8003

Diag. Cht. Nos. 8802-3 & 9001-1

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. PE-4152 *Office No.* H-8003

LOCALITY

State ALASKA

General locality PRIBILOF ISLANDS

Locality EAST OF ST. GEORGE ISLAND

19~~4~~52

CHIEF OF PARTY

C. Pierce

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8003

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-8003

Field No. PF-4152

State ALASKA

General locality PRIBILOF ISLANDS

Locality East of St. George Island

Scale 1: 40 000 Date of survey July - September 1952

Instructions dated 6 March 1951, 21 March 1952

Vessel USC&GSS PATHFINDER

Chief of party CHARLES PIERCE

Surveyed by H.J. HEALY, K.S. ULM, F.J. BRYANT

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

Fathograms scaled by REW, MJT, KWB, JJC

Fathograms checked by KSU, VE, EEE, FJB

Protracted by K.W. BAUER

Soundings penciled by K.W. BAUER

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

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 777032

DESCRIPTIVE REPORT

To Accompany

HYDROGRAPHIC SURVEY H-8003 (Field No. PF4152)

EAST OF ST GEORGE ISLAND

Pribilof Islands, Alaska

SCALE 1: 40 000

1952

USC&GSS PATHFINDER — CHARLES PIERCE, Comdg.

H.J. HEALY

K.S. ULM - - - - - - - - - HYDROGRAPHERS

F.J. BRYANT

A PROJECT

1. Project CS-343, Bering Sea, Alaska

2. Instructions 22/MEK date 6 March 1951
Supplemental Instructions 22/MEK dated 21 March 1952

B SURVEY LIMITS AND DATES

1. Paragraph 26 of Supplemental Instructions Project CS-343, dated 21 March 1952, specifies the investigation of shoals in the vicinity of the Pribilof Islands. H-8003 constitutes the survey of the vicinity of the reported and position doubtful shoal soundings shown on charts 8995 and 8996 generally about 13 miles northeasterly and 11 miles easterly from Tolstoi Point, St. George Island. The probable existence of a shoal in this locality was indicated by an 18 fathom sounding in broken bottom at Latitude 56° 37'.9 N., Longitude 169° 14'-.7 W., from the incomplete contemporary survey H-7949 (EX-PF-40151) (1: 500 000) in 1951. The limits of the survey area are generally along Latitudes 56° 32' and 56° 44' N., and Longitudes 169° 04' and 169° 28' W.

2. The survey joins the incomplete contemporary survey H-8001 (PF10152) on the North, East, South and northwest. Random lines from the incomplete contemporary survey H-7949 (EX-PF 40151) (1: 500 000) and overlapping lines from H-8001 (H-8001) (PF 10152) cross the western part of the survey area.

3. Field work was done between the inclusive dates 30 July - 13 September 1952. The lack of weather suitable for launch hydrography in unprotected waters delayed progress of the work.

C VESSEL AND EQUIPMENT

1. The major part of the hydrography was done by the Ship's launches using 808 Fathometers operated on fathom scales, A-phase only. A part of the small area of detached hydrography in the vicinity of Latitude 56° 38' N., Longitude 169° 30' W., was done by the PATHFINDER.

2. Specific areas were assigned to the various launches on a day to day basis and sounding lines run by the launches are intermingled in a considerable part of the area. Hydrographic coverage of the following areas was more or less exclusive with the launches indicated.

LAUNCH	AREA
No. 1	Between Latitude 56° 37' and 56° 42' N., and Longitudes 169° 08' and 169° 18' W.
No. 2	Between Latitudes 56° 34' and 56° 37' N., and Longitudes 169° 10' and 169° 20' W. Between Latitudes 56° 32' and 56° 37' N., and Longitudes 169° 24' and 169° 28' W., Vicinity of Latitude 56° 38' N., Longitude 169° 30' W.
No. 4	Between Latitudes 56° 36' and 56° 39' N., and Longitudes 169° 08' and 169° 11' W. Between Latitudes 56° 37' and 56° 42' N., and Longitudes 169° 22' and 169° 24' W.

3. Work of the Ship and the various launches is distinguished by the following colors for position numbers and day letters:

VESSEL	COLOR
PATHFINDER	BLUE
Launch No. 1	Blue
Launch No. 2	Brown
Launch No. 4	Green

4. Echo sounding equipment used consisted of 808 type Fathometers operated on the fathom scale, A phase only, except for Launch No. 1 which used the foot scale for a limited amount of shoal sounding.

VESSEL	FATHOMETER	PERIOD
PATHFINDER	130-S	3 Sep
Launch No.1	52	30 Jul-22 Aug
Launch No.2	74-S	30 Jul 22 Aug, 13 Sep
Launch No.4	61	30-31 Jul
	68	11-22 Aug

5. Launches were operated usually at an engine speed of 1600 RPM, corresponding to a speed of 6-7 knots through the water. The turning radius of the launches at this speed is estimated as 15 meters. The PATHFINDER on this survey was operated at 45 to 75 shaft RPM, corresponding to a speed of 5 to 9 knots through the water. The turning radius of PATHFINDER over this range of speeds is estimated as 400 to 450 meters.

D TIDE AND CURRENT STATIONS

1. A Portable Automatic Tide Gage was maintained at Village Cove, St. Paul Island, for the entire period of the field work. Tidal Data from this gage were used for the reduction of soundings without application of corrections for time and range differences. (Reference: Director's letter 36 rcb, Subject "Tide Zones and Reducers, Pribilof Islands Area", 18 September 1952).

2. Current pole observations at half hourly intervals were taken while PATHFINDER was moored at Latitude 56° 43'.2 N., Longitude 169° 18'.2 W., over the following periods:

DATE (1952)	PERIOD
30 Jul	1200 - 1630
31 Jul	0830 - 1730
11 Aug	1120 - 1650
12 Aug	1020 - 1700
13 Aug	0850 - 1800
14 Aug	0800 - 1730
15 Aug	0805 - 1635
22 Aug	0825 - 1655

These observations reveal a rotary-type current in the area, reaching a maximum velocity of 1.1 knots during the periods of observation.

E SMOOTH SHEET

1. The Smooth Sheet was constructed by hand aboard PATHFINDER, using conventional methods. Scale and area covered are the same as for the Boat Sheets.

2. Distance circles from Shoran station SHOCAN in statute miles were drawn in the usual manner. Distance circles from the Ship Shoran station SHOPAT have not been drawn on the Smooth Sheet because of the variable position of this station. The method of plotting Shoran distances from SHOPAT is discussed in "Section "I" following.

F CONTROL STATIONS

1. Positions of all control stations for this survey are referred to the 1927 North American Datum. Published positions of triangulation on St. George Island are from observations in 1897, 1944 and 1951 and are on the 1944 St. George - St. Paul Datum. Positions of these stations have been referred to the 1927 North American Datum by application of corrections as discussed in "Descriptive Report to Accompany Hydrographic Survey H-8001 (PF10152)", submitted separately. Positions of hydrographic and topographic stations used for control of hydrography on A (blue) day and j (brown) day were determined as described in "Descriptive Report to Accompany Hydrographic Survey H-8004 (PF1262)", submitted separately. Hydrographic Sig. Cuts plotted on H-8004, 1:10,000 G.C. (Boat Sheet)

2. The position of Shoran station SHOCAN was determined in 1952 by personnel of USC&GSS PATHFINDER by a traverse connection of third order accuracy to OOLAKAYA 1897, 1944. The resulting position is from the field computations. The position of the Ship Shoran station SHOPAT has been referred to the position of the anchor of the mooring buoy as discussed in Section "I" following.

The position of the anchor for the mooring buoy at SHOPAT was determined by personnel of USC&GSS PATHFINDER by an observed azimuth from NORTHEAST 1951 and Shoran distance measurements reduced to the line SHOCAN-SHOPAT (Anchor). The method of location of SHOPAT (Anchor) is fully described in the report "Location and Adjustment of Ship Shoran Station SHOPAT 1952", submitted separately.

3. The tangent of Tolstoi Point, St. George Island, used for control of launch hydrography of a reconnaissance nature in the vicinity of Latitude 56° 38' N., Longitude 169° 30' W., was transferred from a copy of Topographic Survey No. 2287 bis, 1897, Scale 1: 20 000, as discussed in Section "G" following.

The resulting delineation is of questionable accuracy; cuts from positions of PATHFINDER determined by sextant fixes during hydrography on A (BLUE) day fail to check the transferred tangent by approximately 100 meters. The fix used to determine the Ship's position was weak. These cuts are recorded in Volume 15, Sounding Record, page 4.

G SHORELINE AND TOPOGRAPHY

1. The general shoreline and topographic details have been omitted from the Smooth Sheet since there are no contemporary topographic surveys in the area. St. George Island is covered by Topographic Survey No. 2287 bis, 1897, scale 1: 20 000, and although much of the shoreline and topographic detail appear to be still adequately delineated, differences in datum do not facilitate transfer in the field.

2. The isolated section of shoreline comprising the East tangent of Tolstoi Point, St. George Island, was transferred to the Smooth Sheet for control of hydrography from Topographic Survey No. 2287 bis, 1897, by reference to nearby control shown on the topographic survey and which can also be plotted on the Smooth Sheet.

H SOUNDINGS

1. Depths were measured by the echo sounding equipment listed in section "C" above. There are complete and legible Fathograms for all periods of sounding.

