

4841

Diag. Cht. No. 8250

4841

Form 504
DEPARTMENT OF COMMERCE
 U. S. COAST AND GEODETIC SURVEY

State: S. E. ALASKA

11-5613

DESCRIPTIVE REPORT.

WIRE DRAG *Sheet No.* 4841

LOCALITY:

SALISBURY SOUND, S. E. ALASKA

Shoals of Salisbury Sound and
 Approaches

1928

CHIEF OF PARTY:

Harold A. Cotton

DESCRIPTIVE REPORT

to accompany

Wire Drag Sheet No. ____ (Field No. IV)

Salisbury Sound

EXTENT: The drag work on this sheet includes the examination of all shoals of any importance in Salisbury Sound and approaches.

The following particular areas are included in the work:

(a) Along the east shore of the Sound opposite Scraggy Islands, there is a ridge with two high points and along the north shore just west of Kakul Narrows, there are two relatively shoal areas. All of these points were examined with one strip of the drag.

(b) In the center of the Sound about mid-way between Kalinino Point and Point Leo, there is a large shoal area where the hydrographic party found a minimum depth of $8\frac{1}{2}$ fathoms. All of this area was examined with the drag.

(c) South and west of Klokachef Island, there is a large area of very irregular bottom which it was easier to examine with the drag than to develop by launch hydrography. This area is about one and one half miles wide and extends from the eastern end of Klokachef Island to three miles beyond Klokachef Point.

(d) A third of a mile north of Kalinino Point, the hydrographic party developed a small shoal with a least depth of 13 fathoms. This shoal was dragged for a possible less depth.

The completed drag work, includes all areas of importance of less than 10 fathoms on Hydrographic Sheet No. ____ (Field No. 4).

METHODS OF SURVEY: Three-sixteenths inch bottom wire was used with wooden floats for buoyancy. Single tow-lines (not bridled) were used; the length of the tow-line was sufficient to prevent any large lift.

All of this work was done under practically ideal weather conditions. A calm sea without swell prevailed, little or no current was experienced. It was not necessary to make any allowance for swell.

The only exception to the favorable weather conditions was the thick fog which came in during a part of "B" day. At this time, the area (c) above was being examined. Two drag strips were necessary to cover this area and the thick fog prevailed while the middle portion of each strip was being dragged. Accordingly, although there is good control at both ends of these strips, there is a long middle section run on dead reckoning between positions. But as conditions were otherwise very favorable (calm sea - no swell - no wind - little current, etc.), and as both boats steered a constant course between these widely-spaced positions, there can be little question regarding the actual path of the end buoys during this time. The overlap along the central portions of these strips is scarcely satisfactory for covering a complete area but the possible split occurs in deep water and in no way effects the object of the dragging which was to cover the numerous shoaler spots in this general locality.

Unusual lifts were experienced during the "A" day work. After a careful examination of the drag tests for this day the following scale for lift allowance was adopted:

| | | |
|-------------|---|-------------|
| 30 R. P. M. | - | 2 foot lift |
| 35 R. P. M. | - | 3 foot lift |
| 40 R. P. M. | - | 5 foot lift |
| 45 R. P. M. | - | 6 foot lift |

No satisfactory explanation for these lifts were noted other than that the excessive lift of 6 feet was due to the excessive speed of 45 R. P. M.

In the two drag strips over the large area south and west of Klokachef Island, the drag tests indicated no lift on the southern (west bound) strip and a two foot lift on the northern (east bound strip). This was probably accounted for by a slight westerly set over this area at the time of dragging.

Except as noted above, the lift allowance was either nothing or one foot.

The two boat method of control was used throughout this work.

PLOTTING AND RECORDS: The shoreline on the smooth sheet is not an exact tracing of the topographic sheets at all points. This smooth sheet had originally been prepared for the hydrography but further revision of the topography was made after the shoreline had been transferred. The sheet was accordingly used for plotting the wire drag work. There is no question about the correct position of signals

The launch and end buoy positions were plotted. The normal position of the drag was considered to be that of a cell-uloid strip shaped so as to pass through the launch positions and end buoy positions.

All end launch positions were copied into the guide launch record. If simultaneous positions were not obtained, the end launch position most nearly coinciding with the guide launch position was copied opposite the guide launch position. The end launch position numbers were retained as originally recorded, but simultaneous positions of launches are properly indicated by the short cross lines reaching in-drag from each position. Capital day letters indicate guide launch positions and end launch positions are indicated by small letters.

Grounds recorded are prominently indicated in the record by a red "G" with a red circle around the letter.

GROUNDS, ETC:

8 A The drag grounded on the 7-3/4 fathom spot developed by the hydrographic party. A least depth of 37 feet was found. Area later cleared with 32 feet. It was intended to clear this spot with 34 feet, but drag tests showed a lift of 2 feet instead of the usual 0 or 1 and the tide reducer was found to be 7 feet instead of the six feet predicted.

It was intended to clear the 11 fathom spot just south of Goloi Island with 45 feet but the rapid tide changes occurring at this time as well as the unusual lift of 6 feet resulted in reducing the effective depth at this point to 41 feet.

49 A This ground occurred about 1/4 mile north of a least depth of 8-1/2 fathom developed by the hydrographic party on the large shoal area in about the center of the Sound. A least depth of 37 feet was found which was later cleared with 36 feet. The drag did not ground on the mentioned 8-1/2 fathom spot.

53 B - 15 C At position 53 B, the drag grounded near No. 9 buoy but nothing less than the effective depth (49 feet) was found. On the following day, at position 15C, the drag grounded a short distance southeast of the first grounding. A least depth of 41 feet was found but was not cleared later on account of being so close in-shore with plenty of deep clear(dragged) water just outside of it.

