

8047

Original

10-6-55

Diag. Cht.No 8700

<small>Form 504</small> U. S. COAST AND GEODETIC SURVEY DEPARTMENT OF COMMERCE DESCRIPTIVE REPORT	
Type of Survey	^{hic} Hydrographic
Field No.	SU-2353
Office No.	H-8047
LOCALITY	
State	Alaska
General locality	Alaska Peninsula—South Side
Locality	Unga Strait
194 53	
CHIEF OF PARTY	
J. C. Rose & F. G. Johnson	
LIBRARY & ARCHIVES	
DATE	MARCH 8, 1955

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. E-8047

Field No. SU-2353

State Alaska

General locality Alaska Peninsula--South Side

Locality Unga Strait

Scale 1:20,000 Date of survey 15 July 1953 to 20 Sept, 1953

Instructions dated 8 Mar 1951, Supplemental Inst. dated 17 Mar 1952 and 5 Feb. 1953

Vessel SURVEYOR and Launch No. 4

Chief of party J.C. Bose and F.G. Johnson

Surveyed by J.P. Lushene, J.C. Bull and D.H. Konichek

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

Fathograms scaled by A.N. Stewart, O.H. Quade, J.D. Hodges

Fathograms checked by A.N. Stewart, O.H. Quade, J.D. Hodges

Protracted by Seattle Processing Office

Soundings penciled by Seattle Processing Office

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

REMARKS: Records completed on SURVEYOR and turned over to Seattle

Processing Office for plotting smooth sheet

Handwritten initials

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SURVEY H-8047

(FIELD NO SU 2353)

Alaska Peninsula -- South Side

1:20,000

J.C. Bose, Chief of Party

USC&GSS SURVEYOR

J.P. Lushene and J.C. Bull, Hydrographers

A. PROJECT:

Original instructions for Project Cs-344, dated 8 March 1951, and supplemental instructions dated 17 March 1952 and 5 February 1953 to the commanding officer were followed.

B. SURVEY LIMITS AND DATES:

This survey includes the waters in Unga Strait between longitudes $160^{\circ} 23.0'W$ and $160^{\circ} 46.5'W$ and latitudes $55^{\circ} 25.2'N$ and $55^{\circ} 26.6'N$; the in shore hydrography south of Swedania Point between longitudes $160^{\circ} 29.6'W$ and $160^{\circ} 32.0'W$; the entrance to Balboa Bay south of latitude $55^{\circ} 27.3'N$, the inshore hydrography north of East Head on Popof Island, and east of West Head on Unga Island; and north of Popof Island north of latitude $55^{\circ} 22.0'N$.

This survey makes a junction with prior survey H3575 (1913) in Popof Strait.

Junction was also made with contemporary surveys H 8049 on the east, H 8046 on the northeast, and H 8048 on the north. *H-8046 not registered in Wash*

Hydrography commenced on 15 July 1953 and ended 20 September 1953.

C. VESSELS AND EQUIPMENT:

The SURVEYOR and launch No. 4 operating from the ship were engaged in this survey.

The SURVEYOR, equipped with Model 808 Depth Recorder, No 128-S, was used for the off shore hydrography.

Launch No. 4, equipped with Model 808 Depth Recorder No. S-110, was used for all inshore hydrography.

The turning radius of the launch is approximately 20 meters at

sounding speed while that of the SURVEYOR is about 400 meters. ✓

D. TIDE AND CURRENT STATIONS:

Data obtained from the Sand Point, Shumagin Island^S, portable tide gage, latitude 55° 20.2'N, longitude 160° 30.1'W, without correction for either time or height, were used to reduce all of the soundings on the sheet.

