8120

Diag. Cht. No. 8995

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. PF-2254 Office No. H-8120

LOCALITY

State Alaska

General locality Pribilof Islands

Locality St. Paul Island

194 54

CHIEF OF PARTY

K. G. Crosby

LIBRARY & ARCHIVES

DATE February 17, 1955

8-1870-1 (1)

8120

Form 537
(Ed. June 1946)

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-8120

Field No. PF-2254

State Alaska

General locality ~~Bering Sea~~ Pribilof Islands

Locality St. Paul 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, No. 4

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~~ complement Bright, Whitham, Nichols

Fathograms checked by Ship's officers (E.R.Stone, F.J.Tucker, and H.J.Weese)

Protracted by E. R. Stone

Soundings penciled by E. R. Stone

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

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 693019

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SURVEY H-8120 (Field No. PF-2254)

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 the west side of St. Paul Island from English Bay on the south to Lincoln Bight on the north.

(b) Development of a shoal area bounded by Latitudes 57°10'N to 57°11.3'N and Longitudes 170°37.6'W and 170°39.8'W.

2. All field work was done from 9 June 1954 to 28 June 1954.

3. The hydrography on the west side of St. Paul Island makes junctions with H-8073 (1953), scale 1:40,000; H-7948 (1951 & 53), scale 1:40,000; H-8075 (1953), scale 1:20,000; and H-8076 (1953), scale 1:20,000 and 1:10,000; and H-8072 (1953), scale 1:80,000. TP 4 of Review

4. The shoal area development was within the limits of survey H-7948 (1951) (& 1953), scale 1:40,000.

C. Vessels and Equipment

1. The hydrography was done by the Ship PATHFINDER and launches No. 1, No. 2 and No. 4 operated from the Ship PATHFINDER. Type 808 fathometers were used for sounding as follows:

Vessel	Fath. No.
Ship PATHFINDER	130-S
Launch No. 1	61
Launch No. 2	74-S
Launch No. 4	46

2. Turning radii for the vessels used are as follows:

Vessel	To Port	To Starboard
Ship PATHFINDER (130 rpm)	167m.(32° Rudder)	153m.(36° Rudder)
Launch No. 1	21m.	16m.
Launch No. 2	13m.	20m.
Launch No. 4	20m.	20m.

D. Tide and Current Stations

1. Tide reducers were determined from data recorded by the portable automatic tide gage at Village Cove, St. Paul Island, Latitude 57°-07.5'N and Longitude 170°-16.7'W. No time or range corrections were applied.

2. There were five current stations in the area, two of which were within the limits of this sheet.

(a) Station No. 4, using a current pole was located at Latitude 57°-09.3'N and Longitude 170°-26.7'W.

(b) Station No. 5, using a current pole was located at Latitude 57°-14.7'N and Longitude 170°-27.2W.

E. Smooth Sheet

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

2. The shoreline was transferred to the smooth sheet in pencil from a planetable survey made in 1897 by Fremont Morse and G. R. Putnam, scale 1:20,000.

F. Control Stations

1. Three shoran stations were established on St. Paul Island. Third order triangulation was used in determining locations.

2. Station SHO-MAST was constructed on triangulation station RAN, 1951.

3. Station SHO-FAIR was determined geographically by distance and direction from triangulation station FAIR, 1951.

4. Station SHO-DAR was ascertained geographically by direction and distance from DARBY, 1951.

5. The antenna positions of SHO-MAST and SHO-FAIR are the same as those used in 1953.

6. The Ship PATHFINDER served as a ship station, SHO-BOAT, for a portion of the hydrography. The geographic position of the ship's shoran transmitting antenna on "b" and "c" days for launch No. 1 was determined by means of a gyrocompass bearing and rangefinder distance to topographic signal Del (a whitewash located on the north shore of Otter Island by triangulation methods). For the remainder of the days using SHO-BOAT, the ships position was determined by shoran readings using shore stations SHO-MAST and SHO-DAR.

7. Ship positions were observed and recorded every half hour, or at shorter intervals when deemed necessary. This information was then immediately transmitted to the launches using SHO-BOAT. Arcs in pencil were drawn or redrawn for each plotable change in the ship's position.