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

3. Instrumental corrections for 808 Fathometer No. 130-S, used on PATHFINDER, have been determined as explained in "Descriptive Report to Accompany Hydrographic Survey No. H-8001 (PF10152).

Corrections for the various launch Fathometers used have been determined according to the method devised by H.-J. Healy in which a separate Fathometer Oscillator Unit, connected to the graphic recorder, is lowered to pre-determined depths by means of a graduated line. Depths registered on the Fathogram are multiplied by two and compared with the known depth of the Oscillator Unit to determine the correction.

In order to avoid including effects due to variation of the velocity of sound from the calibration velocity of 800 fms/sec in these corrections, comparisons only to maximum depth of 6 fathoms have been considered. Comparisons were made with Fathometer initials set at zero and initial settings were kept at zero for all soundings. Corrections for variation from this standard setting were applied when the Fathograms were scanned and have not been entered in the Sounding Records.

For detailed information concerning derivation of these corrections, reference should be made to the report "Fathometer Corrections, 1952", submitted separately. With H-8001

I CONTROL OF HYDROGRAPHY

Control of hydrography for this survey presented an unusual problem since neither visual nor Shoran control using stations on St. George Island would provide adequate fixes in most of the area to be covered. The problem was additionally complicated by the comparatively large scale required for adequate delineation of the features anticipated as existing and the necessity for use of launches because of the probable existence of shoals dangerous to the Ship. These considerations precluded use of electronic control based partly on St. George Island and partly on St. Paul Island. The solution adopted was to establish Shoran station SHOCAN on a high point of St. George Island and to plant a mooring buoy in 43 fathoms 9 miles northeast of Tolstoi Point, St. George Island, for a Ship Shoran station SHOPAT set up aboard PATHFINDER. The mooring buoy was fastened to the anchor with a combination of chain and cable giving a computed scope of 112 meters. The Ship was moored to the buoy after 31 July by a cable 33.5 meters long fastened at the bow. The mean distance from the Shoran Antenna array to cable bitts at bow was 22 meters.

2. Initially, the various positions of the Ship Station were referred to the anchor position by gyro bearings and distances by depression angles observed on a small anchor buoy having negligible scope. Between 31 July and 11 August the anchor buoy carried away and subsequent positions of the Ship station were referred to the anchor position from an analysis of wind and current data obtained while the Ship was moored to the buoy, using the computed scope of the buoy, length of the Ship's mooring cable and distance of antenna array from the bow. The length of the Ship's mooring cable was not determined for the period 30-31 July and apparently was longer than that subsequently used since observed distances from Shoran Antenna to anchor buoy exceed the combination of distances listed in 1. above, for positions on 31 July.

3. The observed data serve to fix the position of the Ship Shoran station relative to the mooring buoy anchor at intervals of 1 hour on 30 July and at intervals of ½ hour thereafter during periods the station was operating. Intermediate positions of the Ship station have been deduced from analysis of the observed data with such frequency that the distance between successive positions used for plotting does not exceed 20 meters (0.5 millimeter at the scale of the sheet).

For the period 30-31 July distances of the Ship station from the anchor position range from 140.0 to 192.5 meters; directions from the anchor range over an arc of 225°. For the period 11-22 August distances of the Ship station from the anchor position range from 101.0 to 167.8 meters; directions range over the circumference of 360°. The elapsed time between sucessive positions used for plotting varies from 2½ minutes to 1 hour and 40 minutes; the average time interval is about 10 minutes.

4. For plotting Shoran fixes the Shoran distance from station SHOCAN was laid off with reference to the distance circles constructed on the Smooth Sheet while the Shoran distance from SHOPAT was laid off from an appropriate distance arc, struck in pencil on a cover sheet, from the plotted position of the Ship Shoran station corresponding to the time the fix was taken. An abstract of sucessive plotting positions of the Ship Shoran station SHOPAT, referred to the anchor position, with the intervals of time during which each position governs, is included in this report.

5. For detailed information concerning the mooring arrangements, location of the anchor position and analysis of observed data to determine the sucessive plotting positions used, reference should be made to the report "Location and Adjustment of Ship Shoran Station SHOPAT 1952", submitted separately.

6. Shoran controlled hydrography in the base-line area between Shoran stations has been adjusted between adequate fixes outside the area of weak fixes . Because of the variable position of SHOPAT, plotting in the baseline area by one distance arc and a hyperbola computed from differences in simultaneous distances was not feasible.

7. Observed Shoran distances have been corrected by factors resulting from a combination of values obtained from calibration of the Shoran stations by comparison of Shoran distances with distances determined by visual fixes on shore objects and values of Zero Checks for the launch equipment recorded at frequent intervals during the hydrography.

Two separate antenna systems were used for the Ship station: an omni-directional antenna on the Ship's foremast and a beamed antenna on an auxiliary mast mounted 4 meters forward of the foremast. Both systems were used during the hydrography and corrections were determined for each system. These corrections are markedly different because of the differing electronic and electrical characteristics of the two systems. For detailed information concerning the derivation of these corrections, reference should be made to the report "EPI and Shoran Corrections 1952", submitted separately.

8. Control of hydrography by the methods described above is considered to have given an accuracy of position determination adequate to the scale of the survey. The indicated error in determination of the base line distance SHOCAN to SHOPAT (anchor) is better than 1 in 7000. Errors in position due to uncertainty in the position of the Ship Shoran station SHOPAT are considered to have been largely eliminated in the adjustment and, while the possibility of serious errors in position from this cause cannot be entirely dismissed, a careful examination of the completed hydrography does not show indications of possible displacement in individual soundings exceeding 50 meters (1.25 millimeters at the scale of the sheet).

A single indication of a possible displacement in position approaching 100 meters (2.5 millimeters at the scale of the sheet) is more probably attributable to errors in reading or recording position data.

9. Control of hydrography on A (BLUE) day and j (brown) day for the detached area in the vicinity of Latitude 56° 38' N., Longitude 169° 30' W., by visual fixes is of less than standard accuracy because of the weak fixes in this area and the inadequate delineation of the West tangent of Tolstoi Point used as the left object for part of this work. Cuts from the Ship on A (BLUE) day fail to check the transferred shoreline by approximately 100 meters.

J ADEQUACY OF SURVEY

1. The survey adequately covers the shoal area East of St. George Island to junctions with the contemporary survey H-8001 (PF10152) on the North, East and South.

2. The holidays in the present survey along the baseline between Shoran stations SHOCAN and SHOPAT and in the vicinity of the plotted position of SHOPAT (anchor))Latitude 56° 43'.0 N., Longitude 169° 18'.6 W.) could not be adequately controlled by the stations used for the major part of the survey. These holidays are partly covered by sounding lines from H7914 (PI10151) and H-8001(PF10152); this coverage appears adequate for these areas of regular and featureless bottom. In any case, these areas fall within the scope of control on St. George Island and may be covered at such time as the inshore and coastal hydrographic coverage of St. George Island is accomplished.

3. The detached area of hydrography in the vicinity of Latitude 56° 38' N., Longitude 169° 30' W.) is controlled with less than standard accuracy and is in the nature of a reconnaissance survey to investigate the charted 13 fathom depths in this locality. Hydrography in this detached area should be superseded by coverage at a larger scale at such time as hydrographic coverage of the inshore areas of St. George Island is undertaken.

4. Junctions with the adjoining surveys H-7914(PI10151) and H-8001 (PF10152) are satisfactory and depth curves can be adequately drawn at the junctions.

K CROSSLINES

1. Crosslines total 12.4% of the regular system of sounding lines. Because of the possible errors in position resulting from uncertainty in the positions of Ship Shoran station SHOPAT, agreement of crossings has been more meticulously checked than would normally be required and all discrepancies were investigated.

2. Agreement at crossings is satisfactory. Of 409 individual crossings considered, 154 or 38% agree within less than 1% of the depth, 230 or 56% agree within 1 to 2%, 13 or 3% agree within 2 to 5% and 12 or 3% fail to agree by more than 5%. Discrepancies amounting to 1% of the depth or less have not been individually considered.

3. An analysis of crossings in the extensive areas of regular bottom North of Latitude 56° 40' N., South of ~~Latitude 56° 34' N.~~ Longitude 169° 00' W., reveals that crossings of the same launch on the same day agree by less than 1% of the depth and usually within 0.5%, crossings of the same launch on different days agree within 2% of the depth and usually within 1%, while crossings between different launches on different days agree within 3% of the depth and usually by 2% or less. Since displacements in positon are unlikely to cause crossing discrepancies in these areas of regular bottom and general depths of 40 to 50 fathoms it is concluded that an accumulation of errors in tide reducers resulting from inadequate tidal data and, to a lesser extent, of errors in the Fathometer corrections for the various Fathometers used may cause crossing discrepancies approaching 1 fathom throughout the general area of this survey independently of the depth.

