

5970

U. S. COAST & GEODETIC SURVEY  
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Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. PATTON Director

State: ALASKA

DESCRIPTIVE REPORT

~~Topographic~~  
Hydrographic

} Sheet No. K-21-35

LOCALITY

AKUTAN BAY & NORTH COAST AKUN

ISLAND, ALEUTIAN ISLANDS.

19\_35

CHIEF OF PARTY

A. M. SOBIERALSKI, H. & G. E.

5970

F

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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.

Field No. K-21-35

REGISTER NO. <sup>5970</sup> **H5970**

State ALASKA

General locality ALEUTIAN ISLANDS<sup>14</sup>

Locality AKUTAN BAY & NORTH COAST AKUN ISLAND<sup>37</sup>

Scale 1:20,000 Date of survey JULY - OCTOBER, 19 35

Vessel U. S. C. & G. S. S. SURVEYOR & LAUNCHES

Chief of Party A. M. SOBIERALSKI

Surveyed by G. L. B., R. C. R., I. T. S., J. C. E.

Protracted by J. C. ELLERBE

Soundings penciled by E. H. SHERIDAN

Soundings in fathoms ~~feet~~

Plane of reference M L L W

Subdivision of wire dragged areas by \_\_\_\_\_

Inked by J. A. McCormick

Verified by " "

Instructions dated APRIL 13, 19 34

Remarks: PROJECT HP-176, SURVEYOR

DESCRIPTIVE REPORT  
to accompany  
HYDROGRAPHIC SHEET FIELD No. K-21-35

Project HT-176 - U. S. C. & G. S. S. SURVEYOR - A. M. SOBIERALSKI, COMDG.

1 This survey was accomplished in accordance with Director's instructions dated April 13, 1934.

Survey Methods:

2 The hydrography on this sheet was accomplished by the ship and small boats, using fathometer, wire sounding machine and handlead. All positions are visual fixes on signals located by topography and triangulation. All soundings have had the conventional reductions applied to them. The work is deemed complete with the exception of a small amount of additional development which is desirable along the northeast coast of Akun Island near the extreme eastern edge of the sheet. The lines necessary for this work are indicated in blue on the boat sheet, and it is expected that they will be run when the work is extended along the east side of the island.

Discrepancies:

3 In Hot Springs Bay, there will be found some discrepancies between positions on the boat sheet and smooth sheet due to adjustment of positions of topographic signals as described in Descriptive Report accompanying topographic sheet K-A-35.

4 The sounding of  $2\frac{1}{2}$  fathoms on position 5 X about 150 meters northeast of  $\Delta$  Boiler, is apparently about 1 fathom too deep. The lead was probably dropped into a crevice, as the bottom was somewhat uneven close inshore off this rocky point. The soundings taken on N Day in this vicinity should govern.

5 The crossings between positions 140 to 142 b-Day, motor-sailer, and positions 11 to 14 c-Day, launch, about 300 meters southeast of topo signal Red (Hot Springs Bay) show a discrepancy of from 1 to 3 fathoms. This was probably due to steep slope and foul bottom.

6 All other crossings and junctions on the sheet are within the allowable limits.

Dangers:

7 In Hot Springs Bay, care should be taken to avoid a  $2\frac{1}{2}$  fathom shoal, surrounded by kelp, in latitude  $54^{\circ}-10'4$ , longitude  $165^{\circ}-50'2$ . This shoal was reported in a notice to mariners in August 1935.

8 There are several danger spots on the outer edge of Surf Bay. A group of islets, surrounded by kelp and rocks awash, is situated at latitude  $54^{\circ}-09'8$ , longitude  $165^{\circ}-38'2$ .

2

Dangers - continued:

Rocks awash and kelp occur at latitude  $54^{\circ}-10'3$ , longitude  $165^{\circ}-37'9$  and there is a 2 fathom shoal, kelp covered, and surrounded by 8 to 12 fathoms in latitude  $54^{\circ}-10'4$ , longitude  $165^{\circ}-38'3$ .

Akun Head should be given a wide berth when passing. A reef extends westward about ~~530~~ <sup>580 yards</sup> meters. The end of this reef is in latitude  $54^{\circ}-17'8$ , longitude  $165^{\circ}-38'7$ .

A rock awash, surrounded by 7 to 8 fathoms lies in latitude  $54^{\circ}-13'2$ , longitude  $165^{\circ}-53'2$ , off the southern point of Open Bight. Small boats should stay outside of this danger as there is a sunken rock 90 meters south and inshore.