8. The hydrographic positions plotted using station SHO-BOAT are considered no less accurate than those determined with fixed shore stations.

G. Shoreline and Topography

1. The shoreline as transferred (T-2295A) from the 1897 planetable survey was not considered sufficiently accurate at this time to be inked on the smooth sheet. No topographic detail is shown.

2. The low water line could not be ascertained by the hydrographic survey because of the low tide range which did not permit sounding over the plane of reference.

H. Soundings

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

I. Control of Hydrography

1. Hydrography was controlled by visual and shoran fixes.

2. Visual hydrography was in the area between latitudes 57°-08.0' and 57°-08.7' and longitudes 170°-19.3' and 170°-25.6'. Triangulation stations RAN, 1951; ZAPADNIE, 1897, r.-1951; VILLAGE COVE STACK, 1951; and ST. PAUL VILLAGE WATER SHED, 1951 were used as hydrographic signals. Signals Gal, Sno, Boy and Hut were located by sextant cuts from the launch using the established triangulation stations mentioned above.

3. Shoran hydrography was accomplished using stations SHO-MAST, SHO-FAIR, SHO-DAR, and ship station SHO-BOAT. The ship's position was determined periodically when station SHO-BOAT was used, as mentioned in section F.

4. In plotting launch positions involving SHO-BOAT, an acetate overlay was employed on which shoran arcs were enscribed to the same scale as those appearing on the boat and smooth sheets. When the ship's position was established by one of the two methods described in Section F, the center of the concentric shoran arcs on the acetate overlay was placed directly over the plotted ship's position. The overlay was periodically shifted to correspond with each change in the ship's position. This procedure was repeated for each day in which SHO-BOAT was used.

5. Other shoran corrections abstracted in this report are discussed in "Shoran Corrections Descriptive Report, 1954". *filed with H-8119 (1954)*

J. Adequacy of Survey

1. 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.

2. Satisfactory junctions are made with adjoining surveys and depth curves can be adequately drawn at the junctions.

K. Crosslines

1. Approximately 6% of the hydrography is crosslines. Crossings were satisfactory and no systematic discrepancy was noted. The difference between soundings at crossings was generally less than 4% of the depth.

L. Comparison with Prior Survey

1. A comparison with H-7948 (1951), scale 1:40,000 showed good agreement. The soundings compared were 10 fathoms or more and agree within one fathom. *Sdgs. revised-junctions now satisfactory.*

Soundings compared in the shoal area between Latitudes 57°-10'N and 57°-11.3' and Longitudes 170°-37.6'W and 170°-39.8' showed varied displacement. This survey should supersede all prior surveys. *H-8120 supersedes H-7948 (1951) in area noted*

2. A comparison with H-8076 (1953), scale 1:10,000 and 1:20,000 showed very good agreement. Soundings range from 0.8 to 16 fathoms and

agree within less than one fathom.

Revised during work + review of H-7948 to 33 fms.

3. A comparison with H-8073 (1953), scale 1:40,000 showed close agreement of soundings. Soundings compared are from 20 to 32 fathoms and agree within one fathom except a 30 fathom sounding (Latitude 57°-10.1', Longitude 170°-29.55') which falls on a 33 fathom sounding. The existance of a submerged rock (Latitude 57°-09.95', Longitude 170°-28.5') marked "existance doubtful" on chart 8994 was disproved by this survey. The submerged rock should be deleted from future charts.

See TP & M-9 below

4. A comparison with H-8075 (1953), scale 1:20,000 showed good agreement with the exception of three soundings, all under 6 fathoms, which differ approximately one fathom from soundings of this survey. This difference could be caused by a small displacement of the compared soundings since the bottom is slightly irregular in that area. Adjustment made to shoran distances. See 4.7 of Review

Junction depth 3 satisfactory

5. A comparison with H-8072 (1953), scale 1:80,000 showed good agreement except four soundings in an area between Latitudes 57°-15.25 and 57°-15.4' and Longitudes 170°-22.4' and 170°-24.4'. The soundings from H-8072 are from 3 to 4 fathoms deeper than those from this survey. This survey should supersede all prior surveys.

