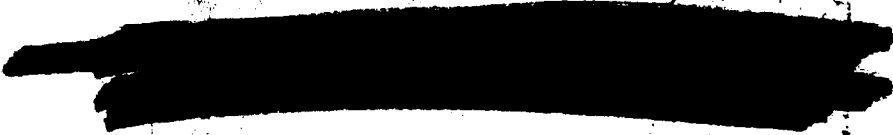


6109



6109



Form 504  
Rev. April 1935  
DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

**DESCRIPTIVE REPORT**

*Topographic* } Sheet No. U - 11 - 35  
*Hydrographic* }

---

State ALASKA

LOCALITY

UDAGAK STRAIT

---

ALEUTIAN ISLANDS

---

193 5

---

CHIEF OF PARTY

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

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES

APR 23 1936

Acc. No. \_\_\_\_\_

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.

Field No. U-11-35 H-6109

REGISTER NO.

State ALASKA

General locality ALEUTIAN ISLANDS

Locality UDAGAK STRAIT

Scale 1:10,000 ~~1:5,000~~ Date of survey SEPT. - OCT., 19 35

Vessel LAUNCH #4 - U. S. C. & G. S. S. SURVEYOR

Chief of Party A. M. SOBIERALSKI

Surveyed by JOHN C. ELLERBE

Protracted by JOHN C. ELLERBE

Soundings penciled by JOHN C. ELLERBE

Soundings in fathoms feet

Plane of reference M L L W

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

Inked by *John C. Ellerbe*

Verified by *John C. Ellerbe*

Instructions dated APRIL 13, 19 34

Remarks: PROJECT HT-176

DESCRIPTIVE REPORT  
to accompany  
HYDROGRAPHIC SHEET FIELD NO. U-11-35  
SCALE 1:10,000 - 1:5,000 INSERT

U. S. C. & G. S. S. SURVEYOR

-0-

A. M. SOBIERALSKI, COMMANDING

Instructions:

This survey was executed in accordance with Director's Instructions dated April 13, 1934.

Survey Methods:

This survey covers Udagak Strait and Udagak Bay. A scale of 1:10,000 was used on the entire area except that in the narrowest part of the strait, where a 1:5,000 scale was considered advisable.

The work on this sheet was accomplished by motor launch, using hand lead and wire sounding machine to obtain depths. All positions are visual fixes on signals located by triangulation and topography. All soundings have had the conventional corrections applied.

Discrepancies:

1. Between positions 199 and 200 a-day (insert), about 200 meters southwest of signal "Rog", a sounding of 3 fathoms appears to be 2 fathoms too deep. It is probable that the lead line was read wrong on this sounding, and the sounding of 1-4/6 fathoms on position 214 a-day should govern, since it is borne out by soundings on either side. *3 fm. sdg omitted on smooth sheet. L.S.S.*
2. On position 27 b-day (insert) 75 m. northwest of signal "Ap", a sounding of 4/6 fathom lies outside of a 1 fathom sounding. This is probably correct, since the bottom was very uneven here. *ok.*
3. Between positions 54 and 55 b-day (insert), about 200 meters E. N. E. of Anchor, a sounding of 6-1/2 fathoms appears outside of 8 fathoms. Since the bottom in this vicinity is very irregular, this sounding is considered correct. *ok.*
4. On position 215 b-day (insert), about 200 meters S. S. E. of signal Mal, a sounding of 27\* fathoms appears between 22 and 24 fathoms. This sounding should be somewhat shallower, possibly 2 to 3 fathoms, as the wire was leading aft when the sounding was taken, due to excessive current. *27 fm. sdg. omitted, G.R.*
5. On position 242 b-day (insert), about 475 meters west of signal Dog, a sounding of 6-1/2 fathoms appears outside of a 7-1/2 fathoms. This sounding is considered correct, due to bumpy bottom in this vicinity. *ok.*

Discrepancies - continued:

6. Between positions 67 and 68 e-day, about 150 meters northwest of signal Rog, a 6-4/6 fathom sounding appears inside of 2 fathoms. It is entirely possible that the recorder was in error in the time here, as the slope of the bottom was such that a few seconds difference would make a great difference in the depth. It is recommended that the 6-4/6 fathom sounding be moved southward about 18 meters, where it will be correct. *soundings adjusted L.S.S.*

7. On position 69 e-day, 25 meters northeast of signal Leg, appears a sounding of 2-2/6 fathoms outside of 2-2/6 fathoms. This is entirely possible, due to rocky bottom in this vicinity. *soundings plot O.K.*

8. On position 152 e-day, about 160 meters north of signal Leg, appears a sounding of 2-4/6 fathoms outside of 3-1/2 fathoms. This is entirely possible, due to rocky bottom in this vicinity.