4. The following crossing discrepancies are individually considered:

a. Latitude 56° 37'.2, Longitude 169° 09!8. A 14.5 fathom sounding between positions 35 and 36b (blue) falls on a 17 fathom sounding between positions 27 and 28c (blue) in general depths of 16.5 to 17 fathoms. Examination of the Fathograms reveals that the 14.5 fathom sounding results from an isolated feature of small extent between positions 35 and 36 (blue).

b. Latitude 56° 40'.4, Longitude 169° 12'.0; Crossings of the line between positions 49 and 51e (blue) with lines between positions 7 and 8c (green), 147 - 148e (green), 99-100b (blue) and 68 - 69e (green) show discrepancies ranging from 0.8 to 5.0% in general depths of 40 fathoms. Discrepancies resolved by replotting pos. 49e

Examination of the plot indicates that the course of the launch between positions 49 and 51e (blue) is uncertain and that position 50e (blue) may be displaced as much as 100 meters, probably due to errors in the recorded position data. Adjustment of the line between positions 49 and 51e (blue) to bring the crossings into agreement is recommended. Discrepancy resolved

c. Latitude 56° 39'.4, Longitude 169° 13'.4: A 20 fathom sounding between positions 81 and 82c (blue) falls on a 28 fathom sounding between positions 55 and 56e (blue). Examination of the Fathogram indicates that the 20 fathom sounding results from an isolated peak of small extent between 81 - 82c (blue) which is 4 to 5 fathoms shoaler than immediately adjacent depths. The characteristics of the trace on the Fathogram are such as to cast doubt on the validity of the 20 fathom sounding. No opportunity to verify this sounding was afforded during the field work and this depth must be regarded as questionable. It has been retained pending further consideration during verification. 20 fms. accepted

d. Latitude 56° 37'.2, Longitude 169° 10'.4: A 9.5 fathom sounding between position 122 - 123e (green) falls on a 10.5 fathom sounding between 26 - 27c (blue). Examination of the Fathograms reveals that the 9.5 fathom depth results from a small pinnacle rising from general depths of 10.5 fathoms and not recorded on the Fathogram between 26 - 27c (blue) because of its small area. ✓

e. Latitude 56° 35'.4, Longitude 169° 08'.5: There is general disagreement between soundings in this vicinity in general depths of 34 to 37 fathoms. The positions involved are 72g (green), 64d (green, 61f (green) and 77 - 78g (brown). The greatest discrepancy is 6% of the depth. The Fathograms show moderately rapid shoaling between 60 - 62f (green) and an examination of the plot indicates probable uncertainties in the plotted positions of 61f (green) and 77g (brown), not exceeding 40 meters (1 millimeter at the scale of the sheet). slight irregularities

f. Latitude 56° 36'.9, Longitude 169° 11'.8: A plotted 14.5 fathom depth between positions 41 - 42e (blue) falls on a plotted 18.5 fathom depth between positions 22 -23c (brown). Examination of the Fathograms reveals a steeply rising slope between 41 - 42e (blue) and a 17.5 fathom depth is shown at the actual point of crossing. The 14.5 fathom depth is slightly North of the crossing, though not a plottable distance away. slope

g. Latitude 56° 36'.9, Longitude 169° 11'.9: A 16.3 fathom depth between positions 63 - 64e (blue) falls on a 17.7 fathom depth between positions 22 - 23c (brown). Examination of the Fathograms reveals a steep slope between positions 63 -64e (blue) and a moderately broken bottom between 22 - 23c (brown). The plot indicates that soundings between 22 - 23c (brown) may be displaced to the North by amounts not exceeding 40 meters (1 millimeter at the scale of the sheet). slope

h. Latitude 56° 37'.4, Longitude 169° 14'.2: A ~~17.9~~ 18 fathom depth on position 49f (blue) falls on a 21.2 fathom depth between positions 20 - 21c (blue). The Fathograms show a sharply rising slope in the vicinity of 49f (blue) and moderately broken bottom between 19 - 21c (blue). *Sharp slope*

i. Latitude 56° 37'.0, Longitude 169° 16'.2: A 20.0 fathom depth between positions 25 - 26d (brown) falls on a 22.0 fathom depth between 31 - 32e (brown). The Fathograms show moderately broken bottom between 31 - 32e (brown) and a steep, uneven profile between 25 - 26d (brown). *Edge of 20-fm. shoal*

j. Latitude 56° 33'.5, Longitude 169° 21!4: A 36.7 fathom depth between positions 22 - 23g (brown) falls on a 35.1 fathom depth between 25 - 26g (blue). The Fathograms show that the 36.7 fathom depth results from a small 1.5 fathom deep while the profile between 25 - 26g (blue) is even. *crossing at slope*

k. Latitude 56° 36'.2, Longitude 169° 10'.0: A 21.3 fathom sounding on position 120e (green) falls on a 27.9 fathom depth between positions 38 - 39d (brown). The Fathograms show a steep profile between 38 - 39d (brown) and examination of the plot indicates that soundings between these positions may be displaced as much as 40 meters (1 millimeter at the scale of the sheet) to the North. ✓

l. Latitude 56° 37'.6, Longitude 169° ~~12'.0~~ 11.6 A 7.0 fathom depth between positions 26 - 27e (blue) falls on a 10.3 fathom depth between positions 48 - 49c (blue). The Fathograms show broken bottom profiles between these positions with instantaneous changes in depth exceeding 2 fathoms. *irregular bottom*

m. Latitude 56° 37! 4, Longitude 169° 24'.0: The line between positions 8 - 10h (brown) crosses the lines 28 - 29h, 38 - 39h, 46 - 47h, 68 -69h, and 70 -71h (all blue) with discrepancies ranging from 3.7 to 16% of the depth. All of these lines fall in the area of weak control adjacent to the baseline between Shoran stations and an adjustment of the line 8 - 10h (brown) has already been made. Further adjustment of 8 -10h (brown) is not justified by the recordeddata. Additional coverage of this area with adequate control is recommended at such time as inshore surveys are extended to the West. *Discrepancies resolved*

n. Latitude 56° 37'.0, Longitude 169° 30'.0: A 13.9 fathom depth on position 18j (brown) falls on a 13.2 fathom depth on position 12j (brown). The fixes in this area are weak; the left object is doubtful. Control of hydrography in this detached area is considered of less than standard accuracy. *Disregard*

o. Discrepancies amounting to 2 to 4% of the depth occur at crossings listed below:

LAT and LONG	BETWEEN LINES	DEPTH fms	DISCREPANCY (%)	
56° 38'.0 169° 17'.2	123 - 124f (blue) and 57 - 58c (blue)	29.7 (29) 28.8 (29)	O.K.	3.1
56° 38'.0 169° 17'.2	58 - 59c (blue) and 128 - 129f (blue)	29.5 30.2	O.K.	2.3
56° 35'.4 169° 10'.3	On 80g (brown) and 64b (blue)	38.6 37.4	O.K	3.8
56° 39' 8 169° 21'.4	12 - 14g (green) and 158-160f(green)	36 to 40		2.7 or less 30 fms. here

These discrepancies are attributed to uncertainties in tide reducers and Fathometer corrections and/or minor displacements in position.

5. It is considered that the general agreement in common depths is satisfactory for off-shore hydrographic coverage with the existing bottom characteristics and not appreciably different from what would usually be expected in similar areas if using conventional methods of horizontal control.

L COMPARISON WITH PRIOR SURVEYS

1. Soundings lines from the incomplete contemporary survey H-7949 (EX-PF40151)(1: 500 000) cross the area and a partial junction with H-7914 is made at the northwest limit.

2. Agreement with these surveys is satisfactory.

M COMPARISON WITH CHART *See Review, par. 6*

1. The Smooth Sheet has been compared with Chart 8996, 3rd Edition, print date 47-6/16. Chart and Smooth Sheet are on different datums and a detailed comparison with the charted information would not be significant. In general, depths from the present survey are deeper than those charted.

2. The following charted depths dangerous to navigation have been disproved as existing in the charted positions:

CHART POSIT	CHARTED DEPTH	SMOOTH SHEET DEPTH	
56° 42'.2 169° 06'.5	5 fms Reported	48 fms	Review par. 6
56° 40'.8 169° 07'.0	8 fms P.D.	47 fms	
56° 33'.0 169° 08'.2	3½ fms P.D.	47½ fms	

These charted depths are unquestionably reported out of position and result from soundings on the newly discovered shoal at Latitude 56° 38' N., Longitude 169° 11' W., and should be deleted from charts of the area.

3. Investigation of the 13 fathom depth charted at Latitude 56° 37'.4 N., Longitude 169° 29'.5 W., reveals that the shoal area is more extensive than charted and a new least depth of 11 fathoms was found in the vicinity on the present survey.

4. Depths from the present survey should supersede the charted information in the area covered.

N DANGER AND SHOALS

1. A least depth of 1.9 fathoms (reduced) was found at Latitude 56° 37'.6 N., Longitude 169° 11'.1 W., During the survey of the shoal area in August no kelp was observed on the surface but a thick growth of Kelp or Sea Kale rises to within 2 to 4 feet of the surface.

This growth was visible only when immediately over the shoal. Large numbers of birds were seen feeding on the surface in the shoalest parts of the area. One and a half hours was spent in drift sounding in the vicinity with the hand lead and the least depth was verified by three separate soundings. Depths in the immediate vicinity of the least depth are 4 to 5 fathoms. The bottom is rocky as indicated by scratches and gouges on the lead. Bottom samples from the armed lead consisted only of pink Shells.

The heavy marine growth in the area render the Fathogram difficult of interpretation and the 1.9 fathom soundings with the leadline are considered the most reliable measurements of the least depth. Breakers are reported as having been seen in the area in heavy weather but none were seen during the period field work was in progress.

