5442

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. Patton *Director*

State: S.W. Alaska

DESCRIPTIVE REPORT

~~Topographic~~ *Hydrographic* } *Sheet No.* 41 5442

LOCALITY

Alaska

N. E. of Kodiak Id.

Marmot Bay

19 33

CHIEF OF PARTY

H. B. Campbell

U. S. GOVERNMENT PRINTING OFFICE: 1930

5442

DESCRIPTIVE REPORT

to accompany

Hydrographic Field Sheet No. 41

U.S.C.& G.S.S. DISCOVERER H. B. Campbell, Comd'g.

Season of 1933 Project No. HT-139

-:-

AUTHORITY

This hydrographic sheet was accomplished under the Director's instructions to the Commanding Officer, U.S.C.& G.S.S. DISCOVERER, dated April 21, 1932 and March 25, 1933.

LIMITS

This sheet comprises a resurvey of Marmot Bay, joining Sheets Nos. 3013, 3015, 25 (1932) and 42 (1932) on the north; Sheets Nos. 22 (1933) and 42 (1933) on the south; and extends eastward to join the offshore sheets 161 (1932) and 161 (1933).

CONTROL

The controls used are triangulation stations, topographic stations, and one hydrographic signal. These signals were all plotted on the 1907 datum. The triangulation stations and topographic stations determined in 1932 were adjusted to this datum.

SURVEY METHODS

The hydrography was accomplished, on this sheet, with the Str. DISCOVERER using visual fixes to control the sounding lines. Soundings were obtained by the Fathometer. Vertical casts were taken in accordance with the instructions, obtaining a comparison for the Fath-

ometer, also temperature, water specimens, and bottom characteristics.

After the boat sheet was prepared, the fifty fathom curve and also the shoalest soundings were transferred from the bromide of the previous survey. A regular system of sounding lines was run throughout the area of this sheet. Where shoal spots appeared, the lines were split and numerous cross lines were run in order to determine the shoalest soundings and also have sufficient data to draw in the depth curves. Where poor crossings appeared and it was evident that the soundings were observed wrong, additional lines were run and the soundings in error were rejected in the record.

CHARACTER OF BOTTOM

It will be noted that east of Long. 152° 11' W. the bottom is very regular, varying from 50 fathoms to 116 fathoms. The bottom characteristic over this area is grey mud with the exception of the northern and eastern section, which have a sandy bottom.

West of Long. 152° 11' W. and throughout Marmot Bay it will be noted that the bottom is very irregular, with numerous shoals, the shoalest of which are 15 and 16 fathoms. There is also a deep valley of over a hundred fathoms which runs throughout Marmot Bay. The general bottom characteristic is muddy.

SHOALS

1.	57° 57.5' 152° 22.8'	11 fms. This area is covered by Sheet #23.	14.	58° 01.30' 152° 18.36'	24 fms.
2.	57° 57.7' 152° 17.7'	21 fms.	15.	58° 01.45' 152° 18.80'	26 fms.
3.	58° 00.05' 152° 27.40'	17 fms.	16.	58° 01.58' 152° 18.80'	25 fms.
4.	58° 00.30' 152° 27.50'	16 fms.	17.	58° 01.43' 152° 18.96'	25 fms.
5.	58° 00.36' 152° 28.00'	17 fms.	18.	58° 00.65' 152° 19.50'	23 fms.
6.	58° 00.35' 152° 27.20'	19 fms.	19.	58° 01.00' 152° 20.35'	15 fms.
7.	58° 01.60' 152° 26.65'	15 fms. (14)	20.	58° 01.45' 152° 20.32'	18 fms.
8.	58° 01.50' 152° 26.40'	16 fms.	21.	58° 01.92' 152° 20.25'	22 fms.
9.	58° 01.90' 152° 25.60'	17 fms.	22.	58° 02.40' 152° 16.95'	24 fms.
10.	58° 04.50' 152° 58.60'	39 fms.	23.	58° 03.38' 152° 15.25'	26 fms.
11.	57° 59.60' 152° 16.80'	21 fms.	24.	58° 04.30' 152° 14.50'	18 fms.
12.	58° 00.10' 152° 18.90'	27 fms.	25.	58° 03.50' 152° 20.25'	33 fms.
13.	58° 00.90' 152° 19.95'	20 fms.			