9. Between positions <sup>38</sup> 20 and 21 f-day, about 620 meters west of signal Soon, is a (28) fathom sounding. ~~Since there was a well defined area to the westward of almost the same depth, it was not deemed necessary to develop this spot.~~ *On page 37 of Vol. 2, between pos 20-21 is recorded a 38 fm sounding. It is in good agreement with the surrounding depths. L.S.S.*

10. All other crossings and junctions are well within allowable limits.

Dangers:

In the south entrance to Udagak Strait, in latitude 53°- 43.2, longitude 166°- 15.3, lies a rock 4 feet above high water. Sufficient clearance will be obtained if a mid-chanel course is followed through this entrance. Small boats may pass close to this rock as there is deep water on all sides of it. *38 OK. L.S.S.*

In latitude 53°- 43.9, longitude 166°- 16.1, a 16 fathom shoal was found, surrounded by depths of over 20 fathoms. Extensive development failed to discover any danger, and it is deemed safe for vessels to pass over this spot.

(Inscr)  
In latitude 53°- 44.0, longitude 166°- 17.0, at the southern end of the narrows, a shoal spot marked by rocks awash and kelp was found. Care should be taken when passing this danger, as the rocks are completely covered at high water.

In the narrowest part of the strait, a rocky shoal extends offshore in a southerly direction. The southern tip of the 5 fathom curve lies in latitude 53°- 44.2, longitude 166°- 17.4. Care should be taken to hold well off this spot. A course passing about 175 meters off the south shore, then swinging northward again when abeam of the western end of the gravel beach, is considered safe.

Dangers - continued:

Extensive development in latitude 53° - 44'.7, longitude 166° - 18'.3 failed to show less than 17 fathoms. Inshore, however, in latitude 53° - 44'.8, longitude 166° - 18'.0, is a (7-1/2) fathom spot surrounded by 12 fathoms. 7'

A rock awash lies in latitude 53° - 44'.2, longitude 166° - 17'.92

No other menaces to navigation were discovered.

Channels:

The entire length of Udagak Strait may be considered a channel from the Pacific Ocean to Beaver Inlet. Going northward, a mid-channel course should be followed until clear of the group of rocks awash on the south side of the narrows, then bear left, passing about 175 meters off the south shore, until abeam of the western end of the gravel beach on the south side of the channel, then right and proceed in mid-channel. Care should be taken to watch for the effect of currents on any vessel using this channel.

Anchorage:

The only anchorage found on this sheet is in the head of Udagak Bay, in 12 to 19 fathoms of water, sand and mud bottom. Small boats may go further toward the head of the bay and find good anchorage in 6 to 10 fathoms, mud bottom. This bay affords good protection in any weather, and is probably the best sheltered anchorage in this vicinity.

Comparison with Previous Surveys:

Previous surveys in this vicinity were in the nature of a reconnaissance, and where discrepancies occur, this survey should be accepted as correct.

New Names:

No new names were given to any features on this sheet.

Additional Notes:

Tidal currents in Udagak Strait are very strong, a maximum of 4 knots being estimated. On October 9-th, a series of current observations were made between 9:30 A. M. and 4:00 P. M. During this period, high water occurred at 10:45 A. M. and low water at 4:30 P. M. It was noted that at high water, the current was flowing north-westward at a rate of 1.2 knots, gradually increasing to 1.4 at 11:15 A. M., when it began to slack, reaching the turn at 12:30 P.M., at which time the tide had ebbed 1.2 feet. A maximum flow of 2.9 knots

Additional Notes - continued:

was observed at 3:15 P.M., just  $1\frac{1}{4}$  hours before low water. At 4:00 P.M.,  $1\frac{1}{2}$  hour before low water, the current was still flowing southeastward at the rate of 1.9 knots. From this it would appear that slack current occurs from 1 to  $1\frac{1}{2}$  hours after the turn of the tide. It is regretted that lack of time made it impossible to secure more detailed observations. The above series was obtained by floating a weighted chip over a measured course in the narrowest part of the channel.

