SHO-BOAT was used the geographic position of the Ship's shoran transmitting antenna was determined by means of a gyrocompass bearing and range-finder distance to topographic signal Del. (a whitewash located on the north shore of Otter Island by triangulation methods). These fixes were observed and recorded every half hour or at shorter intervals when necessary. Each new position of the Ship's antenna that was furnished to the hydrographic launch was plotted on the boat sheet and correctly positioned. Distance arcs were redrawn in pencil. This method provided adequate control for the hydrography.

G. SHORELINE AND TOPOGRAPHY

The shoreline was drawn in pencil from a planetable surveys in 1897
(*T-2295 and T-2297*)

by Fremont Morse and G. R. Putman, Scale 1:20,000. This shoreline was considered too old to be accepted as representative and was thus not drawn in ink as normally required.

The low water line is not defined as the tide range was not sufficient to permit sounding over the plane of reference.

H. SOUNDINGS

All soundings were measured in fathoms by 808 type Graphic Recording Fathometer calibrated to 800 fm/sec. Initial corrections were sealed from the fathograms and index corrections were determined from an abstract of bar checks taken daily during the progress of the survey. See Fathometer Corrections Descriptive Report, 1954 for echo corrections.

I. CONTROL OF HYDROGRAPHY

Hydrography was controlled by Shoran stations SHO-MAST, SHO-FAIR, and SHO-BOAT.

As the signals from SHO-BOAT originated from the ship, which was anchored but not stationary, it was necessary to determine the antenna positions periodically as mentioned in section F.

On the smooth sheet the launch positions involving SHO-BOAT were protracted using the following method: An acetate overlay was made upon which SHORAN arcs were drawn exactly matching those shoran arcs which had been drawn on the smooth sheet. A compass rose was placed on the smooth sheet with its center directly over Del and correctly oriented with respect to azimuth. The ships position was then plotted on the compass rose by bearing and distance from signal Del and the origin of the arcs on the acetate overlay was placed directly over the plotted ships position. As the protracting progressed this procedure was repeated and the acetate overlay was shifted to coincide with the ship's position as it changed during each days work.

Other shoran corrections are abstracted with this report, and are discussed in "Shoran Corrections Descriptive Report, 1954". (*Library*).

J. ADEQUACY OF SURVEY

This survey is considered complete and adequate. It should supersede all previous surveys of the areas. There are no holidays within the limits of this survey. *TP-5 Review*

Satisfactory junctions are made with adjoining surveys, and depth curves can be adequately drawn at the junctions. *TP-4 Review*

K. CROSSLINES

Approximately 6% crosslines were run. Crosslines were satisfactory and no systematic discrepancy was noted. Occasional differences of 0.5 fm. *TP-2 Review*

were noted on the crossline run on "e" day (Red). These could be due to either a slight displacement of the line due to the SHO-BOAT position or the positions falling near the base line between SHO-BOAT and SHO-FAIR.

L. COMPARISON WITH PRIOR SURVEY

1. A comparison with H-8121, scale 1:40,000 (1954) showed a ⁴⁸ very good agreement with one exception, a 10.9 fms on H-8121 (Lat. 57°-03.4'N, Long. 170°-22.9'W) falls on a 12 fms on H-8119. This is a very irregular bottom and the difference could be in a slight displacement of these positions.

^{L23.00'} ⁽¹⁹⁵¹⁻⁵³⁾
2. The comparison with H-7948, Scale 1:40,000 (1951) shows good agreement with this survey. A 19 fms depth on H-7948 (Lat. 57°-06.15'N and Long. 170°-19.2'W) falls upon a ^{16.48} 11 fms. soundings from this survey. This survey should supersede all prior surveys. *Slope-soundings in adequate agreement.*

⁽¹⁹⁵³⁾
3. The comparison with H-8076, scales 1:20,000 and 1:10,000, (1953) showed good agreement with the exception of the area around Lat. 57°-06.7'N and Long. 170°-18.0'W. The soundings from H-8076 falls up to 50 meters south of the corresponding soundings from this survey. This area is an irregular bottom and this difference could be in a slight displacement of the positions. Hydrography in this area on H-8076 was visually controlled during adverse weather conditions while hydrography in this area on this sheet is shoran controlled. *junctions adequate-irregular bottom.*

M. COMPARISON WITH CHART

A comparison with chart 8994, scale 1:50,000, Print Date, ⁶⁻²¹⁻⁵⁴ ~~March 1953~~ shows good agreement with the following exceptions.

