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Form 504
Rev. April 1935

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

~~Topographic~~ } Register
Hydrographic } Sheet No. 6666

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

AUG 20 1942

ACC. No. _____

State ALASKA

LOCALITY

Southeastern Alaska

Sitka Sound, Northeast Part.

~~1931~~
1941

CHIEF OF PARTY

Earl O. Heaton

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. H6666

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. 1141

REGISTER NO. 6666

State ALASKA

General locality Southeastern Alaska

Locality Sitka Sound, Northeast Part

Scale 1:10000 Date of survey Aug. - Oct., 1941

Vessel Motor Vessel WESTDAHL

Chief of Party E. O. Heaton

Surveyed by E. O. Heaton and H. G. Conerly

Protracted by H. C. Parsons

Soundings penciled by H. C. Parsons

Soundings in fathoms feet

Plane of reference Mean lower low water

Subdivision of wire dragged areas by _____

Inked by C.E. Dennis 10/5/42 Leary King 12/24/42

Verified by " " " "

Instructions dated June 10, 1941

Remarks: Reductions, Smooth Sheet and Plotting.

H6666

DESCRIPTIVE REPORT
TO
ACCOMPANY
HYDROGRAPHIC SHEET
REGISTER NO. 6666
FIELD NO. 1141

PROJECT HT-247

Motor Vessel WESTDAHL

1941

E. O. Heaton, Comdg.,

INSTRUCTIONS: The survey was made in accordance with Instructions dated June 10, 1941.

LIMITS: The area included in this survey lies between Lat. 57° 04' and 57° 08', and between Long. 135° 22' and 135° 31'. The southeast limit of the area is about 2 miles from Sitka.

SURVEY METHODS: The conventional methods of hydrography were employed. Positions were determined by visual fixes and soundings taken by means of fathometer. The hand lead also was used in drift sounding over shoals. Part of the survey was made by the WESTDAHL, using the Dorsey III fathometer but the greater part was accomplished by a launch (Tender No. 2) using an 808A fathometer.

Control was furnished by triangulation stations and topographic signals. Nearly all of the topographic signals were taken from topographic sheet No. 6829⁽¹⁹⁴¹⁾ but a few signals north of the northern limit of that sheet are located on graphic control sheet No. 6828^{b(1941)}

DISCREPANCIES: No discrepancies in depths or positions exist, as far as it is possible to determine from the boat sheet.

DANGERS: There are several rocks, rocks awash, and shoals which can be considered dangers, most of which are shown on the existing chart No. 8281. The only serious new danger found is a shoal with a least depth of 5½ feet in the western part of the main channel in Lat. 57° 05.4', Long. 135° 24.3'. See Volume No. 2, Page 37, Position 5F. This shoal was reported in the Notice to Mariners and has since been marked by a buoy. } ⁵/₆ RK } 83
25

There is a danger shown on Chart 8281 which does not exist. It is shown as a rock awash in Lat. 57° 07.3', Long. 135° 27.6', one quarter mile north of the northernmost point of Middle Island. A development by the launch hydrographic party failed to find a rock near the surface and no rock awash was ever seen by the field parties at minus tides. Furthermore, Mr. P. Ganty, in charge of the C. & G. S. chart agency in Sitka, stated that he had flown over the spot in an airplane at the time of low water and failed to see such a rock. It is therefore recommended that the rock awash symbol be deleted from the charts. *Recommendation accepted.* See Review Par. 2, H-2302 (2) } 93

CHANNELS: The waterway passing west of Old Sitka Rocks and east of Middle Island and Kasiana Islands is the main channel to Sitka for all vessels coming via the inside route. It is extensively used by vessels of many types and sizes. The largest vessels observed using this channel were the steamers of the Northland Transportation Co., of approximately

3000 gross tons. The channel contains deep water and the only danger is the 5½ foot shoal mentioned in the preceding paragraph.

COMPARISON WITH PREVIOUS SURVEYS: This sheet makes a junction in the south with sheet No. H-6354 (1938) and H-6352 (1938). The southern half of the area is the same as that shown on H-2176 (1893) while the northern part is covered by No. H-2302 (1897). Junction is also made with No. H-6667 (1941) on the north, and west.

