4840

Diag. Cht. No. 8250

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

....., *Director*

State: S.E. Alaska

WIRE DRAG

DESCRIPTIVE REPORT

WIRE DRAG

Hydrographic | *Sheet No.* 4840

LOCALITY

West Coast of Kruzof Island

Gilmer Bay Entrance

1928

CHIEF OF PARTY

H.A. Cotton

GOVERNMENT PRINTING OFFICE

4840

DESCRIPTIVE REPORT

to accompany

WIRE DRAG SHEET NO.____(Field No. III)

EXTENT: The drag work on this sheet covers the several shoals off the entrance to Gilmer Bay and a considerable area of irregular bottom south of Point Amelia and northwest of Point Mary. Over the latter area of irregular bottom it was considered preferable to clear it with the drag than to develop all indications of shoals by the hydrographic party.

METHODS OF SURVEY: Three six-teenths inch bottom wire was used with wooden floats tested for buoyancy and single tow-lines (not bridled) but of sufficient length to prevent great lift.

Different weather conditions prevailed during the three days involved in this work. During "A" day, weather conditions were favorable, a light northerly breeze and very slight swell prevailing. In "B" day, both wind and swell had increased appreciably and by the end of the day the sea was so choppy that the tender was unable to sound on shoals. "C" day was over-cast and calm, an ideal day for dragging.

The drag tests indicated a prevailing lift of 0-1 foot with a maximum of 2 foot. The 2 feet has been allowed in the records for the combination of lift and swell on both "A" and "B" days. On "A" day, the sea was practically smooth so that the combined allowance of 2 feet is considered ample. On "B" day there was a light swell which increased appreciably through the day. The combined allowance of 2 feet for this day may not be sufficient for

at position 37B a 33 foot(effective depth) strip fouled over the shoal cleared by the 34 foot strip later under ideal weather conditions. This fouling no doubt occured in the trough of the swell and probably an additional allowance of 1 foot for the swell should be made on "B" day. In "C" day, weather conditions were ideal in every way and no allowance was made for either lift or swell.

The two boat method of control was used throughout the work

PLOTTING AND RECORDS: The launch and end buoy positions were plotted. The normal position of the drag was considered to be that of a celluloid 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. 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: The drag grounded in an attempted drag strip between positions 5A and 14A. This strip could not be plotted on account of no positions being taken on the end launch (a misunderstanding

on the part of the end launch). A least depth of 31 feet was found at this point which was later cleared with 28 feet.

34A - 37A and 28B A least depth of 46 feet was found on "A" day which was decreased on "B" day to 37 feet. The spot was cleared on "C" day with 34feet. At the time of grounding on "A", the drag appeared to be aground at both buoy No. 8 and buoy no. 6. The 46 foot sounding was secured between these buoys. The area about buoy no. 6 was not sounded. Personnel on the tender and on the end launch did not believe the drag was aground between the 46 foot spot and the guide launch and aboard the EXPLORER there was a question regarding a grounding at this point. The plotted drag position has been made to extend about the probable position of no. 6 buoy although possibly the most advanced position of the drag extended from end buoy position 29A about the 46 foot spot to near buoy position 35A.

37A As near as could be determined, this grounding occurred at approximately the same position as the 46 foot and 37 foot sounding above - positions 37A and 28B. At this time the wind had become quite strong and the sea very choppy so that it was impossible to do any sounding on the shoal.

DISCUSSION: There is an area just off Point Mary where the drag sweeping an effective depth of 33 feet grounded and yet later cleared at an effective depth of 34 feet. As explained above, the clearance at 34 should be considered good for this work was done during very favorable weather conditions. The 33 foot grounding probably occured in the trough of the swell prevailing on

that day. Further, some of this apparent discrepancy may be due to minor tidal differences.

In this same area off Point Mary there is a small split just south and west of soundings 2a and 3b. The situation at this point is described under the groundings, 34A - 37A & 28B above. This split may be non-existent if the suggested advanced position of the drag could be accepted. But at the best there is a possibility of a shoal existing at the position of the no. 6 buoy. There should have been further examination at this point.