No current stations were occupied. ✓

E. SMOOTH SHEET:

The smooth sheet projection was made by the Seattle Processing Office by hand. The shoreline and topographic detail has not been put on the sheet at the time of this writing because a new radial plot of the area is being made by the Photogrammetric Office and is not yet available. *Shoreline now added.* ✓

F. CONTROL STATIONS:

The positions of the triangulation stations used for control on this sheet were obtained from the "List of Geographic Positions of Triangulation Stations, Anchorage to Attu Island, Alaska, Volume 5."

Four old triangulation stations were re-established during the season. They were COT 2, GULL 2, UNGA SPIT LIGHT 2, and Rock off Cape Aliaksin 1913-1953, and their new locations will be used to control the smooth plot of the soundings. The position of Rock off Cape Aliaksin was computed using an old direction from SWEDE and a new direction from ALIK.

No recoverable topographic stations were established.

Boat sheet positions of photo-hydro signals, for the most part, were office selected points as found on Advance Topographic Manuscript Nos. T 11106, T 11107, T 11111, T 8836 and Topographic Manuscript T 8838. Twelve photo-hydro signals were field radial plotted. Positions on smooth sheet are subject to some shifting from boat sheet location, with the new radial plot of this area.

It was necessary to locate additional hydrographic signals by sextant cuts due to the lack of identifiable points on the photographs.

For a discussion of the accuracy of location of control, refer to the Photogrammetric Descriptive Report, Ship SURVEYOR, 1953.

All locations are considered accurate for good position location of soundings.

A list of signals and their source will be found in Volume No. 1. ✓

G. SHORELINE AND TOPOGRAPHY:

The shoreline and topographic details for the boat sheet were obtained from the Advance Topographic Manuscripts No. T 11106, T11107, T 11111, T 8836, and Topographic Manuscript T 8838. These details were not verified except by the photogrammatist.

H. SOUNDINGS:

All soundings were taken with Model 808J Depth Recorders equipped with tachometer reeds calibrated at 800 fathoms per second. Standard methods were followed to obtain the initial, index, phase and tide corrections. Refer to the Fathometer Report, Ship SURVEYOR, 1953. *With H-8045*

I. CONTROL OF HYDROGRAPHY:

Standard methods for the control of visual hydrography were followed.

Because of inconsistencies between relative positions of photo-hydro signal locations and true positions of triangulation stations in the western part of Unga Strait, photogrammetric positions of stations ALIK, GULL, COT, and UNGA STRAIT LIGHT were used on the boat sheet, and a position of CLIFF from sextant cuts was used. Differences in position were corrected on the radial plot made following the field season, and positions from the last plot were used on the smooth sheet.

J. ADEQUACY OF SURVEY:

This survey is complete and adequate to supersede prior surveys for charting.

The junctions with adjoining surveys are satisfactory. All depth curves can be adequately drawn.

No non-standard depth curves were used on this sheet.

K. CROSSLINES:

Approximately ten per cent of the lines run were crosslines. An examination of the boat sheet shows that all crossings are satisfactory and fall within the requirements of Paragraphs 3571 and 7771 of the Hydrographic Manual

The discrepancies at the crossings in percentages of the depth can best be found after the reduced soundings have been penciled on the smooth sheet. The soundings on the boat sheet were reduced with predicted tides and no fathometer corrections were applied at that time.

L. COMPARISON WITH PRIOR SURVEYS:

Comparison with prior surveys H-3574, (1913) 1:20,000; H-3576, (1913) 1:20,000; H 3654 (1913, 1914, 1923), 1:100, 000, H 4494, (1925), 1:20,000, and H6927 (1943, 1:40,000 is satisfactory. Generally, the old soundings and the boat sheet soundings agreed within a fathom with a few agreeing within two fathoms.

M. COMPARISON WITH CHART:

Comparison with chart 8700 is satisfactory.

N. DANGERS AND SHOALS:

Shoaler depths were found on all previously charted shoals and one new shoal was found. The shoals found were not considered dangers due to their least depth. A list of the shoals follows:

Approximately 0.8 miles south of Swedania Point at latitude $55^{\circ} 27.8^{\prime} N$, longitude $160^{\circ} 30.4^{\prime} W$ with a least depth of 39 fathoms. (Between positions No. 214 and 215 SURVEYOR).

