4842

Diag. Cht. 8250

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

....., *Director*

State: SE Alaska

DESCRIPTIVE REPORT

~~*Topographic*~~
Hydrographic } *Sheet No.* 4842

LOCALITY

S End of Kruzof Island

Cape Edgecumbe

1928

CHIEF OF PARTY

H.A. Cotton

GOVERNMENT PRINTING OFFICE

4842

DESCRIPTIVE REPORT.

To accompany Hydrographic Sheet #1.

AUTHORITY: The hydrography on this sheet was executed under authority contained in instructions to Commanding Officer S.S. Explorer, dated February 13th. 1928.

LIMITS: The work done on this sheet covers the area south of KRUZOF ISLAND to Latitude 56° 30' 30" North and west of ○ END to Longitude 135° 38' West.

This survey connects with the work done by the S.S. Surveyor 1925.

CONTROL: Control is furnished by triangulation and topography.

METHODS: S.S. Explorer and the steam launch Delta were engaged in this survey.

The off-shore hydrography was done by the ship. Pressure tubes were used in depths ~~in depths~~ from 20 to 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 was used by the Delta, and all soundings are up and down.

For depths of less than 10 fathoms, an eight lbs. hand lead was in use. In view of the fact that the sounding platform is only a few feet above the sea level, and on account of the heavy swells and rough seas, making it impossible to throw the lead at a great distance, hand lead sounding were taken only to a depth of about 10 fathoms.

The lines run by the Delta are spaced about 200 meters apart and run in southerly and northerly direction, from the western limits of the sheet to Cape Edgecumbe. West of the Cape the lines run east and west.

The sounding lines run by the ship are spaced about 450 meters apart and run in easterly and westerly direction.

DANGERS: The south shore of Kruzof Island is foul and practically all dangers and obstructions are marked by thick kelp.

#1 (Pos. 73 b.) The extreme southern end of the reef off Sitka Point (beacon) was determined by this survey. The southern most sunken rock, marked by breakers lies about 440 meters 197° from ○ SIT (Sitka Beacon) and is marked by some kelp. Least sounding obtained near the breaker was 4-6/6 fathoms(rocky) at M.L.L.W.

#2.(Pos. 6&9 c.) A shoal with a least depth found of 9¾ fathoms atM.L.L.W. lies about 1630 meters 172° from ○ LIT. (Cape Edgecumbe Light), rocky bottom and no kelp. This area is wire-dragged. Heavy groundswell and tiderips were observed in this vicinity.

#3. (Pos. 35 e.) A shoal with a least depth found of 11 fathoms at M.L.L.W. lies about 580 meters 89° from ○ HAT. (East end of St Lazaria Island.) There is no kelp and deep water all around it.

BOTTOM: BOTTOM is rocky throughout.

KELP: The large kelp patch shown on chart # 8240 , about 1-5/8 miles east of SITKA POINT, and extenting about 1200 yards off-shore does not exist.

Some kelp extents about 200 yards off-shore and in that vicinity the kelp is very thin. Kelp is not likely to grow in depths of 16 and 19 fathoms.

It is possible that dead, floating kelp was reported as a kelp patch. Dead floating kelp was observed in this vicinity at the close of the season.

ANCHORAGES: An indifferent anchorage may be had north of ST. Lazaria Island in 13 and 15 fathoms of water, hard bottom,The north tangent of the island in line with Sitka Point.

This anchorage offers no shelter during strong southerly winds. The steamer Explorer dragged anchor on several occasions and was forced to seek shelter in Sitka Harbor.

#3.

Small fishing vessels usually anchor in a bight east of Sitka Point. This bight offers exellent shelter during westerly and north-westerly winds.

The Light House Tender" Fern" usually anchors or heaves to, WNW of Sitka Point and the working party is landed on a shelve in vicinity of O PO. at half and falling tides.

A small bight NW of Sitka Point offers no shelter during bad weather. Bottom is very rocky and kelp is so thick as to make it almost impossible to navigate a small launch.

Respectfully submitted,

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

Endorsement 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 the deeper area between the launch hydrography and the previous work of the SURVEYOR in 1925 and other older work to the southward.

Respectfully submitted,

Harold A. Cotton,
Chief of Party,
Coast & Geodetic Survey.

EXAMINATION AND APPROVAL SHEET.

Hydrographic Sheet No._____ (Field No. 1) and the accompanying records have been inspected by the Chief of Party and approved.

