

6667

101

Form 594
Rev. April 1935

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

~~Hydrographic~~ } Sheet No. 6667
Hydrographic

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

AUG 21 1942

ACE. No. _____

State ALASKA

LOCALITY

Southeastern Alaska

Sitka Sound, Northern Part

1942

CHIEF OF PARTY

E. D. Boston

U. S. GOVERNMENT PRINTING OFFICE: 1935

6667

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. H6667

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. 2241

REGISTER NO. 6667

State ALASKA

General locality Southeastern Alaska

Locality Sitka Sound, Northern Part

Scale 1:20,000 Date of survey July-Sept., 1941

Vessel WESTDAHL

Chief of Party E. O. Heaton

Surveyed by E. A. Heaton, J. C. Bose, and H. G. Conerly

Protracted by William M. Martin

Soundings penciled by William M. Martin

Soundings in fathoms ~~feet~~ Fathoms

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by A. R. STIRNI

Verified by A. R. STIRNI

Instructions dated Supplemental June 10, 1941

Remarks: Subplan of Vitskari Rocks on 1:10,000 scale

Reductions, smooth sheet, and plotting by Seattle Processing Office

DESCRIPTIVE REPORT

to

ACCOMPANY

HYDROGRAPHIC SHEET

Register No. 6667
Project HT-247

MOTOR VESSEL WESTDAHL

1941

Earl O. Heaton, Comdg.

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

LIMITS: The area covered is the northern part of Sitka Sound, from latitude 57° 00' to latitude 57° 11'.

SURVEY METHODS: Only the conventional method of visual fixes and fathometer soundings was used. Only a few hand lead and wire soundings were taken. The inshore work was done by a launch using an 808A fathometer while the main part was done by the WESTDAHL using a Dorsey III fathometer. Control was furnished by triangulation stations and by objects located by planetable.

DISCREPANCIES: So far as can be determined from the boat sheet, no discrepancies in soundings or positions exist. *See notes by processing office*

DANGERS: Except close inshore, no noteworthy danger was found which was not already on the chart. A sunken rock, with a least depth of 5 feet at MLLW and not shown on Chart No. 8255 until reported in Notice to Mariners, lies at the northwest end of the Vitskari group. See position 56b' and 57b', page 40, Volume 11.

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COMPARISON WITH PREVIOUS SURVEYS: The area of this sheet is covered by the northern part of H-2175 (1893) and by H-2302 (1897). The soundings shown on the old surveys fit in quite well with the 1941 survey; however, as the old soundings are spaced rather widely and as the bottom of Sitka Sound is very irregular, many relatively shoal soundings appear on this survey which were missed on the old surveys.

Satisfactory junction is made in the ³⁷east with hydrographic sheets No. H-6354 and 6355 (1938), and on the south with H-6655 (1941) *H-6666 (1941) on the east has not been verified*

STATISTICS:

Area, square statute miles	- - - - -	64.1
Statute miles of sounding line	- - - - -	771.4
Number of soundings	- - - - -	19310
Number of positions	- - - - -	3479

Respectfully submitted,

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

Approved and forwarded:
E. O. Heaton
E. O. Heaton,
Chief of Party.

ADDITIONAL NOTES BY SEATTLE PROCESSING OFFICE

TOPOGRAPHY

The topographic party did not run shore line. New plane table work located signals and certain points and rocks and bits of shore line near the signals. *This applies to area north of Lat 57°05.6', as per instructions*

The hydrographic party made very few remarks concerning rocks, ledges, etc., close to sounding lines. The rocks, ledges, and islets sketched on the boat sheet are apparently transferred from the old surveys of 1897.

To avoid confusion we are showing on the smooth sheet only the new topography and such rocks, ledges, etc., as were located by the hydrographic party on the face of the boat sheet or by remarks in the sounding records. *detail plotted is from records or plane table surveys*

In the vicinity of Lat. 57° 08' Long. 135° 33'.5 several islets, ledges, and rocks are sketched on the boat sheet, some of which are not shown in the recent topographic sheets available at the Processing Office. The existence of these has been indicated on the smooth sheet.

Certain other similar islets or rocks near Lat. 57° 08'.5 Long. 135° 31'.5 have been treated in the same way. We leave these to be more accurately delineated from the new photographic survey, or other sources available to the Washington Office.

See recommendation for a new topographic survey in Sounding Vol. 10, Page 49. See also supplemental instructions for project 247 of Aug. 5, 1942.