Approximately 3.2 miles north of East Head, Popof Island at latitude $55^{\circ} 24.7^{\prime} N$, longitude $160^{\circ} 29.5^{\prime} W$, with a least depth of 28 fathoms. (Between positions No. 119 and 120 D, SURVEYOR).

Approximately 1.9 miles north of East Head, Popof Island at latitude $55^{\circ} 23.5^{\prime} N$, longitude $160^{\circ} 27.8^{\prime} W$, with a least depth of 21 fathoms. Position 141 H, SURVEYOR).

Approximately 2.4 miles north of East Head, Popof Island at latitude $55^{\circ} 23.9^{\prime} N$, longitude $160^{\circ} 28.8^{\prime} W$, with a least depth of 22 fathoms (Between positions No. 91 and 92d, launch 4).

Approximately 2.4 miles north of East Head, Popof Island at latitude $55^{\circ} 23.9^{\prime} N$, longitude $160^{\circ} 29.7^{\prime} W$, with a least depth of 25 fathoms. (Between positions No. 109 and 110d, launch 4).

The only danger is the rock awash off cape Aliaksin relocated by 1953 triangulation.

O. COAST PILOT INFORMATION:

The general description of this area as given in the "Coast Pilot, Part II-Yakutat to Arctic Ocean," pages 310 and 311 is satisfactory.

Coast Pilot Notes were submitted as a separate report on an area basis on 25 November 1953, and will not be repeated in this report.

P. AIDS TO NAVIGATION:

The Unga Spit Light at latitude $55^{\circ} 24.5^{\prime} N$, longitude $160^{\circ} 43.4^{\prime} W$ and the Range Island Light at latitude $55^{\circ} 21.4^{\prime} N$, longitude $160^{\circ} 30.2^{\prime} W$ are located in the area covered by this sheet.

There are no ferry routes, bridges, submarine cables or telegraph or telephone lines in this area.

Q. LANDMARKS FOR CHARTS:

The following suggested landmark for charts, as submitted on form 567, 20 November 1953, fall on this sheet:

The rock awash off Cape Aliaksin at latitude $55^{\circ} 27.0'N$ longitude $160^{\circ} 46.7'W$ (located 1953 triangulation).

R. GEOGRAPHIC NAMES:

No new geographic names appear on this sheet.

S. SILTED AREAS:

No silted areas were noted on the fathograms.

T. BY-PRODUCT INFORMATION:

None

U.-Y. MISCELLANEOUS:


None

Z. TABULATION OF APPLICABLE DATA:


The following items have been forwarded to the Washington office:

Fathometer Report-----Submitted, 15 December 1953. *With H-8045*
Coast Pilot Notes-----Submitted, 25 November 1953.
Landmarks for Charts-----Submitted, 20 November 1953.
Photogrammetry Report-----Submitted, 24 December 1953.

Respectfully Submitted,


OMAR H. QUADE
Lieut. (j.g.)

Forwarded


Frank G. Johnson
Commander, USC&GS
Commanding USC&GSS SURVEYOR

TIDE NOTE

1953

The portable tide gage at Sand Point, Alaska, was used to reduce all of the soundings on this sheet. This gage was located at latitude $55^{\circ} 20.2'$ N, longitude $160^{\circ} 30.1'$ W on the dock of the Aleutian Cold Storage Company. MLLW on the staff, as furnished by the Washington Office, is 4.0 feet. Refer to the Acting Director's letter (36 rjb) dated 26 August 1953, attached.

No time or range corrections were applied in reducing the soundings.

