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U. S. COAST & GEODETIC SURVEY
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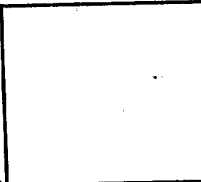
5255

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton Director



State: Sw. Alaska

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic

Sheet No. 23 5255

LOCALITY

Afognak Id.

Tonki Bay - Marmot Id.

Sw. Alaska

19 32

CHIEF OF PARTY

H. B. Campbell, H. & G. Engr.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. 5255

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. 23

REGISTER NO. **5255**

State ~~NW~~ ALASKA

General locality Afognak Id.

Locality Tonki Bay to Marmot Strait

Scale: 20,000 Date of survey July-October, 19 32

Vessel U.S.S. DISCOVERER

Chief of Party H. B. Campbell

Surveyed by H.B.C.; W.M.S.; R.J.S.; G.A.N.

Protracted by M.E.W.; E.E.S. Tohoner

Soundings penciled by H. O. F. ortin

Soundings in fathoms ~~feet~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by RJA

Verified by RJA

Instructions dated April 21, 1932

Remarks:

. DESCRIPTIVE REPORT .
to Accompany
Hydrographic Field Sheet #23

U.S.C. & G.S.S. DISCOVERER
Scale 1:20,000

H. B. Campbell, Commanding
Season 1932

AUTHORITY:

This survey was made under the Director's instructions dated April 21, 1932.

LIMITS:

This sheet covers the two arms of Tonki Bay, and the northern part of Marmot Straits. It joins with sheet #22 on the west and sheet #41 on the north, and sheet #24 on the southeast.

H-5256

Part of the survey was made by the port and starboard motorsailers close inshore and over shoal water using hand lead up to 10 fathoms and wire in greater depths. The hand lead lines were frequently checked during the progress of the work; sheaves used in wire soundings being checked at the beginning and at the end of the season were found correct.

The motor vessel WESTDAHL did the greater part of the work on the sheet, using capital blue letter days. The fathometer was used on all soundings, except on shoal areas, when the hand lead or wire soundings were used. Vertical casts were used quite frequently to obtain good comparisons.

All fathometer corrections are attached to this report.

ADDITIONAL WORK RECOMMENDED:

The rock, as reported on Chart No. 8502, position doubtful, Latitude 58°- 14.5' and Longitude 151°- 57.5', was not found in that location. However a few more soundings in this vicinity ^{will} ~~should~~ be

taken to definitely disapprove this location, ^{although not considered} ~~absolutely necessary~~ ^{as this spot has been seen in heavy weather} *

A shoal with a least depth of 1-1/6 fathoms was found just a mile north of the location given above.

^{Either this spot or one of the inshore rocks that have been reported in the wrong position, were evidently} * A
HBC.

GENERAL DESCRIPTION:

Tonki Bay is characteristic of Alaskan Coastline. Its shores and headlines and points are steep and rocky, fringed with light colored kelp. The upper end of both arms have sandy beaches.

The bottom characteristic is rocky close inshore, to muddy and broken shells away from the shore line.

ANCHORAGES:

Anchorage may be had in 18 fathom, muddy bottom, about 1/3 of a mile from the head of the west arm.

In the east arm small boats may anchor in the small cove at the east side near the head in 8 fathoms, muddy bottom, in any kind of weather.

Respectfully forwarded:

Henry O. Fortin
Henry O. Fortin,
Jr. H. & G. Engr.

* Approved and Forwarded:

H. B. Campbell
H. B. Campbell,
H. & G. Engr., Commanding.

Hydrographic Field Sheet #23

STATISTICS

Vessel	Date 1932	Day Letter	Stat.M.Sdgs.		No.Sdgs.		No. Pos.
			H.L.	Wire	H.L.	Wire	
S. M. S.	July 26	a	9.5	24.2	184	306	209
"	Aug. 7	b	6.4	2.8	171	78	94
"	Sept. 8	c	4.0	13.5	142	210	148
"	Oct. 1	d	1.0	7.6	74	184	123
Totals			20.9	48.1	571	778	574

P. M. S.	Aug. 11	a	2.5	11.9	75	207	137
"	" 12	b	---	2.3	---	43	27
"	" 20	c	8.6	0.6	251	12	72
"	" 24	d	4.8	---	155	---	32
"	" 25	e	5.8	24.5	139	396	228
"	" 26	f	0.6	23.1	22	383	195
"	" 27	g	6.5	4.3	144	108	107
"	" 29	h	0.3	5.8	10	101	56
"	" 31	j	5.4	15.3	156	279	181
"	Sept. 1	k	2.3	10.7	81	185	120
Totals			36.2	98.5	1033	1714	1155