CROSSINGS, Launch "d" day

Part of "d" day, launch, makes junctions two to four fathoms deeper than adjacent work in depths of 15 to 25 fms. Positions 1d to 32d, in the vicinity of Lat. 57° 04' Long. 135° 34', make satisfactory connections with launch and ship work. The first noteworthy difference, 2 fms., occurs between Pos. 44d and 45d, launch, where it crosses ship work between Pos. 89C and 90C at Lat. 57° 04'.2 Long. 135° 33'.85. The diff. between launch "d" day and Ship "0" day increase

errors in charting. See Review Comparison with charts

to 4 fms. northward from this point, the launch soundings being deeper.

Following the Ship's "C" line south for several miles there are satisfactory crossings at intervals of 150 to 200 meters.

Along Lat. $57^{\circ} 04'.5$ between Long. $135^{\circ} 33'.5$ and Long. $135^{\circ} 34'.5$ launch work 1h to 4h makes a good crossing with Ship's work 90 to 91c but launch work "d" day is 2 to 3 fms. deeper than launch "h" day and Ship "C" day.

In the area between parallels $57^{\circ} 04'$ and $57^{\circ} 05'$ and between meridians $135^{\circ} 33'$ and $135^{\circ} 34'$ there are several junctions of Ship's "J" day with launch "d" day where the launch soundings are 2 to 4 fms. deeper. "J" day ship makes good connections with "h" day launch in the vicinity of Lat. $57^{\circ} 05'$ Long. $135^{\circ} 33'$; also an inspection of the rest of "J" day Ship shows good crossings. Note the two long north south lines of "J" day at meridian $135^{\circ} 29'$ and at Long. $135^{\circ} 30'.6$.

see
next
page

An inspection of the launch fathogram shows a good index line; also note that an error of 2 to 4 fms. in index (indicating soundings too deep) would have put the launch aground at inshore ends of lines.

CONCLUSIONS

(1) The soundings of Ship on "J" and "C" days and of the launch on "h" day are satisfactory. The launch soundings on "d" day are correct until some time after position 32d.

(2) The launch soundings are 2 to 4 fathoms too deep, beginning before position 44d.

(3) The index is correct, launch "d" day.

(4) The speed of revolution is too great, launch "d" day.

No correction has been applied to the soundings. The correction would be a factor of approximately 0.825. The factor was obtained by adding the soundings, satisfactory and unsatisfactory, at sixteen junctions to get 261/316. *Speed of fathometer was 5% - 23% high, as indicated on fathogram. Corresponding adjustments to depths made by verifier dispose of the discrepancies.*

QUESTIONED SOUNDINGS

Lat. & Long.	Position	Depth, fms.	Remarks
57° 02'.5 135° 27'.5	122-123G	36 Rejected	Possibly 16 fms. ✓ 20 fm error. Crossline has 16 fms.
57° 00' 135° 33'.3	45-46C	4	Confirmed on 1:10,000 insert

DISCREPANCIES

57° 04'.5 135° 31'.25	³ 24 - ⁴ 25L 8-9P	30-29 26-28	irregular bottom, minor discrepancy, ✓ shoaler soundings plotted.
57° 09'.25 135° 25'.6	55-56Q 128-129T	27-36 22	steep slope ✓
57° 07'.3 135° 28'.5	99-100L Sheet H-6666 } <i>soundings on H-6667 rejected</i>	{ 23 13	Junction of H-6667 with H-6666. Between Positions 99-100L this sheet shows approximately 10 fms. greater depth than H-6666.

William M. Martin E.E.L.
 William M. Martin
 Asst. Engr. Draftsman
 Seattle Processing Office

The processing of this sheet has been examined and is approved.

H. H. Bernstein
 H. H. Bernstein
 Lieut. Commander,
 Officer in Charge
 Seattle Processing Office

Triangulation Stations

ANSKA (ANS)	KAM 1941
BEEF 1897	LIS 1897
BLACK 1938	LITTLE 1897
CHIT 1897	LOPE 1938
COM 2 1941	MAKA 1897
CLOSE 1897	OLD 1897
CROW 1897	SIGNAL I. LT. 1938 (SIG)
DOG 1897	SOAP 1928
EAST 1897	SPIGA 1941
FAT 1897	TROLL (TRO) 1893-97
FIB 1897	VEGA 1941
FOAM 2 1928	VITSKARI RK. LT. 1940 (VIT)
GRAY 1897	WES 1941
MALIBUT 1897	WISE 1897

Topographic Signals from T-6525(b)

