

8073

8073

Diag Cht. No. 8802-3

CS-343

Form 504	
U. S. COAST AND GEODETIC SURVEY	
DEPARTMENT OF COMMERCE	
DESCRIPTIVE REPORT	
Type of Survey	HYDROGRAPHIC
Field No.	PF-4253
Office No.	H-8073
LOCALITY	
State	Alaska
General locality	Pribilof Islands
Locality	St. Paul Island
1953	
CHIEF OF PARTY	
K. G. CROSBY	
LIBRARY & ARCHIVES	
DATE	JAN 13 1954

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-8073

Field No. PF-4253

State Alaska

General locality Pribilof Islands - Bering Sea

Locality St. Paul Island

Scale 1:40,000 Date of survey 24 July thru 1 Aug 1953

Instructions dated 6 March 1951; 21 March 1952; 2 March 1953; 7 Apr 1953

Vessel Ship PATHFINDER

Chief of party Captain K. G. Crosby

Surveyed by Commander M. E. Wennermark - Commander W. F. Deane

Soundings taken by fathometer, graphic recorder, ~~and other means~~

Fathograms ~~made~~ ^{read} by G. Bright - D. Perry, S.O.

Fathograms checked by Ensign L. C. Larson - Ensign W. F. Glover

Protracted by Ensign R. C. Munson

Soundings penciled by Ensign R. C. Munson

Soundings in fathoms ~~XXXX~~ at ~~XXXX~~ MLLW ^{and are based on a velocity} _{of sound of 800 fms. per sec.}

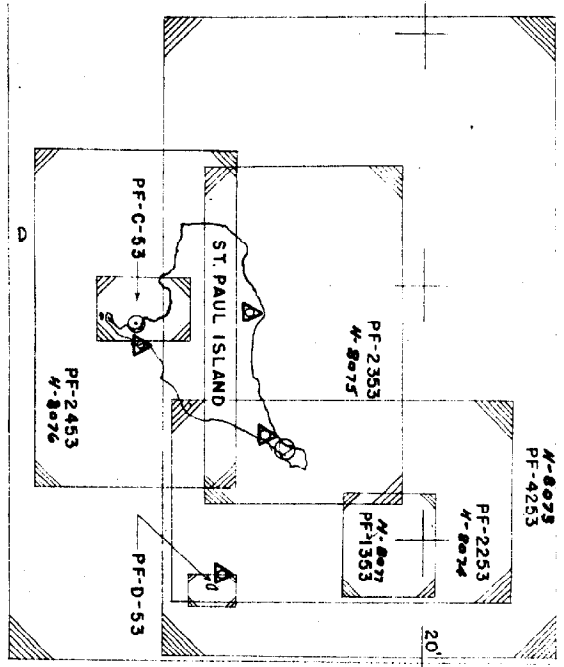
REMARKS: _____

786

210' 170° 00' 40' 20' 170° 00'

PF-8153
M-8072

SHIP PATHFINDER
1953 SHEET LAYOUT SKETCH
PRIBILOF ISLANDS, ALASKA
PROJECT GS-343
K.G. CROSBY, COMDG.
SCALE 1:400,000
LEGEND: SHORAN STATION
 E.P.I. STATION
 TIDE GAGE



57° 00' 210' 170° 00' 40' 20' 170° 00' 57° 00'

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SURVEY H-8073 (PF-4253)

ST. PAUL ISLAND, PRIBILOF ISLANDS

ALASKA

SCALE: 1:40,000

1953

USC&GSS PATHFINDER

K. G. CROSBY, Comdg.

M. E. WENNERMARK)

W. F. DEANE)

HYDROGRAPHERS

A. PROJECT

1. Project CS-343, Bering Sea, Alaska
2. Instructions 22/MEK, dated 6 March 1951
3. Supplemental Instructions 22/MEK, dated 21 March 1952
4. Supplemental Instructions 22/MEK, dated 2 March 1953
5. Supplemental Instructions 22/MEK, dated 7 April 1953

B. SURVEY LIMITS AND DATES

1. Paragraph 26 of Supplemental Instructions, Project CS-343, dated 21 March 1952 specifies complete offshore and coastal hydrographic coverage within the limits of Chart 8995 Pribilof Islands. Survey H-8073 is designated for offshore coverage of that part of the project between latitudes 57°16' and 57°24' and longitudes 169°52' and 170°40'.