C O P Y

36-rjb

26 August 1953

To: The Commanding Officer
U.S.C. & G.S. Ship SURVEYOR
705 Federal Office Building
Seattle 4, Washington

Subject: Tide data, Alaska

Tide data requested in your letter of 15 August
1953 are as follows:

	Albatross Anchorage	Sand Point
MLLW (on staff)	4.0 feet	4.0 feet
MTL (on staff)	8.0 "	7.9 "
Mean range	5.4 "	5.3 "
Ratio of ranges (on Womens Bay)	0.80	0.78
Difference, time of tide (on Womens Bay)	435 ^m	435 ^m

/s/ Earl O. Heaton
Acting Director

GEOGRAPHIC NAMES

An alphabetical list of all geographic names penciled on the smooth sheet will be submitted by the Seattle Processing Office upon completion of the smooth sheet.

STATISTICS FOR HYDROGRAPHIC SURVEY H 8047 (1953)
 USC&GSS SURVEYOR

CS 344
 SURVEYOR

Day Letter	Volume Number	Date	H.L. or W.S.	Number of Positions	Statute Miles of Sounding
a	1	15 July 1953	0	182	63.3
b	1&2	16 July 1953	0	223	85.7
c	2	20 July 1953	0	40	14.8
d	2&3	21 July 1953	0	216	82.8
e	3&4	13 August 1953	0	185	64.6
f	4	15 August 1953	0	93	32.9
g	4&5	21 August 1953	0	208	68.2
h	5	26 August 1953	0	200	64.7
j	6	10 September 1953	0	144	36.8
k	6	20 September 1953	0	38	11.2
Totals			0	1529	525.0

✓

STATISTICS FOR HYDROGRAPHIC SURVEY H 8047 (1953)

USC&GSS SURVEYOR

Launch N. 4

Day Letter	Volume Number	Date	H.L. or W.S.	Number of Positions	Statute Miles of Soundings
a	1	15 July 1953	0	87	19.0
b	1	27 August 1953	0	69	13.8
c	1	5 September 1953	0	122	25.6
d	2	19 September 1953	0	<u>141</u>	<u>25.0</u>
		Totals	0	419	83.4
		Totals for Sheet.....	0	1948	608.4

Statute square miles of hydrography----57.4

APPROVAL SHEET

The boat sheet was inspected at the end of each day's hydrography, by Cdr. J. C. Bose, while the work was in progress.

The fathograms and record volumes have been given a final inspection of a general nature and were approved.

No plotting has been accomplished on the smooth sheet.



FRANK G. JOHNSON
Commander, USC&GS
Comdg. USC&GSS SURVEYOR

PROCESSING OFFICE NOTES
H-8047

SMOOTH SHEET

The projection was hand constructed in the Seattle Processing Office. Shoreline and topography from bromoil prints. ✓

CONTROL STATIONS

The location of hydrographic signal "Wit" could not be plotted because photo point 0615, from which it was located, could not be identified on the manuscript print. Since the signal was only used two times, the positions were plotted on time and sun angle. ✓

SHORELINE & TOPOGRAPHY

The shoreline and topography was transferred from Shoreline Manuscripts T-8836, T-8838, T-11106, T-11107 and T-11111. ✓

41-42,52 42, 1942,52 1942,52 1942,52

SOUNDINGS

At Lat. 55°25.8' Long. 160°26', positions 140G to 141G, the spacing appears too long. Since neither angle will fit time and course, the fix was plotted as is and the soundings were pencilled. The plotting does not change the depth curves. *adjusted to T.C.*

CROSSLINES

Apparent 1 fm. discrepancies in the vicinity of Lat. 55°23.5' Long. 160°27' do not amount to more than 0.2 fm in 33 to 34 fms. of water. Other crosslines on the sheet appear to agree within 1 or 2 percent. *crossings O.K.*

AIDS TO NAVIGATION

One other navigation aid, not listed in the report is on the sheet. PIRATE COVE LIGHT at Lat. 55°21.75' Long 160°21.63' *H-8049(1953)*

Approved and forwarded
L.S. Hubbard
L.S. Hubbard, Captain C&GS
Supervisor, Northwestern District.

