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Diag. Cht. No. 8250

4846

Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

....., Director

State: S.E. Alaska

DESCRIPTIVE REPORT

Topographic } Sheet No. ³ 4846
Hydrographic }

LOCALITY

West Coast of Kruzof Island
Pt. Mary to Cape Georgiana

1928

CHIEF OF PARTY

H.A. Cotton

DESCRIPTIVE REPORT

To accompany Hydrographic Sheet No. 2.

AUTHORITY: The hydrography on this sheet was executed under authority contained in instruction to Commanding officer U.S.S. Explorer dated February 13th.1928.

Limits: This sheet covers the area between Cape Georgiana and Point Mary and connects with the work done by the S.S. Surveyor 1925.

CONTROL: Control is furnished by triangulation and topography.

METHODS: The usual methods adopted by the service were used in this survey.

The off-shore hydrography was done by the S.S. Explorer and the in-shore hydrography by the steam launch "Delta".

Pressure tubes were used by the S.S. Explorer in depths between 20 and 65 fathoms, with occasional vertical soundings between. In greater depths all soundings are up and down.

Steam sounding machine with stranded wire and a 14 lbs. lead and handlead with a 8 lbs lead was used by the launch " Delta". All soundings are up and down.

On account of the heavy swells and frequent rough seas it was impossible to use the handlead up to depths to 15 fathoms. The sounding platform is only 2 feet above the sea level, making it impossible to swing the lead at a great distance, especially when the launch is rolling and pitching.

This launch has otherwise proven to be a highly efficient and seaworthy sounding launch, second to none.

The lines run by the ship are spaced about 450 meters apart and those run by the launch about 250 meters. The sounding lines run in easterly and westerly direction with the exception in Gilmer Bay and Sealion Cove.

Numerous shoals and banks were located by running splits and when less water was found the launch anchored immediately, steaming around it on the anchor line and using several handleads.

BOTTOM: The bottom is very irregular and rocky in most places, except in the small bight south of Cape Georgiana, where the bottom is sandy.

#2.

DANGERS: The area outside of a line drawn about one mile west of Sea Rock, Sealion Rocks and Point Amelia is apparently free of dangers. Numerous shoals were located inside of that line.

Several shoals were located at the entrance to Gilmer Bay. These shoals cause a heavy groundswell and although no breakers were observed while working in this locality, it is believed that it will break during southerly gales.

#1. (Pos. 4,5 a. 79.80, 81 e.) A shoal with a least depth found of $8\frac{1}{2}$ fathoms, lies about 470 meters 223° from O OR. and is surrounded by deeper water. ✓

#2. (Pos. 86 h.) A shoal with a least depth found of $6-5/6$ fms $\frac{3}{4}$ rocky bottom, lies about ~~1535~~¹³⁴⁰ meters 78° from O EAGLE. This area is surrounded by deeper water. ✓

#3. (Pos. 93 h.) A shoal with a least depth found of $8\frac{1}{2}$ fathoms, rocky bottom, lies 835 meters 69° from O EAGLE. This area is surrounded by deeper water. ✓

#4. (Pos. 106 h.) A shoal with a least depth found of $8\frac{1}{2}$ fathoms rocky bottom, lies about 960 meters 51° from O TOP. This area is surrounded by deeper water. ✓

#5. (Pos. 114 h.) A shoal with a least depth found of 9 fathoms, rocky bottom, lies about 620 meters 57° from O TOP. ✓

#6. (No Pos. ^{read} Number) A rock with a least depth of 3 feet over it lies about 220 meters 53° from O CEN. about mid channel between rocky islets, the eastern most of Sealion Rocks. This rock was located by the topographer at the close of the season and his notes are recorded in Volume # 1, page # 70. The area between the two islets is covered by thick kelp. ✓

#7. (Pos. 122-123 h.) A shoal with a least depth found of $9\frac{3}{4}$ fms. rocky bottom, lies about 1360 meters 138° from O TOP. ✓

#8. (Pos. 28-29 d.) A shoal with a least depth found of $9\frac{3}{4}$ fathoms rocky bottom, lies about 1000 meters 183° from O TOP. This shoal is surrounded by deeper water. ✓

