

4466a b

4466ab

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

State: Washington

11-5013

DESCRIPTIVE REPORT.

Hydrographic
Sheet No. 4466ab

~~WIRE DEAN~~

LOCALITY:

Georgia Strait

Ent to Drayton Harbor

28
191'

CHIEF OF PARTY:

H. B. Campbell

Descriptive Report to Accompany Hydrographic Sheet No. _____

and

Wire Drag Sheet No. _____

Channel to Blaine, Washington.

The purpose of this survey was to locate a reported obstruction in the entrance to Drayton Harbor at Blaine, Washington. On March 31, 1925, the Dorothy Alexander, in backing away from the City Dock struck an object near the middle of the channel and North of the Alaska Packers Cannery at Semiamoo. Her propeller was broken and her hull plating considerably damaged. This object was believed to be either a wreck or a large boiler. There were three different reported locations of this object, one given by the Master of the Dorothy Alexander, one by the Operating Manager of the Pacific Steamship Co. and one determined by H. P. Odessey in May, 1924, and shown on the chart as a 20-1/2 foot sounding.

Hydrography: The channel was first swept four times with an improvised wire drag without catching on any obstruction. It was then thoroughly developed with the hand lead, lines spaced 30 to 50 meters being run normal to the channel. The area covered by hydrography extends from Blaine City Dock on the East to within 200 meters of Semiamoo Lighthouse on the West, and from approximately the low water line on the South side of the channel to beyond the three fathom curve on the North side.

The obstruction was found 170 meters North true from the Northeast corner of the Alaska Packer's Dock at Semiamoo. The least depth found was 16-1/2 feet, hard bottom, gradually deepening to from 22 to 32 feet. After developing the spot as closely as could be plotted on the sheet, a buoy was dropped on the position of the least depth found, and about 40 minutes were spent in feeling all around it with the hand-lead, without finding any less water. As the shoal comes up very gradually and the wire drag had slipped over it with an effective depth of 21 feet, further examination was considered unnecessary. The 16-1/2 foot spot is very small but a considerable area of 18 feet extends to the Northeast. The shoal, or obstruction, is oval in shape, about 60 meters in length, with the axis approximately Northeast and Southwest.

The three reported locations of the obstruction were also closely developed, but no indications of a shoal found. ~~It is regarded as certain that the 20-1/2 foot spot shown on the chart does not exist.~~

Wire Drag: The wire drag equipment used was improvised. Four collapsible buoys were used spaced at 300 foot

intervals, making the length of drag 900 feet. Two thirty pound leads were used for each of the end weights and one thirty pound lead for each of the intermediate weights. Cedar toggles were attached to the bottom wire at 100 foot intervals. The collapsible buoys were used with the wood down. The "Natoma" was used as guide launch and the speed boat as end launch. The whaleboat was used to test the drag.

On the first line the drag was not set deep enough to catch on the obstruction, as the lift was found to be greater than had been anticipated.

On the second line the effective depth was 21 feet by test and the drag passed over the obstruction without giving any indication of grounding.

The third line missed the obstruction.

On the fourth line the effective depth was 27 to 28 feet, with the drag towing on the bottom for a considerable distance. The near buoy passed over the obstruction. There was no lining up of buoys at any time and the only thing that might be taken as an indication was a slight vibration of the towline and when we were satisfied the drag was towing on bottom, a slight lifting of one buoy was noted.

It is probable that the failure of the drag to catch was partly due to not using heavy enough weights.

It is certain that no sharp obstruction in depth exists for the same outfit caught repeatedly on the rocky bottom off Point Wilson at depths only slightly less than the drag depth.

Control: Semiamoo Light House and Boundary Post No. 5 were occupied with a theodolite and a number of artificial objects cut in for signals. The flagstaff of the Alaska Packers Cannery was occupied as a check. It was believed at the time the observations were made that these objects had been previously located and the angles we measured were intended for graphical plotting only. Since we were unable to obtain their positions from the office we later computed their positions from the above triangulation, both for increased accuracy of the smooth sheets and for permanency

Tides: A plain tide staff was established on the Blaine City Dock and continuous observations made for 72 hours for comparison with the Seattle automatic gauge.

An unsuccessful search of about two hours was made for the bench mark near the mouth of Dakota Creek, established in 1889 by Lieut. J. N. Jordan; this being the only bench mark we had any data for.

A bench mark of the Geological Survey was found and connected by levels to the tide staff. Its elevation above mean sea level was obtained later from the office.

It was decided to use mean lower low water as computed from the simultaneous observations with Seattle in preference to using the Geological Survey bench mark, because of lack of data concerning the manner of determining the difference in elevation between the datum and the Geological Survey bench mark. This datum agrees within 1/10 of a foot with that obtained by using mean sea level as determined by the Geological Survey bench mark together with the difference in tide planes as determined in 1889 and 1890. Your attention is called to discrepancies in tidal planes as found by comparing these observations with observations made in 1889 and 1890.

We were unable to obtain any local data on tides or triangulation, although every effort was made by city officials and local engineers in searching for data and also for triangulation stations and bench marks.

Plotting: In plotting the closely developed areas it was necessary to leave off many of the soundings on account of lack of space; the shoalest soundings, and sufficient representative soundings to delineate the contours of the bottom were plotted.