2. Field work was done between the inclusive dates 24 July and 1 August 1953.

3. This survey is joined on the north, west and south-west by survey H-8072 (PF-8153), scale 1:100,000; on the south by survey H-7948 (1951) scale 1:40,000 and survey H-8075 (1953) (PF-2353), scale 1:20,000; and at the southeast corner by survey H-8077 (PF-1353) scale 1:10,000 and survey H-8074 (PF-2253) (1953) scale 1:20,000 (see attached sheet index). The area at the east limit, longitude 169°52'W, between latitudes 57°20'N and 57°24'N is still unsurveyed as is the area along the south limit between longitudes 170°21'W and 170°29'W. The portion of the area covered by this survey between latitude 57°-15 to

Sec 4
of Re-
view

57°-19 and between longitudes 170°-10' to 170°-30' was previously surveyed as indicated on survey H7948(PF4151). The spacing of the sounding lines on this latter survey was considered to be too great. Consequently during the 1953 survey, split lines and cross lines were run throughout the area to provide better coverage.

C. VESSEL AND EQUIPMENT

1. The sounding was done by the USC&GSS PATHFINDER at standard speed except at the times during the period of bathothermograph observations, when the speed was reduced to 2/3 speed. The turning radius of the vessel at standard speed is estimated to be 300 meters.

2. The echo-sounding equipment used for depth measurements was 808 Fathometer No. 130S.

D. TIDE AND CURRENT STATIONS

1. A Portable Automatic Tide Gage was maintained at Village Cove, St. Paul Island during the entire period of field work.

2. Tidal data from this gage was used for reduction of soundings without application of corrections for time and range differences.

3. No current stations were occupied in this area.

E. SMOOTH SHEET

1. The Smooth Sheet was constructed at the Seattle Processing Office by conventional hand methods. The scale and area covered are the same as for the Boat Sheet.

2. The arcs from stations SHO-NOR and SHO-NUF were constructed by swinging circles from the plotted geographic position of each respective station's transmitting antenna.

3. All circles have been constructed to represent distances in statute miles.

F. CONTROL STATIONS

1. The two above mentioned Shoran Stations were the only control stations used on this survey.

2. Stations SHO-NOR and SHO-NUF were located by conventional third order triangulation methods from the existing St.

Paul triangulation by the personnel of Ship PATHFINDER during the 1953 field season.

G. SHORELINE AND TOPOGRAPHY

Shoreline and topographic details have been omitted in accordance with Section 751(c) of the Hydrographic Manual.

There are no Contemporary Topo Surveys of this Area; See H-7948

H. SOUNDINGS

1. Depths were measured with the echo-sounding equipment listed in "C". Complete and legible fathograms exist for all periods of sounding.

2. Velocity corrections were not applied. (Reference: Director's letter 21/MEK, S-1-PF, Subject "Fathometer Correction, Alaska," 21 June 1951).

3. For a detailed description of the methods used in determining the fathometer corrections see special report. "FATHOMETER DESCRIPTIVE REPORT - 1953" (SHIP PATHFINDER). The following is a table of the fathometer corrections.

Filed with USCG records

808 FATHOMETER CORRECTIONS - FATH. NO. 130-S

SHEET	DATE DAY	POS. NO.	TIME	SETTLE- MENT & SQUAT	DRAFT CORR.	INDEX & PHASE CORR			TOTAL CORR (FATH)
						A	B	C	
4253	24 July A	1-39	0816-1106	+0.15	+0.47	+0.12			+0.7
		40	110630-111030	+0.10	.47	+0.12			
		41-63	111100-130100	+0.15	.47	+0.12			
		63	130130-130630	+0.10	.47	+0.12			
		64-88	130700-150600	+0.15	.47	+0.12			
		88	150630-151030	+0.10	.47	+0.12			
		89-113	151100-end	+0.15	.47	+0.12			
	25 July B	1-14	081400-091600	+0.15	+0.46	+0.12			+0.7
		14-15	091630-092100	+0.10	+0.46	+0.12			
		15-67	092130-131400	+0.15	+0.46	+0.12			
		68	131430-131930	+0.10	+0.46	+0.12			
		68-end	132000-end	+0.15	+0.46	+0.12			
	26 July C	1-end	081600-end	+0.15	+0.45	+0.12			+0.7
	29 July D	1-end	082500-end	+0.15	+0.47	+0.12			+0.7
	30 July E	1-end	082200-end	+0.15	+0.48	+0.12			+0.8
	1 Aug F	1-end	083500-end	+0.15	+0.45	+0.12			+0.7