A reef extends offshore from  $\Delta$  Sand, the outer edge being marked by rocks awash and kelp. The extreme outer edge is in latitude  $54^{\circ}-09'9$ , longitude  $165^{\circ}-45'0$ .

Channels:

The small channel from the southwest side of Surf Bay to Akutan Strait is not considered safe for navigation by even the smallest of boats. Though passage can be made through this channel, if necessary, there are so many hidden rocks that it is considered an extremely precarious undertaking.

There are no other channels of note on this sheet.

Anchorage:

Open Bight is a broad bight with gradually shelving sandy bottom, and is open to the heavy swells from the Bering Sea. It is not recommended as an anchorage. (See Coast Pilot Notes, 1935).

Hot Springs Bay. Anchorage during southerly and westerly weather may be found in the west central part of the bay in 12 to 25 fathoms, sandy bottom. A two fathom shoal is situated in latitude  $54^{\circ}-10'4$ , longitude  $165^{\circ}-50'2$ . (See Coast Pilot Notes, 1935).

Sandy Cove. A small bight 1/2 mile in diameter just east of Hot Springs Bay. It is exposed to northeast weather. Small craft may find anchorage in the center of the bay. (See Coast Pilot Notes, 1935).

Surf Bay, lying between Akun Strait and Lost Harbor, is an open bight exposed to the westward and northward. A group of rocky islets lies in the middle of the western side, and a group of rocks awash lies about 1/3 mile north of these islets. Irregular bottom with a least depth of 2-2/6 fathoms lies about 1/2 mile north of the islets. The channel south of the islets is clear and anchorage may be found in 10 fathoms of water, rock and sand bottom, about 1/2 mile from shore with good protection in southerly and easterly weather. (See Coast Pilot Notes, 1935).

Anchorage - continued:

Lost Harbor is a deep indentation about  $1\frac{1}{2}$  miles wide, and extending inshore about 2 miles. A deep with 28 fathoms lies on the inner end. A sand spit makes off from the northern coast, but depths of 6 fathoms or more will be found  $\frac{3}{8}$  mile offshore. The deepest part of the entrance channel lies on the southern side about  $\frac{3}{8}$  to  $\frac{1}{2}$  mile off shore. This bay affords good anchorage, though there is considerable swell in northwesterly weather. (See Coast Pilot Notes, 1935).

Little Bay is a bight open to the northward. A gravel spit makes out from the western shore, and a reef from the eastern shore, the two almost meeting in the center. A narrow channel, least depth about  $\frac{1}{2}$  fathom, makes through the reef at its western end. Small boats may go through this channel at high tide in calm weather and will find excellent shelter inside. Larger craft may anchor in from 8 to 10 fathoms, sandy bottom, in the center of the bay outside the spit, though there is no protection in northerly weather.

Comparison with previous surveys:

Previous surveys in this vicinity were in the nature of a reconnaissance and where discrepancies occur, if any, this survey should be given additional weight.

It will be noted that sounding lines were carried over into certain areas indicated as foul on topographic sheets (surveyed in 1934). These areas lie between topo signals Cab and Pay and in the small bight south of Cab. (Surf Bay). It is possible that the rocks awash in question showed only at low water and were not noted by the hydrographic party. The bottom was generally bumpy in this area and these rocks could very easily have been missed on a calm day with high tide.

New Names:

Billings Head on the northeast point of Akun Island. See Descriptive Report for topographic sheet field No. K-B-35.

Additional Notes:

During the course of this survey, it was noted that a heavy swell ran almost continuously toward the southeastward from the Bering Sea. This swell extended generally about as far south into Akutan Bay as a line drawn from the north side of Hot Springs Bay to the north side of Lost Harbor. Tide Rips occurred quite frequently in this area on the flood tide. Off Akun Head, moderate rips generally extend a mile or more to the northwestward when the tide is flooding. At the same time, light rips occur to the northward of Akutan Strait, about 1 to 2 miles off Akutan Light.

On the ebb tide, rips are generally absent, though the Bering Sea swell is still encountered in the northern half of Akutan Bay.

Datum:

Unalaska Datum, Field Computations, was used on this sheet. Soundings were reduced to mean lower low water. Tide gage was located at the Whaling station in Akutan Harbor.

Statistics:

	Ship		Launch #4		Motor Sailer	
	Fath.	Mch.	Mach.	H.L.	Mach.	H.L.
Statute miles of sounding lines.....	258.9	-	311.7	120.0	35.8	23.5
Number of soundings.....	2630	13	3416	5540	497	403
Number of positions taken.....	598	13	1272	816	261	150

Total statute miles of sounding lines..... 749.9  
 Total number soundings.....12,399  
 Total number positions taken..... 3,110  
 Total area, square statute miles..... 120.