2. A least depth of 14.1 fathoms was found at Latitude 56° 36'.2 N., Longitude 169° 17'.3 W., not previously reported.

3. A new least depth of 11.0 fathoms (reduced) at Latitude 56° 37'.3 N., Longitude 169° 29'.7 W., was found during investigation of the 13 fathom sounding charted at Latitude 56° 37'.4 N., Longitude 169° 29'.5 W.

* previously

O COAST PILOT INFORMATION

Information of this nature has been separately submitted for the general area from time to time.

P AIDS TO NAVIGATION

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

Z TABULATION OF APPLICABLE DATA

1. Forwarded with Smooth Sheet:

a. Overlay of junction soundings from H-8001 (PF10152) to scale of 1: 40 000.

b. Overlay of soundings from H-7914 (PI10151)(and H-7949 (EX-PF40151((1: 500 000) to scale of 1: 40 000.

2. Submitted separately:

a. Fathometer Corrections 1952 With H-8001
b. EPI and Shoran Corrections 1952
c. Report on Location and Adjustment of Ship Shoran Station SHOPAT 1952.
d. Current Observations 1952
e. Tidal Data, Village Cove, St. Paul Island
f. Geodetic Data, St. George Island
g. Descriptive Reports to Accompany Hydrographic Surveys H-8001 and H-8004

Fair J. Bryant
FAIR J. BRYANT
Lieutenant Commander, USC&GS

Kurt W. Bauer
KURT W. BAUER
Deck Officer, USC&GS

ABSTRACT OF DIPOLE POSITIONS FOR SHO PAT

(Relative to Anchor Position)

HYDROGRAPHIC SURVEY H-8003 (PF4152)

PLOTTING POSIT NO	TIME	AZIMUTH FM BUOY ANCHR	DIST FM BUOY ANCHR METERS
30 July 1952			
1	1107-1203	023°	140.0
2	1203-1235	029°	140.0
3	1235-1245	040°	140.0
4	1245-1255	050°	140.0
5	1255-1305	058°	140.0
6	1305-1315	066°	140.0
7	1315-1325	074°	140.0
8	1325-1340	082°	140.0
9	1340-1400	091°	140.0
10	1400-1420	102°	140.0
11	1420-1440	109°	140.0
12	1440-1500	118°	140.0
13	1500-1520	126°	140.0
14	1520-1600	135°	140.0
15	1600-1700	126°	140.0
31 July 1952			
1	0844-0858	257°	167.5
2	0858-0904	264°	160.0
3	0904-0910	271°	155.0
4	0910-0916	279°	152.5
5	0916-0922	287°	151.8
6	0922-1009	295°	153.5
7	1009-1023	301°	162.5
8	1023-1100	307°	175.0
9	1100-1110	313°	167.5
10	1110-1120	320°	158.2
11	1120-1132½	327°	152.5
12	1132½-1146½	336°	147.5
13	1146½-1200	345°	145.0
14	1200-1210	355°	142.5
15	1210-1220	005°	139.2
16	1220-1230	015°	135.0
17	1230-1240	026°	132.9
18	1240-1250	039°	132.9
19	1250-1258½	050°	134.5
20	1258½-1305½	059°	136.9
21	1305½-1312½	068°	142.5
22	1312½-1319½	076°	148.8
23	1319½-1326½	084°	156.6
24	1326½-1342½	091°	164.5
25	1342½-1410	099°	153.2
26	1410-1530	089°	165.8
27	1530-1540	083°	175.8
28	1540-1550	077°	180.8
29	1550-1730	071°	192.5

31 July 1952 Continued

ABSTRACT OF DIPOLE POSITIONS FOR SHO PAT

(Relative to Anchor Position)

HYDROGRAPHIC SURVEY H-8003 (PF4152)

PLOTTING POSIT NO	TIME	AZIMUTH FM BUOY ANCHR	DIST FM BUOY ANCHR METERS
11 August 1952			
1 (BLUE)	1115-1125	040°	167.8
2	1125-1135	046°	165.8
3	1135-1145	053°	162.9
4	1145-1152½	060°	160.2
5	1152½-1157½	068°	156.2
6	1157½-1202½	077°	151.0
7	1202½-1207½	085°	147.8
8	1207½-1212½	094°	144.1
9	1212½-1217½	103°	141.8
10	1217½-1227½	112°	141.8
11	1227½-1242½	118°	154.0
12	1242½-1257½	123°	167.8
13	1257½-1312½	130°	170.0
14	1312½-1335	136°	169.5
15	1335-1357½	144°	165.8
16	1357½-1412½	151°	167.8
17	1412½-1435	158°	167.8
18	1435-1453 3/4	167°	165.5
19	1453 3/4-1501¼	175°	163.5
20	1501¼-1508 3/4	182°	163.5
21	1508 3/4-1516¼	189°	163.5
22	1516¼-1527½	196°	163.5
23	1527½-1542½	189°	163.5
24	1542½-1557½	182°	163.5
25	1557½-1612½	186°	161.0
26	1612½-1627½	192°	163.5
27	1627½-1642½	187°	158.0
28	1642½-1700	182°	153.2
12 August 1952			
1	1015-1025	344°	167.5
2	1025-1035	351°	167.5
3	1035-1045	359°	167.5
4	1045-1053 3/4	006°	167.5
5	1053 3/4-1101¼	012°	167.5
6	1101¼-1108 3/4	019°	167.5
7	1108 3/4-1116¼	025°	167.5
8	1116¼-1135	032°	167.5
9	1135-1205	041°	167.5
10	1205-1227½	045°	167.5
11	1227½-1242½	053°	166.5
12	1242½-1257½	061°	164.2
13	1257½-1312½	070°	161.1
14	1312½-1335	079°	157.8
15	1335-1355	086°	150.5
16	1355-1405	094°	142.5
17	1405-1415	101°	133.5

ABSTRACT OF DIPOLE POSITIONS FOR SHO PAT

(Relative to Anchor Position)

HYDROGRAPHIC SURVEY H-8003 (PF4152)

PLOTTING POSIT NO	TIME	AZIMUTH FM BUOY	AZIMUTH FM ANCHR	DIST FM BUOY METERS	DIST FM ANCHR METERS
12 August 1952 Continued					
18	1415-1435	110°		122.5	
19	1435-1505	116°		117.5	
20	1505-1525	107°		113.0	
21	1525-1535	112°		127.5	
22	1535-1545	116°		143.2	
23	1545-1605	119°		160.5	
24	1605-1611¼	113°		167.5	
25	1611¼-1613 3/4	119°		160.5	
26	1613 3/4-1616¼	127°		153.8	
27	1616¼-1618 3/4	134°		150.2	
28	1618 3/4-1621¼	143°		149.4	
29	1621¼-1623 3/4	150°		151.5	
30	1623 3/4-1626¼	159°		155.0	
31	1626¼-1628 3/4	166°		160.8	
32	1628 3/4-1645	173°		167.5	
33	1645-1745	178°		145.5	
13 August 1952					
1	0915-1015	330°		167.0	
2	1015-1037½	338°		167.0	
3	1037½-1052½	345°		167.0	
4	1052½-1115	353°		167.0	
5	1115-1145	000°		165.5	
6	1145-1237½	007°		162.5	
13 August 1952 Continued					
7	1237½-1252½	016°		160.2	
8	1252½-1307½	025°		161.5	
9	1307½-1322½	032°		162.5	
10	1322½-1337½	040°		163.8	
11	1337½-1352½	047°		162.5	
12	1352½-1407½	055°		162.5	
13	1407½-1422½	064°		163.8	
14	1422½-1432½	073°		166.5	
15	1432½-1437½	079°		159.0	
16	1437½-1442½	086°		152.5	
17	1442½-1447½	093°		146.2	
18	1447½-1452½	100°		140.8	
19	1452½-1457½	108°		137.5	
20	1457½-1505	117°		135.5	
21	1505-1515	124°		133.8	
22	1515-1525	133°		137.5	
23	1525-1535	141°		140.8	
24	1535-1545	133°		140.4	
25	1545-1555	126°		143.5	
26	1555-1607½	119°		147.8	
27	1607½-1622½	128°		141.0	
28	1622½-1637½	138°		138.0	
29	1637½-1652½	143°		118.0	
30	1652½-1707½	150°		101.0	

ABSTRACT OF DIPOLE POSITIONS FOR SHO PAT

(Relative to Anchor Position)

HYDROGRAPHIC SURVEY H-8003 (PF 4152)