I. CONTROL OF HYDROGRAPHY

1. All hydrography was controlled by Shoran distances.

2. Observed electronic distances were corrected by values derived from calibrations of the equipment used during the progress of the hydrography. For detailed information concerning the computation of the Shoran corrections, see special report "EPI AND SHORAN DESCRIPTIVE REPORT - 1953" (SHIP PATHFINDER). *Filed with fathograms.*

J. ADEQUACY OF SURVEY

1. This survey is complete within itself and is adequate to supersede prior surveys for charting. (see second sentence in paragraph B-3).

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

K. CROSSLINES

12% of the sounding lines in this survey are crosslines. The crossings are excellent with a maximum discrepancy of 0.3% of the depth.

L. COMPARISON WITH PRIOR SURVEYS

Survey H-7948, (PF-4151), 1951, scale 1:40,000 is the only prior survey in this area. In general, this survey is in close agreement with the prior survey. *overlapping depths in adequate agreement*

M. COMPARISON WITH CHART

1. This survey was compared with Chart 8994, 1st Edition, printed 53-3/9, and found to be in generally good agreement. The following two discrepancies are noted.

a. The charted 18 fathom sounding at latitude 57°20'7N, longitude 170°00'3W was disproven. This sounding is from a trackline of the USC&GS ITASCA (1939-1940), probably not too well controlled. The more probable location of this sounding is one mile southeast of the charted position. *2.5 mi*

b. The 10 fathom sounding at latitude 57°17'3N, longitude 170°06' was also disproven. Development of this area was done on sheet H-8075(PF-2353) scale 1:10,000. *(These sdgs. have been deleted from Chart 8994 dated 6-21-54)*

N. DANGERS AND SHOALS

No dangers or shoals were found by the survey.

O. COAST PILOT INFORMATION

There is no Coast Pilot information in the survey. Information of this nature in the area of St. Paul Island is in special report, "COAST PILOT NOTES" - 1953 (SHIP PATHFINDER).

P. AIDS TO NAVIGATION

No aids to navigation are regularly maintained within the limits of this survey.

Q. TABULATION OF APPLICABLE DATA

Smooth Sheet
Fathograms
EPI and Shoran Descriptive Report 1953 *(with fathograms) H-8073*
Fathometer Descriptive Report 1953 *(with fgm.s.)*
Bathythermograph observations 1953
Triangulation Report 1953
Tidal Data, Portable Automatic Tide Gage, Village Cove,
St. Paul Island, Alaska.

Respectfully submitted,

Robert C. Munson

ROBERT C. MUNSON
ENS USC&GS

Approved and Forwarded:

K. G. Crosby

K. G. CROSBY
C.O., Ship PATHFINDER

STATISTICS FOR HYDROGRAPHIC SURVEY H-8073 (1953)

(Field No. PF-4253)

PATHFINDER

PROJECT NO. CS-343

VOL. NO.	DAY LTR	DATE	H.L. WIRE	POSITIONS	STATUTE MILES
I	A	24 July 1953	0	112	109.9
I & II	B	25 July 1953	0	122	119.1
II & III	C	26 July 1953	0	140	123.4
III & IV	D	29 July 1953	0	178	163.8
IV & V	E	30 July 1953	0	203	173.5
V & VI	F	1 Aug. 1953	0	100	80.0
TOTAL			0	855	769.7

AREA: 108 Square Statute Miles

TIDE NOTE

HYDROGRAPHIC SURVEY H-8073 (PF-4253)

1. Records from the Portable Automatic Tide Gage maintained at Village Cove, St. Paul Island, Alaska, Latitude $57^{\circ}-07'5N.$, Longitude $170^{\circ}-16'5W.$, during the period of the field work were used for the reduction of soundings for tide.

2. 3.4 feet on the staff corresponds to MLLW in 1953.


3. Hourly heights for the reduction of soundings were scaled from the marigrams in the field.

4. Tidal Data from this gage was used for the entire area of the survey without application of corrections for time or height differences.

APPROVAL SHEET

During the accomplishment of this survey the Chief of Party inspected the work hourly while hydrography was in progress. The smooth sheet has been field reviewed and the record books examined for completeness.

