5219

WIRE DRAG



Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. Patton, *Director*

*State:* Conn.

# DESCRIPTIVE REPORT

~~*Topographic*~~
~~*Hydrographic*~~

WIRE DRAG
*Sheet No.* 1 5219

LOCALITY

Off Norwalk Islands

Long Island Sound

*1932*

CHIEF OF PARTY

S. B. Grenell, Jr. H.& G.E.

U. S. GOVERNMENT PRINTING OFFICE: 1928

5219
WIRE DRAG

Form 537
Ed. Dec., 1930



REG. NO. 5219

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

# HYDROGRAPHIC TITLE SHEET

WIRE DRAG

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 WIRE DRAG

REGISTER NO. 5219

State Connecticut

General locality Long Island Sound

Locality Off Norwalk Islands

Scale 1:20 000 Date of survey Aug. 30 - Oct. 28, 1932

Vessel Project HT-103

Chief of Party S. B. Grenell, Jr. H.& G.E.

Surveyed by S. B. Grenell

Protracted by William F. Deane

Soundings ~~pencilled~~ inked by William F. Deane

Soundings in ~~fathoms~~ feet

Plane of reference M.L.W.

Subdivision of wire dragged areas by William F. Deane

Inked by William F. Deane

Verified ~~by~~ Soundings and Groundings - H.W.Murray

Instructions dated April 18, 1932

Remarks: Dual launch control was used for the dragging.

U. S. GOVERNMENT PRINTING OFFICE: 1931

Descriptive Report
to accompany
Wire Drag Sheet #1
Project HT-103, Long Island Sound
1932

- - -

Date of Instructions:

April 18, 1932.

Limits and Junctions:

A junction was made with wire drag sheet #5142, H. E. Finnegan, 1931, at Long Neck Point - Long. 73° 29' and the work progressed eastward ~~eastward~~ along the Connecticut shore to a point 1.5 miles SW of Penfield Reef L.H. The northern limit of the drag area was determined by oyster grounds and the shoal water along the coast; the southern limit was determined by the junction with sheet #5142 and approximately the 11 fathom curve east of the Norwalk Islands.

Control:

Signals for sextant angle control were located either by third order triangulation - 1931-32 - or by topography 1932, topo. sheets A, B, D. The 1932 triangulation has been forwarded to the Washington Office; the topo. sheets will be turned in at the same time as this report.

Survey Methods:

Dual control was used throughout the sheet with the launches MARINDIN and OGDEN acting as guide and end launch respectively.

The entire drag with the exception of buoy F and the towline was set out and picked up by the guide launch. All lines were laid out on the guide launch and tracings sent to the end launch for guidance in running their lines. All hookups were determined aboard the guide launch.

According to instructions, an attempt was made to drag three feet from the bottom where possible, with the exception that no attempt was made to obtain an effective depth of more than 40 feet. In general dragging was carried in to the 18 foot curve, but in channels and anchorages drags as shoal as 10 feet were used.

Critical shoals, wrecks, or obstructions were cleared from at least two directions to assure determination of least water.

Drag Tests:

The improved drag tester was used exclusively on this sheet. Detailed information regarding the construction and operation of this tester may be found in the special report Wire Drag Tester - B. H. Rigg, 1930.

Lift:

The following rules were followed in applying values for lift:

1. Following a change in setting, while dragging, the value of lift obtained by the test shall be applied from the time the change in setting becomes the new drag depth.

2. The maximum lift obtained in any one section of the drag shall be the value applied to all sections set at that depth. No tests are made in or left applied to sliping sections.

3. The value of lift obtained by a test shall be applied until the next test unless some noted condition (change in current, direction, speed, wind, etc.) seems to indicate a point of change. In such case the new lift shall be applied from the time at which the change of condition occurred.

Tides:

All tide reducers for this sheet were obtained from a portable automatic tide gauge established at the highway bridge, South Norwalk, Conn.