1. A charted 9.5 fms sounding at Lat. 57°-03.4'N and Long. 170°-23.1'W falls on a 10.3 fms sounding from this survey. The position of the 9.5 fms sounding is probably displaced. It is recommended that this survey supersede the charted sounding. *9.5 is early reconnaissance sdg*

⁶⁷
2. A charted sounding of 6.5 fms at Lat. 57°-07.1'N and Long. 170°-15.0'W falls on a ^{4.5} 3.5 fms sounding from this survey. This survey should supersede the 6.5 fms sounding.

⁸
3. At Lat 57°-07.1'N and Long. 170°-15.1'W a charted sounding of 9 fms fall upon a 10.6 fms sounding from this survey. The position of the 9 fms sounding is probably displaced and this survey should supersede it. *present depths adequate*

4. The charted sounding of 15 fms falls on a 12 fms. sounding from this survey at Lat. 57°-06.4'N and Long. 170°-15.4'W. The sounding from this survey should supersede the charted sounding.

5. The 14 fms sounding charted at Lat. 57°-05.1'N and Long. 170°-13.5'W falls on a 15 fms sounding from this survey. The charted sounding is probably displaced and this survey should supersede it.

6. A charted sounding of 20 fms falls on a 16 fms sounding from this survey at Lat. $57^{\circ}-05.4'N$ and Long. $170^{\circ}-16.4'W$. The sounding from this survey should supersede the charted sounding.

7. The charted sounding at Lat. $57^{\circ}-05.3'N$ and Long. $170^{\circ}-17.0'W$ of 20 fms falls on a 17 fms sounding from this survey. The charted sounding should be superseded by the sounding from this survey.

8. At Lat. $57^{\circ}-06.75'N$ and Long. $170^{\circ}-16.0'W$ on the chart is a sounding of 6 fms which falls on a 7.8 fms sounding from this survey. The position of the 6 fms sounding is probably displaced and this survey should supersede it.

9. ¹³⁻¹⁴ A 12 fms sounding from this survey falls upon a 16 fms sounding from the chart at Lat. $57^{\circ}-05.8'N$ and Long. $170^{\circ}-17.0'W$. The soundings from this survey should supersede the charted sounding.

10. A charted sounding of 7 fms fall on a ^{4.2'} 5.7 fms sounding from this survey at Lat. $57^{\circ}-05.9'N$ and Long. $170^{\circ}-17.7'W$. The sounding from this survey should supersede it.

11. The charted sounding at Lat. $57^{\circ}-06.6'N$ and Long. $170^{\circ}-18.9'W$ of 9.5 fms is probably displaced as it falls upon a 13 fms sounding from this survey. The sounding from this survey should supersede the charted sounding. *Present depths should supersede this early sdg*

12. The charted sounding at Lat. $57^{\circ}-06.6'N$ and Long. $170^{\circ}-18.5'W$ of 5 fms ~~falls~~ is probably displaced as it falls upon a 6.7 fms sounding from this survey. The sounding from this survey should supersede the charted sounding.

13. The reef lying to the northwest of OTTER Island was found not to extend as far as charted. The limits of the reef from this survey should supersede the charted ones. *RP of Review*

N. DANGERS AND SHOALS

1. A least depth of 2.4 fms at Lat. $57^{\circ}-02.35'N$ and Long. $170^{\circ}-23.5'W$ was found between positions 115d-116d (Blue). The least depth is based on an interpretation of the fathogram. Considerable time was spent by the hydrographic party in an attempt to verify this depth with a hand lead, however rough seas and a very strong current prevented a satisfactory check. *Development considered adequate*

^{6.5} 2. A least depth of 6.4 fms at Lat. $57^{\circ}-02.25'N$ and Long. $170^{\circ}-25.7'W$ between 43f-44f (Blue) was found. The limits of this shoal are adequately defined.

⁵ 3. A least depth of 9.2 fms at Lat. $57^{\circ}-03.8'N$ and Long. $170^{\circ}-22.8'W$ between positions 5e and 6e (Blue) was found. The limits of this shoal are adequately defined.

4. The inshore areas around Sealion Rock and Reef Point are very foul. It was considered too dangerous and uneconomic to develop this area.

as the tide range is not great enough to permit a launch to navigate safely through it.

5. The charted position of the reef lying to the southwest of Otter Island is verified by this survey.

O. COAST PILOT INFORMATION

See "Coast Pilot Notes - 1954", Ship PATHFINDER.