The bottom throughout this area is very broken. On the previous survey it was noted that a 14* fm. shoal is in the same Latitude and Longitude as the 15 fm. shoal No. 7

* This 14 fm was transferred to the new survey - [illegible]

TIDES

The tidal data is attached.

FATHOMETER CORRECTIONS

The data pertaining to Fathometer corrections is as follows:

10 - 37 fms.	--	-1 fm.
38 - 58 fms.	--	-1/2 fm.
59 fms. up	--	0 fm.

Respectfully submitted,

Henry J. Healy

Henry J. Healy,
Jr. H. & G. E.
By Henry O. Fortin

Approved and forwarded:

H B Campbell

H. B. Campbell,
Chief of Party.

STATISTICS - BOAT SHEET NO. 41

Date	Day	Fath. Sdgs.	Vert. Casts	St.Miles Sdg.Lines	No. Pos.
7-18-33	A	261	6	52.5	82
7-24-33	B	609	6	123.6	161
8-22-33	C	384	-	76.0	96
8-24-33	D	465	5	86.9	111
8-25-33	E	35	-	7.6	10
9-6-33	F	205	-	42.1	52
9-8-33	G	772	-	156.1	203
9-9-33	H	365	1	79.3	100
9-16-33	J	156	4	33.5	49
9-18-33	K	66	-	14.9	19
9-19-33	L	261	2	55.2	79
9-20-33	M	433	-	72.5	122
9-22-33	N	894	8	86.2	173
10-3-33	P	801	-	73.1	150
10-4-33	Q	283	-	28.1	53
10-6-33	R	589	-	35.3	123
Totals		6579	32	1022.9	1583

TAC

82

May 29, 1934

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 5442

Locality **Marmot Bay, Southwest Alaska**

Chief of Party: **H. B. Campbell in 1933**
Plane of reference is **mean lower low water, reading**
4.0 ft. on tide staff at **Kodiak**
19.9 ft. below B. M. **8**

Height of mean higher high water above plane of reference is 8.8 feet

Condition of records satisfactory except as noted below:

Chief, Division of Tides and Currents

Inspection of H. 5442
Prior to Verification and Review
By Leo S. Straw.
Fathometer Work (DISCOVERER)

1. Records. The records conform to the requirements of the Hydrographic Manual except as noted in the review. ✓

2. Protracting. The protracting on this sheet is excellent. The verification of shoal soundings and inking of the more congested areas was accomplished. A few errors were found in the plotting of the penciled soundings, in respect to depth and time. These were corrected and inked. ✓

3. Comparison with Charts 8502 and 8555. (a) Attention is called to a 22 fathom sounding, Lat. 57°-59.57'; Long. 152°-24.2' on H. 5442 (this sheet) between positions 7 and 8 "D" day. This sounding falls on a 70 fathom on Chart 8555. A 28 fathom sounding is recorded 10 seconds prior to the 22. (see Vol. 2., page 6 of the records). The development on H. 5438 does not cover this spot. This 22 fathom shoal is not included in the list of shoals on page 3 of the Descriptive Report submitted by the Field. Add'l work requested - ✓

A 23 fathom sounding Lat. 57°-59.7', Long. 152°-15.3' on this sheet (H. 5442) falls on a 24 fathom sounding on Charts 8555 and 8502. This sounding was also not included in the list of shoals on page 3 of the descriptive Report. However, a 21 fathom sounding was listed in this vicinity, Lat. 57°-59.6', Long. 152°-16.2'. ✓