Vessel	1932 Date	Day Letter	Stat.Miles	No.Sdgs.	No.
			Sounding	Fath.	Pos.
DISCOVERER	Sept. 24	A	51.4	513	110
"	" 29	B	51.2	294	57
"	Oct. 10	C	39.7	436	85
Totals			122.3	1245	252

(see attached sheet for WESTDAHL
Statistics)

Hydrographic Field Sheet #23

STATISTICS

Vessel - WESTDAHL

1932 Date	Day Letter	Stat. Miles Sdgs.			No. Sdgs.			No. Pos.
		Fath.	H.L.	Wire	Fath.	H.L.	Wire	
Aug. 12	A	7.3	--	--	116	--	5	32
" 15	B	7.8	--	---	92	--	3	28
" 27	C	13.8	--	---	196	--	4	51
" 30	D	47.3	--	5.5	593	---	75	230
" 31	E	37.4	--	5.5	555	--	73	201
Sept. 1	F	19.0	4.8	---	192	86	6	123
" 2	G	15.5	--	--	212	--	7	62
" 6	H	22.8	--	--	309	--	7	80
" 7	J	23.6	--	2.0	320	--	28	104
" 8	K	7.6	--	11.6	111	--	120	120
" 9	L	20.8	--	1.0	299	--	21	101
" 10	M	12.7	--	--	197	14	5	61
" 13	N	3.4	--	1.0	64	--	14	30
" 16	P	23.5	2.3	--	327	27	5	106
" 17	Q	4.2	13.0	--	78	206	3	114
" 19	R	6.0	16.8	--	96	267	4	169
" 20	S	6.3	--	3.0	58	--	44	73
" 26	T	12.6	--	11.0	180	--	288	179
" 27	U	6.5	--	7.0	102	--	113	104
" 28	V	4.6	--	--	86	--	5	25
" 29	W	37.0	--	7.5	511	--	111	216
Oct. 10	X	17.5	--	--	118	--	56	83
Totals		357.2	36.9	51.1	4811	602	997	2292

Total Statute Miles -----771.2
 Total No. of Soundings ----- 11,749.0
 Total No. of Positions ----- 4,273.0

FATHOMETER CORRECTIONS - (M.V. WESTDAHL)

HYDROGRAPHIC SHEET No.23

In obtaining fathometer corrections for this sheet all comparisons were listed and by inspection corrections were selected which seemed to be the average during the time the soundings were taken, allowance being made for uneven bottom. Corrections for salinity and temperature were not made as the corrections would be negligible in these depths. A mean correction cannot be taken for a whole day as the zero of the fathometer shifts during the days work.

FATHOMETER CORRECTIONS - (M.V. WESTDAHL)

HYDROGRAPHIC SHEET No.23

August 12, 1932

Pos.	V. C.	Fath.	Corr.
2 A	19.2	19.0	+ 0.2
9 A	25.2	24.5	+ 0.7
15 A	25.5	25.0	+ 0.5
32 A	35.1	34.5	+ 0.6

Corrections to Fath. Soundings

Positions 2-32 Add 0.5 Fath.

August 15, 1932

Pos.	V. C.	Fath.	Corr.
1 B	33.2	34.0	- 0.8
17 B	25.9	26.0	- 0.1
28 B	26.6	27.0	- 0.4

Corrections to Fath. Soundings

Positions 1-28 sub.- 0.5 Fath.

August 27, 1932

Pos.	V. C.	Fath.	Corr.
1 C	27.5	27.5	- 0.0
27 C	25.9	26.0	- 0.1
51 C	37.1	36.0	+ 1.1

Corrections to Fath. Soundings

Positions 1-35 Add 0.0 Fath.
 " 35-43 " 0.5 "
 " 43-51 " 1.0 "

August 30, 1932

Pos.	V. C.	Fath.	Corr.
16 D	59.8	60.0	- 0.2
25 D	63.8	64.0	- 0.2
36+D	25.6	25.0	+ 0.6
88 D	43.0	42.5	+ 0.5
89 D	45.1	44.0	+ 1.1
98 D	22.3	21.0	+ 1.3
121 D	33.1	32.0	+ 1.1
127 D	36.0	35.0	+ 1.0
144 D	15.0	15.0	0.0
148 D	30.3	31.0	- 0.7
166 D	69.0	68.0	+ 1.0
171 D	49.9	50.0	- 0.1
186 D	65.4	65.0	+ 0.4
192 D	66.0	66.0	0.0
203 D	69.5	69.0	+ 0.5
213 D	17.5	17.0	+ 0.5
214 D	47.5	46.5	+ 1.0
230 D	23.4	23.0	+ 0.4

Corrections to Fath. Soundings

Positions 1-36 Add 0.0 Fath.
 " 36-51 " 0.5 "
 " 89-131 " 1.0 "
 " 131-137 " 0.5 "
 " 137-197 " 0.0 "
 " 197-230 " 0.5 "