P. AIDS TO NAVIGATION

None

Q. LANDMARKS FOR CHARTS

None

R. GEOGRAPHIC NAMES

All geographic names shown on this survey sheet are presently charted. No change or additions are recommended. See "GEOGRAPHIC NAMES LIST", this report.

S. - Y. NOT APPLICABLE

Z. TABLATION OF APPLICABLE DATA

	NAME	
1.	Fathometer Correction Descriptive Report	19 October 1954
2.	Shoran Corrections Descriptive Report	13 October 1954
3.	Coast Pilot Notes	23 October 1954
4.	Triangulation Records, St. Paul Island	12 October 1954
5.	Current Observation Records, St. Paul Island	17 Jun, 1 Jul 1954
6.	Tide Observation Records, St. Paul Island	2 July 1954
7.	Landmarks for charts	8 October 1954

*Special Report 1954-91
K. G. Crosby*

Respectfully submitted,

Floyd J. Tucker, Jr.
FLOYD J. TUCKER, JR.
Ensign, USC&GS

Approved and forwarded:

K. G. Crosby
K. G. CROSBY
Captain, USC&GS
Comdg. Ship PATHFINDER

STATISTICS FOR HYDROGRAPHIC SURVEY H-8119

FIELD NO. PF-2154

SHIP PATHFINDER CS-343

<u>Vol. No.</u>	<u>Launch</u>	<u>Day</u>	<u>Date</u> <u>June</u>	<u>No. of Wire</u> <u>or H.L. Sdgs.</u>	<u>Pos.</u>	<u>Stat.</u> <u>Miles</u>
1	1 & 2	a & b (Blue)	7 & 10	0	133	30.8
2	2	b & c (Blue)	10 & 11	0	134	46.1
3	2	c & d (Blue)	11 & 12	0	129	39.9
4	2	d, e & f (Blue)	12, 13 & 14	3	186	36.9
5	2	f (Blue)	14	0	49	6.9
6	2	g (Blue)	16	0	110	25.8
7	2	a (Red)	7	0	123	44.3
8	1 & 2	a & b (Red)	7 & 10	0	132	45.9
9	1	b, c & d (Red)	10, 11 & 12	0	167	39.7
10	1	d (Red)	12	0	145	41.6
11	1	e (Red)	13	0	180	44.1
12	1	e (Red)	13	0	38	16.1
13	1	f (Red)	16	0	42	6.8
Total				3	1568	424.9

Total Square Statute Miles - 17.7 sq. mi.

ABSTRACT OF HYDROGRAPHIC SIGNALS
HYDROGRAPHIC SURVEY H-8119 (PF-2153)

Ship PATHFINDER

CS 343

1954

NAME USED IN
HYDROGRAPHIC SURVEY

ORIGIN OF STATION

SHO-MAST

RAN, 1951

SHO-FAIR

FAIR, 1951

SHO-BOAT

Ship PATHFINDER

S MELZ

S MELZ, 1954

CRATER

CRATER, 1954

Del

Triangulation inter section
station not marked.

TIDE NOTE

HYDROGRAPHIC SURVEY H-8119 (Field No. PF-2154)

Ship PATHFINDER, CS 343

1954

Records from the portable automatic tide gage installed in Village Cove, St. Paul Island, in latitude $57^{\circ}-07.5'N$, longitude $170^{\circ}-16.7'W$, were used for the reduction of soundings.

The reading on the staff corresponding to MLLW was 6.7 feet.

No corrections for time or range were applied.

GEOGRAPHIC NAME LIST

HYDROGRAPHIC SURVEY H-8119

Bering Sea
Otter Island
St. Paul Island
Sealion Rock
Reef Point
Tolstoi Point
Village Cove

LAUNCH NO. 1 - PF 2154

CORRECTIONS

DAY	DATE	BOAT	FAIR	DAR	MAST
a	7 JUNE		+0.007		+0.001
b	10 JUNE		+0.008		+0.010
c	11 JUNE		+0.008		+0.008
d	12 JUNE	+0.015	+0.008		+0.008
e	13 JUNE	+0.016	+0.008		+0.007
f	16 JUNE		+0.004		+0.005

LAUNCH NO. 2 - PF 2154

a	7 JUNE		+0.007		+0.002
b	10 JUNE		+0.008		+0.004
c	11 JUNE		+0.008		+0.003
d	12 JUNE		+0.009		+0.005
e	13 JUNE		+0.008		+0.004
f	14 JUNE		+0.005		0.00
g	16 JUNE		+0.010		+0.002

SHIP SHORAN STATION SHO-BOAT 1, ST. PAUL I.