PLOTTING POSIT NO	TIME	AZIMUTH FM BUOY ANCHR	DIST FM BUOY ANCHR METERS
14 August 1952			
1	0815-0845	300°	166.5
2	0845-0915	307°	166.5
3	0915-0945	317°	166.5
4	0945-1007½	324°	166.5
5	1007½-1022½	330°	166.5
6	1022½-1105	336°	166.5
7	1105-1115	344°	166.5
8	1115-1125	352°	166.5
9	1125-1133 3/4	000°	166.5
10	1133 3/4-1141¼	007°	165.0
11	1141¼-1148 3/4	013°	163.5
12	1148 3/4-1156¼	020°	163.5
13	1156¼-1207½	026°	163.5
14	1207½-1222½	034°	163.5
15	1222½-1237½	042°	163.0
16	1237½-1252½	050°	161.0
17	1252½-1307½	057°	158.0
18	1307½-1322½	064°	158.0
19	1322½-1345	072°	158.0
20	1345-1437½	079°	162.2
21	1437½-1452½	084°	165.0
22	1452½-1507½	090°	167.0
23	1507½-1522½	094°	167.0
24	1522½-1535	099°	167.0
25	1535-1545	105°	165.0
26	1545-1555	112°	165.0
27	1555-1705	118°	166.1
28	1705-1715	126°	166.1
15 August 1952			
1	0800-0812½	201°	161.8
2	0812½-0827½	210°	163.8
3	0827½-0842½	219°	165.0
4	0842½-0857½	225°	166.0
5	0857½-0910	231°	166.0
6	0910-0920	238°	164.0
7	0920-0930	245°	162.5
8	0930-0938	252°	158.2
9	0938-0944	259°	152.8
10	0944-0950	266°	148.2
11	0950-0956	273°	143.8
12	0956-1002	280°	140.0
13	1002-1012½	288°	135.8
14	1012½-1027½	295°	130.0
15	1027½-1042½	303°	124.5
16	1042½-1057½	310°	111.8
17	1057½-1110	317°	96.1

ABSTRACT OF DIPOLE POSITIONS FOR SHO PAT

(Relative to Anchor Position)

HYDROGRAPHIC SURVEY H-8003 (PF4152)

PLOTTING POSIT NO	TIME	AZIMUTH FM BUOY ANCHR	DIST FM BUOY ANCHR METERS
15 August 1952 Continued			
18	1110-1120	328°	96.1
19	1120-1130	340°	95.3
20	1130-1206½	351°	92.5
21	1206½-1215½	003°	89.0
22	1215½-1224½	014°	90.0
23	1224½-1233½	026°	94.0
24	1233½-1242½	037°	101.5
25	1242½-1251½	046°	112.8
26	1251½-1300½	054°	125.5
27	1300½-1312½	060°	140.0
28	1312½-1327½	065°	147.5
29	1327½-1340	070°	155.0
30	1340-1350	078°	161.2
31	1350-1400	085°	164.2
32	1400-1420	093°	164.2
33	1420-1505	100°	166.8
34	1505-1529	106°	166.8
35	1529-1553	112°	166.8
36	1553-1647	119°	166.8
22 August 1952			
1	0813-0851¼	093°	166.8
2	0851¼-0913 3/4	099°	160.5
3	0913 3/4-0927½	103°	149.2
4	0927½-0932½	111°	143.2
5	0932½-0937½	119°	139.2
6	0937½-0942½	128°	138.2
7	0942½-0947½	136°	140.5
8	0947½-0952½	144°	145.5
9	0952½-1002½	151°	154.0
10	1002½-1017½	156°	160.0
11	1017½-1036¼	161°	165.0
12	1036¼-1058 3/4	167°	166.0
13	1058 3/4-1116	171°	163.8
14	1116-1128	178°	163.8
15	1128-1140	184°	163.8
16	1140-1152	189°	163.8
17	1152-1204	195°	163.8
18	1204-1216	201°	163.8
19	1216-1228	207°	163.8
20	1228-1240	213°	163.8
21	1240-1252	219°	163.8
22	1252-1304	225°	163.8
23	1304-1316	231°	163.8
24	1316-1328	237°	163.8
25	1328-1340	243°	163.8
26	1340-1352	248°	163.8

ABSTRACT OF DIPOLE POSITIONS FOR SHO PAT

(Relative to Anchor Position)

HYDROGRAPHIC SURVEY H-8003 (PF4152)

PLOTTING POSIT NO	TIME	AZIMUTH FM BUOY ANCHR	DIST FM BUOY ANCHOR METERS	PLOTTING POSIT NO	TIME	AZIMUTH FM BUOY ANCHR	DIST FM BUOY ANCHR METERS
22 August 1952 Continued							
27	1352-1404	254°	163.8				
28	1404-1416	260°	163.8				
29	1416-1428	272°	163.8				
30	1428-1457½	278°	163.8				
31	1457½-1502½	285°	163.8				
32	1502½-1507½	291°	163.8				
33	1507½-1512½	298°	163.8				
34	1512½-1517½	304°	163.8				
35	1517½-1522½	311°	163.8				
36	1522½-1530	317°	163.8				
37	1530-1540	323°	163.8				
38	1540-1550	329°	163.8				
39	1550-1558 3/4	335°	163.8				
40	1558 3/4-1606¼	329°	163.8				
41	1606¼-1613 3/4	323°	163.8				
42	1613 3/4-1621¼	317°	163.8				
43	1621¼-1632½	311°	163.8				
44	1632½-1647½	318°	163.8				
45	1647½-1700	325°	163.8				

STATISTICS FOR HYDROGRAPHIC SURVEY H-8003

(Field Number PF 4152)

USC&GSS PATHFINDER Project CS-343

ESSEL	VOL NO	DAY LETTER	DATE	H.L.& WIRE SOUNDINGS	POSITIONS	STAT. MILES OF HYDRO
Launch No 1	1	a (BLUE)	30 Jul 1952	0	66	24.9
"	1	b "	31 Jul 1952	0	108	39.4
"	1	c "	11 Aug 1952	0	89	36.8
"	1	d "	12 Aug 1952	3	63	21.9
"	2	e "	13 Aug 1952	0	108	44.1
"	2	f "	14 Aug 1952	0	144	56.2
"	3	g "	15 Aug 1952	0	120	45.0
"	4	h "	22 Aug 1952	0	128	35.9
Launch No 1	SUB*TOTAL				826	304.2
Launch No.2	1	a (brown)	30 Jul 1952	0	61	24.8
"	1 and 2	b "	31 Jul 1952	0	131	52.0
"	2	c "	11 Aug 1952	0	59	24.0
"	2	d "	12 Aug 1952	0	96	35.4
"	3	e "	13 Aug 1952	0	127	48.4
"	3 and 4	f "	14 Aug 1952	0	151	53.1
"	4 and 5	g "	15 Aug 1952	0	120	47.7
"	5 and 6	h "	22 Aug 1952	0	98	54.8
"	6	j "	13 Sep 1952	0	77	25.9
Launch No 2	SUB-TOTAL				920	366.1

STATISTICS FOR HYDROGRAPHIC SURVEY H-8003

(Field Number PF 4152)

USC&GSS PATHFINDER Project CS-343

VESSEL	VOL	NO	DAY LETTER	DATE	H.L.& WIRE SOUNDINGS	POSITIONS	STAT. OF	MILES HYDRO
Launch No 4	1	a	(GREEN)	30 Jul 1952	0	76		23.8
"	1	b	"	31 Jul 1952	0	143		51.1
"	1	c	"	11 Aug 1952	0	81		27.1
"	2	d	"	12 Aug 1952	0	110		38.2
"	2	e	"	13 Aug 1952	0	160		54.2
"	2 and 3	f	"	14 Aug 1952	0	175		60.6
"	3	g	"	15 Aug 1952	0	166		55.5
"	3 and 4	h	"	22 Aug 1952	0	98		31.8
Launch No 4		SUB-TOTAL				1009		342.3
PATHFINDER	1	A	(BLUE)	3 Sep 1952	0	15		6.3
"	1	B	"	30 Jul 1952	0	1		Bottom Sample
PATHFINDER -	SUB-TOTAL					16		6.3
TOTAL- -					3	2771		1018.9

TOTAL AREA, Square Statute Miles- - - - 199.0

TIDE NOTE

HYDROGRAPHIC SURVEY H-8003 (PF4152)

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

2. 4.3 feet on the staff corresponded to MLLW in 1952.

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

4. Tidal Data from this gage were used without application of corrections for time and height differences. (Reference: Director(s letter 36 rcb, Subject - "Tide Zones and Reducers, Pribilof Islands area, Alaska", 18 September 1952).

FATHOMETER CORRECTIONS

HYDROGRAPHIC SURVEY H-8003 (PF4152)