HYDROGRAPHIC SHEET No.23 - cont.August 31, 1932

Pos.	V. C.	Fath.	Corr.
1 E	24.8	24.0	+ 0.8
10 E	24.5	24.0	+ 0.5
11 E	51.3	51.0	+ 0.3
14 E	60.8-	60.0	+ 0.8
21 E	63.0	63.0	0.0
40 E	52.5	51.0	+ 1.5 R.
40+E	52.4	52.0	+ 0.4
41 E	42.8	43.0	- 0.2
75 E	27.2	26.0	+ 1.2
76 E	18.9	17.5	+ 1.4
87+E	19.3	17.0	+ 2.3 *
88 E	18.4	18.0	+ 0.4
93 E	25.3	24.0	+ 1.3
102+E	41.0	40.0	+ 1.0
106+E	22.7	23.0	- 0.3
164 E	17.3	17.0	+ 0.3
196 E	62.0	62.0	0.0
201 E	59.0	59.0	0.0

R. - Rejected

* - Adjusted Fathometer.

Corrections to Fath. Soundings

Positions	1-15	Add	0.5 Fath.
"	15-25	"	0.0 "
"	42-74	"	0.0 "
"	76-82	"	1.5 "
"	82-87	"	2.0 "
"	88-106	"	1.0 "
"	106-201	"	0.0 "

Sept. 1, 1932

Pos.	V. C.	Fath.	Corr.
1 F	30.6	30.0	+ 0.6
8 F	40.0	39.5	+ 0.5
59 F	18.5	17.5	+ 1.0
105 F	37.6	36.0	+ 1.6
123 F	44.0	44.0	0.0

Corrections to Fath. Soundings

Positions	1-39	Add	0.5 Fath.
"	39-81	"	1.0 "
"	81-109	"	1.5 "
"	109-114	"	1.0 "
"	114-118	"	0.5 "
"	118-123	"	0.0 "

Sept. 2, 1932

Pos.	V. C.	Fath.	Corr.
1 G	22.8	23.5	- 0.7
11 G	54.3	54.5	- 0.2
19 G	33.4	33.0	+ 0.4
25 G	17.0	16.0	+ 1.0
32 G	30.1	29.2	+ 0.9
39 G	26.6	25.0	+ 1.6
62 G	29.3	28.0	+ 1.3

Corrections to Fath. Soundings

Positions	1-5	Sub.-	0.5 Fath.
"	5-14	----	0.0 "
"	14-22	Add	0.5 "
"	22-32	"	1.0 "
"	32-62	"	1.5 "

SECTION OF FIELD RECORDS

Review of Hydrographic Sheet No. 5255
Tonki Bay to Marmot Strait, Afognak I., Alaska

Surveyed in 1932

Hand lead, machine, and fathometer soundings.

Original instructions dated March 21, 1930. (Discoverer)
Supplemental instructions dated April 10, 1931.
Supplemental instructions dated April 21, 1932.

Chief of party - H. B. Campbell
Surveyed by - H. B. Campbell, W. M. Scaife, R. J. Sipe, G. A. Nelson
Protracted by - M. E. Wennermark, E. E. Stohsner
Soundings plotted by - H. O. Fortin.
Verified and inked by - R. L. Johnston

1. The records conform to the requirements of the Hydrographic Manual.
2. The plan, character and extent of the survey satisfy the specific instructions except that the fathometer was used in depths under fifteen fathoms, which was not sanctioned. (Par. 28 Original Inst. Mar. 21, 1930.)
3. The sounding line crossings agree fairly well except in the broken and irregular areas. The agreement of adjacent lines is generally fairly good. One line from pos. 1D to pos. 8D, Vol. 7, was rejected because of poor agreement with adjacent lines and a note in the record stating the fathometer was working badly.
4. The information is sufficient for completely drawing the usual depth curves except close inshore on the western coast of Marmot Strait where the area is generally foul and the curves under ten fathoms cannot be completely drawn. The outlines of the foul areas are indicated by a dashed line on T. 4736.
5. H. 5265, which joins this sheet on the north west, has not been verified at this time and this junction will be reported in the review of that sheet.

The junction on the north and east with H. 5261 is satisfactory except in the vicinity of Lat. $58^{\circ} - 22'$, Long. $158^{\circ} - 57'$. This area is so irregular that a closer junction should have been made.

The junction on the east with H. 5258 is satisfactory.

The junction on the south with H. 5256 is satisfactory.

6. There is very little previous work in this locality. Two soundings from the survey of 1907, H. 2918, fall within the limits of this sheet but should be superseded by the new work, H. 5255.