Difficulties:

When dragging was first begun, considerable difficulty was experienced with lobster pots but this inconvenience was overcome when the chief of party got in touch with the local lobstermen and made arrangements for the removal of the pots in the areas to be dragged.

The most serious difficulty, however, was encountered at the edges of the oyster beds. These beds are marked by poles from 20 to 30 feet in length anchored in depths up to 8 fathoms. The custom is to plant new markers yearly without removing the old ones which sink below the surface. These sunken markers continually foul the drag making it impossible to cover areas in which they are thickly planted.

The area between the Norwalk Islands and the drag strips shown on this sheet was thickly planted with these markers. While inspecting the party in September, Captain G. T. Rude made a study of this feature and later, after arriving in Washington, authorized the chief of party to discontinue attempts to drag this area.

Chart Changes:

Recommendations for chart changes have been forwarded separately in the form of a chart letter dated Dec. 5, 1932. A copy of the letter is attached to this report.

STATISTICS:

| Volume | Day Letter | Drag Line Stat. Mi. | Soundings Tender | Positions Tender | Positions Guide Lch. |
|---|---|---|---|---|---|
| I | A | 9.3 | 0 | 0 | 34 |
| | B | 3.5 | 10 | 8 | 26 |
| | C | 3.2 | 19 | 19 | 19 |
| | D | 2.8 | 7 | 7 | 15 |
| | E | 2.8 | 14 | 14 | 27 |
| | | 21.6 | 50 | 48 | 121 |
| II | F | 1.5 | 1 | 2 | 11 |
| | G | 8.3 | 3 | 3 | 36 |
| | H | 1.5 | 5 | 5 | 14 |
| | J | 3.5 | 1 | 1 | 17 |
| | K | 1.5 | 2 | 2 | 10 |
| | L | 3.4 | 2 | 2 | 15 |
| | M | 1.8 | 1 | 1 | 7 |
| | N | 3.3 | 1 | 1 | 18 |
| | P | 3.7 | 1 | 1 | 17 |
| | | 28.5 | 17 | 18 | 151 |
| III | Q | 3.4 | 1 | 1 | 20 |
| | R | 6.5 | 2 | 2 | 33 |
| | S | 3.8 | 6 | 6 | 24 |
| | T | 4.0 | 11 | 11 | 26 |
| | U | 3.4 | 9 | 9 | 26 |
| | V | 6.0 | 1 | 1 | 32 |
| | | 27.1 | 30 | 30 | 161 |
| IV | W | 1.9 | 2 | 2 | 6 |
| | | 1.9 | 2 | 2 | 6 |
| Totals: | 21 | 79.1 | 99 | 98 | 439 |

Respectfully submitted,

S. B. Grenell

S. B. Grenell,
Jr. H. & G. Engr.
Chief of Party.

Feb. 7, 1933

# Section of Field Records
## Report on Wire Drag H-5219
## Off Norwalk Islands, Long Island Sound, Conn.
## Surveyed in 1932

Chief of Party — S. B. Grenell
Surveyed by S. B. G.
Contracted by W. F. Keane
Soundings plotted by W. F. K.
Groundings plotted by Harold W. Murray
Verified & Inked by Harold W. Murray

1. The records conform to the requirements of the Hydrographic Manual.
2. The plan, character and extent of development satisfy the general instructions.
3. Several irregularities in preparation of the smooth sheet are as follows:
   a. Detailed tender soundings were plotted in red ink instead of pencil.
   b. Overlay tracing was made entirely in black instead of the conventional color scheme.
   c. Groundings, in the absence of tender soundings were not plotted on the sheet in pencil.

d. No sheet was submitted relative to grounding recommendations.

4. The verifier verified all detached soundings and both plotted and inked all groundings encircled in green. Verification of drag work was made only in such strips or positions embracing groundings. Several immediate areas were found and corrected.

5. The locations of the ~~Buoys~~ are somewhat different from those shown on the chart #220 & 221.

6. A list of the principal chart recommendations were submitted by the field party on Dec. 5, 1932. (See letter in Office File #821). A somewhat important item not mentioned in the letter is a wreckage with a least depth of 12 feet in lat. 41° 02.4, long 73° 28.03. It is approximately 260 m N.W. of a charted shoal with a least depth of 10 ft. Five wreckages were spotted in this survey.