30

Light tide rips were frequently observed in the area off the mouth of Udagak Bay, sometimes extending well into the bay. These rips usually occurred when the wind was contrary to the current. Numerous swirls were also encountered in the same area at all times when the currents were more than 1 knot (estimated).

30

Datum:

Unalaska Datum, Field Computations, was used on this sheet. Soundings were reduced to mean lower low water. Tide gage was located in Udagak Strait.

Statistics:

	<u>Machine</u>	<u>H.L.</u>
Statute miles of sounding lines.....	96.2	28.2
Number of soundings.....	2253	1714
Number of positions.....	1242	318
Total statute miles of sounding lines.....	124.4	
Total number of soundings.....	3967	
Total number of positions.....	1560	
Total area - square statute miles.....	7.7	

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 ON SHEET U-11-35

Triangulation Stations:

Fake	Fake, 1934	Bluff	Bluff, 1935
Jill	Jill, 1935	Low	Low, 1935
Nob	Knob, 1935	Round	Round, 1935
Cro	Cross, 1935	Turn	Turn, 1935
Ben	Bench, 1935	Dome	Dome, 1935
Anc	Anchor, 1935	Jack	Jack, 1935
Row	Narrow, 1935	Strait	Strait, 1901-35

Topographic Signals - from Topographic Sheet U-D-35:

Lat	Arm	Tut	Al	Apr	One	Jut
Sit	Try	Hed	Jon	Mar	Red	Man
Din	Kis	Pat	Mess	Feb	Tim	Fem
Age	Ing	The	Bil	Ten	Bis	Baby
Mik	For	Big	Ap	Nine	Nel	Girl
Don	Fun	Dog	Pet	Ate	Sob	Boy
Sho	Do	But	Oct	Sev	Was	Pau
Pi	It	Lin	Sept	Six	El	
Be	Rog	Roc	Aug	Fiv	Ken	
Soon	Ira	Poi	July	Four	Ber	
Bow	Doc	Out	Jun	Tre	Gil	
Leg	Mal	Soo	May	Two	Wag	

From Topographic Sheet U-B-35:

Hob  
Pip

From Topographic Sheet U-C-35:

Dik  
Eat  
Ala  
Bam

Section of Field Records  
Hydrographic Survey 6109 Field No. U-11-35.  
Udagak Strait, Aleutian Islands Alaska.  
Chief of party, A. M. Sobieralski.

1. Condition of Records.

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

(a) Day letters were duplicated, but since one set pertained to the main sheet and the other to the insert, no confusion resulted.\*

\*The sounding volumes for the insert also were marked on the outside covers "Insert" R

(b) The shoreline from signal "Ala to triangulation point "Bluff" 1935 was left in pencil by the Field party. This was transferred from T-4934 (1935) and inked on the smooth sheet by the undersigned.

(c) Paragraph 9 under discrepancies page 2 of the Descriptive Report is in error. 38 fathoms instead of 28 fathoms appears in Volume 2 between pos. 20 and 21 f. 38 o.k. R

(d) The location of position 251 b. (insert, Lat. 53° 04' 22" Long. 166° 17' 41") is doubtful. The "double fix" (5 fathom sounding on pos. 251 b) as recorded can be plotted either inside or outside the 5 fathom curve. The note in the remarks column at the next position 252 b says "strong N.W. current impossible to use H.L." The position is plotted 20 meters farther north on the Boat Sheet than it was plotted on the smooth sheet. The above facts indicate that no reliability can be placed in the locating of this position. The five fathom sounding thereon has not been inked on the smooth sheet.

The position is extremely weak & very uncertain. The field party's note regarding current indicates the leadsmen was having trouble. Other soundings cover this area satisfactorily & the same has been rejected. R

(e) On page 69 of Vol. 2 at position 61 g. The note in the remarks column is confusing. It is impossible to tell whether the rock was awash or sunken at that stage of the tide. The rock appears on T-4935 (1935) but being fairly far off shore, no estimate of its height is given. Therefore, no descriptive note has been placed on the smooth sheet.