#9. (Pos. 50n.) A shoal with a least depth found of 11 fathoms, rocky bottom lies about 670 meters 206° from O WEST. ✓

#10. (Pos. 106 k.) A pinnacle rock with a least depth found of $5\frac{1}{2}$ fathoms, lies about 1100 meters 173° from O MET. no indication of any kelp. Attention is called that this sounding was taken from the bow of the launch, while the depth under the stern was $10\frac{1}{2}$ fms. ✓

#11. (Pos. 79 k.) A shoal with a least depth found of 5 fathoms lies about 1675 meters 179° from O MET. No kelp. ✓

#3.

The area between positions # 10 & 12 is very irregular and only the least depths found are tabulated. This area is wire dragged. ✓

#12. (Pos. 62 k.) A rock which breaks in a moderate swell and at half tides lies about 750 meters 3090 from O PIN. This area was closely examined and least depth found by party was $3\frac{1}{2}$ fathoms, but there may be less. No indication of any kelp. ✓

#13. (Pos. 84 l.) A rock which breaks at half tides and was seen from the Explorer at 8-00 a.m. May 5th. 1928 at low tide lies about 770 meters 2990 from A STORM. The sounding obtained near the rock (breakers) was 6- $\frac{2}{6}$ fathoms. No further attempt was made to find less water as the sounding party nearly came to grief by being swamped by the breakers. This area is marked by some kelp.

All soundings given under the heading "DANGER" are reduced to M.L.L.W.

ANCHORAGES: Gilmer Bay is the only anchorage of any importance in this vicinity. The S.S. Explorer anchored there on numerous occasions. The anchorage at the head of the Bay is restricted to vessels about 150 feet long. There is very little swinging room and vessels should anchor in about 15 to 16 fathoms hard bottom.

This anchorage is exposed to westerly winds and swells and vessels are apt to lay broadside to the swell.

A very comfortable anchorage may be found in a small bight north of O KER., taking care to anchor in about 5 and $5\frac{1}{2}$ fathoms (9.1 & 10.1 m.) and well inside of a group of rocks west of O KER. These rocks act as a breakwater and give ample protection from heavy swells.

Temporary anchorage may be found inside of Sealion Rocks in any desired depth, but there is no shelter.

WATER SUPPLY: There are a few small streams in Gilmer Bay where water may be obtained in small quantities. Usually fisherman use a small boat and make several trips to fill their fresh water tanks.

WEATHER: Rainy weather and strong southwest wind and long heavy swells prevented survey work on several days or compelled the ship and parties to return to the anchorage listed above.

#4.

A heavy choppy sea was observed south of Mt. Amelia in vicinity of several 5 & 5½ fathoms shoals during strong southwest winds, while the sea running outside of that area was more moderate.

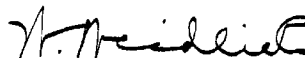
While working in this locality the prevailing winds were from the 4th quadrant, with occasional thick fog.

CURRENT & TIDES: Nothing definite can be said of tides and current in this locality, and no currents were observed.

Any difficulties experienced to keep ship and launch on sounding line was due more to strong winds and heavy swell.

COMPARISON WITH OLD DEPTHS: The soundings obtained check well with old surveys. The present survey was a close development according to the most improved methods.

Respectfully submitted



W. Weidlich.
Mate, C. & G. Survey.

INDORSEMENT BY CHIEF OF PARTY.

This Descriptive Report has been compiled by Mr. W. Weidlich in accordance with discussion and memoranda by the Chief of Party after examination of the smooth sheet.

All detailed hydrography was performed by MR. Weidlich, the ship hydrography simply consisting of filling in deeper area between the launch hydrography and the previous work of the Surveyor in 1925.

Respectfully submitted



Harold A. Cotton
Commanding Officer
U.S.C. & G. S.S. Explorer.

EXAMINATION AND APPROVAL SHEET.

Hydrographic Sheet No.----- (Field No. 2)
and the accompanying records have been inspected
by the Chief of Party and are approved.