7. Two pipe drag surveys (a & b day, Vol #9) were outlined in limits on H-5222 and important detached soundings plotted in red. Another pipe drag planned on "c" day was outlined on H-5221. No critical groundings were planned on "c" day.

8. A list of all groundings plotted in black and circled with green ink is attached to this report by the verifier.

9. Respectfully submitted — Harold O. Murray

Inspected by P. L. Johnston

# Groundings - Wire Drag #5219

| Position | Buoy No. | Effective Depth | Remarks |
|---|---|---|---|
| 25A | N | 43 | |
| 12B | F | 40 | Ignored |
| 14B | F | 40 | |
| 20B | 9 | 40 ✓ | |
| 25B | F | 41 ✓ | |
| 12C | F | 15 | Ignored, near end of line |
| 10D (7d) | 7+F | | Shoals depth on chart |
| 3E | F | 17 ✓ | |
| 16E | F | 17 ✓ | |
| 18E | 2+3 | 11 | |
| 19E | 1+2 | 10 ✓ | |
| 23E | F | 10 ✓ | (or 11?) |
| 25E | N | 10 ✓ | |
| 26E | 1+F | 10 ✓ | |
| 3H | N | 23 ✓ | |
| 7H | 4+5 | 29 | |
| 7K | 5+6 | 20.5 ✓ | Ldg 2 21.0, pos. 2k obtained with tender and plotted. |
| 7M | N+1 | 39 | Ignored |
| 17P | F | 40 | Bumping from 2:30 to 2:53 P.M. |
| 3Q | N-1 | | (See 4Q) |
| 4Q (10:15) | N-1-2-3-4<br>7 | 40<br>40 | |
| 12Q | 7 | 39.5 | Passed by 40' (pos. 16P) |
| 24R | 1 | 30 ✓ | |

# Groundings (Cont'd) W.D. #5219

| Position | Buoy No. | Effective Depth | Remarks |
|---|---|---|---|
| 25 R | 2 & 3 | 30 ✓ | |
| 26 R | 8 | 31 ✓ | |
| | 6 | 31 ✓ | |
| 32 R | 3 | 29 ✓ | |
| 13 S | — | — | Probably oyster stake |
| 19 S | 9 & F | 25 | |
| ~~22 S~~ | ~~5~~ | ~~34~~ | No grounding at this place @ 41-04.75 ∧ 73-18.60 |
| 20 T | N | 14 ✓ | |
| 24 T | N | 13 ✓ | See note. Plotted as effective at 2:56 rather than 3:56 |
| 26 T | F | 18 ✓ | |
| 24 U | F | 17 ✓ | |
| 4 V | 4 & 5 | 18 ✓ | |
| 5 W | 5 | 16 ✓ | |
| | 8 | 13 ✓ | |

January 26, 1933.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
9 volumes of sounding [redacted] and wire drag records for

HYDROGRAPHIC SHEET 5219

Locality **Off Norwalk Islands, Long Island Sound**

Chief of Party: **S. B. Grenell in 1932**
Plane of reference is **mean low water reading**
2.8 ft. on tide staff at **South Norwalk**
20.3 ft. below B. M. 3

**Height of mean high water above plane of reference is 7.1 ft.**

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 A. Whitney

Chief, Division of Tides and Currents.

January 26, 1933.

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
9 volumes of sounding records for and wire drag records for

HYDROGRAPHIC SHEET 5219

Locality Off Norwalk Islands, Long Island Sound

Chief of Party: S. B. Ormsell in 1932
Plane of reference is mean low water reading
2.8 ft. on tide staff at South Norwalk
20.3 ft. below B. M. 3

Height of mean high water above plane of reference is 7.1 ft.

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 P. Whitney

Chief, Division of Tides and Currents.