Respectfully submitted
Clarence R. Lehman
Clarence R. Lehman
Cart. Comp. Aid, C&GS

LIST OF GEOGRAPHIC NAMES PENCILED ON
H-8047

Alaska Peninsula

Balboa Bay

Cape Aliaksin

Gull Island

Henderson Island

High Island

Korovin Island

Korovin Strait

Pirate Cove

Popof Island

Popof Strait

Range Island

Swedania Point

Unga Island

Unga Spit

Unga Strait

West Head

Zachary Bay

GEOGRAPHIC NAMES

Survey No. ~~H-8047~~
H-8047

Name on Survey	Source of Name										
	A	B	C	D	E	F	G	H	K		
<u>Alaska</u>			(for title)								1
<u>Alaska Peninsula</u>			"	"					BGN		2
<u>Unga Strait</u>											3
<u>Swedania Point</u>											4
<u>Balboa Bay</u>									BGN		5
<u>Cape Aliakin</u>											6
<u>Unga Spit</u>											7
<u>Gull Island</u>											8
<u>Unga Island</u>											9
<u>Zachary Bay</u>											10
<u>West Head</u>											11
<u>Popof Strait</u>											12
<u>Range Island</u>											13
<u>East Head</u>											14
<u>Popof Island</u>									BGN		15
<u>Pirate Cove</u>											16
<u>High Island</u>											17
<u>Henderson Island</u>											18
<u>Korovin Strait</u>											19
<u>Korovin Island</u>											20
											21
											22
<u>Sand Point</u>			(tide station)								23
											24
											25
											26
											27

Names approved 3-18-55 L. ~~W. S.~~

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8047

FIELD NO. SU-2353

Alaska, Alaska Peninsula - South Side, Unga Strait

Project No. CS-344

Surveyed - July, Sept., 1953

Scale 1:20,000

Soundings:

Control:

808 Fathometer

Sextant fixes on
shore signals

Chief of Party - J. C. Bose, F. G. Johnson
Surveyed by - J. P. Eushene; J. C. Bull, D. H. Konichek
Protracted by - Seattle Processing Office
Soundings plotted by - Seattle Processing Office
Preliminary Verif. by - A. R. Stirni
Verified and inked by - *J.C. Chambers*
Reviewed by - A. R. Stirni 8-1-55
Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with the unreviewed manuscripts of air-photographic surveys T-8836 (1941-42-52), T-8838 (1942), T-11106 (1942-52), T-11107 (1942-52) and T-11111 (1942-52). The ledge area not falling within the limits of the present survey was left uninked.

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

2. Sounding Line Crossings

The sounding-line crossings are in good agreement.

3. Depth Curves and Bottom Configuration

Complete development of the zero, 1-fm, and 2-fm. depth curves was not practicable because of the rocky shoreline, however, other depth curves have been adequately delineated.

The present survey covers most of the offshore area of Unga Strait. The deeper part, where depths are 70-85 fathoms, leads northward into Balboa Bay and northeastward between Swedania Pt. and Korovin Island. Of particular interest are the shoals in

lat. $55^{\circ}23.8'$, long. $160^{\circ}28.8'$, and lat. $55^{\circ}23.3'$, long. $160^{\circ}27.8'$, which rise steeply about 10-fms from surrounding depths. A curved ridge at the top of each shoal forms a crater-like depression. The fathograms reveal the lip of the depression to rise about 4 fms. from the bottom.

4. Junctions with Contemporary Surveys

Depths on the present survey are in harmony with depths on unverified junctional surveys H-8048 (1953) on the north, H-8156 (1954) on the northwest, west and southwest, and H-8049 (1953) on the southeast. There are no contemporary surveys on the south in Popof Strait. Present soundings are in adequate agreement with depths in this area on H-3575 (1913). Surveys on the northeast have not yet been registered in the Washington Office. Junctional soundings have not been transferred and depth curves have not been inked pending completion of the verification of the present survey and the junctional surveys.

