8075

Bpo. 50709-11
Bot ch. C

Diag. Cht No 8802

CS-343

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. PF - 2353 Office No. H - 8075

LOCALITY

State ALASKA

General locality PRIBILOF ISLANDS

Locality NORTH SIDE OF ST. PAUL ISLAND

1953

CHIEF OF PARTY

K. G. CROSBY

LIBRARY & ARCHIVES

DATE April 23-1954

8-1870-1 (1)

8075

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 - 8075

Field No. PF - 2353

State ALASKA

General locality PRIBILOF ISLANDS

Locality North Side of St. Paul Island

Scale 1:20,000 Date of survey July 1953

Instructions dated 6 March 1951, 21 March 1952, 2 March 1953, 7 April 1953

Vessel USC&GSS PATHFINDER Launches No. 1, No. 2, and No. 3

Chief of party K. G. CROSBY

Surveyed by C. D. Upham, L. C. Larson, W. F. Clover
R. D. Nygren, H. P. Demuth, E. E. Greene, R. C. Munson

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

Fathograms scaled by Ship's Officers

Fathograms checked by Ship's Officers

Protracted by F. J. Tucker

Soundings penciled by F. J. Tucker

Soundings in fathoms & tenths at [redacted] MLLW and are based on a velocity of sound of 800 fms. per sec.

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 777032

708

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SURVEY H-8075 (Field No. PF-2353)

ST. PAUL ISLAND
PRIBILOF ISLANDS
ALASKA

SCALE 1:20,000

1953

U.S.C.&G.S.S. PATHFINDER Capt. K. G. Crosby, Comdg.

Surveyed by: Lieut. H. D. Nygren, Lieut.(jg) H. P. Demuth,
Ensigns B. E. Greene, R. C. Munson, C. D. Upham
L. C. Larson, and W. F. Glover.

A. PROJECT

Project CS-343, Bering Sea, Alaska.
Instruction 22/MEK, 6 March 1951
Supplemental Instructions, 22/MEK, 21 March 1952.
Supplemental Instructions, 22/MEK, 2 March 1953.
Supplemental Instructions, 22/ MEK, 7 April 1953.

B. SURVEY LIMITS AND DATES

This survey is comprised of inshore hydrography on the north side of St. Paul Island from Northeast Point to North Point between Lat. 57° 13' N and 57° 19' N and between Long. 170° 03' W and 170° 23' W.

Hydrography was accomplished between 24 July 1953 and 30 July 1953.

Junction was made with: (1953)
H-7948 (1951) Scale 1:40,000. PR-4 of Review

Junctions with contemporary surveys: (1953)
H-8074 (PF-2253) Scale 1:20,000 (East Limit)
H-8073 (PF-4253) Scale 1:40,000 (North Limit)
(1953)

C. VESSEL AND EQUIPMENT

All hydrography was accomplished by the Ship's launches, No. 1, No. 2, and No. 3, operated from the Ship PATHFINDER using 808 Fathometers No. 52, No. 68, and No. 46 respectively. The turning radii of these launches were not determined.

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° 07'.5 N, and Long. 170° 16'.7 W. No time or range corrections were applied.

There were no current stations within the limits of this survey.

E. SMOOTH SHEET

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

The shoreline was transferred to the smooth sheet in pencil by the projector located in the Seattle Processing Office.

The hydrographic signals were plotted with a three-arm protractor in the manner described in 4534 of the Hydrographic Manual.

F. CONTROL STATIONS

All shoran hydrography was controlled by shoran stations Sho-Nuf and Sho-Nor, the antennas being located by third-order triangulation established by K. G. Crosby in 1953.

All visual hydrography was controlled by sextant fixes with angles observed to triangulation stations and hydrographic stations.

G. SHORELINE AND TOPOGRAPHY

The shoreline was put on in pencil because the only shoreline available was from a planetable survey in 1897 by Fremont Morse and G. R. Putnam, scale 1:20,000. This shoreline survey was considered too old to be accepted as representative and was thus not drawn in ink as normally required. There are no contemporary surveys of this area

There were no discrepancies noted between hydrographic positions near shore and the shoreline taken from the 1897 survey.

H. SOUNDINGS

All soundings were measured in fathoms and tenths by 808 graphic recording fathometers. Fathometers were calibrated to 800 fm/sec. and no corrections other than for initial were applied. See "FATHOMETER DESCRIPTIVE REPORT - 1953 (Ship PATHFINDER)". (Filed with H-8073)

Sounding lines were spaced in accordance with the instructions.