Corrections for Launch 808 Fathometers

Launch No 1 — Fathometer No 52

Period 30 July - 22 August — Fathom Scale - A Phase

To Depth (fms)	Corrn (fm)
55	+0.2

Foot Scale - A Phase

To Depth (ft)	Corrn (ft)
55	+1.0

Launch No 2 — Fathometer No 74-S

Period 30 July - 13 September — Fathom Scale - A Phase

To Depth (fms)	Corrn (fm)
55	+0.2

Launch No 4 — Fathometer No 61

Period 30 and 31 July — Fathom Scale - A Phase

To Depth (fms)	Corrn (fm)
55	+0.4

Launch No 4 — Fathometer No 68

Period 11 - 22 August — Fathom Scale - A Phase

To Depth (fms)	Corrn (fm)
31	+0.3
55	+0.2

CORRECTIONS FOR SHIP FATHOMETER

808 Fathometer No 130-S — For Reduced Speed (45 - 75 RPM)

Period 3 September

To Depth (fms)	Corrn (fm)
55	0.0

ABSTRACT OF SHORAN CORRECTIONS

SURVEY H-8003 East of St. George Island

VESSEL	DAY LTR	DATE	TIME FROM TO	RATE CHANNEL STA	RATE CHANNEL CORRN	DRIFT CHANNEL STA	DRIFT CHANNEL CORRN
Launch 1	a (BLUE)	30 Jul 1952	1412	PAT	+0.066	CAN	+0.012
"	"	30 Jul 52	1413-1515	PAT	+0.057	CAN	+0.007
"	"	30 Jul 52	1516-1615	PAT	+0.059	CAN	+0.003
"	"	30 Jul 52	1616	PAT	+0.058	CAN	+0.004
Launch 1	b (BLUE)	31 Jul 52	1024	PAT	+0.062	CAN	+0.007
"	"	31 Jul 52	1025-1127	PAT	+0.060	CAN	+0.004
"	"	31 Jul 52	1128-1154	PAT	+0.061	CAN	+0.007
"	"	31 Jul 52	1413-1437	PAT	+0.065	CAN	+0.010
"	"	31 Jul 52	1440-1550	CAN	+0.015	PAT	+0.052
"	"	31 Jul 52	1551-1646	CAN	+0.014	PAT	+0.051
"	"	31 Jul 52	1647	CAN	+0.010	PAT	+0.051
Launch 1	c (BLUE)	11 Aug 52	1350	PAT	+0.058	CAN	+0.010
"	"	11 Aug 52	1351-1505	PAT	+0.058	CAN	+0.011
"	"	11 Aug 52	1506-1650	PAT	+0.058	CAN	+0.010
"	"	11 Aug 52	1651	PAT	+0.061	CAN	+0.012
Launch 1	d (BLUE)	12 Aug 52	1201	PAT	+0.054	CAN	+0.017
"	"	12 Aug 52	1202-1250	PAT	+0.056	CAN	+0.006
"	"	12 Aug 52	1251-1500	PAT	+0.061	CAN	+0.014
"	"	12 Aug 52	1501-1600	PAT	+0.061	CAN	+0.010
"	"	12 Aug 52	1601	PAT	+0.063	CAN	+0.009
Launch 1	e (BLUE)	13 Aug 52	1139	PAT	+0.049	CAN	+0.008
"	"	"	1140-1258	"	+0.050	"	+0.007
"	"	"	1259-1406	"	+0.047	"	+0.008
"	"	"	1407-1516	"	+0.053	"	+0.006
"	"	"	1517-1628	"	+0.054	"	+0.008

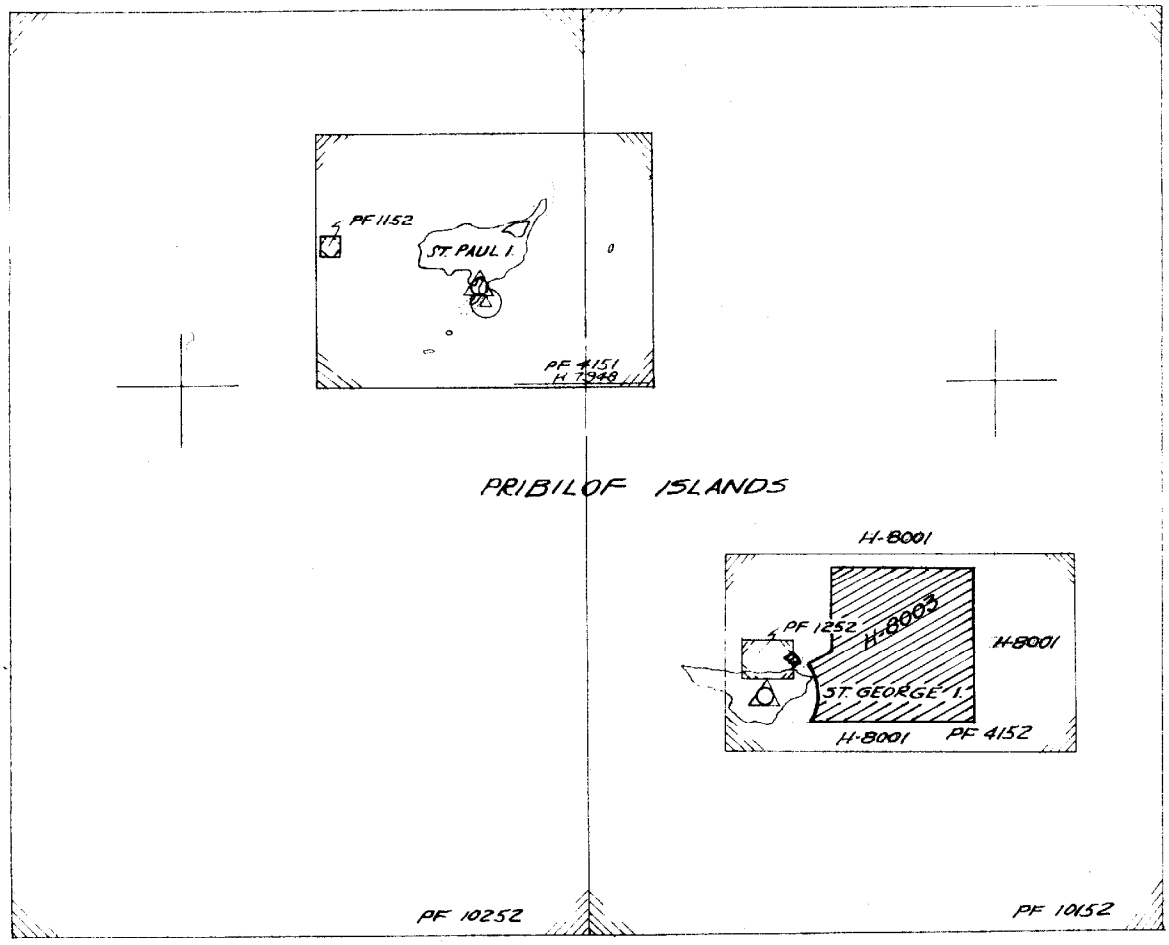
171°

170°

169°

57°

56°



U.S.C.&G.S.S. PATHFINDER

1952 SHEET LAYOUT SKETCH

PRIBILOF ISLANDS, ALASKA

PROJECT CS 343

CHARLES PIERCE, COMDG.

SCALE: CHART 8802

LEGEND: SHORAN STATION

E.P.I. STATION

171°

170°

169°

ABSTRACT OF SHORAN CORRECTIONS

SURVEY H-8003 East of St. George Island

VESSEL	DAY LTR	DATE	TIME FROM	TIME TO	RATE CHANNEL STA	RATE CHANNEL CORRN	DRIFT CHANNEL STA	DRIFT CHANNEL CORRN
Launch 1	e (BLUE)	13 Aug 52	1629		PAT	+0.050	CAN	+0.009
Launch 1	f (BLUE)	14 Aug 52		1024	PAT	+0.053	CAN	+0.014
"	"	"	1025	1055	"	+0.052	"	+0.012
"	"	"	1056	1156	"	+0.055	"	+0.007
"	"	"	1157	1327	"	+0.055	"	+0.011
"	"	"	1328	1435	"	+0.054	"	+0.007
"	"	"	1436	1545	"	+0.055	"	+0.009
"	"	"	1546	1641	"	+0.056	"	+0.010
"	"	"	1642	1717	"	+0.054	"	+0.008
"	"	"	1718		"	+0.061	"	+0.019
Launch 1	g (BLUE)	15 Aug 52		0958	PAT	+0.055	CAN	+0.012
"	"	"	0959	1226	"	+0.053	"	+0.014
"	"	"	1227	1328	"	+0.054	"	+0.011
"	"	"	1329	1434	"	+0.052	"	+0.007
"	"	"	1435		"	+0.054	"	+0.009
Launch 1	h (BLUE)	22 Aug 52		1347	PAT	+0.047	CAN	+0.009
"	"	"	1348	1712	"	+0.046	"	+0.008
"	"	"	1713		"	+0.054	"	+0.011
Launch 2	a(BROWN)	30 Jul 52		1419	PAT	+.052	CAN	+0.001
"	"	"	1420	1444	"	+0.052	"	-0.002
"	"	"	1445	1510	"	+0.055	"	-0.001
"	"	"	1511	1525	"	+0.049	"	-0.001
"	"	"	1526	1557	"	+0.051	"	-0.002
"	"	"	1558	1613	"	+0.049	"	-0.003
"	"	"	1614		"	+0.050	"	-0.001
Launch 2	b(BROWN)	31 Jul 52		0920	PAT	+0.052	CAN	+0.002

ABSTRACT OF SHORAN CORRECTIONS

SURVEY H-8003 East of St. George Island

VESSEL	DAY LTR	DATE	TIME FROM TO	RATE STA	CHANNEL CORRN	DRIFT STA	CHANNEL CORRN
Launch 2	b(BROWN)	31 Jul 52	0921-1011	PAT	+0.049	CAN	+0.002
"	"	"	1012-1101	"	+0.050	"	-0.001
"	"	"	1102-1120	"	+0.051	"	+0.003
"	"	"	1121-1329	"	+0.049	"	0.000
"	"	"	1330-1408	"	+0.047	"	0.000
"	"	"	1409-1500	"	+0.049	"	-0.002
"	"	"	1501-1523	"	+0.046	"	-0.001
"	"	"	1524-1548	"	+0.048	"	-0.002
"	"	"	1549-1624	"	+0.049	"	+0.001
"	"	"	1625	"	+0.050	"	-0.001
Launch 2	c(BROWN)	11 Aug 52	1329	PAT	+0.057	CAN	0.000
"	"	"	1330-1415	"	+0.052	"	+0.003
"	"	"	1416-1429	"	+0.046	"	-0.004
"	"	"	1430-1511	"	+0.048	"	0.000
"	"	"	1512-1547	"	+0.051	"	0.000
"	"	"	1548	"	+0.050	"	-0.001
Launch 2	d(BROWN)	12 Aug 52	1132	PAT	+0.050	CAN	+0.009
"	"	"	1133-1319	"	+0.041	"	0.000
"	"	"	1320-1404	"	+0.053	"	+0.003
"	"	"	1405-1520	"	+0.052	"	+0.001
"	"	"	1521-1534	"	+0.045	"	-0.003
"	"	"	1535-1555	"	+0.051	"	0.000
"	"	"	1556	"	+0.052	"	0.000
Launch 2	e(BROWN)	13 Aug 52	1011	PAT	+0.043	CAN	+0.003
"	"	"	1012-1305	"	+0.042	"	+0.003
"	"	"	1306-1402	"	+0.045	"	+0.003