RESULT OF SURVEY: Under EXTENT, there is a detailed description of the general features which were covered by this examination. The result of the work shows that all these features were found clear, no dangers to navigation being encountered.

The following is a statement of the main points:

(a) The shoalest point on the submerged ridge opposite Scraggy Islands is 1180 meters, 58⁰ ^{tr} from Scragg. This is possibly

in the path of ship's passing between Kakul Narrows and Neva Strait.

(b) There is a least depth of 37 feet on the large shoal area in the center of the Sound. This spot lies ~~2200~~ meters 2300
168° true from Leo.

(c) There is nothing less than 49 feet in the large shoal area to the south and west of Klokachef Island.

(d) The entrance to Kalinino Bay from the westward is clear.

EXAMINATION AND APPROVAL:

This sheet and accompanying records have been examined and approved by the Chief of Party.

Respectfully submitted,

Harold A. Cotton,
Commanding Officer,
U.S.C. & G.S.S. EXPLORER.

STATISTICS FOR WIRE DRAG SHEET, SALISBURY SOUND, SOUTH EASTERN ALASKA

| DATE | DAY | NO. OF POSITIONS | SOUNDINGS | STATUTE MILES OF DRAG | VESSEL |
|-----------|-----|------------------|-----------|-----------------------|--|
| AUGUST 21 | A | 51 52 | 2 | 5 | EXPLORER SCANDINAVIA TENDER NO. 1. |
| AUGUST 22 | B | 55 67 | | 12.6 | EXPLORER SCANDINAVIA TENDER NO. 1. |
| AUGUST 23 | C | 16 16 | 2 | 1.5 | EXPLORER SCANDINAVIA TENDER NO. 1 |
| | | 257 | 4 | 19.1 | |

E.A.L.

(For Files of Field Records Section) ✓

April 6, 1929.

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
4 volumes of sounding records for ~~xxx~~ and wire drag records for
HYDROGRAPHIC SHEET 4841

Locality: **Salisbury Sound, S. E. Alaska.**

Chief of Party: **H. A. Cotton in 1928.**
Plane of reference **Mean lower low water, reading**
7.7 ft. on tide staff at **Fortuna Strait, Klakachef Island**
~~ft. below B. M.~~
5.0 " " " " " **Scrappy Point, Salisbury Sound.**
6.2 " " " " " **Sitka**

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.

SECTION OF FIELD RECORDS

Review of Wire Drag Survey, H. 4841.
Salisbury Sound and Approaches, S. E. Alaska.
Surveyed in 1928.
Instructions dated - Feb. 13, 1928. (Explorer).

Chief of party - H. A. Cotton.
Surveyed by - H. A. Cotton, W. Weidlich, W. D. Patterson.
Drag work plotted by - D. M. Watt.
Soundings protracted and penciled by - D. M. Watt.
Soundings and groundings verified and inked by - R. L. Johnston.

1. The records conform to the requirements except that no bottom characteristics were entered in the sounding volume.
2. The drag work was not called for by the specific instructions but was done in order that the close development of shoal indications in the irregular areas on the contemporary hydrographic survey, H. 4847, would not be necessary. The plotting of drag limits and overlaps were verified in the office only when groundings were affected.
3. No area and depth sheet was submitted by the field party and none was prepared in the office. The drag work is simple and an inspection of the sheet will show what drag depths passed over any point.
4. No soundings shown on the charts are discredited or disproved by the wire drag.
5. The overlaps on this work are adequate except in the case of two small splits, one of which is about one third of a mile south of Klokachef Pt. and the other $1\frac{1}{2}$ miles southwest of Klokachef Pt.
6. No additional dragging is recommended.
7. Reviewed by - R. L. Johnston, March 20, 1933.

Memorandum by A. L. Shalowitz.

Attention is called to the fact that the 41 foot shoal found with the wire drag about $1/3$ mile south of Klokachef Pt. was not dragged over to obtain a clearance depth. Therefore, the least depth may not have been obtained on the shoal. This spot as well as numerous others on the sheet should be covered with a wire drag. The area simply abounds in irregularities and indications (see H. 4847) which have not been completely developed. Examples of these are the 24 fathom shoaling in lat. 57-21.8 long. 135-52.2, the 12 fathom shoal in lat. 57-24 long. 135-55.6, the $7\frac{1}{2}$ fathom shoal in lat. 57-23.7 long. 135-53.6, the ridge running from Morskoi Rock to the southwestward and several others. When additional work is being considered in this locality the entire sheet (H. 4847) should be carefully examined to determine where additional development or drag work is necessary. Consideration should also be given the advisability of making a complete wire drag survey of the entire area covered by this sheet.

Sheet Inspected by - A. L. Shalowitz.

L. O. Colbert
L. O. Colbert, Chief, Section Field Work
E. H. Pagenhart, Chief, Division of Charts.
E. H. Pagenhart

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.
4841

WIRE DRAG
~~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. IV

REGISTER NO. 4841

State S. E. Alaska

General locality Salisbury Sound

Locality S. E. Alaska Shoals of Salisbury Sound and Approaches

Scale 1:20,000 Date of survey Aug. 21-22-23, 1928

Vessel EXPLORER

Chief of Party Harold A. Cotton

Surveyed by Harold A. Cotton, M. Weidlich, H. D. Patterson

Protracted by D. M. Watt

Soundings penciled by D. M. Watt

Soundings in ~~fathoms~~ feet

Plane of reference M. L. L. W. Scraggy Island & Fortuna gauges.

Subdivision of wire dragged areas by

Inked by D. M. Watt

Verified by Harold A. Cotton

Instructions dated February 13, 1928

Remarks:

8248 2/27/74

Exam. with reconstruction
of chart 8248. D.J. Kennen
No corr.