The shoal about one mile south of Cape Edgecumbe was examined with the Wire Drag - Hydrographic Sheet No._____ (Field No. I).

Nothing less than 9-3/4 fathoms was found on the shoal as developed but the drag fouled at 48 feet at two points just west of this position. These spots were cleared at 45 feet.

Harold A Cotton

Harold A. Cotton,
Chief of Party,
U.S.C. & G.S.S. EXPLORER.

TIDAL DATA SHEET
Field No. 1

Aug. 13-Aug. 24, 1928

Gauge_ _Sitka

Plane of Reference_ _ _ Mean Lower Low Water

Reading on Gauge for:

Mean Lower Low Water_ _ _ _ _ _ _ _ _ _ _ _6.2 feet

Highest Tide Observed_ _ Aug. 14, 16.8 feet

Lowest Tide Observed Aug. 15, 3.9 feet

STATISTIC SHEET # 1.

Date 1928.	Letter	Vol.	Pos.	Soundings Hand.	Soundings Machine	Miles St.	Vessel.
Aug. 13th.	a. Red.	1	71	20	160	14.3	Delta
" 14th.	b. "	1	125	54	250	19.0	"
" 16th.	c. "	1	125	22	273	20.8	"
" 17th.	d. "	2	193	176	382	37.7	"
" 18th.	e. "	2	52	47	77	7.6	"
" 27th.	f. "	2	48	51	98	9.5	"
			614	370	1240	108.9	
Aug. 15th.	A. Green	3	29		53	11.9	Explorer
" 16th.	B. "	3	86		217	47.0	"
" 17th.	C. "	3	86		210	47.0	"
			201		480	105.9	
Total for all vessels:			815	370	1720	214.8	

Sec. of Field Records.

EAK.

Division of Hydrography and Topography: April 2, 1929

✓ Division of Charts:

Tide Reducers are approved in 3 volumes of sounding records for

HYDROGRAPHIC SHEET 4842

Locality: **South end of Kruzof Island, S. E. Alaska**

Chief of Party: **H. A. Cotton in 1928.**

Plane of reference is **Mean lower low water, reading** 6.2 ft. on tide staff at **Sitka, Alaska**

~~ft. below B.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.

H. A. Marmer

Chief, Division of Tides and Currents.

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

AND REFER TO No. 11-DRM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

November 11, 1929.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4842

Vicinity of Cape Edgecumbe, Southeast Alaska

Surveyed in 1928

Instructions dated February 13, 1928 (EXPLORER)

Hand Lead, Machine and Tube Soundings

Chief of Party, H. A. Cotton.

Surveyed by H. A. C. and W. Weidlich.

Protracted and soundings plotted by W. W.

Verified and inked by J. Fleming.

1. The records conform to the requirements of the Hydrographic Manual with the exception that under "Tube Tests", the correction for various depths should also have been entered. It is noted that in the tube test on "B" day, Vol. 3, page 20, the comparison at 30 fathoms indicated a minus correction of 1.5 fathoms, whereas all the other corrections ranged from plus .2 fathom to minus 1.0 fathom. In applying corrections to tube soundings this difference was ignored and a mean of the 20 and 40 fathom corrections applied. This treatment is justifiable, but such erroneous comparisons should be supplemented by other comparisons at that depth.

2. The plan and extent of development satisfy the specific instructions with the following exceptions:

   a. In the vicinity of Cape Edgecumbe the work was extended about 2 miles beyond the 50 fathom curve. Paragraph 25 of the specific instructions calls for work only between the 50 fathom curve and the shore. The excess work is justifiable. If the specific instructions were faithfully followed, a large gap would have been left between this survey and the 1924 survey (H. 4528). As it now stands, there remains only an area of approximately two square miles that has not been surveyed by modern methods. One or two additional lines at the extreme southwest corner of the sheet will effect an adequate junction with H. 4528.

b. The spacing of lines from the 10 fathom curve to the offshore limits of the launch work (approximately 30 fathom curve) were twice as close as called for in the instructions. (Paragraph 26). Here again the departure seems justifiable, since the 10 fathom curve lies very close to shore and the possibility of dangers to navigation would normally extend to about the offshore limits of the launch hydrography.

3. A comparison of adjacent sounding lines indicates a good agreement.

4. The information is sufficient for drawing the usual depth curves.

5. The usual field plotting was completed by the field party and was well done except for the plotting of the shoal off the eastern end of St. Lazaria Island where the position numbers and the soundings were badly mixed up. The shoal had to be replotted by the office cartographer.