ABSTRACT OF SHORAN CORRECTIONS

SURVEY H-8003 East of St. George Island

VESSEL	DAY LTR	DATE	TIME FROM	TIME TO	RATE CHANNEL STA	RATE CHANNEL CORRN	DRIFT CHANNEL STA	DRIFT CHANNEL CORRN
Launch 2	e(BROWN)	13 Aug 52	1403	1457	PAT	+0.040	CAN	+0.003
"	"	"	1458	1538	"	+0.041	"	+0.003
"	"	"	1539	1615	"	+0.041	"	0.000
"	"	"	1616	-	"	+0.041	"	0.000
Launch 2	f(BROWN)	14 Aug 52	0913		PAT	+0/045	CAN	+0.007
"	"	"	0914	1011	"	+0.041	"	-0.001
"	"	"	1012	1305	"	+0.041	"	-0.001
"	"	"	1306	1404	"	+0.043	"	-0.001
"	"	"	1405	1523	"	+0.043	"	0.000
"	"	"	1524	1625	"	+0.042	"	+0.002
"	"	"	1626	1635	"	+0.045	"	+0.004
"	"	"	1636		"	+0.046	"	+0.001
Launch 2	g(BROWN)	15 Aug 52	0929		PAT	+0.046	CAN	+0.004
"	"	"	0930	1004	"	+0.044	"	-0.001
"	"	"	1005	1039	"	+0.042	"	0.000
"	"	"	1040	1241	"	+0.041	"	0.000
"	"	"	1242	1343	"	+0.041	"	0.000
"	"	"	1344	1419	"	+0.040	"	-0.002
"	"	"	1420	1440	"	+0.041	"	0.000
"	"	"	1441	1513	"	+0.041	"	-0.002
"	"	"	1514	1537	"	+0.042	"	0.000
"	"	"	1538		"	+0.040	"	-0.002
Launch 2	h(BROWN)	22 Aug 52	1309		PAT	+0.045	CAN	+0.002
"	"	"	1310	1509	"	+0.041	"	-0.001
"	"	"	1510	1526	"	+0.039	"	-0.002
"	"	"	1527	1557	"	+0.042	"	+0.002

ABSTRACT OF SHORAN CORRECTIONS

SURVEY H-8003 East of St. George Island

VESSEL	DAY LTR	DATE	TIME FROM	TIME TO	RATE CHANNEL STA	RATE CHANNEL CORRN	DRIFT CHANNEL STA	DRIFT CHANNEL CORRN
Launch 2	h(BROWN)	22 Aug 52	1558		PAT	+0.044	CAN	0.000
Launch 4	a(GREEN)	30 Jul 52		1400	PAT	+0.031	CAN	-0.023
"	"	"	1401	1502	"	+0.026	"	-0.025
"	"	"	1503	1504	"	+0.027	"	-0.024
"	"	"	1504	1606	"	+0.028	"	-0.023
"	"	"	1607-		"	+0.026	"	-0.021
Launch 4	b(GREEN)	31 Jul 52		1000	PAT	+0.027	CAN	-0.024
"	"	"	1001	1102	"	+0.026	"	-0.024
"	"	"	1103	1201	"	+0.028	"	-0.025
"	"	"	1202	1430	"	+0.030	"	-0.024
"	"	"	1431	1534	"	+0.028	"	-0.026
"	"	"	1535	1635	"	+0.027	"	-0.023
"	"	"	1636	1708	"	+0.029	"	-0.025
"	"	"	1709-		"	+0.027	"	-0.023
Launch 4	c(GREEN)	11 Aug 52		1333	PAT	+0.021	CAN	-0.026
"	"	"	1334	1436	"	+0.028	"	-0.024
"	"	"	1437	1535	"	+0.023	"	-0.028
"	"	"	1536	1622	"	+0.022	"	-0.028
"	"	"	1623		"	+0.024	"	-0.029
Launch 4	d(GREEN)	12 Aug 52		1200	PAT	+0.014	CAN	-0.022
"	"	"	1201	1330	"	+0.024	"	-0.027
"	"	"	1331	1519	"	+0.022	"	-0.025
"	"	"	1510	1627	"	+0.022	"	-0.025
"	"	"	1628	1716	"	+0.026	"	-0.025
"	"	"	1717		"	+0.021	"	-0.026

ABSTRACT OF SHORAN CORRECTIONS

SURVEY H-8003 East of St. George Island

VESSEL	DAY LTR	DATE	TIME FROM	TIME TO	RATE CHANNEL STA	RATE CHANNEL CORRN	DRIFT CHANNEL STA	DRIFT CHANNEL CORRN
Launch 4	e(GREEN)	13 Aug 52		1013	PAT	+0.014	CAN	-0.022
"	"	"	1014	1109	"	+0.016	"	-0.023
"	"	"	1110	1608	"	+0.016	"	-0.023
"	"	"	1609		"	+0.015	"	-0.024
Launch 4	f(GREEN)	14 Aug 52		1003	PAT	+0.016	CAN	-0.023
"	"	"	1004	1115	"	+0.019	"	-0.024
"	"	"	1116	1241	"	+0.017	"	-0.023
"	"	"	1242	1412	"	+0.016	"	-0.026
"	"	"	1413	1514	"	+0.015	"	-0.028
"	"	"	1515	1629	"	+0.014	"	-0.026
"	"	"	1630		"	+0.015	"	-0.026
Launch 4	g(GREEN)	15 Aug 52		1002	PAT	+0.019	CAN	-0.026
"	"	"	1003	1103	"	+0.019	"	-0.024
"	"	"	1104	1245	"	+0.016	"	-0.025
"	"	"	1246	1405	"	+0.017	"	-0.026
"	"	"	1406		"	+0.018	"	-0.026
Launch 4	h(GREEN)	22 Aug 52		0954	PAT	+0.016	CAN	-0.025
"	"	"	1308	1401	"	+0.016	"	-0.025
"	"	"	1402	1501	"	+0.016	"	-0.025
"	"	"	1502	1600	"	+0.016	"	-0.028
"	"	"	1601	1652	"	+0.015	"	-0.028
"	"	"	1653		"	+0.018	"	-0.026

Abs KWB
_/ FJB

APPROVAL SHEET

HYDROGRAPHIC SURVEY H-8003 (PF 4152)

The field work was done under my general supervision and the Boat Sheets were inspected daily as the work progressed.

The survey is complete and affords basic hydrographic coverage of the area. Extension of hydrographic coverage for the inshore waters of St. George Island at a larger scale is recommended.

The completed Smooth Sheet and accompanying records have been examined by me and are approved.

Charles Pierce

CHARLES PIERCE
Chief of Party

GEOGRAPHIC NAMES

Survey No. H-8003

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									BHN	2
Pribilof Islands									BHN	3
St. George Island										4
Tolstoi Pt.										5
				Names underlined in red are approved. 3-16-53 L. Heck						6
										7
										8
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M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-8003

Records accompanying survey:

Boat sheets 4; sounding vols. 15; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 4 Env.;

special reports, etc. 1 Smooth Sheet; 1 Overlay -Soundings from H-7914 & H-7949;

1 Overlay-Soundings from H-8001; 1 Descriptive Report;

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

Number of positions on sheet		2771.
Number of positions checked		89
Number of positions revised		12
Number of soundings revised (refers to depth only)		177
Number of soundings erroneously spaced		22
Number of signals erroneously plotted or transferred		—
Topographic details	Time	2 hrs.
Junctions	Time	8. hrs
Verification of soundings from graphic record	Time	20 hrs.

Verification by E. Thomas ..... Total time 158. Date 29 Mar 54

Reviewed by ..... J. A. Dinsmore ..... Time 24 ... Date 8 April 1954

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8003 FIELD NO. PF-4152

Alaska, Pribilof Island, East of St George Island

Project No. CS-343

Surveyed - July - Sept. 1952 Scale 1:40,000

Soundings: Control: Shoran

808 Fathometers Sextant fixes on shore signals

Chief of Party - C. Pierce
Surveyed by - H. J. Healy, K. S. Ulm, F. J. Bryant
Protracted by - K. W. Bauer
Soundings plotted by - K. W. Bauer
Verified and inked by - E. Thomas
Reviewed by - T. A. Dinsmore 6 April 1954
Inspected by - R. H. Carstens

1. Shoreline and Control

No contemporary shoreline is available for St. George Island. The short section of shoreline shown at Tolstoi Point originates with T-2287 (1897). The tangent of the point was used to aid in controlling the detached hydrography on the northwest.

The control for the survey is fully described in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in adequate agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated.