As far as can be determined from the boat sheet, agreement with the 1938 surveys is good. Agreement with the surveys of 1893 and 1897 is fairly good except for the non-existent rock awash already referred to, which is shown on H-2302. Furthermore, the latter surveys show little development, so that some dangers were missed in the old surveys.

STATISTICS:

Statute miles of sounding line - - - - -	-382.9
Area, square statute miles - - - - -	13.3
Number of soundings - - - - -	14310
Number of positions - - - - -	2575

NOTE:

The officers of the party who did nearly all of the hydrography of this sheet were transferred to other vessels before this report could be written. It was therefore written by an officer who had little to do with the hydrography of the area covered by the sheet.

Respectfully submitted:

J. C. Bose
J. Carlos Bose,
H. & G. Engr.

Approved and forwarded:

E. O. Heaton
E. O. Heaton,
H. & G. Engr.
Chief of Party.

Remarks

Decisions

	Remarks	Decisions
1		570350 U.S.G.B.
2		570354 "
3		571354 "
4		"
5		"
6		570354 "
7		571352-53
8		571354 "
9		"
10		"
11		570355-58
12		570354 "
13		
14		
15		
16		
17	Location of tide staff	570353 U.S.G.B.
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		

GEOGRAPHIC NAMES

Survey No. **H6666**

Name on Survey	Source										No.
	A	B	C	D	E	F	G	H	K		
<u>Baranof Island</u>											1
<u>Bieli Rock</u>											2
<u>Big Gavanski Island</u>											3
<u>Border Rocks</u>											4
<u>Crew Island</u>											5
<u>Gagari Island</u> = <u>Gagarin</u>											6
<u>Halibut Point</u>											7
<u>Little Gavanski Island</u>											8
<u>Middle Island</u>											9
<u>Old Sitka Rocks</u>											10
<u>Sitka Sound</u>											11
<u>Kasiana Islands</u>											12
											13
											14
											15
											16
<u>Sitka</u>											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27
											M 234

Names underlined in red approved
by L. Heck on 10/27/42

SEE charts 82-81 for
position of names

Surveys Section (Chart Division)

H6666
HYDROGRAPHIC SURVEY NO.

Records accompanying survey:

Boat sheets ^{one}....; sounding vols. ⁽⁹⁾....; wire drag vols.;
bomb vols.; graphic recorder rolls ⁽⁴⁾ 2 contain work of H-6667
special reports, etc. ~~2 fathometer corrections filed with H-6655~~....
.....

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

Number of positions on sheet	2575.
Number of positions checked	.87..
Number of positions revised	.2..
Number of soundings recorded	14310
Number of soundings revised (refers to depth only)	.22..
Number of soundings erroneously spaced	.7..
Number of signals erroneously plotted or transferred	.0..
Topographic details	Time .4 hrs
Junctions	Time .22 hrs
Verification of soundings from graphic record	Time

Verification by <i>C. E. Dennis</i>	Total time	<i>119 hr</i>	Date	<i>10/5/42</i> ...
<i>Lucy King</i>		<i>116</i>		<i>12/24/42</i>
		<i>261 hrs.</i>		
Review by <i>G. F. Jordan</i>	Time	<i>44 1/2 hr</i>	Date	<i>1/1/43</i> ...

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
~~PHOTOGRAPHIC~~

No. H **H6666**
~~No. H~~

received **August 26, 1942**
 registered **September 9, 1942**
 verified *Dec. 24, 1942*
 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>Pg 1</i>		
26			
30			
40			
62			
63			
82			
✓ 83	<i>Pg 1, 3, 4, 5, 8, 6</i>	<i>RL</i>	
88			
90			