DATE	TIME	RANGE FINDER DISTANCE FROM STA. DEL	BEARING FROM STA. DEL TO SHORAN ANTENNA	REMARKS
11 June	1245	997 meters	356.5°	
	1315	997	356.5	
	1345	1040	357.0	
	1415	983	356.0	
	1445	999	357.0	
	1515	999	357.0	
	1545	960	357.0	
	1615	971	357.0	
	1645	971	357.0	
	1715	971	357.0	
12 June	0845	1033	353.0	
	0915	1120	352.0	
	0945	1097	353.0	
	1015	1074	352.0	
	1045	1006	352.0	
	1115	1006	353.0	
	1145	994	353.5	
	1215	1006	353.0	
	1245	1038	355.0	
	1315	1040	355.0	
	1345	1052	355.0	
	1415	1074	355.0	
	1445	1040	355.0	
	1515	1052	355.0	
	1545	1052	355.0	
	1615	1052	355.0	
	1645	1052	356.0	
	1700	1052	356.0	
13 June	0930	1143	358.5	
	0945	1116	359.0	
	1015	1125	359.0	
	1045	1166	359.5	
	1115	1125	358.0	Ship beginning to swing at 1120;
	1130	1061	360.0	steady at 1130
	1145	1052	000.8	
	1215	1074	000.5	
	1245	1068	001.0	
	1315	1074	000.0	
	1345	1056	001.0	
	1415	1042	000.5	
	1445	1042	000.5	
	1515	1024	000.5	
	1545	1061	001.0	
	1615	1070	001.0	
	1645	1033	002.0	
	1715	1024	002.0	
	1745	1020	003.0	
1800	1033	002.0		

SHIP SHORAN STATION SHO-BOAT 1, ST. PAUL I. (Continued)

DATE	TIME	RANGE FINDER DISTANCE FROM STA. DEL	BEARING FROM STA. DEL TO SHORAN ANTENNA	REMARKS
14 June	0845	983 meters	354.0°	
	0915	1052	354.0	
	0945	1052	354.0	
	1015	1052	354.0	
	1045	1045	356.0	
	1115	1020	359.0	
	1145	1020	000.5	
	1215	994	000.0	
	1245	1006	001.0	
	1315	1012	000.0	
	1345	1033	000.5	
	1415	1024	001.0	
	1445	1020	001.0	
	1515	1020	001.0	
	1545	1015	001.0	
	1615	983	000.5	
	1645	1024	002.0	
	1700	1033	002.0	

APPROVAL SHEET

HYDROGRAPHIC SURVEY H-8119

ST. PAUL ISLAND

ALASKA

This survey was inspected daily while hydrography was in progress. The smooth sheet was inspected at frequent intervals during the time it was being plotted and while the soundings were being pencilled. It was examined again in conjunction with the descriptive report.

I consider this survey to be complete and adequate. No additional work is required or recommended within the limits of the survey.



K. G. CROSEY
Captain, USC&GS
Comdg. Ship PATHFINDER

GEOGRAPHIC NAMES

Survey No. H-8119

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
	On Chart No. On previous survey No. On U. S. quadrangle Maps From local information On local Maps P. O. Guide or Map Rand McNally Atlas U. S. Light List										
<u>Alaska</u>				(for title)							1
<u>Fribilof Islands</u>				"					BGN		2
<u>Bering Sea</u>									"		3
<u>St. Paul Island</u>											4
<u>Otter island</u>											5
<u>Reef Point</u>											6
<u>Sealion Rock</u>											7
<u>Village Cove</u>				(tide station)							8
<u>Tolstoi Point</u>											9
											10
											11
											12
<i>Zapadni Pt.</i>											13
<i>Southwest Pt</i>											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

Names approved 3-7-55
L. Heck
L.H.

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-8119...