Harold A. Cotton

Harold A. Cotton
Commanding Officer
U.S.C. & G. S.S. Explorer.

STATISTIC SHEET NO. 3.

Date	1928	Letter	Vol.	Pos.	Soundings		Miles St.	Vessel.
					Hand	Machine		
June	25th	a. red	1	30		75	4.0	Delta.
"	27th	b. "	1	91	91	155	9.0	"
"	28th	c. "	1	92		245	15.3	"
"	29th	d. "	1&2	117	50	273	18.6	"
"	30th	e. "	2	88	90	169	14.0	"
July	6th	f. "	2	45	16	100	7.8	"
"	7th	g. "	2	40		96	6.4	"
"	9th	h. "	2&3	135	31	252	16.0	"
"	10th	j. "	3	101	106	196	16.9	"
"	12th	k. "	3	145	44	258	19.5	"
"	13th	l. "	4	90		228	18.0	"
"	23rd	m. "	4	28		78	5.2	"
Aug.	28th	n. "	4	59		140	9.0	"
				1061	428	2265	159.7	"
June	25th	A. green	5	27		61	7.2	EXPLORER
"	26th	B. "	5	80		214	25.1	"
"	27th	C. "	5	82		177	22.6	"
July	6th	D. "	5	24		54	6.4	"
"	7th	E. "	6	16		41	4.3	"
"	9th	F. "	6	30		227	30.0	"
"	10th	G. "	6	64		178	27.2	"
Aug.	28th	H. "	7	55		150	17.5	"
				428		1102	140.3	
Total for all vessels:				1489	428	3367	300.00	

TIDAL DATA SHEET

Field No. 3

June 25 - Aug. 8, 1928

Gauge - - - - - Sitka

Plane of Reference Mean Lower Low Water

Reading on gauge for:

Mean Lower Low Water 6.2 feet.

Highest Tide Observed July, 18, 19. 16.9 feet

Lowest Tide Observed July, 15, 3.2 feet.

E.A.L.

(For Files of Field Records Section)

April 6, 1939

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
7/ volumes of sounding records for

HYDROGRAPHIC SHEET 4846

Locality: West Coast of Krusenstern Island, S. E. Alaska

Chief of Party: H. A. Cotton in 1938
Plane of reference is Mean lower low water, reading
6.2 ft, on tide staff at Sitka, Alaska
~~xxxxxxxxxxxx~~
ft. below R. M.

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.

Paul C. Whitney

Chief, Division of Tides and Currents.

Diction of Field Records

Report on sheet No. - 4846

Surveyed in 1928. Instructions dated Feb. 13, 1928

Chief of Party - Harold A. Catton

Surveyed by - Harold A. Catton, Wm. D. Patterson
and W. Weidlich

Protracted by - W. Weidlich

Soundings plotted by - A. Newton Stewart

Verified and inked by - J. A. Hunt

1. The records conform to the requirements of the General Instructions, the volumes covering the launch work are exceptionally well kept and clear.

2. The plan and character of the development fulfil the requirements of the General Instructions.

3. In general the junction of the ship and launch work is satisfactory, but where there are discrepancies the ship work (tube suds) are generally shoaled.

4. The usual depth curves can be completely drawn within the limits of the sheet.

5. The field plotting was completed to the extent prescribed by the General Instructions.

6. The office draftsman did not have to do over any part of the work done by the field party, except a few erroneously plotted positions.

7. In consideration of the uneven character of the bottom, the junction with H.-4847 is satisfactory.

This sheet does not overlap H.-4843 to a definite junction, but the limiting sounding lines of this sheet and H.-4843 are apparently satisfactory.

8. The Sndg. of 21 fathoms (pos. 30 G) Lat. $57^{\circ}-10' 16.55$ N, Long $135^{\circ}-53' 27.0$ m. and the Sndg. of 17 fathoms between pos. 892 and 902, Lat $57^{\circ}-09' 17.53$ m. Long $135^{\circ}-50' 86.5$ m., appear to need further development. However, the 21 fathom Sndg. is within the area of the W. D. Survey H.-4840.