I. CONTROL OF HYDROGRAPHY

All hydrography was controlled by shoran or three-point sextant fixes. Shoran corrections were applied to shoran positions. See "EPI AND SHORAN DESCRIPTIVE REPORT-1953 (Ship PATHFINDER)". (Filed with H-8073)

Three-point sextant fixes were used only for the inshore hydrography along the baseline between the two shoran stations. Control stations were located by triangulation and hydrographic methods.

J. ADEQUACY OF SURVEY

This survey is considered complete and adequate. It should supersede all previous surveys of the area. There are no holidays within the limits of this survey.

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

K. CROSSLINES

Approximately 8% crosslines were run. Crossings were satisfactory with the exception of the inshore ends of "a" day (green). These positions fall on the base line between the two shoran stations and are very weak fixes. This area is developed with visual hydrography.

satisfactorily adjusted.

L. COMPARISON WITH PRIOR SURVEYS

~~A comparison with H-7948, scale 1:40,000, (1951) showed very good agreement. The 9.2 fms. shoal at Lat. 57° 15.8' and Long. 170° 14.5' on H-7948 should be at Lat. 57° 15.6' and Long. 170° 15.0', this change of position could be due to weak EPI control.~~

Not found on B/S or S/S of H-7948

A comparison with the survey of 1908 and 1909 by the U.S.R.C. "BEAR" shows good agreement. This survey (Op 1314g) has been completly superseded by the present survey

M. COMPARISON WITH CHART

A comparison was made with Chart 8994 scale 1:50,000, Print Date, March 1953 and the results are tabulated below.

LOCATION		CHART 8994	SURVEY H-8075
Lat.	Long.	fms.	fms.
57-15.95	170-06.5	5	1.7
57-15.9	170-06.6	5	1.9
57-15.75	170-06.7	3	~~0.8~~ 1.9
57-17.3	170-06.0	10	22.0
57-13.6	170-14.05	* sunken rock	8.3
57-15.8	170-18.1	11	8.7
57-15.0	170-19.0	11	9.5
57-15.0	170-19.6	14	9.1

See TP 6-A of Review

N. DANGERS AND SHOALS

*Item No. 7, a sunken rock, from Preliminary Review Chart 8995 was not found. This sunken rock originates from a report (Chart Letter-556-1937) that the Cutter NORTHLAND, drawing 18 ft., struck a rock while at anchor. The reported bearings were258° T to North Point and 173° T to the 308 ft., peak. This survey did not reveal a sunken rock in this area.

See TP 6 of Review

Shoal depths
1.9 108d L.L.
1.9 32b fath.
1.7 93.94d

The shoal area north of Northeast Point extends to Lat. 57°-15.95' and Long. 170°-6.5', with the shoalest depths of 1.9 fms. (148c-green) and a 1.7 fms. (93d green) at Lat. 57°-15.9' and Long. 170°-06.5'.

At Lat. 57°-15.66' and Long. 170°-15.05' a 9.5 fms. (58c blue) shoal was found.

At Lat. 57°-15.85' and Long. 170°-18.10' a 8.7 fms. (38b purple) shoal was found.

75b (purple)

At Lat. 57°-14.92' and Long. 170°-19.50', there is a shoal with least depth of 6.3 fms. - One hour was spent investigating this shoal. The launch was run across the area at slow speed several times on various arcs from Sho-Nuf. There was no position taken at a 5.8 fms. sounding recorded on the fathometer nor a 48 ft. hand lead sounding, taken while drifting over this area. No further development is recommended in this area. Plotted on S/S at pos. Lat 57°14.87, Long. 170°19.65'.

At Lat. 57°-15.03' and Long. 170°-19.06' there is a shoal with a least depth of 9.5 fms. It should be noted that shoal soundings are found on adjoining lines thus substantiating this finding. (123-124 a[redacted]e)

O. COAST PILOT INFORMATION

See "COAST PILOT NOTES-1953" (Ship PATHFINDER)

P. AIDS TO NAVIGATION

None

Q. LANDMARKS FOR CHARTS

Landmarks for charts are submitted separately on Form 567, "NONFLOATING AIDS OR LANDMARKS FOR CHARTS".

R. GEOGRAPHIC NAMES

The geographic names shown on chart 8994 are adequate and correct, no new names are recommended.