RETURN TO

82	R. W. Knox
----	-------------------

RAC
HRC

TIDE NOTE FOR HYDROGRAPHIC SHEET

September 11, 1942

~~Division of Hydrography and Topography:~~

✓ Division of Charts: Attention: Mr. H. R. Edmonston

Plane of reference approved in
9 volumes of sounding records for

HYDROGRAPHIC SHEET 6666

Locality Sitka Sound, Northern Part, Southeastern Alaska

Chief of Party: E. O. Heaton in 1941
Plane of reference is mean lower low water reading
5.0 ft. on tide staff at Sitka
15.5 ft. below B. M. 5

Height of mean high water above plane of reference is 9.1 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

DIVISION OF CHARTS

SURVEYS BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. 6666

Field No. 1141

Southeastern Alaska, Sitka Sound, Northeast Part
Surveyed August - October 1941; Scale 1:10,000
Instructions dated February 14, 1940; June 10, 1941

Soundings:

808A Fathometer
Dorsey 3 Fathometer
Hand Lead

Control:

Three-point Fix on Shore Signals

Chief of Party - E. O. Heaton
Surveyed by - E. O. Heaton, H. G. Conerly
Protracted by - H. C. Parsons
Soundings plotted by - H. C. Parsons
Verified and inked by - C. E. Dennis, Leroy King
Reviewed by - G. F. Jordan
Inspected by - H. R. Edmonston

1. Shoreline and Signals

The control is from previously established triangulation stations, supplemented by those located on the present surveys and from T-6828(b) and T-6829.

These topographic surveys furnish the shoreline detail shown. The remaining shoreline detail is to be taken from planimetric maps to be made in this office.

2. Sounding Line Crossings

Satisfactory.

3. Depth Curves

Satisfactory.

4. Junctions with Contemporary Surveys

Satisfactory.

5. Comparison with Prior Surveys

The only prior surveys in this area were made in 1893 and 1897, and the general agreement is satisfactory.

H-1626 (1884)

H-1626 is a reconnaissance survey outlining islands and off-lying rocks and shows no soundings within the area of the present survey.

H-2174 (1893)

This prior survey makes a small overlap on the southeast corner of the present survey. A 1-1/2-fm. sounding at Lat. $57^{\circ}04.55'$; Long. $135^{\circ}23.65'$, charted on 8281, falls in 2 fathoms on the present survey. The soundings were recorded in even fathoms on the prior survey, and it is considered that the well developed area with least depth of 1-5/6fm. on the present survey is adequate.

H-2176 (1893) overlaps the southern part of the present survey. A 2-3/4-fm. sounding at Lat. $57^{\circ}04.27'$; Long. $135^{\circ}27.12'$, charted on 8281, falls on an undeveloped 5-5/6-fm. shoal sounding on the present survey and has been carried forward.

T-2149 (1893)

- (1) A large group of sunken rocks at Lat. $57^{\circ}04.55'$; Long. $135^{\circ}27.35'$, three of which are charted on 8281, falls in an undeveloped area on the present survey. T-6829 (1941) shows a rock awash at the position of the northerly prior rock. No mention is made of this rock in the records of two sounding lines which pass over or close to it and it is considered that other sunken rocks may exist. Three sunken rock symbols have been carried forward from the prior survey.
- (2) The rock awash charted on 8281 from the prior survey at Lat. $57^{\circ}04.69'$; Long. $135^{\circ}27.40'$ is considered to be superseded by the 1/2-fm. sounding on the present survey.
- (3) Two rocks awash at Lat. $57^{\circ}05.4'$; Long. $135^{\circ}26.95'$, charted on 8281, fall in mid-channel, in 5 fathoms, on the present survey. These are considered to be erroneous locations of the two rocks shown 100 meters northwest on the present survey. This contention is substantiated by the relation of rocks to shoreline and by the fact that the shoreline, islands and channels on the south and east side of Middle Island disagree as much as 150 meters with the present surveys. The prior survey should be disregarded.