Remarks:- where tube and vertical cast Sndgs. were taken simultaneously both types of Sndgs. are shown, the O. B. Sndgs. being in parenthesis, otherwise there is no differentiation made between the two types of Sndgs.

The line between position 3 and 4 F is quite extended to be without intervening fides, but since it agrees with the surrounding lines it is plotted.

Respectfully submitted
 J. H. C. Hunch
 Oct. 25, 1929

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

AND REFER TO No. 11-DFM

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

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4846

West Coast of Kruzof Island, Southeast Alaska

Surveyed in 1928

Instructions dated Feb. 13, 1928 (EXPLORER)

Chief of Party, H. A. Cotton.

Surveyed by H. A. C., W. D. Patterson, W. Weidlich.

Protracted by W. Weidlich.

Soundings plotted by A. N. Stewart.

Verified by J. H. Church.

1. The records conform to the requirements except that on the launch work, the course was not recorded and no graphs were filed with the tube sounding records.
2. The plan and character of development conform to the requirements of the General Instructions.
3. The plan and extent of the survey satisfy the specific instructions with the following exceptions:

In several places the space between lines slightly exceeds the specified distances.

Several shoals were found in the passage between Eagle Rock and Kruzof Island and in the passage between Sea Lion Rocks and Kruzof Island, with depths well under ten fathoms. These areas were not swept with the wire drag as called for in paragraph 27.

4. There are practically no cross lines. Agreement between adjacent lines is only fair, probable due to the uneven character of the bottom.
5. The information is sufficient for drawing the usual depth curves, except for depths under ten fathoms. These can not be completely drawn close inshore.

6. The junction on the north with H. 4847 is satisfactory but there are two rather open spaces, north of Lat. $57^{\circ} 19'$, at Long. $135^{\circ} 53'$, in which split lines might have been run. The junction on the south with H. 4843 is satisfactory although there is no overlap.

On its western limits this sheet joins the work of the SURVEYOR in 1925, H. 4528. At the junction the soundings agree very well, but the overlap is not large enough for much comparison.

In general the depths on the old survey, H. 2319, check very well with this work.

7. The usual amount of field plotting was well done by the field party.
8. Character and scope of surveying - good. The ground has been fairly uniformly covered and most of the shoal indications have been investigated.
9. More development in the vicinity of the four fathom sounding, just northeast of Sea Lion Rocks would have been desirable.

The $8 \frac{3}{4}$ fathoms shown in red, in Lat. $57^{\circ} 10'.15$, Long. $135^{\circ} 51'.17$ is very questionable. This is not an actual sounding, but simply a point at which the wire drag party believed the drag might have been aground, with an effective depth of 52 ft. (See descriptive report of H. 4840) Further investigation of this spot, preferably with the wire drag, is recommended. The 17 fathom sounding, about 450 m. southeast of the $8 \frac{3}{4}$ fathom spot should also be examined as it falls just outside the limits of the present wire drag work.

The 21 fathom sounding, mentioned by the verifier, in Lat. $57^{\circ} 10'.9$, Long. $135^{\circ} 53'.3$, was passed by the drag with an effective depth of 53 ft. No additional work is considered necessary at this point.

10. Reviewed by R. L. Johnston, November 9, 1929.

Approved:


Chief, Section of Field Records (Charts)


Chief, Section of Field Work (H. & T.)

See Review H-4840 for additional work in this area.
A. E. J.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4846

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. 3

REGISTER NO. 4846

State S. E. Alaska

General locality West Coast Kruzof Island

Locality Pt. Mary to Cape Georgiana

Scale 1:20,000 Date of survey June 25 - August 8, 1928

Vessel EXPLORER

Chief of Party Harold A. Cotton

Surveyed by Harold A. Cotton, Wm. D. Patterson, W. Weidlich

Protracted by W. Weidlich

Soundings penciled by A. Newton Stewart

Soundings in fathoms ~~fms~~

Plane of reference M. L. L. W. Sitka Gage

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated February 13, 1928

Remarks:

8248

2/27/74 Exam. with reconstruction
of chart 8248. D.J. Kennan