SECTION OF FIELD RECORDS

Review of Wire Drag Survey, H. 5219
Off Norwalk Islands, Long Island Sound, Connecticut.
Surveyed in 1932
Instructions dated April 18, 1932. (Lieut. S. B. Grenell).

Chief of Party - S. B. Grenell
Surveyed by - S. B. Grenell
Drag work subdivision and soundings plotted by - W. F. Deane.
Soundings verified and inked by - H. W. Murray.
Groundings plotted by - H. W. Murray.

1. The records conform to the requirements except that there was no list of groundings, with recommendations as to the depths to be plotted, filed in the descriptive report.

2. The plan, character and extent of the survey satisfy the specific instructions except that dragging was not carried in close S. and S.E. of the Norwalk Islands. The Washington office authorized the party not to attempt to drag this area because of the excessive number of sunken oyster markers. The blank areas south of Sheffield I. are covered by the wire drag survey of 1931, H. 5142.

3. The junction on the west with H. 5142 is satisfactory. There is no drag work on the eastern limits.

4. There were several departures from the accepted practice in the plotting of the smooth sheet and the A. and D. tracing by the field party.

Tender soundings were plotted on the smooth sheet in red ink instead of in pencil. These were changed to black after verification in the office.

The A. and D. tracing was inked entirely in black instead of the usual color scheme.

The groundings, in the absence of tender soundings, were not plotted on the smooth sheet at all. (Should have been indicated in pencil with a pencil circle around them.)

5. Office work.

The verifier verified all soundings and both plotted and inked all groundings encircled in green. Any groundings about which he was in doubt were submitted to and were checked by the reviewer. The field plotting of the drag work was verified in the office only in the places where groundings occurred.

6. The area and depth tracing was compared with the smooth sheet and inspected for any gross errors but drag limits and subdivisions, overlaps, and the area and depth sheet were not completely verified. As far as could be determined from such an examination it appears correct. No actual splits were discovered, and the two places on the tracing which were marked "splits" are only spots where the overlap is thin and require no additional dragging.

7. Comparison with charts.

In comparing this work with the charts two doubtful soundings were noted.

Report H. 5219.

The first of these is a sounding of 13 ft., shown on Chart 221 in Lat. 41°-05.25', Long. 73°-20.15. This sounding was found to be authentic in the records of H. 3937, but it disagreed with the surrounding depths on that sheet.

This sounding lies very close to the end of a drag strip having an effective depth of 17 feet. There is some doubt if the drag actually covered the 13 foot spot and in the interest of safety, it should be retained on the chart.

A sounding of 29 ft. is shown on Chart 221 in Lat. 41°-01.7', Long. 73°-27.6'. The sounding is from the records of H. 1698 surveyed in 1886 but the record is questionable because the soundings following this have been corrected leaving a doubt as to whether this should also have been corrected. In 1914 this spot was closely examined and no depth less than 51 ft. found. (H. 1698b). The new hydrographic survey of 1932, H. 5221, shows no sounding under 52 ft., but no close development was done. In 1931 this point was cleared by the wire drag with an effective depth of 31 ft. and a sounding of 52 ft. obtained. (See H. 5142). In 1932 this point was again cleared by the wire drag with an effective depth of 30 ft. (H. 5219).

While these drag depths do not greatly exceed the depth of the original sounding, in view of the evidence of the two later hydrographic surveys, the 29 ft. sounding is believed to be erroneous and its removal from both Chart 221 and Chart 1213 is recommended.

← removed on Hoover #1 E.

The above recommendations have been approved by the Chief of the Field Record Section.

8. Since it is apparently impossible to carry the drag work any closer to the southern side of the Norwalk Islands, no additional drag work within the limits of this sheet is recommended.

9. Reviewed by R. L. Johnston - Feb. 27, 1933.

Inspected: E. P. Ellis.

Approved: It is recommended that the departures from usual practice and the manual be called to the attention of Lt. Grenell and Ensign Deane.

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

F. J. Borden,
Chief, Section of Field Work.

G. Rude
Chief, Div. of H & O.