(b) The two 14 fathom soundings on Charts 8502 are in practically the same position as the 15 and 16 fathom soundings on the shoal developments on this sheet (H. 5442) Lat. 58°-01.60', Long. 152°-26.65' and Lat. 58°-00.30', Long. 152°-27.50'. 14 fms retained - ✓
28+ ✓

(c) This survey (H. 5442) shows a 15 fathom sounding where a depth of 23 to 24 fathoms is shown on the Charts 8502 and 8555, Long. 58°-01.00', Long. 152°-20.35'. Not in list on p. 3. ✓

(d) An 18 fathom sounding on this survey falls between a 54 and 93 fathom soundings on Chart 8555, Lat. 58°-04.30', Long. 152°-14.50'. ✓

(e) At Lat. 57°-57.7, Long. 152°-17.7' a 21 fathom falls outside of a 25 on Chart 8555. ✓

(f) See H. 5438 and H. 5439 5349 for the development of shoals at Lat. 57°-58.3'; Long. 152°-24' and Lat. 57°-57.7'; Long. 152°-23.8' respectively. A least depth of 17 and 11 was found on the new surveys as compared to 20 and 15 on chart 8555. ✓

(g) Generally, the new survey located shoaler soundings than the Charts show at the present time, with the exception of the shoals referred to in paragraph 3 (b). The developments of shoal areas are satisfactory except that the 22 fathom sounding, see paragraph 3 (a), should have been investigated. See Remark additional work.

Section of Field Records

Partial Report on H-5442

Verified and inked by J. W. Day

1. The records conform to the requirements of the Hydrographic Manual.
2. The depth curves from the twenty fathom to the two hundred fathom inclusive were completely drawn within the limits of the sheet.
3. The field plotting complied with the extent of the instructions in the Hydrographic Manual.
4. None of the field drafting was done over by the writer.
5. Junctions were made with the sheets H-5257, H-5258, H-5259 and H-5443. The junctions were found to be satisfactory. There are three sheets adjoining which are in process of verification and inking at this date. Sheets H-3013 and H 3015 adjoin the present sheet on the north west. ~~Junctions were not made with these sheets, as the date of the work was 1904, and the writer was advised to disregard these junctions.~~

6. There was a questionable lift angle on position 82B at approximately ϕ 58°-01.8 λ 152°-16.4'. The

plotting was done by means of time and right angle. The position was checked for protracting. The sounding at this position was recorded 41 fathoms and coincides with a sounding of 51 fathoms occuring on the line of positions 115M and 116M. The 41 fathoms was plotted. Office plotting accepted. Note in records states that bottom is very irregular. Note also, 38 fms. at lat. 58°01.65' long. 152°16.33'. JWM

Lines 160B - 161B and 47F - 48F cross at small angles. Junction crossing soundings of 57 fathoms and 68 fathoms occur at approximately 100 meters distance apart, while the remainder of the two lines do not vary in depths more than 2 fathoms. Approximate position φ 58°-01.2 λ 152°-14.5 accepted.

Lines 75L to 79L and 20H to 25H; approximately φ 57°-58.5' λ 152°-14.0 run parallel at a distance of about 60 meters. The depths differ widely at numerous places. The bottom was noted as being irregular (see sounding volume #3 pg. 49) accepted

at position 40M approx. φ 58°-03.0 λ 152°-21.6 a depth of 104 fathoms was recorded. The soundings either side of it are 87 fathoms and 79 fathoms, and both are within fifty metres distance from the 104 fathom sounding. The 104 fathom sounding was not inked due to congestion in the area OK

at an intermediate sounding on the line of positions

167 G and 168 G a depth of 138 fathoms occurs, while a depth recorded on the line between 58N and 59N is 127 fathoms, and plots about 30 metres from the first sounding. The reductions were checked and no errors were found. The 127 fathom sounding was inked. OK