S. through Y.

Not Applicable

Z. TABULATION OF APPLICABLE DATA

1.	EPI AND SHORAN DESCRIPTIVE REPORT 1953.	10 Dec. 1953	H-8073
2.	FATHOMETER DESCRIPTIVE REPORT 1953	10 Dec. 1953	H-8073
3.	COAST PILOT NOTES 1953	Nov. 1953	
4.	TIDE DATA		
5.	Three boat sheets: 2353 (a) Launch No. 2		
	2353 (b) Launch No. 3		
	2353 (c) Launch No. 1		
6.	Three envelopes of fathograms		
7.	Ten sounding volumes		
8.	One smooth sheet		

Respectfully submitted,

Floyd J. Tucker Jr.

FLOYD J. TUCKER, JR.
ENSIGN, USC&GS

Approved and forwarded:

K. G. Crosby

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

TIDE NOTE

HYDROGRAPHIC SURVEY H-8075 (Field No. PF-2353)

Ship PATHFINDER, CS343

1953

Records from the Portable Automatic Tide Gage maintained at Village Cove, St. Paul Island, Alaska, Latitude 57°-07.5'N and Longitude 170°-16.5' W, during the period of the field work were used for the reduction of soundings for tide.

3.4 Feet on the staff corresponds to MLLW in 1953.

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

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

STATISTICS FOR HYDROGRAPHIC SURVEY H-8075

FIELD NO. PF-2353

SHIP PATHFINDER CS-343

Vol. No.	Launch	Day	Date JULY	No. of Wire or H.L. Sdgs.	Pos.	Stat. Miles
1	1	a & b (Green)	24 & 25	0	327	75.2
2	1	b & c (Green)	25 & 26	0	242	68.5
3	1	d & e (Green)	29 & 30	3	311	81.0
4	2	a & b (Blue)	24 & 25	0	279	89.2
5	2	b & c (Blue)	25 & 26	0	235	73.8
6	2	d & e (Blue)	29 & 30	0	257	76.0
7	2	e (Blue)	30	2	61	16.7
8	3	a & b (Purple)	24 & 25	1	274	72.1
9	3	b, c & d (Purple)	25,26 & 29	0	240	71.1
10	3	d & e (Purple)	29 & 30	0	284	71.2
			TOTAL:	6	2510	674.8

Total Square Statute Miles - 55.5 sq.mi.

LIST OF STATIONS ON H-8075

NAME USE IN HYDROGRAPHIC SURVEY	ORIGIN OF STATION
BAR	Volume 6
BIG	Volume 6
BING	BINGO, 1953
FLOO	FLOOD, 1953
HAL	Volume 3
HILL	NORTH HILL, 1897
JAC	Volume 3
LEO	Volume 6
NOR	SHO-NOR, 1953
NO. HILL 2	NORTH HILL 2, 1953
NUF	SHO-NUF, 1953
PAUL	EPI-PAUL, 1953
SEA	Volume 6
TRI	Volume 6
WAS	Volume 6

APPROVAL SHEET

During the progress of this survey each boat sheet of the three launch parties engaged in this work was examined for completeness at the end of each days work.

This survey is complete and adequate and no additional field work is recommended.

The survey is approved.

K. G. Crosby

K. G. CROSBY
Captain, USC & GS
Chief of Party

GEOGRAPHIC NAMES

Survey No. H-8075

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	
Alaska			(for title)							1
Pribilof Islands			"						BGN	2
St. Paul Island										3
Northeast Point										4
North Point										5
Bering Sea									BGN	6
				Names approved 5-6-54						7
										8
										9
										10
										11
Village Cove	(St. Paul Island)				(tide station)					12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-8075...

Records accompanying survey:

Boat sheets .3...; sounding vols. ..10..; wire drag vols. .....;

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

special reports, etc. 1 Smooth Sheet; 1 Descriptive Report;.....

.....

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

Number of positions on sheet		2510
Number of positions checked		53
Number of positions revised		29
Number of soundings revised (refers to depth only)		84
Number of soundings erroneously spaced		—
Number of signals erroneously plotted or transferred		—
Topographic details	Time	—
Junctions	Time	9 hrs
Verification of soundings from graphic record	Time	2 hrs

Verification by Ernest E. Thomas (10k Curves) ..Total time 87 hrs (9 hrs) Date Feb. 1, 1955

Reviewed by ..... Total 96 hrs Time 40 Date 3-10-55

M-2232-1

Nov 23, 1955

Junctional Sdg Area H-8120

Rescanning Lithograms

change sdgs between

114 - 116 a

128 - 132a alignment + .2 Corr.