Respectfully submitted,

*John C. Ellerbe*  
 John C. Ellerbe,  
 Jr. H. & G. E.

Approved & forwarded:

*A. M. Sobieralski*  
 A. M. Sobieralski,  
 Commanding Officer,  
 U. S. C. & G. S. S. SURVEYOR

LIST OF SIGNALS  
to accompany  
HYDROGRAPHIC SHEET K-2135

Triangulation Stations:

North	North Head, 1935	Wag	Wag, 1935
Falls	Falls, 1935	Jac	Jac, 1935
Wet	Wet, 1934	Jon	Jon, 1935
Ridge	Ridge, 1934	Akun	Akun Head, 1935
Sand	Sand, 1935	Wild	Wild, 1935
Ak	Akutan Light, 1934	Lit	Lit, 1935
Harbor	Harbor, 1934	Low	Low 1935
Rent	Gurrent, 1934	High	High, 1935
Isle	Isle, 1934	Bay	Bay, 1935
Surf	Surf, 1935	Tel	Tel, 1935
Kren	Kren, 1934	Cat	Cat, 1935
Nuka	Nuka, 1934	Neat	Neat, 1935
Lost	Lost, 1935	Spike	Spike, 1935
Boiler	Boiler,	Vitus	Vitus, 1935
	Lost Harbor, 1935		
Stack	Stack, 1935		

Topographic Signals: Topo Sheet Field No. K-A-35

Ale	Nig	Ap	Hi	Be	Te	Ma
Cat	Fug	Bil	Mal	De	Est	PaW
Dog	Ray	Jot	Now	Ef	Es	Go
Pig	Top	Dan	Gap	Ge	Ve	New
Rat	Fam	Sam	Ago	Ho	Ex	Mon
Cro	Zag	Joe	Low	Ja	Wye	Tue
Moo	Shel	War	Gal	Ka	Ze	Wed
Gab	Hen	Sup	Imp	El	Off	Thu
Oil	Sap	Tit	Non	En	Hel	Fri
Gor	Kne	Get	Map	En	Ben	Sat
Don	Red	Lu	Cow	Pe	Mis	Sun
Dry	Pat	Zip	Try	Que	To	Pay
Gin	Ken	Po	Ox	Ar	Pa	Cab
			Hun			

Topographic Signals - Topo Sheet K-B-35

Ant	Fut	Arm	Pie	Fib	Ten	Sept	Age
Mac	Toe	Hip	Tut	One	Jan	Oct	Mess
Poi	Rip	Sho	Bis	Two	Feb	Nov	Eon
Nek	Cam	Bos	Top	Tre	Mar	Dec	Ero
Fin	Nuts	Rut	Min	Four	Dee	Er	Baby
Bak	Tom	Don	Bo	Fiv	Apr	Day	Boy
Vic	Went	Cus	Is	Six	May	Week	Girl
Pel	Amy	Bow	Me	Sev	June	Mo	Bit
Leg	Bob	Kin	Ra	Ate	July	Year	Man
Ank	May	Bab	Wal	Nine	Aug	Gen	Fem

Topo Sheet K-D-34

Gat	Fe	Guy	Zeb	Wax	Wid	PaW
-----	----	-----	-----	-----	-----	-----

On

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H5970**

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

Number of positions on sheet	.....3110
Number of positions checked	.....33
Number of positions revised	.....1
Number of soundings recorded	.....12399
Number of soundings revised	..... <i>many due to fractions</i>
Number of signals erroneously plotted or transferred	.....0

Date: *June 6, 1936*

Verification by

*J. A. Mc Cormick*

Time: *72 hr.*

*W. Bloom*

Time: *9 1/2 hr.*

Review by

*R. J. Christman*

Time: *13 1/2 hrs.*

*63  
11*



7

HYDROGRAPHIC SURVEY NO. H5970

Smooth Sheet yes

Boat Sheet s 2

Sounding Records 12 Vols. \_\_\_\_\_

Descriptive Report yes

Title Sheet yes

List of Signals D.R.