AL	FOX	RED
ALL	GAS	REK
AT	HID	ROB
BAR	INK	ROCK
RAY	JUG	RUM
BED	KRES	SALT
BLUE	LAVA	SAND
BULF	LIT	TAN
BOB	LOW	THUMB
BROWN	MUS	TRE
GROSS	NER	TREE
CORE	NOR	TRAM
DEAD	OFF	TRIP
EAT	OIL	WARD
EDGE	POINT	WASH
FLAT	RATE	WET

Topographic Signals from T-6527

BOB	OX - TOP	ROCK
ED	OFF	SAP
FAT	FIT	SHAG
GUL	POB - SAND	SHAG
HI	POY	SIGN
JAP	PRO	STUMP
JIN	RAT	SURF
LAG - KID	RED	TOP - LAG
LOG	RHEF	TRI - POB
NOR	REEP	TRIG

Topographic Signals from T-6529

CUE	TOP	WAT
-----	-----	-----

	Remarks	Decisions
1		571356-58 USGB
2		570355-58
3		"
4		"
5		" USGB
6		571355 "
7		" "
8		"
9		"
10		571354 USGB
11		" "
12		571353
13		
14		
15	Location of tide staff.	USGB
16		
17		
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27		

GEOGRAPHIC NAMES
Survey No. **H6667**

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.	
<u>Kruzof Island</u>	✓									1
<u>Sitka Sound</u>	✓									2
<u>Vitskari Island</u>	✓									3
<u>Vitskari Rocks</u>	✓									4
<u>Shoals Point</u>	✓									5
<u>Hayward Strait</u>	✓									6
<u>Krestof Island</u>	✓									7
<u>Kresta Point</u>	✓									8
<u>Promisla Bay</u>	✓									9
<u>Siginaka Islands</u>	✓									10
<u>Big Gavanski Island</u>	✓									11
<u>Lisianski Peninsula</u>	✓									12
										13
										14
<u>Sitka</u>										15
										16
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										26
										27

Names underlined in red approved
by L. Heck on 2/26/43

DIVISION OF CHARTS

SURVEYS SECTION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. 6667
Field No. 2241

Southeast Alaska, Northern Part Sitka Sound
Surveyed July - September 1941; Scale 1:20,000
Instructions dated June 10, 1941

Soundings:

808A Fathometer
Dorsey 3 Fathometer
Leadline

Control:

Visual; three-point fix on
shore objects

Chief of Party - E. O. Heaton
Surveyed by - E. O. Heaton; J. C. Bose; H. G. Conerly
Protracted by - W. M. Martin
Soundings plotted by - W. M. Martin
Verified and inked by - A. R. Stirni
Reviewed by - G. F. Jordan
Inspected by - H. R. Edmonston

1. Shoreline and Signals

Control is by triangulation and topographic signals from plane table surveys T-6828(a) and (b)

The shoreline detail south of Lat. $57^{\circ}05.6'$ on Kruzof Island and the Vitskari Island and Rocks is from T-6828(a). Only 100 meters of shoreline each side of occupied stations were required by instructions for the topography on the northern part of the present survey.

Air photos of this area were taken during the 1942 season but have not been printed.

Complete shoreline and rock detail must therefore await the plotting of the planimetric maps of this area.

2. Sounding Line Crossings

Very good agreements in depths are noted.

3. Depth Curves

Satisfactory.

4. Junctions with Contemporary Surveys

Very good agreements in depths are noted.

5. Comparison with Prior Surveys

This area has been charted mainly from two 50-yr. old surveys, with the exception of critical soundings of the present survey which were applied to the latest chart print before verification and review.

H-2175 (1893) 1:40,000 scale

Although this prior survey is in general agreement there are numerous soundings 1 and 2 fathoms shoaler than the present survey. This is noted specifically in the case of twenty-six charted soundings, where the adjacent prior soundings are equally shoaler.

Nine soundings, which are shoaler than adjacent soundings on the prior survey, have been carried forward.

At Lat. $57^{\circ}03.5'$; Long. $135^{\circ}26.6'$ a charted 9-fm. sounding falls on a $9\text{-}\frac{3}{4}$ shoal on the present survey. This sounding is actually $8\text{-}\frac{3}{4}$ on the prior survey and has been carried forward.

At Lat. $57^{\circ}01.8'$; Long. $135^{\circ}33.2'$ a charted 16-fm. sounding falls on a point in the 20-fm. curve on the present survey. This sounding is actually $16\text{-}\frac{5}{6}$ and has been carried forward as 17fm.