Sdgs. on smooth sheet agree within 1 fm.

M. Comparison with Chart

A comparison with chart 8994, scale 1:50,000, print date, March 1953 showed good agreement with the following exceptions.

TP6 Review

1. At Latitude 57°-08.5', Longitude 170°-20.6' a charted 11 fathoms falls on a 7.8 fathom sounding from this survey.

2. At Latitude 57°-09.1', Longitude 170°-25.7' a charted 24 fathoms falls on a 13 fathom sounding from this survey.

3. At Latitude 57°-09.95', Longitude 170°-25.1' a charted 10 fathoms falls between soundings of 8.6 and ~~6.1~~ 9.4 fathoms from this survey.

4. At Latitude 57°-11.4', Longitude 170°-25.2' a charted 18 fathoms falls on a ~~6.9~~ 3.5-4.2 fathom sounding from this survey.

5. At Latitude 57°-11.5', Longitude 170°-26.3' a charted 27 fathoms falls between soundings of 16 and 22 fathoms.

6. At 57°-11.8', Longitude 170°-25.5' a charted 26 fathoms falls on a 15 fathom sounding from this survey.

7. At Latitude 57°-12.05', Longitude 170°-24.7' a charted 10 fathoms falls on a 4.7 fathom sounding from this survey.

8. At Latitude 57°-12.7', Longitude 170°-22.1' a charted 7 fathoms falls on a 4.6 fathom sounding from this survey.

9. The submerged rock mentioned in Section "L", part 3 is located on

See TP L-3 above.

this chart at Latitude 57°-09.95', Longitude 170°-28.5'. It should be deleted from future charts of this area, being disproved by this survey.

10. Charted soundings in the area of the shoal (Latitude 57°-10' to 57°-11.3', Longitude 170°-37.6' to 170°-39.8') show a slight displacement. Present depths supersede

In the above differences, soundings from this survey should supersede all charted soundings.

N. Dangers and Shoals

1. A least depth of 2.1 fathoms was found at Latitude 57°-10.55'N, Longitude 170°-38.80'W on position 145,g (red). The limits of this shoal are adequately defined.

2. A least depth of 2.9 fathoms was found at Latitude 57°-10.60'N, Longitude 170°-38.60'W between positions 150 and 151, d (blue). The limits of this shoal are adequately defined.

3. A least depth of 2.5 fathoms was found at Latitude 57°-10.66'N, Longitude 170°-38.40'W on position 157,d (blue). The limits of this shoal are adequately defined.

4. A least depth of 0.7 fathom was found at Latitude 57°-09.67'N, Longitide 170°-25.47'W between positions 99 and 100,d (red). The limits of this shoal are adequately defined.

5. A least depth of 2.0 fathoms was found at Latitude 57°-11.16'N, Longitude 170°-25.20'W between positions 98 and 99,e (red). (59-60e red)

6. A least depth of 3.4 fathoms was found at Latitude 57°-11.17'N, Longitude 170°-25.36'W between positions 75 and 76,e (red).

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. Tabulation of Applicable Data

1.	Fathometer Correction Descriptive Report	19 Oct 1954 Sp. Rep 91
2.	Shoran Corrections Descriptive Report	13 Oct 1954
3.	Coast Pilot Notes	23 Oct 1954
4.	Triangulation Records, St. Paul Island	12 Oct 1954
5.	Current Observation Records, St. Paul Island	17 Jun and 1 Jul 1954
6.	Tide Observation Records, St. Paul Island	2 Jul 1954
7.	Landmarks for charts	8 Oct 1954

Respectfully submitted,

Edward R. Stone

E. R. STONE
Ensign, USC&GS

Approved and Forwarded:

K. G. Crosby

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

STATISTICS FOR HYDROGRAPHIC SURVEY H-8120

Field No. PF-2254

Ship PATHFINDER CS-343

VOL NO.	VESSEL	DAY	JUNE	NO. HL. SDGS	POS	STAT. MI.
1	Ln#1&2	a(Red)	9	0	135	31.0
2	Ln#1	b,c (Red)	11,14	0	176	38.5
3	Ln#1	c(Red)	14	0	154	37.7
4	Ln#1	d(Red)	16	0	130	26.8
5	Ln#1	e(Red)	26	0	148	36.8
6	Ln#1	f(Red)	27	0	195	43.0
7	Ln#1	f,g(Red)	27,28	2	181	34.9
8	Ln#2	a,b(Blue)	16,26	0	172	38.8
9	Ln#2	b,c,d(Blue)	26,27,28	0	233	38.9
10	Ln#2	d(Blue)	28	0	115	14.5
11	Ln#4	a,b(Purple)	27,28	0	163	38.5
12	PATHFINDER	A,B (red)	9,19	0	120	48.9
13	PATHFINDER	B	19	0	117	56.3
14	PATHFINDER	B,C	19,21	0	118	48.8
15	PATHFINDER	C	21	0	32	12.3
		Total		2	2189	545.7

Total Sq. Stat. Mi. - 41.0

ABSTRACT OF HYDROGRAPHIC SIGNALS

HYDROGRAPHIC SURVEY H-8120 (PF-2254)

SHIP PATHFINDER CS343

1954

Name Used in Hydrographic Survey	Origin of Station
SHO-MAST	RAN, 1951
SHO-FAIR	FAIR, 1951
SHO-DAR	DARBY, 1951
SHO-BOAT	SHIP PATHFINDER
ZAP	ZAPADNIE, 1897, R-1951
STACK	VILLAGE COVE STACK, 1951
SHED	ST. PAUL VILLAGE WATER SHED, 1951
RAN	RAN, 1951
Gal	Hydorgraphic Station
Sno	Hydrographic Station
Boy	Hydrographic Station
Hut	Hydrographic Station
Del	Topographic Station on Otter Island

TIDE NOTE

Hydrographic Survey H-8120 (PF-2254)

Ship PATHFINDER, CS 343

1954

Records from the portable automatic tide gage installed in Village Cove, St. Paul Island, at Latitude 57°-07.5'N and Longitude 170°-16.7'W were used for obtaining data for tide reducers.

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-8120 (PF 2254)

SHIP PATHFINDER, CS 343

1954

BERING SEA
ST. PAUL ISLAND
NORTH POINT
SOUTHWEST POINT
TOLSTOI POINT
ZAPADNI POINT
VILLAGE COVE
ENGLISH BAY
LINCOLN HIGHT

ECHO CORRECTIONS

HYDROGRAPHIC SURVEY H-8120 (PF 2254)

SHIP PATHFINDER

1954

Vessel	Fath. No.	Corr. (fms)
SHIP PATHFINDER	130-S	∔0.1
Ln #1	61	∔0.1
Ln #2	74 S	0.0
Ln #4	46	∔0.1

LAUNCH NO. 1 - PF 2254

SHORAN CORRECTIONS

DAY	DATE	BOAT	FAIR	DAR	MAST	
	9 JUNE	VISUAL				
	11 JUNE	+0.017	+0.009			
	14 JUNE	+0.015	+0.004		+0.006	
	16 JUNE		+0.004		+0.005	
	26 JUNE	+0.003			+0.005	
	27 JUNE	+0.013		+0.006		
	(28 JUNE	+0.008		+0.009	)	Pos. 1-41 ONLY
	(			+0.012	-0.004)	Pos. 42-END ONLY