Landmarks for Charts (Form 567) no

Statistics yes

Approved by Chief of Party no

Recoverable Station Cards (Form 524) none

Special Chart for Lighthouse Service no  
(Circular Nov. 30, 1933)

Remarks \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Remarks

Decisions

	Remarks	Decisions
1		
2		
3		
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27		



# GEOGRAPHIC NAMES

Survey No. H5970

8860

On Chart No.   
 On previous survey No.   
 On U. S. Quadrangle Maps   
 From local information   
 On local Maps   
 P. O. Guide or Map   
 Rand McNally Atlas   
 U. S. Light List   
 K Chart 8802

Name on Survey	A	B	C	D	E	F	G	H	K	
<u>North Head</u> ✓	*						✓	✓	✓	1
<u>Open Bight</u> ✓	*									2
<u>Hot Springs Bay</u> ✓	*							✓	✓	3
<u>Akutan Island</u> ✓	*						✓	✓	✓	4
<u>Sandy Cove</u> ✓	*									5
<u>Surf Bay</u> ✓	*								✓	6
<u>Lost Harbor</u> ✓	*						✓	✓	✓	7
<u>Akun Island</u> ✓	*						✓	✓	✓	8
<u>Akutan Bay</u> ✓	*						✓	✓	✓	9
<u>Akun Head</u> ✓	*						✓	✓	✓	10
<u>Little Bay</u> ✓	*							✓	✓	11
<del>Billings Head</del> ?										12
										13
										14
										15
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										26
										27

Names underlined in red approved  
 by *EGR* on 4/2/36

# MEMORANDUM IMMEDIATE ATTENTION

SURVEY  
DESCRIPTIVE REPORT  
~~PHOTODUPLICATION~~

No. H5970

~~NO. 117~~

received March 30, 1936  
registered April 16, 1936  
verified  
reviewed  
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE	Initial	Attention called to
20		
✓ 22		<i>D.R. #1 - re - mention of additional work.</i>
24		
✓ 25	<i>[Signature]</i>	<i>pages 2 &amp; 3 - D.R.</i>
26		
30		
40		
62		
63		
82		
83		
88		
90		

RETURN TO

82	
----	--

*C. K. Green April 18 - 36*

Rac  
11

# TIDE NOTE FOR HYDROGRAPHIC SHEET

April 28, 1936

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. E. P. Ellis

Tide Reducers are approved in  
12 volumes of sounding records for

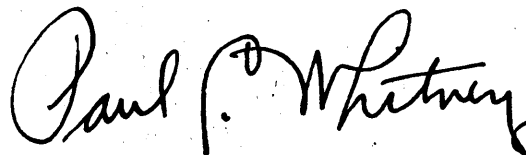
HYDROGRAPHIC SHEET 5970

Locality Akutan Bay and North Coast of Akun Island, Aleutian Islands.

Chief of Party: A.M. Sobieralski in 1935  
Plane of reference is mean lower low water reading  
3.9 ft. on tide staff at Akutan Harbor  
13.5 ft. below B.M. 1

Height of mean high water above plane of reference is 3.6 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

Verifier's Report on H-5970. 17

Records:

Soundings are reduced to fractions of fathoms to ten fathoms only instead of to 11 fathoms as required in the latest instructions.

Drafting:

Drafting is excellent. Field party used yellow ink for day letters in some two volumes. This color should be avoided. ~~Records~~ Soundings could have been penciled more legibly. Field draftsman was careless with his transfer of topography. Verifier could have sketched the topography more accurately in many cases. The small island at Lat. 54-09 Long. 165-39 had to be removed entirely and re-drawn by verifier.

Control:

Shoreline and topographic signals are from T-4930, T-4931 and T-6242.

Junctions:

This sheet is joined on the north by H-5971, on the northwest by H-5966 and on the south, by H-5762. Junctions with the first two were satisfactory. The major portion of the junction with H-5762 was satisfactory but the area at Long. 54-08.5 Long. 165-39.0 was not. Tracing of this junction accompanies this report for reviewer's action. Verifier did not make several deep edg. fall among sunken rocks on H-5970. Inasmuch as the bottom is very irregular the junction is considered satisfactory and the edg. have been inked.

Remarks:

It is verifier's opinion that the field party is a little too free with the use of sunken rock symbols, particularly in places where definitely located rocks are shown and the field party adds a couple of sunken rock symbols practically on top of the well-located rock. Verifier has removed these

sunken rock symbols in flagrant cases  
where they are crowded in and nothing is  
to be gained by showing them. A good  
example is the area at Lat. 54-08.5  
Long. 165-39.0. An inspection of the tracing  
submitted for junction will show several  
blue dots in this area. These dots show ✓  
represent the positions of sunken rock symbols  
as shown by the field party. It will be  
noticed that several of the sunken rock  
symbols have been removed from this area on  
the completed sheet.