Additional work is necessary in the unsurveyed areas contiguous to the indicated hydrography. In the area where hydrography has been accomplished the survey is considered adequate and complete. The survey is approved.


K. G. CROSBY
C.O., Ship PATHFINDER

GEOGRAPHIC NAMES

Survey No. H-8073

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

Names approved
1-17-54
L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-8073...

Records accompanying survey:

Boat sheets ..1...; sounding vols. ...6...; wire drag vols.;
bomb vols.; graphic recorder rolls 2. Eov;
special reports, etc. 1 Smooth Sheet; 1 Descriptive Report; 1 Cahier - 35 Sheets
Plotting Abstracts; 1 Cahier - "Shoran & E.P.I. Corrections; 1 Cahier - Fathometer
Report;.....

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

Number of positions on sheet	..215..
Number of positions checked	..4..
Number of positions revised	...0...
Number of soundings revised (refers to depth only)	...23 (minor)...
Number of soundings erroneously spaced
Number of signals erroneously plotted or transferred
Topographic details	Time ..None.
Junctions	Time ..7 hrs.
Verification of soundings from graphic record	Time ..1 hr.

Verification* by *Edward E. Thomas*.....Total time ..30 hrs Date Jan 17, 1955

Reviewed by *W. J. Jeske*.....Time ..30 Date 3-4-55

* THIS SURVEY WAS INKED PER INSTRUCTIONS, WHEREAS CROSSINGS OF ADJACENT HYDRO^{GRAPHIC} WERE IN AGREEMENT,
INKED BY INSPECTION, DISCREPANCIES NOTED BY INSPECTION WERE VERIFIED.

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~DIVISION OF COASTAL SURVEYS~~

22 January 1954

Division of Charts: R. H. Carstens

Plane of reference approved in 6
volumes of sounding records for

HYDROGRAPHIC SHEET 8073

Locality St. Paul Island, Pribilof Islands, Alaska

Chief of Party: K. G. Crosby in 1953

Plane of reference is mean lower low water, reading
3.1 ft. on tide staff at Village Cove, St. Paul Island
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
Section of Tides

Chief, Division of Tides and Currents.

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

REGISTRY NO. H-8073

FIELD NO. PF-4253

Alaska, Pribilof Islands, St. Paul Island

Project CS-343

Surveyed - July, August, 1953

Scale 1:40,000

Soundings:

Control:

808 Fathometer

Shoran

Chief of Party - K. G. Crosby
Surveyed by - M. E. Wennermark and W. F. Deane
Protracted by - R. C. Munson
Soundings plotted by - R. C. Munson
Verified and inked by - E. E. Thomas
Reviewed by - I. M. Zeskind 3-2-55
Inspected by - R. H. Carstens

1. Shoreline and Control

There are no contemporary topographic surveys showing shoreline in this area.

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.

The bottom is generally smooth, except north and west of Northeast Point where slight irregularity is noted in depths less than 20 fms.

4. Junctions with Contemporary Surveys

The present survey overlaps H-7948 (1951-52-53) south of lat. 57°20'. Depths on H-7948 in the overlapping area are

H-8073 (1953)

in adequate agreement with the present survey depths. An adequate junction was effected with H-8075 (1953) on the south in the vicinity of Northeast Point, St. Paul Island. Only preliminary verifications of H-8072 (1953) on the north, west and south, and H-8074 (1953) and H-8077 (1953) on the southeast have been accomplished. Depths on these surveys in the junctional areas are in adequate agreement with present survey depths. Junctional depths will be transferred when the verification of these surveys has been completed. The junction with H-8120 (1954) on the southwest will be considered in the review of that survey. The project survey on the east has not yet been received in the Washington Office.

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 (Corrected Jan. 10, 1955) Chart 8995 (Latest print date 6-14-54)

A. Hydrography

The charted hydrography originates principally with the present survey prior to verification and review, with H-8075 (1953) and H-7948 (1951-52-53) prior to verification and review, and with several critical soundings from advance information of H-8075 and H-7948. Only minor discrepancies of 1-2 fms. between the charted and project survey depths are noted.

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. The smooth plotting was accurately done.