Records accompanying survey:

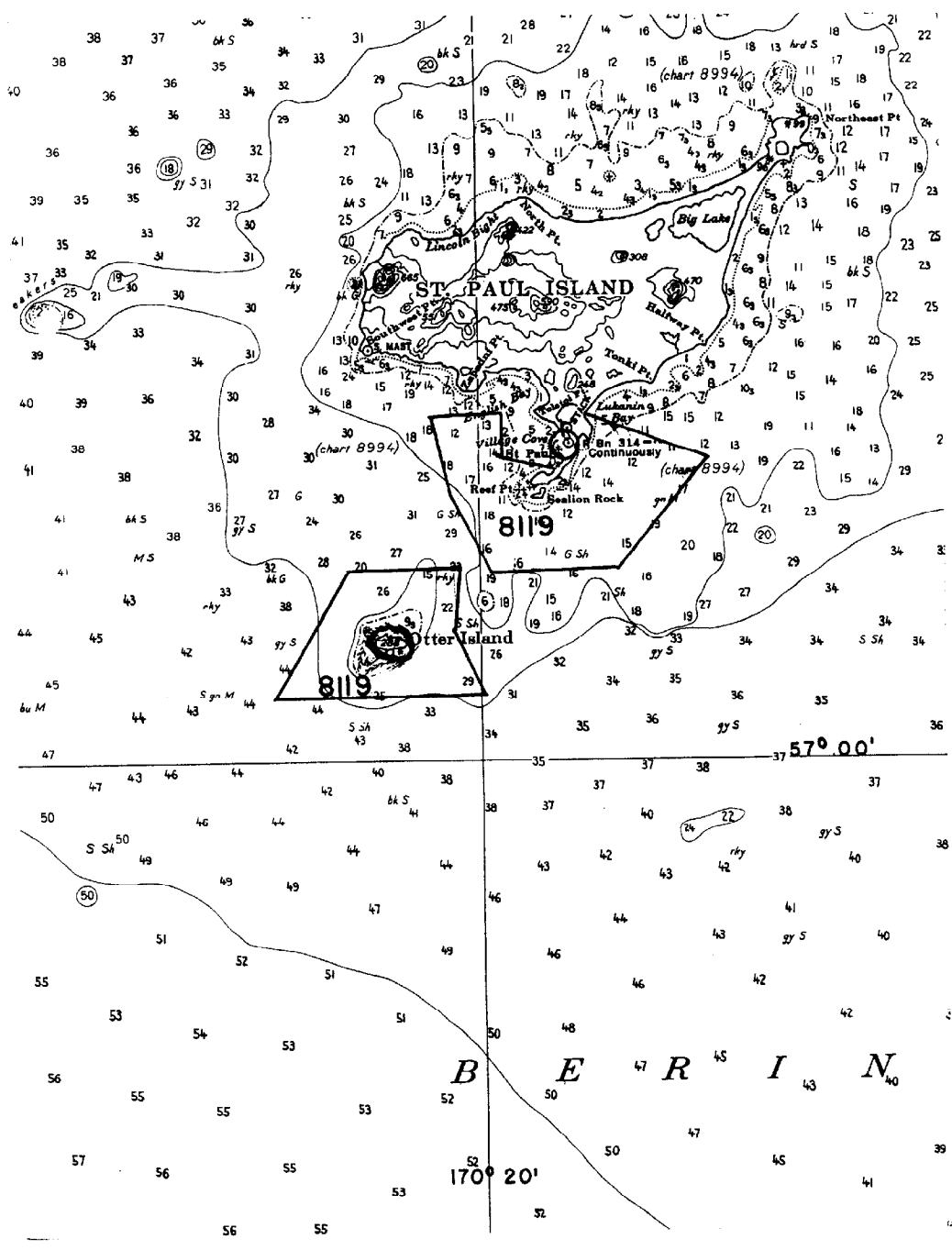
Boat sheets .2...; sounding vols. .13..; wire drag vols.; bomb vols.; graphic recorder rolls .2.enr; special reports, etc. .1 Smooth Sheet.....

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

Number of positions on sheet		1568
	
Number of positions checked		43
	
Number of positions revised		4
	
Number of soundings revised (refers to depth only)		24
	
Number of soundings erroneously spaced		1
	
Number of signals erroneously plotted or transferred		1
	
Topographic details	Time	4 hrs
	
Junctions	Time	23 hrs
	
Verification of soundings from graphic record	Time	4 hrs
	

Verification by *E. Thomas* Total time *124* Date *7/28/56*

Reviewed by *W. Jeske* Time *32* Date *7/11/56*



DIVISION OF CHARTS
REVIEW SECTION - NAUTICAL CHART BRANCH
REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8119

FIELD NO. PP-2154

Alaska, Pribilof Islands, Reef Pt. - St. Paul I., and Otter I.