LAUNCH NO. 2 - PF 2254

16 JUNE		+0.010		+0.001
26 JUNE	+0.007			-0.001
27 JUNE	+0.008		+0.011	-0.001
28 JUNE	+0.009		+0.013	+0.004

LAUNCH NO. 4 - PF 2254

27 JUNE	+0.026	+0.025	
28 JUNE	+0.027	+0.025	

PATHFINDER - PF 2254

9 JUNE	+0.010		+0.007
19 JUNE		+0.011	+0.001
21 JUNE		+0.007	+0.002

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

DATE	TIME	RANGE FINDER DISTANCE FROM STA. DEL	HEARING 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	

SHIP SHORAN STATION SHO-BOAT 2, ST. PAUL ISLAND, ALASKA

26 JUNE

TIME	ZERO CHECK		POSITION OF ANTENNA				REMARKS
			SHO-DAR		SHO-MAST		
	SHO-DAR	SHO-MAST	Read.	Corr.	Read.	Corr.	
0830	99.771	99.780	4.270	4.303	1.235	1.248	
0900	.775	.779	4.220	4.253	1.250	1.263	
0930	.770	.780	4.235	4.268	1.249	1.262	
1000	.768	.781	4.225	4.258	1.248	1.261	
1030	.776	.777	4.227	4.260	1.240	1.253	
1100	.770	.780	4.210	4.243	1.236	1.249	
1130	.770	.781	4.210	4.243	1.234	1.247	
1200	.770	.779	4.205	4.238	1.220	1.233	
1230	.770	.780	4.213	4.246	1.225	1.238	
1300	.768	.775	4.214	4.247	1.224	1.237	
1330	.771	.777	4.245	4.278	1.202	1.215	Ship swinging N thru W Steady at 1345
1400	.772	.776	4.278	4.311	1.240	1.253	
1430	.773	.780	4.275	4.308	1.225	1.238	
1500	.770	.780	4.273	4.306	1.230	1.243	
1530	.768	.780	4.290	4.323	1.238	1.251	
1600	.768	.772	4.292	4.325	1.230	1.243	
1630	.775	.777	4.295	4.328	1.227	1.240	
1650	.770	.775	4.290	4.323	1.228	1.241	
Mean	99.771	99.778					
Corr.	+0.033	+0.013					

SHIP SHORAN STATION SHO-BOAT 3, ST. PAUL ISLAND, ALASKA

27 JUNE

TIME	ZERO CHECK		POSITION OF ANTENNA				REMARKS
			SHO-DAR		SHO-MAST		
	SHO-DAR	SHO-MAST	Read.	Corr.	Read.	Corr.	
0840	99.767	99.773	3.665	3.699	5.970	5.988	
0900	.771	.772	3.632	3.666	5.939	5.957	
0930	.771	.773	3.627	3.661	5.942	~~5.960~~ 6.000	corr. value for Plotting 9:30 thru 10:30 - 6.000
1000	.770	.772	3.630	3.664	5.950	~~5.968~~ 5.998	- 5.998 effective displacement .04 mile
1030	.771	.775	3.668	3.702	6.015	6.033	
1100	.771	.773	3.694	3.728	6.033	6.051	
1130	.768	.774	3.714	3.748	6.065	6.083	
1200	.770	.773	3.733	3.767	6.069	6.087	
1230	.770	.773	3.728	3.762	6.085	6.103	
1300	.771	.772	3.723	3.757	6.079	6.097	
1330	.768	.773	3.735	3.769	6.088	6.106	
1400	.768	.775	3.730	3.764	6.080	6.098	
1430	.770	.773	3.734	3.768	6.087	6.105	
1500	.770	.772	3.735	3.769	6.087	6.105	
1530	.770	(.780)R	3.725	3.759	6.081	6.099	
1600	.768	.775	3.720	3.754	6.075	6.093	
1630	.771	.775	3.700	3.734	6.055	6.073	
1700	.770	.773	3.685	3.719	6.040	6.058	
1730	.770	.773	3.680	3.714	6.029	6.047	
Mean	99.770	99.773					
Corr.	+0.034	+0.018					

SHIP SHORAN STATION SHO-BOAT 4, ST. PAUL ISLAND, ALASKA

28 JUNE

TIME	ZERO CHECK		POSITION OF ANTENNA				REMARKS
			SHO-DAR		SHO-MAST		
	SHO-DAR	SHO-MAST	Read.	Corr.	Read.	Corr.	
0835	99.770	99.773	2.025	2.059	3.909	3.927	Ship swinging
0845	.771	.772	2.010	2.044	3.869	3.887	
0900	.770	.772	1.972	2.006	3.860	3.878	
0930	.770	.773	1.980	2.014	3.879	3.897	
1000	.770	.772	1.995	2.029	3.913	3.931	
1030	.771	.771	2.005	2.039	3.925	3.943	
1100	.770	.776	2.001	2.035	3.960	3.978	
Mean	99.770	99.773					
Corr.	+0.034	+0.018					