*chart as + on
Records 8281
in 1959*

H-2302 (1897)

- (1) The 1/4-fm. charted sounding at the position of the sunken rock symbol on the prior survey at Lat. $57^{\circ}07.1'$; Long. $135^{\circ}28.62'$ falls on an undeveloped shoal of 1-1/2 fathoms on the present survey. The prior depth, at a detached position, is carried forward as 2/6fm.
- (2) The rock awash at Lat. $57^{\circ}07.3'$; Long. $135^{\circ}27.6'$, previously charted on 8281, falls in 15 fathoms on the present survey. It was disproved by 1 hour of drift sounding on the present survey and removed from the latest print of 8281. Also, see comments in the descriptive report. This is considered to be an erroneous location of the rock at Lat. $57^{\circ}07.18'$; Long. $135^{\circ}26.58'$ on the prior and present surveys as the detached position coincides with this latter rock when the recorded angles are reversed.

T-2304 (1897)

- (1) The southerly of two rocks awash at Lat. $57^{\circ}05.41'$; Long. $135^{\circ}29.67'$, charted on 8281, is not shown on T-2149 (1893), H-2176 (1893), T-6829 (1941) nor the present survey. The northerly rock is common to all surveys. The southerly rock, which falls in 14 fathoms, is considered erroneous, and it is recommended that it be disregarded.
- (2) A rock awash at Lat. $57^{\circ}05.38'$; Long. $135^{\circ}29.2'$, charted on 8281, falls 15 meters offshore from the southeast tip of the island on the present survey but is 100 meters offshore on the chart. The rock is considered to be actually the southeast tip of the island nearly surrounded by low water. The discrepancy arises in charting the island from T-2304 and the rock from T-2149. The island is considered erroneous on T-2304. Both the rock and island on the prior surveys should be disregarded.
- (3) The large group of rocks west of Little Gavanski Island at Lat. $57^{\circ}07.5'$; Long. $135^{\circ}26.1'$, charted on 8281, disagrees as a whole with the present surveys and should be disregarded. The present surveys locate individual rocks east of their prior positions.
- (4) A group of sunken rocks off the south shore of Big Gavanski Island at Lat. $57^{\circ}07.7'$; Long. $135^{\circ}25.5'$, charted on 8281, falls in 1 to 5

$\frac{1}{6}$ fm 57° 07'.65
(*) .67

135° 25'.65
(.61)

adjusted position to new
shoreline

$\frac{4}{6}$ " 07'.67

25'.66

$\frac{11}{6}$ " 07'.70

25'.68

1 " 07'.68

25'.78

above positions from L. 548 (1938) microfilm

fathoms, near a 1-4/6-fm. undeveloped shoal sounding on the present survey. These rocks were not disproved and, therefore, are carried forward.

- (5) A sunken rock at Lat. $57^{\circ}06.8'$; Long. $135^{\circ}24.3'$, charted on 8281, has been carried forward from the prior survey. The present survey records a 1-5/6-fm. undeveloped shoal sounding at this position and as the least depth was not obtained it is considered advisable to retain the sunken rock symbol.

6. Comparison with Wire Drag Surveys

A very small overlap is made by H-6357 (1938) W.D., in the main channel at the southeast corner of the present survey, and there are no discrepancies.

7. Comparison with Chart 8281 (latest print of 2-11-42)

Hydrography

- a. The 1-1/2-fm. sounding at Lat. $57^{\circ}04.54'$; Long. $135^{\circ}25.75'$ was taken from H-6354 (1938) and charted 60 meters south of its correct position. The sounding actually falls close to the rock awash.
- b. Chart letter 548 (1938), which was submitted during the 1938 surveys south of Lat. $57^{\circ}05'$, notes an investigation of rocks between Big and Little Gavanski Islands which had been reported by fishermen using this pass. Three of the four recorded rocks at Lat. $57^{\circ}07.65'$; Long. $135^{\circ}25.65'$ were charted as ordinary soundings in the previously unsurveyed area. This may account for the fact that no recorded attention was taken on the present survey regarding these charted soundings. The present survey investigated two shoals on line, resulting in 5/6- and 2-fm. rocks, which are north of the 1938 rocks. The 1938 rocks fall between lines 60 meters apart on the present survey, which were run during 3-ft. tide. Investigation of the shoals was at 5- and 8-ft. tides. Inasmuch as the 1938 rocks were the result of special investigation it is considered that they should be retained until additional investigation can be made.