With the possible exceptions noted above, the approach to Gilmer Bay was found clear.

APPROVAL:

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

Respectfully submitted,

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

STATISTICS FOR WIRE DRAG SHEET OFF GILMER BAY, S. E. ALASKA

	DATE 1928	LETTER	NO. OF POSITIONS	NO. OF SOUNDINGS	MILES OF DRAG	VESSEL
AUGUST	24	A	37		3.5	EXPLORER
			29		3.5	SCANDINAVIA
				2		TENDER NO. 1
AUGUST	25	B	36		5.0	EXPLORER
			36		5.0	SCANDINAVIA
				3		DELTA
AUGUST	28	C	6		0.8	EXPLORER
			6		0.8	SCANDINAVIA
				0		DELTA
			150	5	9.3	

Lee of Field Records. ✓ E.A.L.

Division of Hydrography and Topography: Mar. 29, 1929.

Division of Charts:

Tide Reducers are approved in
2 volumes of records for
wire drag
HYDROGRAPHIC SHEET 4840

Locality: W. Coast of Kruzof Island, S. E. Alaska

Chief of Party: H. C. Cotton in 1928.
Plane of reference is Mean lower low water, reading
6.2 ft. on tide staff at Sitka, Alaska

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. 4840.
Gilmer Bay Entrance, West Coast of Kruzof I., 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 a separate volume should have been used for the soundings instead of entering them in the sounding record of H. 4841. Bottom characteristics should have been obtained on the shoal spots found.

2. No area and depth sheet was submitted by the field party and none was prepared in the office. The drag work is not at all complicated and an inspection of the sheet is all that is necessary to ascertain just what drag depth passed over any given point.

The plotting of drag limits and overlaps were verified in the office only when groundings were affected.

3. The drag work on this sheet was not called for in the specific instructions but was done by the field party in order that the close development of shoal indications on the contemporary hydrographic survey, H. 4846, would not be necessary.

4. No soundings now shown on the charts are discredited or disproved by the wire drag.

5. The overlaps on this work are ample except in the small area just north of the 52 ft. grounding off Pt. Mary, where the present plotting shows a split. The records are quite indefinite about this grounding and there is considerable doubt as to whether it actually occurred, in which case the drag strip ending at pos. 37A would have passed over the area now shown as a split. (See first par. p. 3, Descriptive Report). Since there is some possibility of a shoal existing at the position of buoy No. 6 the 52 ft. grounding was retained until disproved and is now charted as an 8 fathom spot on Chart 8256. This area should have been re-dragged.

The only other discrepancy was the grounding in a rough sea of a drag with an effective depth of 33 feet. The shoalest sounding obtained was 37 ft. but since the spot was later passed under favorable conditions by a 34 ft. drag the sounding was accepted and is charted as a 6 fathom spot on Chart 8256.

6. Reviewed by - R. L. Johnston - March 15, 1933.

H. 4840.

Inspection note by A. L. Shalowitz.

The questionable grounding mentioned in Par. 5 above should be investigated as well as a number of indications between the 20 and 50 fathom curves (H. 4846). It does not appear necessary to drag the area but the individual shoalings should at least be further examined.

Approved: L. O. Colbert, Chief, Section of Field Records.
E. H. Pagenhart, Chief, Division of Charts.

G. Rude, Chief, H. & O.

F. St. Bordon, Chief Section, Field Work

Form 537
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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4840

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. 3

REGISTER NO. 4840

State S. E. Alaska

General locality West Coast Kruzof Island

Locality Gilmer Bay Entrance

Scale 1:20,000 Date of survey August 24-28, 1928

Vessel EXPLORER

Chief of Party Harold A. Cotton

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

Protracted by Dan M. Watt

Soundings penciled by Dan M. Watt

Soundings in ~~fathoms~~ feet

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

Subdivision of wire dragged areas by Dan M. Watt

Inked by Dan M. Watt

Verified by Harold A. Cotton

Instructions dated February 13, 1928

Remarks:

GPO