APPROVAL SHEET

HYDROGRAPHIC SURVEY H-8120

ST. PAUL ISLAND

1954

This survey was inspected daily while hydrography was in progress. The smooth sheet was inspected at frequent intervals during the time positions were being plotted and while the soundings were being pencilled. A final inspection was made 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. CROSBY
Captain, USC&GS
Comdg. Ship PATHFINDER

GEOGRAPHIC NAMES

Survey No. H-8120

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										1
Bering Sea									BGN	2
St. Paul Island										3
North Point										4
Lincoln ~~Bay~~ Bight										5
Southwest Point										6
Zapadni Point		(not Zapadnie)								7
English Bay										8
Tolstoi Point										9
Village Cove										10
										11
					Names approved 2-18-55					12
					L. Heck. L.H					13
										14
										15
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										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-8120

Records accompanying survey:

Boat sheets 3; sounding vols. 15; wire drag vols. .....;

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

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		2189
Number of positions checked		143
Number of positions revised		81
Number of soundings revised (refers to depth only)		233
Number of soundings erroneously spaced		—
Number of signals erroneously plotted or transferred		—
Topographic details	Time	7
Junctions	Time	23 hrs
Verification of soundings from graphic record	Time	22 hrs

Verification by Ernest F. Horne Total time 247 hrs. Date 1/11/56

Reviewed by [signature] Time 35 Date 5/21/56

M-2232-1

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. Apr. 1950

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys:~~ 23 February 1955

Division of Charts: R. H. Carstens:

Plane of reference approved in
15 volumes of sounding records for

HYDROGRAPHIC SHEET 8120

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
Tides Branch

Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 877933

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8120 FIELD NO. PF-2254

Alaska, Pribilof Island, St. Paul Island

Project No. CS-343

Surveyed - March, 1951 and December, 1953 Scale 1:20,000

Soundings:

808 Fathometer

Control:

Shoran
Sextant fixes on shore signals

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 - E. R. Stone
Soundings plotted by - E. R. Stone
Verified and inked by - E. E. Thomas
Reviewed by - I. M. Zeskind 5-21-56
Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline was applied in pencil from topographic survey T-2295 A (1897), principally to serve as a guide in the verification of inshore hydrography. There are no contemporary air-photographic surveys of St. Paul Island.

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

2. Sounding Line Crossings

The sounding line crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The small range of tide and the foul character of the bottom in several inshore areas limited the extent of the inshore sounding and as a result practically all of the low-water curve and some stretches of the 1-, 2-, and 3-fm. curves were not defined.

The bottom is very irregular in depths less than 10 fms., fairly irregular in depths between 10 and 20 fms, and generally smooth in greater depths.

4. Junctions with Contemporary Surveys

A. West of St. Paul Island

Adequate junctions were effected with H-8072 (1952) on the northwest, with H-7948 (1951-53) on the west, south, and northeast, with H-8119 (1954) and H-8076 (1954) on the southeast, with H-8075 (1953) on the northeast, and with H-8073 (1954) on the north.

B. Shoal in the vicinity of lat. 57°10.5', long. 170°39.0'

The shoal previously surveyed on H-7948 was developed on the present survey. The present survey should be used for charting because of the closer development and more accurate control on the present survey. A butt junction has been made with H-7948 in this area. Adjoining soundings from H-8072 (1953) have been transferred to the present survey.

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)

A. Hydrography - West of St. Paul Island

The charted hydrography originates with boat sheets of the present survey (Bps. 51685, 51686 and 51687), with one sounding from the present survey before verification and review, and with unchecked soundings from an unidentified source applied to chart 8996 in 1923. Only minor differences of as much as one fathom are noted between the charted depths applied from the boat sheets of the present survey and depths of the present survey after verification and review. Differences in depths of as much as 3 fms are noted between the depths charted from an unidentified source applied to chart 8996 in 1923, except in several instances where the differences are greater, as for example, in lat. 57°12.02', long. 170°24.70', where a charted depth of 10 fms. falls in present depths of 4.7 fms.