Two single lines of soundings, run in 1925 and 1929 in Marmot Strait, are shown on H. 4518e. These lines do not disagree with the new work but add very little to the new survey, which is quite complete in this area. The control of the lines on H. 4518e is not accurate as that of the new work and they should be superseded by the recent survey, H. 5255.

H. 5255.

7. Reported Rock.

A reported rock is shown on Cht. 8502 and Cht. 8555 in Marmot Strait in approximate Lat. $58^{\circ} - 14'.6$, Long. $151^{\circ} - 57'.5$, by authority of Letter #394, 1926, Par. 11. This rock was not found by the field party who observed the area in heavy weather. Probably the shoal with a least depth of $1 \frac{1}{6}$ fathoms about three fourths of a mile north of this position was the one intended since this shoal is in heavy tide rips and the letter states the rock is marked by swirls.

The removal of this rock from the charts is recommended.

8. Field Plotting.

The usual amount of field plotting was completed by the field party.

The protracting was generally accurately done. About ten positions were found which were incorrectly protracted.

The soundings were neatly plotted and accurately spaced but the figures used were a little too large.

Features outside of the high water line such as rocks, reefs and low water line were incompletely and poorly transferred from the topographic sheet and were revised in the office.

9. The ground on this sheet has been uniformly and sufficiently covered. While the shoal development is fairly close, there are some spots which could have been further examined.

The shoaling with a least depth of 12 fathoms over it in Lat. $58^{\circ} - 22'.4$ Long. $151^{\circ} - 59'.2$ should have been more closely developed.

The ten fathom spots in the vicinity of Lat. $58^{\circ} - 21'.5$, Long. $151^{\circ} - 57'.4$ might have been either more closely examined or passed over with a small drag as suggested in the original instructions, par. 25.

The southern portion of the shoal with a least depth of $8\frac{1}{2}$ fathoms in Lat. $58^{\circ} - 16'.2$, Long. $151^{\circ} - 57'.3$ is not considered sufficiently developed since soundings were obtained only with wire and fathometer and no hand lead examination was made.

The records state that the $1 \frac{1}{6}$ fathom sounding on the shoal in Lat. $58^{\circ} - 15'.3$, Long. $151^{\circ} - 57'.6$ may not be the least depth as an intensive examination was prevented by heavy tide rips.

The shoal in Lat. $58^{\circ} - 14'.3$, Long. $151^{\circ} - 58'.8$, could not be closely examined on account of thick kelp and the $3 \frac{5}{6}$ fathom sounding may not be the least depth.

While probably prevented by the weather from obtaining them, soundings on the breaker located one half mile north east of Δ Scrub would have been desirable.

This survey taken as a whole is believed to be a very good one.

H. 5255.

10. Some additional work in the way of more intensive examination of shoal indications is desirable.

11. Reviewed by R. L. Johnston.

10
About 2 spots were marked on the boat sheet for additional development and sheet was sent to the field. P

Sheet inspected by A. L. Shalowitz.

L. O. Colbert
L. O. Colbert,
Chief, Field Records Section.

H. Borden
Chief, Field Work Section.

Examined and approved:

W. P. ...
Chief, Chart Division.

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

81-DRM

August 19, 1933.

To: Chief, Section of Field Work.

From: Chief, Section of Field Records.

Subject: Additional work, hydrographic survey No. 5255.

There is forwarded herewith boat sheet for H. 5255 by H. B. Campbell, on which are marked ten separate areas where additional work should be done. A copy of the review of this sheet is also attached.

The additional development considered necessary is indicated on the boat sheet or in the review. The main criticism of this survey is the lack of development on these ten spots. It is considered that the search for the least depth in each of these places was not sufficient. The instructions required the use of a drag in the survey of this area where necessary for proper development. In several places the use of the small wire drag would have located the least depth. It would not have required as many split lines as were run in the survey.

Chief, Section of Field Records.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO NO. 81-DEM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

*Please attach to
Descript. Report H 5255*

August 19, 1933.

To: Chief, Section of Field Work.
From: Chief, Section of Field Records.
Subject: Additional work, hydrographic survey No. 5255.

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*Additional work not
accomplished due to closing
season.
J.B. Borden*

L. O. Zolbert.
Chief, Section of Field Records.

May 16, 1933.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
14 volumes of sounding records for

HYDROGRAPHIC SHEET 5255

Locality Tonki Bay to Marmot Strait, Southwest Alaska

Chief of Party: H. B. Campbell in 1932
Plane of reference is mean lower low water, reading
10.8 ft. on tide staff at Tonki Bay
19.8 ft. below B. M. 1
8.7 ft. on tide staff at Marmot I.
5.9 ft. below B.M. 1

Height of mean higher high water above plane of reference is
10.8 feet at Tonki Bay; 9.8 feet at Marmot I.
Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

H. B. Campbell
Actg Chief, Division of Tides and Currents.