Project CS-343

Surveyed March, 1951 - December, 1953

Scale 1:20,000

Soundings:

Control:

808 Fathometer

Shoran

Chief of Party - K. G. Crosby
Surveyed by - P. A. Weber, H. P. Demuth, F. J. Tucker, E. R. Stone
 G. R. Schevon and H. J. Weese
Protracted by - F. J. Tucker
Soundings plotted by - F. J. Tucker
Verified and inked by - E. Thomas
Reviewed by - I. M. Zeskind 4-11-56
Inspected by - R. E. Carstens

1. Shoreline and Control

There are no contemporary topographic surveys of St. Paul Island or Otter Island by this Bureau. The shoreline of these Islands is shown in pencil on the smooth sheet and originates with T-2295 and T-2297 of 1897.

The source of the control is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated, except as follows:

a. Otter Island

The foul character of the bottom in depths less than 2 fms. prevented development to the low-water line.

b. Vicinity of Reef Pt.

The depth curves in the vicinity of Reef Point were not

developed to the low-water line because of either the foul character of the bottom or presumably because high seas prevented a closer approach to shore at the time of the survey.

The bottom is very irregular on the insular shelf, from shore to depths of 10 fms, and is generally smooth in greater depths. Submarine features such as ledges, pinnacles and shoals contribute to the bottom irregularity.

4. Junctions with Contemporary Surveys

An adequate junction was made with H-3121 (1954) off Otter Island. Adequate junctions were effected off St. Paul Island with H-3120 (1954) and H-3121 (1954) on the northwest, with H-3076 (1953) on the northeast and near Reef Point, and with H-7943 (1951-53) on the offshore limits on the east, south and west.

5. Comparison with Prior Surveys

There are no prior surveys by this Bureau in the area covered by the present survey

6. Comparison with Chart 8994 (latest print date 6-21-54)
Chart 8995 (latest print date 6-14-54)

A. Hydrography

Otter Island

The charted hydrography originates principally with the present survey prior to verification and review and several soundings from sources other than this Bureau, dated prior to 1894. Only minor differences of 1 - 2 fms. between the charted and present survey depths are noted. Development of Northwest Reef on the present survey indicates this reef to be smaller in size than that shown on the chart.

The present survey is adequate to supersede the charted hydrography within the common area.

Vicinity of Reef Point

The charted hydrography originates with miscellaneous sources other than this Bureau, dated prior to 1894, supplemented by several soundings from the present survey prior to verification and review. Differences of as much as 4 fms. between the charted and present survey depths are noted, as for example, in lat. $57^{\circ}05.40'$, long. $170^{\circ}16.45'$, where charted depth of 20 fms. falls in present depths of 16 fms. These differences in depths are attributed to

error in the position of the sounding lines on the early surveys. Several soundings charted from the present survey boat sheet have been revised as much as 2 fms. on the smooth sheet.

The present survey is adequate to supersede the charted hydrography within the common area.

B. Aids to Navigation

There are no aids to navigation within the area covered by the present survey.

7. Condition of Survey

(a) The Descriptive Report and sounding records are complete and comprehensive.

(b) The smooth plotting was accurately done.

(c) Many of the soundings penciled on the smooth sheet were too small and too closely spaced to be legible. A selection of soundings showing all the required information was made during verification and the size of the soundings was increased during inking, so that the soundings are legible. A circular letter regarding this deficiency was distributed 30 March 1955.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

This survey is considered basic and no additional field work is recommended. ✓

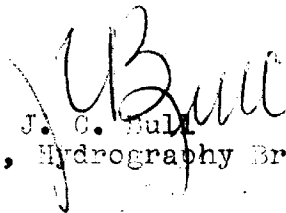
Examined and Approved:



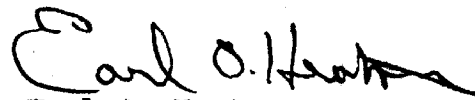
E. R. Edmonston
Chief, Nautical Chart Branch



E. R. McCarthy
Chief, Chart Division



J. C. Bull
Chief, Hydrography Branch



Earl O. Heaton
Chief, Division of Coastal Surveys

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coast & Geodetic Survey~~

14 March 1955

Division of Charts: R. H. Carstens

Plane of reference approved in
13 volumes of sounding records for

HYDROGRAPHIC SHEET

8119

Locality St. Paul Island, Pribilof Islands

Chief of Party: K. G. Crosby in 1954
Plane of reference is mean lower low water, reading
6.7 ft. on tide staff at Village Cove
9.5 ft. below B. M. 2 (1946)

Height of mean high water above plane of reference is 3.0 feet.

Condition of records satisfactory except as noted below:

E. C. McKay

Chief, Division of Tides and Currents.