5. Comparison with Prior Surveys

a.	H-3574 (1913), 1:20,000	H-3722 (1914), 1:100,000
	H-3576 (1913), 1:20,000	H-3654 (1913-14-23-39), 1:100,000
	<u>H-4494 (1925), 1:20,000</u>	<u>H-6927 (1943), 1:40,000</u>

These prior surveys, taken together, cover most of the survey area except in the vicinity of Swedania Pt. This area is closely developed on the present survey. No changes in the bottom are apparent since the time of the prior surveys, however, the present survey, with a closer spacing of sounding lines reveals shoals which were hitherto undetected. Two such shoals, with depths of 22 and 25 fathoms are located at lat. $55^{\circ}23.8'$, long. $160^{\circ}28.8' - 29.7'$. Two other shoals of 21 and 28 to 29 fathoms at lat. $55^{\circ}23.35'$, long. $160^{\circ}27.8'$, and lat. $55^{\circ}24.60' - 24.80'$, long. $160^{\circ}29.2'$ had been indicated on prior surveys by three soundings of 26, 29, and 30 fathoms, but no development had been made. With the addition of several bottom characteristics from the prior surveys the present survey is adequate to supersede the prior surveys within the common area.

b. H-6740 W.D. (1941)

Present depths are in harmony with the effective depths in the vicinity of Popof Strait, shown on this wire-drag survey.

6. Comparison with Chart 8700 (latest print date 6-28-54)

A. Hydrography

Charted hydrography originates with the previously discussed prior surveys, and with partial application of the present

survey before verification and review.

The present survey entirely supersedes the charted hydrography.

B. Aids to Navigation

There are no aids to navigation charted within the limits of the present survey.

7. Condition of Survey

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

(b) Preliminary inspection and verification reveals that the smooth plotting was accurately done.

(c) Bottom samples on the two crater-like shoals in the vicinity of lat. $55^{\circ}23.5'$, long. $160^{\circ}28.5'$, would have greatly enhanced the oceanographic information on the survey.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

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

Examined and Approved:



H. R. Edmonston
Chief, Nautical Chart Branch



E. R. McCarthy
Chief, Division of Charts



J. C. Bull
Chief, Hydrography Branch



Earl O. Heaton
Chief, Division of Coastal Surveys

Addendum to Review

H-8047 (1953)

Inked by - J. C. Chambers
Review Addendum by - A. R. Stirni 5/3/56
Inspected by - R. H. Carstens

The verification of this survey is now complete.

Junctions with Contemporary Surveys

Junctional surveys H-8048 (1953), H-8156 (1954) and H-8049 (1953), which were compared with the present survey during preliminary verification are not yet verified. Unverified survey H-8046 (1953), which joins on the northeast and was registered subsequent to the review, is in harmony with the present survey.


Comparison with Chart 8700 (print date 6/28/54)

No changes have been made in the charted hydrography since the date (8/1/55) of the review.

Condition of Survey

Completion of the verification reveals that the smooth plotting was well done.

Approved:



Chief, Chart Division

RHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

22 March 1955

Division of Charts: R. H. Carstens

Plane of reference approved in
8 volumes of sounding records for

HYDROGRAPHIC SHEET 8047

Locality Alaska Peninsula, South Side

Chief of Party: J. C. Bose) 1953
F. G. Johnson)

Plane of reference is mean lower low water, reading
4.0 ft. on tide staff at Sand Point
18.5 ft. below B. M. 5 (1943)

Height of mean high water above plane of reference is 6.5 feet.

Condition of records satisfactory except as noted below:

E. C. McKay
Tides Branch

Chief, Division of Tides and Currents.