6. A junction was effected with the 1924 work (H. 4528) except as mentioned in Paragraph 2-a, above. There are four lines on the 1924 survey running southwest from Cape Edgecumbe that cut across the 1928 work. In general there is a good agreement between these two surveys. Some differences exist, but they are not in sufficient number to draw any general conclusions.

Owing to the detailed nature of the 1928 work, it will be unnecessary to use any of the 1924 work within the area covered by the 1928 survey (H. 4842).

The junction with H. 4843 (surveyed in 1928) is satisfactory.

7. Comparison with old surveys.

An inspection was made of the old surveys H. 2175 and H. 2319 where they overlapped the new work. Differences were noted inshore of the 30 fathom curve, on H. 2175 and in the vicinity of the 50 fathom curve on H. 2319, but since no critical soundings were involved and inasmuch as the new work is in considerable detail, no study was made of the possible cause for these discrepancies. The new work should replace the old in compiling the chart for this locality.

8. No additional work is necessary within the limits of this survey unless it is considered important to drag the shoal east of St. Lazaria Island.

9. Reviewed by A. L. Shalowitz, October, 1929.

Approved:

A. M. Sobieralski
Chief, Section of Field Records (CHARTS)

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

Field Records Section

Report on H 7852 - Surveyed in 1928

Chief of Party H.A Cotton - Surveyed by H A C and W Hedrick
Protracted by W W Soundings by W W

① The records conform to req. of G.D ✓
(2) The plan and character of development fulfill ✓ requirement of G.D
(3) There are no sounding lines crossings. ✓
4 The depths curves can be drawn complete ✓ for the 10 - 20 - and 50 fathom depths only
5 The field plotting was completed to the extent ✓ prescribed in G.D.
6 Since the shoal one mile south of C. Edgecumbe has been dragged and cleared at 25 feet and there are no more doubtful spots on the ✓ sheet except the relatively unimportant shoal east of St. Lazaria I. this survey is considered sufficient.
It is thought that the 9½ fath spot on the ✓ cape edgecumbe shoal is where the wire dragge fouled as stated in the descript report. No reference to this 9½ fath sounding is contained on the D.P
The shoal east of St Lazaria I. presents an unusual condition as indicated by the 20 fath curve Pts. 8-e and 9-e at this place are partial revolvers and it is possible that the 24 fath sounding is further east

Report on H. 4842

The position numbers on the shoal east of St Vincent I. were badly mixed and the soundings also. The shoal was completely replotted

At pos. 5-e o sig Hil is recorded as a part of the fix. The fix would give a position between 7 and 8 fath sounding and some distance off the boat course

It is thought that sig 'Hil' and not 'Hil' was the sig given but that owing to the simulant of sound, was wrongly interpreted by the recorder

The records are very clear and the time interval between positions and soundings quite uniform

The smooth sheet was in splendid shape and all features clear and distinct

There was good agreement between tubes and between tubes and V.C although V.C.'s were not taken ~~offo~~ often enough to form a good comparison

The large boat sheet contains the soundings in green of the old survey and a comparison shows differences of about 3 fathoms

The work is considered excellent

Respectfully Submitted

John Kenney

May 17 1929

Form 537
11—5813

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4842

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. 1

REGISTER NO. 4842

State S. E. Alaska

General locality S.End of Kruzof Island

Locality ~~South End Kruzof Island~~ Cape Edgecumbe

Scale 1:20,000 Date of survey August 13 -27, 1928

Vessel EXPLORER

Chief of Party Harold A. Cotton

Surveyed by Harold A. Cotton W. Weidlich

Protracted by W. Weidlich

Soundings penciled by W. Weidlich

Soundings in fathoms ~~feet~~

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

Subdivision of wire dragged areas by

Inked by J. Flemming May 11 - 1929

Verified by

Instructions dated February 13, 1928.

Remarks:

GPO

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

AND REFER TO No. 11-DRM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

November 11, 1929.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4842

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9. Reviewed by A. L. Shalowitz, October, 1929.

Approved:

Chief, Section of Field Records (CHARTS)

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

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 4842

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

Number of positions on sheet	815
Number of positions checked	237
Number of positions revised	18
Number of soundings recorded	2090
Number of soundings revised	66
Number of signals erroneously plotted or transferred	NONE

Date: May 13 1929

Cartographer: John Fleming