Respectfully Submitted
A. B. Campbell
A. G. Engineer

Statistics Sheet No. _____

| DATE, 1925 | LETTER | VOLUME | POSITIONS | SOUNDINGS | MILES STAT. | VESSELS |
|------------|--------|--------|-----------|-----------|-------------|------------|
| May 25 | a | 1 | 74 | 246 | 4 | Whaleboat. |
| May 26 | b | 1 | 110 | 300 | 3.4 | " |
| TOTALS: | | | 184 | 606 | 7.4 | |

Area covered by hydrography - 0.18 St. mi.

Statistics Sheet No. _____

| DATE, 1925 | LETTER | VOLUME | POSITIONS | No. of ANGLES | No. of MILES (St.) |
|------------|--------|--------|-----------|---------------|--------------------|
| May 25 | a | 1 | 47 | 269 | 5.75 |

Area covered - 0.41 St. miles.

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND REFER TO No.

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

August 4, 1925.

REPORT ON VERIFICATION

HYDROGRAPHIC SHEET

No. 4466_a

The sounding record is clean and complete.

The drafting conforms to the general instructions
for field work.

The time intervals were not carefully adhered to
in the plotting of soundings.



H. R. Edmonston.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON August 6, 1925

SECTION OF FIELD RECORDS

Report on Hydrographic Sheets 4466^a and ^b.

Entrance to Drayton Harbor, Washington

Surveyed in 1925.

Chief of Party, H. B. Campbell.

Surveyed by O.S. Reading.

Protracted and soundings plotted by G. I. Aslakson

Verified and inked by H. R. Edmonston.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of development conform to the requirements of the General Instructions.
3. No written instructions were issued for this survey.
4. The sounding line crossings are adequate and the information is sufficient for drawing the usual depth curves.
5. The usual field plotting was done by the field party. It was accurately done except for the failure to adhere to the correct time intervals in plotting the soundings.
6. The purpose of this survey was to check a reported 20 1/2 foot obstruction in mid-channel southwest of the south dolphin and a 16 foot spot southeast of the south dolphin.

This survey, together with that made by Mr. Odessey in 1924, give a very complete development on the reported location of the 20 1/2 foot spot. No indications of the shoal were found on either survey and the chiefs of Field Records and Field Work Sections consider the shoal non-existent and that it should not appear on the chart.

The existence of the 16 foot spot was confirmed and the close development indicates the improbability of less water on it.

7. The Chiefs of Field Records and Field Work Sections decided that the improvised drag used in this survey failed to function, and they have therefore rejected the drag work as shown on H. 4466^b.
8. North and south dolphins located by this party by triangulation should be shown on the chart.
9. No further surveying is needed in the area covered by this sheet.
10. The character and scope of the surveying is excellent and the field drafting is good.
11. Reviewed by E. P. Ellis, August, 1925.

field records.

July 31, 1925.

~~Division of Hydrography and Topography:~~

Division of Charts:

Tide reducers are approved in
1 volumes of sounding records for

HYDROGRAPHIC SHEET NO. 4466 A

Locality: Georgia Strait, Wash.

Chief of Party: H. B. Campbell in 1925.

Plane of reference is mean lower low water and is
2.7 ft. on tide staff at City Wharf, Blaine, Wash.

For reduction of soundings, 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 each 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.

Chief, Division of Tides and Currents.

field records.

August 3, 1925.

~~Division of Hydrography and Topography:~~

Division of Charts:

Tide reducers are approved in
1 volumes of sounding records for

HYDROGRAPHIC SHEET NO. 4466 B

C Locality: Georgia Strait, Washington.

Chief of Party: H. B. Campbell in 1925

Plane of reference is mean lower low water and is
2.7 ft. on tide staff at City Wharf, Blaine, Wash.

For reduction of soundings, 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.
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12. Legibility of record could be improved.
13. Remarks.



Chief, Division of Tides and Currents.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. ^(E) 4466a

State Washington

General locality . . . Georgia Strait

Locality Ent. to Drayton Harbor
~~Channel yo. Blaine Wash.~~

Chief of party H.B. Campbell

Surveyed by O.S. Reading

Date of survey May 1925

Scale 1 : 10000

Soundings in feet

Plane of reference . . . M.L.L.W.

Protracted by C.I. Aslakson Soundings in pencil by C.I.A. . . .

Inked by Verified by

Records accompanying sheet. (check those forwarded):

Des. report, 1^{*} Tide books, _____ Marigrams, 1^{*} Boat sheets,
1 Sounding books, _____ Wire-drag books, _____ Photographs.

Data from other sources affecting sheet

Remarks:

^{*}Used for wire-drag sheet also.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WIRE DRAG
HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

(F) 4466b
Register No. _____

State . . . Washington

General locality . . . Georgia Strait

Locality Ent to Drayton Harbor
~~Channel to Blaine, Wash.~~

Chief of party . . . H.B.Campbell

Surveyed by . . . H.B.Campbell

Date of survey . . . May, 1925

Scale 1 : 10000

Effective depths in
Soundings in feet

Plane of reference . . . M.L.L.W.

Protracted by M.O. Witherspoon Soundings in pencil by

Inked by M.O. Witherspoon . Verified by

Records accompanying sheet (check those forwarded):

Des. report, 1 Tide books, _____ Marigrams, 1 Boat sheets,

_____ Sounding books, 1 Wire-drag books, _____ Photographs.

Data from other sources affecting sheet

Remarks:

*Used for hydrographic sheet also