146 - 150 a

E. Thomas

RHC

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

[illegible] 28 April 1954

Division of Charts: R. H. Carstens

Plane of reference approved in 10 volumes of sounding records for

HYDROGRAPHIC SHEET 8075

Locality Pribilof Islands, Alaska

Chief of Party: K. G. Crosby in 1953
Plane of reference is mean lower low water, reading
3.4 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
Chief of Tides
Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 877038

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8075 FIELD NO. PF-2353

Alaska, Pribilof Islands, North Side of St. Paul Island

Project CS-343

Surveyed - July 1953 Scale 1:20,000

Soundings: Control:

808 Fathometer Shoran
Sextant fixes on
shore signals

Chief of Party - K. G. Crosby
Surveyed by - H. P. Demuth, B. E. Greene, R. C. Munson
C. D. Upham, L. C. Larson, W. F. Glover and
H. D. Nygren
Protracted by - F. J. Tucker
Soundings plotted by - F. J. Tucker
Verified and inked by - E. E. Thomas
Reviewed by - I. M. Zeskind 3-10-55
Inspected by - R. H. Carstens

1. Shoreline and Signals

There are no contemporary topographic surveys of the area showing the shoreline.

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 fairly irregular in depths less than 10 fms. and generally smooth in greater depths. Submarine features such as ridges, shoals and pinnacles contribute to the bottom irregularity. The ridge which extends about 2½ miles northwestward from shore in the vicinity of long. 170°14.5' is of

particular interest.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-7948 (1951-53) and H-8073 (1953) on the north. On the east, the present survey joins H-8074 (1953) which has been given only a preliminary verification. Depths on H-8074 in the junctional area are in adequate agreement with the present survey depths. Junctional depths will be transferred from H-8074 to the present survey when H-8074 has been completely verified. The project survey on the west has not as 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 to Jan. 10, 1955)

A. Hydrography

The charted hydrography originates principally with the present survey prior to verification and review, with H-8073 (1953) and H-7948 (1951-52-53) prior to verification and review, and with several soundings from a reconnaissance survey by a U. S. Coast Guard Cutter while on patrol duty in Bering Sea in 1923 (chart letter 352, 1923). In general only minor differences of from 1-ft. to 1 fm. between the charted and present survey depths are noted. Attention, however, is directed to the following differences between the charted and present survey depths:

(1) The following charted soundings which originate with Chart Letter 352, (1923) fall in greater depths on the present survey and should be deleted from the chart. These soundings are believed to be displaced in position and should actually fall on the present survey in nearby comparable depths.

Charted depth Fathoms	Charted location Latitude	Longitude	Present Survey Depth - fathoms
9	57°14.26'	170°15.6'	10 - 11
7	57°13.95'	170°14.9'	8 - 9
13	57°16.53'	170°07.0'	16

(2) The 6 fms. 4 ft. sounding charted in lat. 57°14.33', long. 170°19.9' was revised to 8 fms. 4 ft. during verification and review of the present survey.

(3) The 1 fm. 1 ft., 5 ft, and 2 fm. soundings charted on the shoal in lat. 57°15.8', long. 170°06.6', were revised to 1 fm. 4 ft., 1 fm. 5 ft., and 2 fms. 3 ft., during verification and review of the present survey.

(4) The sunken rock charted in lat. 57°13.6', long. 170° 14.1', from Chart Letter 556 (1937), which states that a Coast Guard vessel drawing 18 ft. struck a rock while at anchor here, falls in present depths of 8 fms. 2 ft. to 9 fms. The development of the area is adequate to disprove the sunken rock in the charted position.

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. The smooth plotting was accurately done.

c. Adequate cross reference was not made in either the present survey or the Fathometer Report to essential information recorded in survey H-8071 regarding the determination of instrumental corrections.

8. Compliance with Project Instructions

The present survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

This is a very good basic survey and no additional field work is recommended. It is noted, however, that the shoal extending offshore to lat. 57°14.2', long. 170°10.5' is sparsely developed.