The fact that 4 ft. of tide existed and T-4935 (1935) shows rock awash symbol the rock is in all probability a rock awash.

2. Shoreline and Control

The shoreline and control are from T-4934 (1935) and T-4935 (1935).

3. Sounding Line Crossings.

No regular system of crosslines was run. The soundings on adjacent lines are in satisfactory agreement.

4. Depth Curves

The usual depth curves can be satisfactorily drawn.

5. Aids to Navigation.

There are no artificial aids to navigation within the limits of this survey.



6. Junctions with Contemporary Surveys.

(a). The junctions on the north with H-5737 (1934) and on the northwest with H-5977 (1934-35) are satisfactory.

(b). The junction on the south with H-5974 (1935) is satisfactory.

(c). A satisfactory junction at each end of the insert with the main sheet was made.

7. Field Plotting.

The field plotting was satisfactory.

verified and Inked by

A handwritten signature in cursive script, appearing to read "Leo S. Straw".

Leo S. Straw

July 31, 1935

HYDROGRAPHIC SURVEY NO. H6109

Smooth Sheet Yes

Boat Sheet Yes - 1

Sounding Records 5 Vols. \_\_\_\_\_

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

Landmarks for Charts (Form 567) No

Statistics Yes

Approved by Chief of Party ~~No~~ YES (A.M.S.)

Recoverable Station Cards (Form 524) No

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

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

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H6109**

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

Number of positions on sheet	1560 .....
Number of positions checked	35 .....
Number of positions revised	0 .....
Number of soundings recorded	3967 .....
Number of soundings revised	15 .....
Number of signals erroneously plotted or transferred	0 .....

Date: *July 31, 1936.*

Verification by *[Signature]*

Time: *66 1/2*

Review by *S. Riegar*

Time: *12 hrs.*

Remarks

Decisions

	Remarks	Decisions
1		
2		
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27		

GEOGRAPHIC NAMES  
 Survey No. **H6109**

Name on Survey	Sources										
	A	B	C	D	E	F	G	H	K		
	On Chart No. 8860	On previous survey No.	On U. S. Quadrangle Maps	From local information	Chart 8802	P. O. Guide or Map	Rand McNally Atlas	Chart 9302	Light list	Geog. Dist. of Alaska	
<u>Sedanka Island</u> ✓	*				✓		✓	✓	✓	✓	1
<u>Beaver Inlet</u> ✓	*				✓		✓	✓	✓	✓	2
<u>Udagak Strait</u> ✓	*				✓		✓		✓		3
<u>Udagak Bay</u> ✓	*								✓		4
<u>Unalaska Island</u> ✓	*				✓		✓	✓	✓	✓	5
											6
											7
											8
											9
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											27

Names underlined in red approved  
 by *[Signature]* 01/6/36

# MEMORANDUM

## IMMEDIATE ATTENTION

SURVEY  
DESCRIPTIVE REPORT  
PHOTOSTAT OF

No. H **H6109**  
No. T

received April 23, 1936  
registered May 25, 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		
24		
✓ 25	<i>W.B.L.</i>	<i>D R Dangers &amp; Lhamulo Page 2-3</i>
26		<i>D R - Bottom page 3 + top of p. 4</i>
✓ 30	<i>W.B.L.</i>	
40		
62		
63		
82		
83		
88		
90		

RETURN TO

82	
----	--

*C. H. Green*

22c

Form 712  
DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY  
Ed. Feb. 1936

### TIDE NOTE FOR HYDROGRAPHIC SHEET

July 8, 1936

Division of Hydrography and Topography:

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

Tide Reducers are approved in  
5 volumes of sounding records for

HYDROGRAPHIC SHEET 6109

Locality Udagak Strait, Aleutian Islands

Chief of Party: A. M. Sobieralski in 1935  
Plane of reference is mean lower low water reading  
4.4ft. on tide staff at Udagak Strait  
6.9 ft. below B.M. 1

Height of mean high water above plane of reference is 4.7 feet

Condition of records satisfactory except as noted below:

M.L.W 1.2  
M.L.L.W

M.H.W 0.8  
M.H.L.W

*Ham*  
Chief, Division of Tides and Currents.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6109 (1935) FIELD NO. U-11-35

Udagak Strait, Aleutian Islands, Alaska  
Surveyed in Sept. - Oct. 1935 - Scales 1:10,000 and 1:5,000  
Instructions dated April 13, 1934 (SURVEYOR)

Hand Lead and Machine Soundings.      3 Point fixes on shore signals.