8. Compliance with Project Instructions

The present survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

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

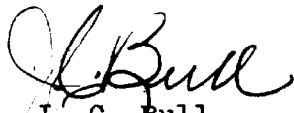
Examined and Approved:



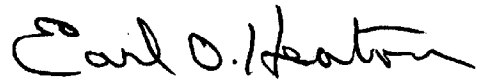
H. R. Edmonston
Chief, Nautical Chart Branch



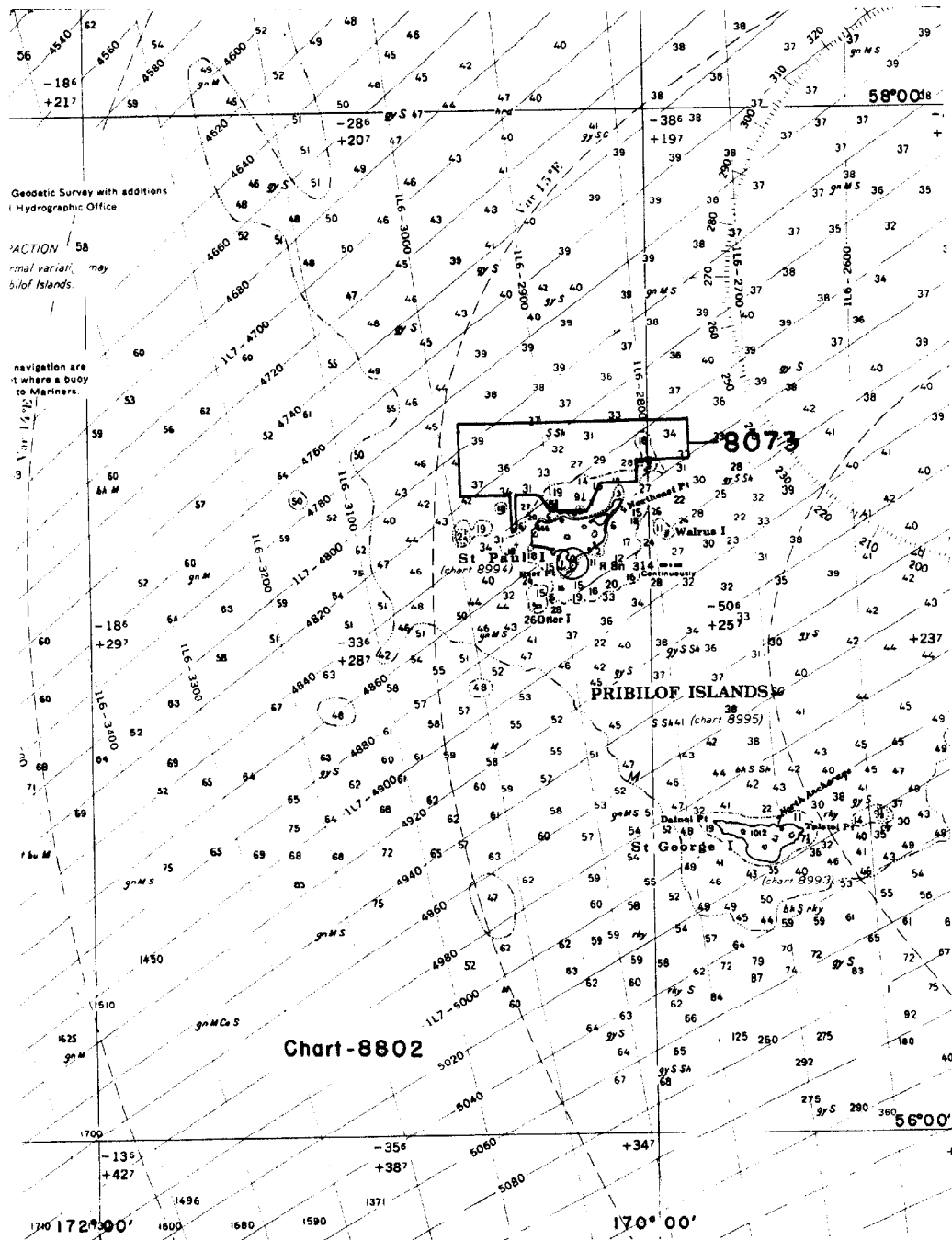
E. R. McCarthy
Acting Chief, Chart Division



J. C. Bull
Chief, Hydrography Branch



Earl O. Heaton
Chief, Division of Coastal Surveys



NAUTICAL CHARTS BRANCH

SURVEY NO. H-8073

Record of Application to Charts

[illegible]

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.