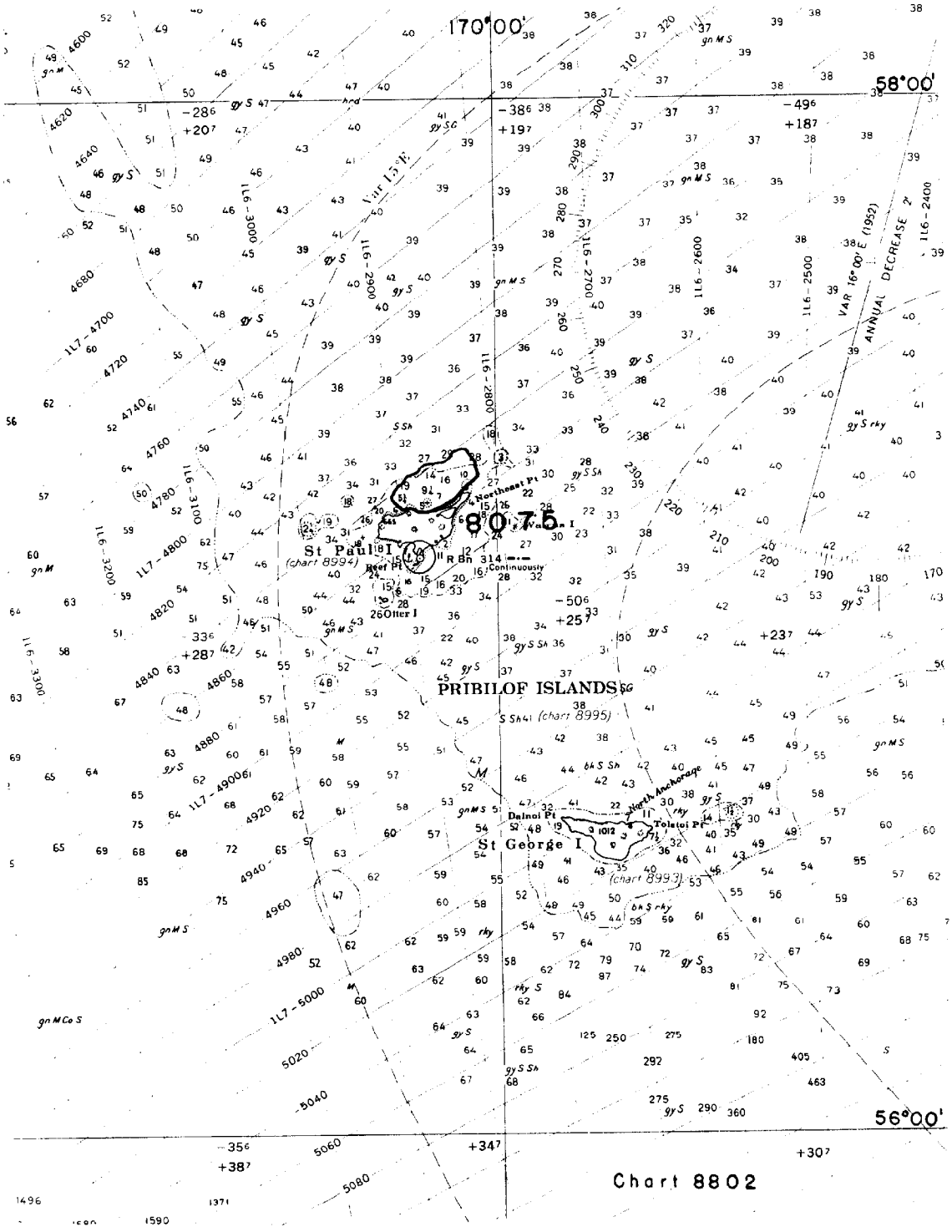
Examined and Approved:

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


170°00'
58°00'
56°00'
VAR 15° W.
VAR 16° 00' E (1952)
ANNUAL DECREASE 2'
8075.
St Paul I
(chart 8994)
Northeast Pt
West I
Reef Pt
R Bn 314
Continuously
Otter I
PRIBILOF ISLANDS
(chart 8995)
St George I
(chart 8993)
Dalnoi Pt
North Anchorage
Tolstoi Pt
Chart 8802

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8075

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
4/28/54	8994	N.W. Burgoyne	Partial application with particular attention to 3, 5, VII fms. curves. Before ~~After~~ Verification and Review
May '54	x995	C.R.W.	Before ~~After~~ Verification and Review Applied Corr. Bpo. 5070 9-11
Oct. '54	930v	G.H.E.	Before ~~After~~ Verification and Review
	880v	AHE Thru 8995	Before ~~After~~ Verification and Review
~~4-21-59~~	~~8995~~	R.N. DeLaunder	~~Before~~ After Verification and Review
2 Jan 61	8995	Nichols	~~Before~~ After Verification and Review Thru Dwg of Chart 8994
10 Jan 61	880v	4	~~Before~~ After Verification and Review Thru 8995
"	930v	4	~~Before~~ After Verification and Review Thru ~~930v~~ 880v
~~11-Feb-61~~	9000	Burgoyne	~~Before~~ After Verification and Review Thru 930v
			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.