This offshore survey covering an area east of St. George Island reveals a previously undiscovered shoal.

The shoal rises sharply from surrounding depths of 10-15 fms. to within 1.9 fms. of the surface in lat. 56°37.6', long. 169°11.1'. A less prominent shoal also rises abruptly from 20 to 25-fm. depths to minimum depths of 14 fms. in lat. 56°36.2', long. 169°17.4'. Except for these conspicuous shoals and a few minor irregularities, the bottom slopes smoothly.

4. Junctions with Contemporary Surveys

The present survey ~~junctions~~ joins adequately with incomplete survey H-8001(1952) on the north, east, south and northwest. H-7914 (1951) partially overlaps the present survey on the northwest. Random lines of the above surveys and of incomplete survey H-7949 (1951) scale 1:500,000 cover much of the present survey area. All junctional soundings and those falling within the present survey are in harmony with the depths on the present survey.

North of St. George Island, the detached hydrography on the present survey ~~junctions~~ joins adequately with H-8004 (1952) on the west. Other inshore surveys on the west have not as yet been received in the Washington Office.

The transfer of junctional soundings is deferred pending the verification of the adjoining surveys. Further consideration, and comment regarding the junctions will be made in the reviews of the adjoining surveys.

5. Comparison with Prior Surveys

There are no prior surveys in this area.

6. Comparison with Chart 8993 (Drawing No. 2 April 1954)
8995 (" No. 2 " 1954)

A. Hydrography

Hydrography on the above drawings originates principally with the boat sheet of the present survey supplemented by critical information from the verified smooth sheet. Although minor differences are noted between some of the smooth-sheet soundings and those charted, no important revisions are necessary. It is noted, however, that the 20-fm. shoal in lat. 56°39.35', long. 169°13.40', has not been charted.

Several charted bottom characteristics where no discrepancies in depth were found, have been carried forward to the present survey. With these additions, the present survey is adequate to supersede the charted information.

B. Aids to Navigation

No aids to navigation are charted in this area. The only dangers to navigation revealed by the survey is the 1.9-fm. shoal in lat. 56°37.6', long. 169°11.1'.

7. Condition of Survey

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

b. The smooth plotting was accurately done.

c. Distance circles from the ship shoran station SHOPAT are not drawn on the smooth sheet because of the variable position of this station. The method of plotting shoran distances from SHOPAT is fully described in paragraph I., of the Descriptive Report.

d. The unsurveyed area southwestward of shoran station SHOPAT could not be adequately controlled because of its proximity to the baseline between the two shoran stations. However, the holiday is partially covered by overlapping sounding lines from H-7914, H-7949 and H-8001. This coverage appears adequate for this area of regular and featureless bottom. The transfer of overlapping soundings will be made at the time the junctions with the adjoining surveys are made.

e. As noted by the hydrographer in paragraph J. (3) of the Descriptive Report, the detached area of hydrography in the vicinity of lat. 56°37', long. 169°30' is controlled by substandard accuracy and is in the nature of a reconnaissance survey to investigate the previously charted 13-fm. (now 11 fms.) depth in this locality. This area should be resurveyed when inshore surveys of St. George Island are undertaken.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

Except as noted in paragraph 7 e, above, the survey is considered basic for the area covered and no further field work is recommended. As a matter of record it is noted that only two bottom characteristics were obtained on this first basic survey of the area.

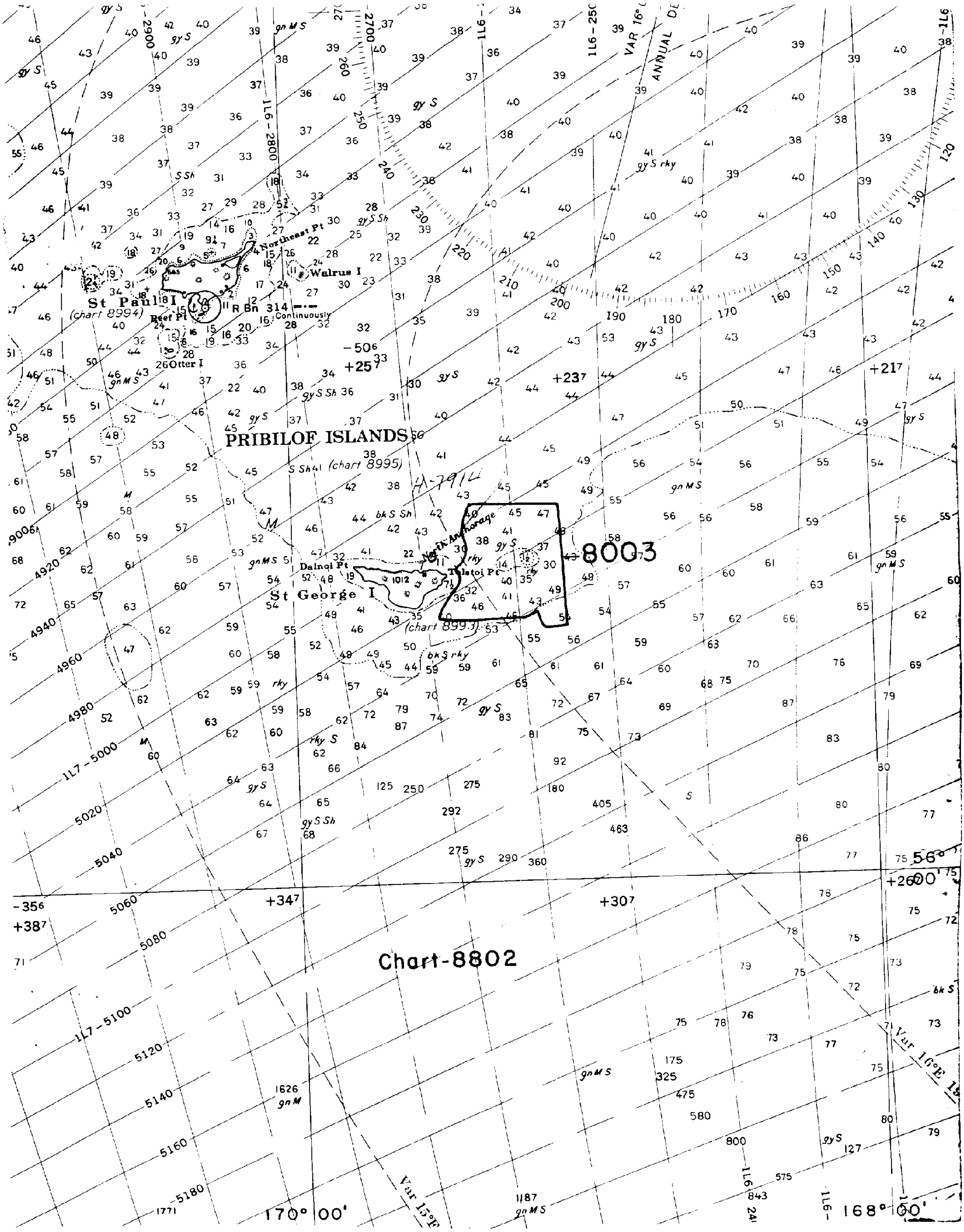
Examined and Approved:

Wallace A. Bruder
W. A. Bruder
Acting Chief, Nautical Chart Branch

H. Arnold Karo
H. Arnold Karo
Chief, Division of Charts

G R Fish
G. R. Fish
Chief, Section of Hydrography

Earl O. Heaton
Earl O. Heaton
Chief, Division of Coastal Surveys


PRIBILOF ISLANDS
(chart 8995)
St Paul I
(chart 8994)
Northeast Pt
Walrus I
Reef Pt
R Bn 314
Continuously
Otter I
St George I
(chart 8993)
Dalnoi Pt
Tolstoi Pt
North Anchorage
H-7914
8003
Chart-8802
170° 00'
168° 00'
56° 00'
VAR 16°
ANNUAL
Var 15°E
Var 16°E

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~ 13 March 1953

Division of Charts: R. H. Carstens

Plane of reference approved in 15
volumes of sounding records for

HYDROGRAPHIC SHEET 8003

Locality Bering Sea, Alaska

Chief of Party: C. Pierce in 1952
Plane of reference is mean lower low water, reading
4.3 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.

U. S. GOVERNMENT PRINTING OFFICE 877933

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8003

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
9 Mar 54	8993	Nichols	~~Before~~ After Verification and Review (Before inserted) Partial appl. only
	8995	C. R. W.	~~Before~~ After Verification and Review (Before inserted)
Mar '55	8802 ✓	G.H.E.	~~Before~~ After Verification and Review (Before inserted) via 8995
Feb. 28, '61	8802	J. M. Albert	Change 1½ rock to 1¾ (9 miles east of St. George I. ~~Before~~ After Verification and Review complete application
Mar. 6, '61	9302	J. M. A.	~~Before~~ After Verification and Review Thru {cht. 8995 / " 8802 / smooth sheet
May 14, '62	8995	J. P. Weir	~~Before~~ After Verification and Review Added 20 fathom sounding + curve
Aug 10-66	8993	J. S. McMillan	~~Before~~ After Verification and Review added 20 fathom sdgs + curve. Time will not permit full application at this time; Reduction of H-sheet in Bugsyne files
6-11-70	8993	J. T. Gallahan	~~Before~~ After Verification and Review revised hydro for complete application of survey.
			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.