*Rock awash (= 1/6 fm) charted on Reconstr. 8281 in 1959
in Lat. $57^{\circ}07.67'$ Long. $135^{\circ}25.61'$*

*this position obtained by plotting original position on old chart
and fitting to new shoreline. Jma
6-11-59*

- c. No authority could be found for the charted rock awash at Lat. $57^{\circ}04.2'$; Long. $135^{\circ}27.9'$ which has been charted since 1908. The descriptive report for T-6829 (1941) notes that no rock shows here at any stage of tide. T-2149 (1893) and T-2290 (1897) show only the two southwesterly rocks. It is believed that breakers may have been reported and that the charted rock awash actually represents the rock on the present survey 100 meters ENE, covered with $1-1/2$ fathoms in 6-fm. depths. It is recommended that this charted rock awash be disregarded.
- d. The 1-fm. sounding charted at Lat. $57^{\circ}06.15'$; Long. $135^{\circ}29.6'$ is from the present survey before verification. The accepted fathogram reading is 3 fathoms, and the 1-fm. sounding should be disregarded.

Aids to Navigation

The only floating aid to navigation was placed since this survey according to C. G. Notice to Mariners No. 49 (1941), to mark the $5/6$ -fm. rock at Lat. $57^{\circ}05.45'$; Long. $135^{\circ}24.3'$. As navigation is usually confined to this main channel between Sitka and Olga Strait, no additional aids are recommended within the area of the present survey.

8. Condition of Survey

- a. The sounding records are neat, legible and generally complete.
- b. The descriptive report is satisfactory.
- c. The field plotting was very good and accurate. The low water line was changed from a dashed to dotted line as it appears on the topographic survey.

9. Compliance with Instructions for the Project

The general coverage of the area and investigation of most of the shoal indications ^{was} ~~were~~ very good.

Certain charted shoals and rocks should have been investigated and crosslines should have been run in the main waterway on the eastern side of the survey.

The shoals and indications of shoals in the area of this survey are numerous. Apparently only those considered important from a navigational standpoint were investigated.

Inasmuch as this is considered a basic survey and as the original instructions for this project call for the determination of the least depth and limit of all shoals so as to afford a satisfactory delineation of all submarine features, development of the items listed in the following paragraph would be desirable:

- | | Lat. | Long. | |
|----|--------|--------|---|
| | 57° | 135° | |
| a. | 07.65' | 25.65' | - investigation of rocks (par. 7b) |
| b. | 06.69' | 23.9' | - 2-4/6fm. on edge of pass |
| c. | 04.27' | 27.13' | - 2-3/4fm. and adjacent shoal area S.E. |
| d. | 05.05' | 28.65' | - 7-1/2fm. close to 20-fm. curve |
| e. | 07.1' | 26.1' | - 3-1/2fm. on edge of pass |
| f. | 07.7' | 25.5' | - 1-4/6fm. and sunken rocks (par. 5,
T-2304 (4)) |
| g. | 07.2' | 26.1' | - 4-4/6fm. |
| h. | 06.2' | 29.6' | - 3fm. (par. 7d) |
| i. | 04.07' | 27.4' | - 8-1/2fm. in 14fm. |
| j. | 05.45' | 25.35' | - 7fm. in 11fm. |
| k. | 05.5' | 25.5' | - 7-1/2fm. in 12fm. |
| l. | 05.25' | 25.5' | - 6-1/6fm. in 12fm. |
| m. | 05.2' | 27.4' | - 9-1/2fm. in 15fm. |
| n. | 06.9' | 24.0' | - 4-2/6fm. in 10fm. |

11. Superseded Surveys

H-2174 (1893) in part
 H-2176 (1893) " "
 H-2302 (1897) " "

Robert M. Tracy
 Chief, Surveys Branch

Carl O. Henton
 Chief, Section of Hydrography

Examined and approved:

J. S. Borden
 Chief, Division of Charts

G. R. Rude
 Chief, Division of
 Coastal Surveys

Reviewed 1-1-43

probably 3

Applied to d. 8281 1/12/42 GHE.
Applied to 8281 record. 3/16/59 O.P.W.

STW