H-2302 (1897) 1:20,000 scale

Very good agreement in depths is noted with this prior survey. Five shoal soundings have been carried forward. The disposition of certain discrepancies between the old and present survey are as follows:

- (a) A 7-fm. sounding charted at Lat. $57^{\circ}06.10'$; Long. $135^{\circ}33.55'$ falls 140 meters outside comparable depths on the present survey in 10 fathoms. This prior sounding followed 8 and preceded 22fm. on line and falls between lines on the present survey that do not indicate shoaling. It is felt that this sounding was erroneous and should be disregarded.

- (b) A 9-fm. sounding charted at Lat. $57^{\circ}06.2'$; Long. $135^{\circ}33.4'$ falls in 24fm. on the present survey. This shoal sounding was investigated by 25 minutes of drift sounding with fathometer and leadline and is considered disproved.
- (c) A 27-fm. sounding charted at Lat. $57^{\circ}08.05'$; Long. $135^{\circ}26.20'$ falls in 45fm. on the present survey. This prior sounding is charted 40 meters west of its plotted position and actually falls in comparable depths on the present survey.
- (d) A 14-fm. sounding charted at Lat. $57^{\circ}08.75'$; Long. $135^{\circ}29.45'$ falls in 32fm. on the present survey southwest of the high-water rock. The position controlling this prior sounding was misplotted; the sounding actually falls 170 meters northeast in 11fm. on the present survey.
- (e) The 1-1/4fm. sounding charted near shore at Lat. $57^{\circ}08.68'$; Long. $135^{\circ}24.10'$ falls in 10fm. on the present survey. This prior sounding is at the beginning of a line on a position which is a revolving fix. The sounding undoubtedly falls nearer shore and should be disregarded.

T-2304 (1897) 1:20,000 scale

A sunken rock charted at Lat. $57^{\circ}08.25'$; Long. $135^{\circ}30.30'$ from this prior topographic survey falls 1/4 mile offshore in 10fm. on the present survey. This is considered to be an erroneous location of the rock on the present survey located 110 meters WNW, which is covered with 3 feet.

H-2289 (1896) 1:5,000 scale

This prior survey of Olga Strait makes a small overlap at the northeast corner of the present survey. A 38-fm. sounding charted at Lat. $57^{\circ}10.5'$; Long. $135^{\circ}26.5'$ falls in 50fm. on the contemporary prior survey and the present survey. The position controlling this sounding is considered erroneous. The records containing this position could not be found, but the sounding is considered to be adequately disproved by a prior overlapping survey and the present survey. The 38-fm. sounding should be disregarded.

H-2176 (1893) 1:20,000 scale

Four lines from this prior survey project across the area of the present survey between Lat. 57°05' and Lat. 57°06'. The agreement is satisfactory.

T-2148 (1893) 1:40,000 scale

Considerable variance in the location and delineation of Vitskari Island, rocks and reefs at Lat. 57°00'; Long. 135°33' is noted in comparison with the present hydrographic and topographic surveys. It is noted that the NNE-SSW axis of the middle high-water rocks at Long. 135°33' is shown as N-S on the prior survey. The NE-SW axis of Vitskari Island is shown as E-W on the prior survey. It is natural, therefore, that adjacent rock detail, if located from high-water features on the prior survey, would not agree with the present survey.

In addition, there are disagreements in the delineation of the shoreline and reef detail on Kruzof Island, as noted in the Descriptive Report for T-6828.

It is recommended that this prior survey be disregarded within the area of the present survey.

6. Comparison with Chart 8281 (latest print of 11-16-42)
8255 (" " " 4-20-42)

The soundings and rock detail on these charts are from the previously mentioned prior surveys, with the exception of certain critical depths applied from the present survey.

One important discrepancy occurs on chart 8281. All detail charted in the southern part of Hayward Strait north of a line between the southern tip of Krestof Island and the point north of Mountain Point on Kruzof Island is charted 20 to 170 meters west to northwest of its position on H-2302 (1897) and T-2304 (1897), with the exception of the 2-1/4-fm. shoal, and rock awash 260 meters west, from the present survey. The present surveys substantiate the prior surveys where a comparison is available. Inasmuch as the detail above and below the above limiting line was taken from H-2302 (1897), it is believed that the displacement occurred when transferring the survey to the chart.

There are no dredged channels nor floating aids to navigation within the area of this survey.

7. Condition of Survey

- (a) As noted by the processing office in the Descriptive Report and confirmed by the verifier, more adequate remarks should have been made in the records when sounding lines passed close to rocks and reefs. The records are neat and legible.
- (b) The Descriptive Report and field plotting are satisfactory. The discrepancies in depth due to erroneous fathometer speed noted in the Descriptive Report were corrected in the office.