Chief of Party - A. M. Sobieralski.  
Surveyed by - J. C. Ellerbe.  
Protracted by - J. C. Ellerbe.  
Soundings penciled by - John C. Ellerbe.  
Verified and inked by - L. S. Straw.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except that red day letters should have been given preference over the green day letters that were used. (Hydrographic Manual, par. 62).

The Descriptive Report is complete and satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The character and extent of the survey fully complies with the instructions for the project.

3. Shoreline and Signals.

The shoreline and topographic signals are from plane table surveys T-4934 (1935) and T-4935 (1935).

4. Sounding Line Crossings.

No general system of cross lines were run. However, those that result from the work as well as the adjacent lines are in good agreement.

5. Depth Curves.

Within the limits of the survey, the usual depth curves may be satisfactorily drawn, including portions of the zero, 1, 2 and 3 fathom curves.

6. Junctions with Contemporary Surveys.

The junctions on the north with H-5737 (1934-35) and on the northwest with H-5977 (1934-35) are satisfactory.



The junction on the south with H-5974 (1935) is satisfactory.

The junction on the southeast and northwest limits of the insert with the main sheet is satisfactory.

7. Comparison with Prior Surveys.

H-2541 (1901).

This survey on a scale of 1:60,000, covers Udagak Strait north from approximate lat.  $53^{\circ}44.5'$ , with widely spaced soundings on two lines which are in fair agreement with the present depths.

Because of the much larger scale, better control, and adequate development of the present survey, it should supersede H-2541 (1901) for charting purposes.

8. Comparison with Chart No. 8860 (New Print dated Feb. 21, 1936).

a. Hydrography.

Within the area of the present survey the chart is based on the survey discussed in the foregoing paragraph and contains no additional information that needs consideration in this review, except the 68 fathom sounding in lat.  $50^{\circ}47'$ , long.  $166^{\circ}19'$ , which is a typographical error and should be 63 as shown on H-2541 (1901). It was correctly shown on the 1913 edition of the chart but was changed to 68 on the following 1918 edition.

b. Aids to Navigation.

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

9. Field Plotting.

The field plotting is very satisfactory.

10. Additional Field Work Recommended.

No additional sounding work is required, but it would be desirable to drag the 16 and 17 fathom rocky shoals in lat.  $53^{\circ}43.85'$  long.  $166^{\circ}16.1'$ , and lat.  $53^{\circ}44.75'$ , long.  $166^{\circ}18.3'$  respectively.

11. Superseding Old Surveys.


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

H-2541 (1901) in part

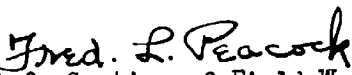
12. Reviewed by - G. Risegari, August 5, 1936.


Inspected by - A. L. Shalowitz.

Examined and approved:

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

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

  
Fred. L. Peacock,  
Chief, Section of Field Work.

  
G. H. Hude,  
Chief, Division of H. & T.

TIDAL NOTE

H6109

TO ACCOMPANY

HYDROGRAPHIC SHEET NO. U-11-35

Tides recorded by portable automatic gage No. 368 located in Udagak Strait were used for reducing all soundngs on this sheet.

UDAGAK STRAIT GAGE

Latitude..... 53° - 44'0 N

Longitude..... 166° - 17'7 W

M L L W..... 4.4 Ft.

Highest tide recorded. Sept. 30, 1935.... 10.8 "

Lowest tide recorded. Sept. 15, 1935.... 2.9 "

Applied to drawing of Chart No. 8860.

S. B. Maize Mar. 1937.

Applied to drawing of Chart No. 8802.

S. B. Maize June 1937.

Applied to Chart Comp. 9018.

H. E. Mac Ewen Aug. 18, 1939.