At approx. ϕ 57°-57.7 λ 152°-17.1 a sounding of 123 fathoms on the line 3P to 4P plots in nearly the same location as the sounding 138 fathoms, position 13P. The shoals was inked. OK

~~Where lines 98P to 99P and 45Q to 47Q cross~~ a 20 fathom difference in depth ~~exists~~ within a plotted distance of ~~40 metres~~ 1600 OK. The soundings in question are ~~52~~ fathoms ~~on the~~ P day line and 33 fathoms on the Q day line. The ~~33~~ fathom sounding ~~was inked. Approx. location ϕ 58°-00.5 λ 152° 18.1~~

Position 99P at approx. ϕ 58°-00.4 λ 152°-18.5 was misplotted. The sections of the sounding lines adjacent to the position were re-adjusted, improving the crossings with other lines and also the spacing of the soundings.

Soundings of 133 fathoms and 95 fathoms fall within a distance of 70 metres of one another at the approx. location ϕ 57°-59.4 λ 152°-18.5 They occur on lines 50Q to 51Q and 13D to 14D respectively OK, abrupt slope.

Note 46, 37, 28 fms E. JWM

On the line 46G to 51G at approx. 58°-04' λ 152°-22' several soundings occur which appear odd compared with the surroundings. or irregular bottom.

The field drafting was of good quality.

Respectfully submitted,

J. W. Pary

July 9, 1934

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5442.

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

Number of positions on sheet	1583
Number of positions checked	24
Number of positions revised	2
Number of soundings recorded	6611
Number of soundings revised	242
Number of signals erroneously plotted or transferred	none

Date: July 9, 1934

Cartographer: J. W. Day

Verification of protracting by L. S. Straw. Time: 2 2/7 days. } 16 hrs.
" " shoals " " " " .

Verification of inking by J. W. Day Time: 100 hr.

Review by H.W. Murray Time: 26 hr.

Form 537
Ed. Sept., 1929

REG. NO. 5442

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. 41

REGISTER NO. 5442

State S. W. Alaska

General locality E. S. of Kodiak Island -- Marmot Bay

Locality Marmot Bay

Scale 1:40,000 Date of survey July - Oct., 1933

Vessel U.S.C.& G.S.S. DISCOVERER

Chief of Party H. B. Campbell

Surveyed by H. B. Campbell

Protracted by M. E. Wennermark

Soundings penciled by J. N. Jones

Soundings in fathoms ~~feet~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by J. W. Dey & L. S. Straw

Verified by J. W. D. & L. S. S.

Instructions dated April 21, 1932 and March 25, 1933

Remarks:

U. S. GOVERNMENT PRINTING OFFICE: 1929

Section of Field Records.

REVIEW OF HYDROGRAPHIC SURVEY NO. 5442 (1933)

Marmot Bay, S. W. Alaska
Surveyed in 1933
Instructions dated April 21, 1932, March 25, 1933(DISCOVERER)

Fathometer Soundings - 3 Point Control on Shore Signals.

Chief of Party - H. B. Campbell.
Surveyed by - H. B. Campbell.
Protracted by - M. E. Wennermark.
Soundings penciled by - J. N. Jones.
Verified and inked by - J. W. Day, L. S. Straw.

1. Condition of Records.

The records are neat, legible and conform to the requirements of the Hydrographic Manual with the exception that degree and minute symbols were omitted on all latitude and longitude values.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the instructions for the project.

3. Sounding Line Crossings.

Such cross lines as were run are in good agreement.

4. Depth Curves.

The 20, 50, 100 and 200 fm. curves may be satisfactorily drawn within the limits of the survey.

5. Junctions with Contemporary Surveys.

a. H-5257(1932-33) and H-5258(1932).

The junction of these surveys on the north with H-5442(1933) are satisfactory.

b. H-5259(1932) and H-5444(1933).