8. Compliance with Instructions

Satisfactory.

9. Additional Field Work Recommended

The bottom is so irregular within the area of this survey that there are still numerous undeveloped deep shoals. The important shoal indications were adequately developed, with the exception of four which seem to warrant additional development and drift sounding. They are as follows:

- (a) The 3-1/6fm. sounding in midchannel at Lat. $57^{\circ}09.4'$; Long. $135^{\circ}26.2'$.
- (b) The 11-fm. sounding and area between two lines at Lat. $57^{\circ}04.5'$; Long. $135^{\circ}29.3'$.
- (c) The 15-fm. shoal in 21 to 25fm. at Lat. $57^{\circ}06.6'$; Long. $135^{\circ}33.5'$.
- (d) The area within the 20fm. curves at Lat. $57^{\circ}03.5'$; Long. $135^{\circ}28'$.

10. Contemporary Topographic Detail

The availability of contemporary topographic surveys showing the high water line and hydrographic features on the northern half of this survey would have been valuable in completing this review. Sounding lines run into such proximity to the shoreline and charted islets and rocks that final correlation of the low water features with the present survey shall have to await the compilation of planimetric maps.

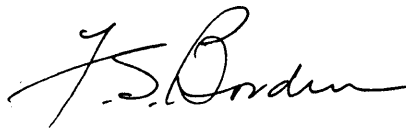
11. Superseded Surveys

H-2175 (1893) in part	H-2289 (1896)
H-2176 (1893) " "	H-2302 (1897)

Examined and approved:



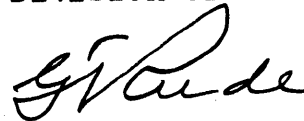
Chief, Surveys Section



Chief, Division of Charts



Chief, Section of Hydrography



Chief, Division of Coastal Surveys

Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO. **H6667**

Records accompanying survey:

Boat sheets ~~three~~; sounding vols. (11); wire drag vols.; (2) filed with H-6666
 bomb vols.; graphic recorder rolls 1. (1) filed with H-6655
 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	3479.
Number of positions checked	205.
Number of positions revised	..6..
Number of soundings recorded	19310.
Number of soundings revised (refers to depth only)	..79..
Number of soundings erroneously spaced	..67..
Number of signals erroneously plotted or transferred
Topographic details	Time ..8..
Junctions	Time ..16..
Verification of soundings from graphic record	Time ..24..

Verification by *A. R. STIRNI*..... Total time ..212 4/4 Date ..11/17/42..

Review by *G. F. Jordan*..... Time ..58. Date ..11/11/42..

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
~~PHOTOSTATIC~~

No. H **H6667**
~~XXXXX~~

received **August 26, 1942**
 registered **September 10, 1942**
 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			
26			
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40			
62			
63			
82			
83	Pg 1	<i>[Signature]</i>	LT-Comd H.E.F
88			
90			

RETURN TO

82

R. W. Knox

[Signature]

RAC
HAC

TIDE NOTE FOR HYDROGRAPHIC SHEET

September 23, 1942.

~~Division of Hydrography and Topography:~~

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

Plane of reference approved in
11 volumes of sounding records for

HYDROGRAPHIC SHEET 6667

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:

E. R. Green

Chief, Division of Tides and Currents.

H6667

TIDAL NOTE

Tide reducers for sheet No. 6667 were derived from the record of the standard gage at Sitka. Hourly heights were furnished by the Washington Office.

Mean lower low water corresponds to a reading of 5.0 feet on the staff. No time difference was applied.

Position of Gage:
Lat. $57^{\circ} 02.95'$
Long. $135^{\circ} 20.3$

NAUTICAL CHARTS BRANCH

SURVEY NO. 6667

Reviewed Dec 11, 1942

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
12/31/52	8281	J.G. McGinn	Before After Verification and Review
			<i>Completely applied</i>
Mar 59	8281	<u>C.R. Wittman</u>	Before After Verification and Review <i>to reconstruct</i>
			Before After Verification and Review
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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.

Chart 8256.

Partially applied before verification and review. L.A.M. 11/9/42

Chart 8281.

Partially applied before verification and review L.A.M. 11/9/42

ch 8281 - applied complete except inshore sdgs in areas not covered by recent topo 1/15/43, SHE.

Note - when later topo is applied - hydro along shore from this survey should be ~~corrected~~ applied.

ch 8255 app'd 1/18/43 SHE

added 20, 50 and 100 fmc curves and addl sdgs to ch 8255
2/7/46 1/25/46