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

Shoal in the vicinity of lat. 57°10.5', long. 170°39.0'

The charted hydrography originates with H-7948 (1951-52-53) prior to verification and review. Only minor differences

of as much as 1 fm. 1 ft. between the charted and present depths are noted. Attention, however, is directed to the charted 2 fms. 1 ft. sounding in lat. 17°10.65', long. 170° 38.70', which falls in present depths of 3.2 fms. The charted sounding is believed to be out of position and should actually fall about 200 meters south southwestward where a present depth of 2.1 fms. is found.

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 limits of the present survey.

7. Condition of Survey

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

(b) In the inshore area in the northeast portion of the survey the position of depth curves differed with those shown on survey H-8075 by as much as 120 meters. Estimated distances to shore also revealed errors in the positions of the inshore ends of lines on the present survey. A correction of -0.04 mile was applied to 43 shoran distances from station DAR in order to reconcile the discrepancies.

(c) Fathometer speed corrections as great as 8% were applied to 170 soundings of Launch No. 1.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

The survey is considered basic and no additional field work is recommended.

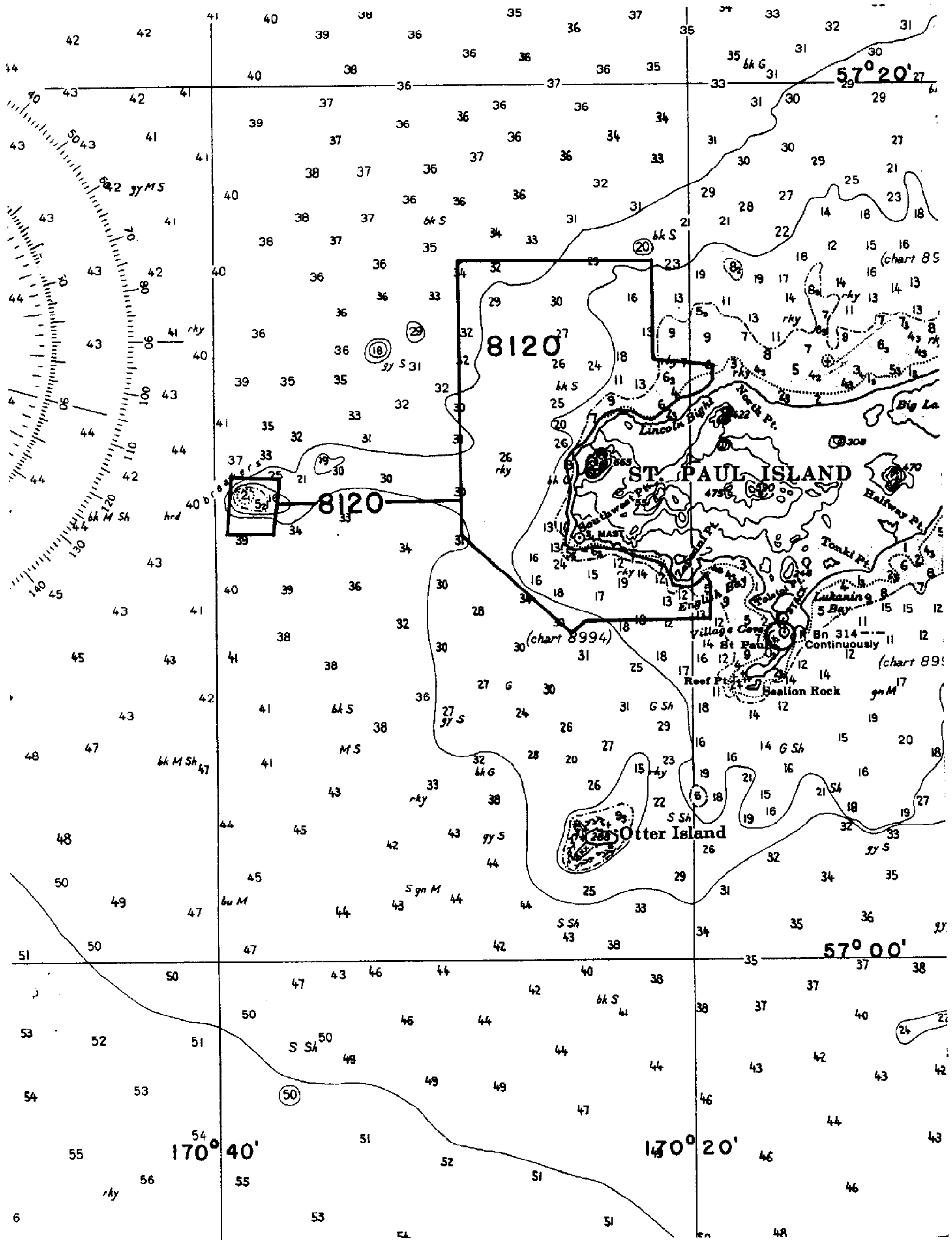
Examined and Approved:

H. R. Edmonston
Chief, Nautical Chart Branch

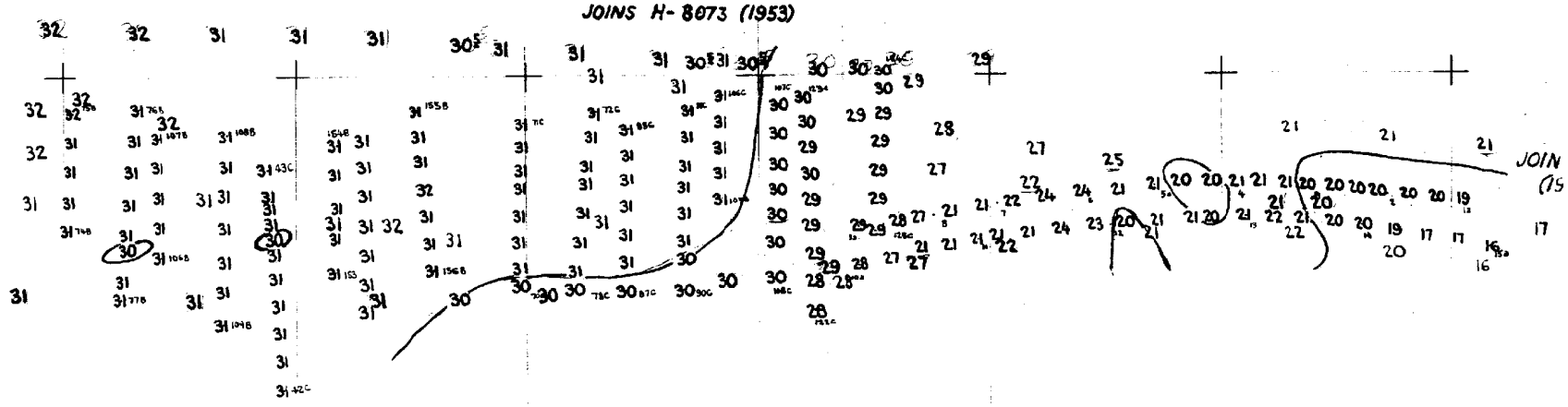
Charles A. Schanck
Acting Chief, Chart Division

J. C. Bull
Chief, Hydrography Branch

S. B. Grennell
~~Earl O. Heaton~~
Chief, Division of Coastal Surveys



ST. PAUL ISLAND
Otter Island
8120
8120
57°20'
57°00'
170°40'
170°20'
(chart 8994)
Lincoln Bight
North Pt.
English Bay
Village Cove
St Paul
Reef Pt.
Sealion Rock
Bn 314
Continuously
Lukanin Bay
Tonki Pt.
Halfway Pt.
breakers



soundings shown here originate with H-8120
but plotted on "dog-ears". Soundings are replotted on adjoining sheets in junctional color.

15' 28' 27' 26' 170° 25' 24' 23' 22' 57° 15'

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8120

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
3/25/55	8802	BJE	Before ~~After~~ Verification and Review
3-22-57	8994	R. K. [illegible]	~~Before~~ After Verification and Review Complete [illegible]
3-27-57	8995	"	~~Before~~ After Verification and Review " [illegible]
10 Jan 61	8802	[illegible]	~~Before~~ After Verification and Review Thru 8995
"	9302	"	~~Before~~ After Verification and Review Thru 8802
11 Feb 61	9000	[illegible]	~~Before~~ After Verification and Review Thru 9302 [illegible]
			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.