June 6, 1936

Submitted,  
J. A. McCormick.



Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5970 (1935) FIELD NO. K-21-35

Akutan Bay and North Coast Akun Island, Aleutian Islands, Alaska  
Surveyed in July - October 1935  
Instructions dated April 13, 1934 (SURVEYOR)

Hand Lead and Machine Soundings.

3 Point fixes on shore signals.

Fathometer Soundings.

Chief of Party - A. M. Sobieralski  
Surveyed by - G. L. Bean, I. T. Sanders, J. C. Ellerbe  
                  and R. C. Rowse  
Protracted by - J. C. Ellerbe  
Soundings penciled by - E. H. Sheridan  
Verified and inked by - J. A. McCormick

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except as follows:

- a. Distinctive colors of day letters were not entered on the covers and title pages of the sounding volumes. Yellow color was assigned to the Motor Sailer. This color should not be used when others are available.
- b. No separate "Approval Sheet" was attached to the Descriptive Report.

The Descriptive Report except as noted under par. 1 b is complete and satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The plan, character and extent of development are in accordance with the instructions for the project. It is noted that several split lines are expected to be run during the 1936 field season off the northeast point of Akun Island. (See Descriptive Report page 1, par. 2)

3. Shoreline and Signals.

The shoreline and topographic signals originate with plane table surveys T-4930 (1935), T-4931 (1935) and T-6242 (1934).

4. Sounding Line Crossings.

No regular system of cross lines was run but crossings resulting from the work and depths on adjacent lines in general are consistent.

5. Depth Curves.

Within the area covered by the survey the usual depth curves may be satisfactorily drawn, including portions of the 5, 3, 2 and 1 fathom curves.

6. Junctions with Contemporary Surveys.

- a. Junctions with H-5971 (1935) and H-5966 (1935) to the north and west are satisfactory.
- b. Junction with H-5762 (1934) to the south is satisfactory.
- c. The inshore survey to the eastward has not yet been received.

7. Comparison with Prior Surveys.

H-2541 (1901), H-2542 (1901)

These surveys on scale 1:60,000 are of a reconnaissance nature only. The agreement in depth is fair, generally within 2 fathoms in a rather irregular bottom. Because of the larger scale and closer development of the present survey, H-5970 (1935) should supersede the above surveys for charting purposes.

8. Comparison with Chart 8860 (New Print dated Feb. 21, 1936)

a. Hydrography.

Within the area of the present survey the chart is based on the surveys discussed in the foregoing paragraph and on the following:

- (1) The soundings in Lost Harbor are from Blue Print 27,242 (1934) by the Coast Guard Cutter SHOSHONE. They are in good agreement with the present survey but should be superseded by H-5970 (1935) in future charting.
- (2) The 2 fathom shoal in Hot Springs Bay (lat. 54°10.4' long. 165°50.1') was charted from an advance report by the present field party (Chart Letter 695 of 1935). The survey shows a least depth of 2 1/6 fathoms over this rock and this depth should be accepted for future charting.
- (3) The 31 charted in lat. 54°13.5' long. 165°45.5' is a typographical error first appearing on the 1916 edition of Chart 8860. The previous edition showed a depth of 51 fathoms which is in agreement with the depth given on H-2541 (1901).

b. Aids to Navigation.

Akutan Light is the only aid to navigation falling within the area of the survey under consideration. The position was determined by triangulation and the charted position is in agreement with the survey.

9. Field Plotting.

The protracting was excellent.

In penciling soundings fractions were used to 10 fathoms only instead of to 11 fathoms as is now required. In penciling some of the curves, too much pressure was used rendering it difficult to erase the lines where changes from the penciled curves were made.

10. Additional Field Work Recommended.

The survey is complete and satisfactory and no further work is required except as noted in par. 2 of this review.

11. Superseding Old Surveys.

Within the area covered the present survey supersedes the following surveys for charting purposes:

H-2541 (1901) in part  
H-2542 (1901) in part

12. Reviewed by - R. J. Christman, July 13, 1936

Inspected by - A. L. Shalowitz

C. K. Green, *C. K. Green*  
Chief, Section of Field Records.

*L. O. Robert*  
Chief, Division of Charts.

*Fred. S. Peacock*  
Chief, Section of Field Work.

*G. H. de*  
Chief, Division of H. & T.

Applied to drawing of Chart No. 8860

S.B. Maize Jan 30 1937

Applied to drawing of Chart No. 8802

S.B. Maize June 1937

" " compilation " " 9005

F.M.A. March 1943

" " " " " 8720

G.K.S. April 1943