The junction of H-5444(1933) on the east will be considered when that sheet is reviewed. The junction of H-5259(1932) on the east is satisfactory with the exception of a group of 96 to 101 fm. soundings on H-5259(1932) in lat. 58°2', long. 151°53', which varied from 5 to 10 fms. deeper. These soundings which had been previously questioned by the Chief of Party in the descriptive report of H-5259(1932) were rejected.

c. H-5443(1933), H-5438(1933) and H-5439(1933).

The junction of H-5443(1933) on the south is excellent.

The junction of H-5438 and 5439 (Surveys of 1933) on the south and southwest will be considered when those sheets have been reviewed.

d. H-3013(1909) and 3015(1909).

The junctions of the above surveys with H-5442(1933) on the west and northwest is satisfactory. In as much as there is considerable overlap with H-3015(1909) only a fringe of soundings at the limits of H-5442(1933) was transferred from H-3015(1909) in addition to a few of the more important soundings in the overlapping area.

6. Comparison with Prior Surveys.

a. H-3016(1909).

Soundings of this survey are in good agreement with those of H-5442(1933). A number of shoal soundings have been transferred to the new survey in red. In view of the good agreement existing between the old and new survey, soundings of H-3016(1909) may be used whenever necessary to supplement chartings from H-5442(1933).

In connection with H-3016(1909), attention is called to the charted 25 fms. shown on Charts No. 8570 and 8555 in lat. 58°2.0', long. 152°31.0' (pos. 5L red). This sounding should have been 109 fms. instead of 25 fms. It was erroneously reduced in the sounding records to 153 feet instead of 653 feet. This sounding has now been corrected both on the sheet and in the sounding record.

b. H-2927(1907).

A few soundings of this survey which fall within the limits of H-5442(1933) are in good agreement. The 14 fm. sounding of H-2927 (1907) in lat. 58°00.4', long. 152°28' falls close to an undeveloped 17 fms. on the new survey and was transferred thereto, in red. In as much as two volumes of H-2927(1907) are missing, the sounding could not be identified in the records.

7. Comparison with Charts No. 8555 and 8570.

Apart from the matters mentioned in paragraph 6 above, there are no other items of importance on the above charts which need consideration in this review.

8. Field Plotting.

Field protracting and plotting were very accurate and conform to the requirements of the Hydrographic Manual.

9. Additional Field Work Recommended.

On account of the extreme irregularity of the bottom in this locality, it is recommended that the entire area within the 50 fathom curve be wire dragged. In the event that dragging is not feasible, the following more important spots should be further examined with the fathometer:

(1) 18 fms.; Lat. 58°4.3', Long. 152°14.5'.
(2) 45 " ; " 58°3.8' " 152°30.1'.
(3) 43 " ; " 58°3.9' " 152°21.3'.
(4) 27 " ; " 58°4.8' " 152°20.4'.
(5) 22 " ; " 57°59.6' " 152°24.3'.
(6) 18 " ; " 58°01.4' " 152°20.3'.
(7) 15 " ; " 58°01.0' " 152°20.4'.
(8) 20" ; " 58°00.9' " 152°19.9'.
(9) 21 " ; " 57°59.6' " 152°16.3'.
(10) The shoals with depths of 14 to 20 fms. extending northeastward of the Triplets, (Approx. lat. 58°01, Long. 152°27').

10. Superseding Old Surveys.

Within the area covered, the present survey H-5442(1933) with the indicated additions supersedes the following survey for charting purposes:

H-2927(1907) In part.

11. Reviewed by - Harold W. Murray, August 17, 1934.

Inspected by A. L. Shalowitz.

Examined and approved:

K. T. Adams
K. T. Adams,
Chief, Section of Field Records.

L. O. Colbert
Chief, Division of Charts.

F. S. Borden
Chief, Section of Field Work.

G. Rude
Chief, Division of H & T.

Applied to Chart No.

8534 (1935), 1:80,000, by James W. McGuire.

20 Jan 24, 1936