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U. S. COAST AND GEODETIC SURVEY
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Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Leo Otis Colbert., Director

State: Washington

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No.
Hydrographic

LOCALITY

Grays Harbor

Washington

1940

CHIEF OF PARTY

George L. Bean & L.D. Graham

CP

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

4046

REG. NO.

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. 1140

REGISTER NO.

State Washington

General locality Grays Harbor

Locality South Bay

Scale 1:10,000 Date of survey Jan. 31- Mar. 6, Nov. 19 40
4-5

Vessel Steamer DISCOVERER

Chief of Party George L. Bean, & L. D. Graham

Surveyed by V. M. Gibbens, Glendon E. Booth & Earle A. Heily

Protracted by Robert W. Lowe

Soundings penciled by Robert W. Lowe

Soundings in ~~fathoms~~ feet

Plane of reference M. L. L. W.

Subdivision of wire dragged areas by

Inked by B. Gregorowicz

Verified by B. Gregorowicz

Instructions dated April 13 and June 26, 1939

Remarks:

6640
2

DESCRIPTIVE REPORT
TO ACCOMPANY
HYDROGRAPHIC SHEET FIELD NO. 1140 H-6646 (1940)

SOUTH BAY * GRAYS HARBOR

WASHINGTON

PROJECT H T 235

1- INSTRUCTIONS : The hydrography embraced by this sheet was executed under " Instructions " from the Director dated April 13, 1939 to Lieutenant W. M. Scaife covering new basic surveys of Grays Harbor, Washington and " Supplemental Instructions " dated June 26, 1939.

2- SCALE AND SURVEY METHODS : The scale of this sheet is 1:10,000.

The usual survey methods were used. The greater part of the hydrography was done under the direction of Lieutenant (j.g.) V. M. Gibbens, continued by Lieutenant Glendon E. Boothe, and completed by Lieutenant Earle A. Deily. The necessity of discontinuing work at a predetermined time was the controlling factor in limiting the area covered. However, development was considered complete within the bounding lines of the hydrography.

The spacing of sounding lines was such as specified in the " Supplemental Instructions " ; such spacing as to secure a satisfactory survey and not to exceed 50 meters inside the 2-fathom curve except on flats covered by one foot or less at mean lower low water where a spacing of approximately 200 meters was permissible, and 100-meter spacing outside the 2-fathom curve. Sufficient additional lines were run in order to more adequately define the depth curves and the channels, more particularly those winding across the flats.

The area covered is that portion of South Bay, Grays Harbor eastward of that section surveyed by the United States Army Engineers and southward from the Main Channel to the Highway Bridge, extending between Bay City and Laidlaw. Whitecomb Flats and a portion of the South Channel lie within this area.

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3- CHARACTER OF THE BOTTOM : The general character of the bottom is mud. Extensive flats bare at low water. The channel sides are steep- to.

4- CROSSINGS AND DISCREPANCIES :

To be supplied at completion of the smooth plotting. Investigate 25-foot sounding, latitude 46° 53.9, longitude 124° 04.9. *see page 5*

5- DANGERS : The shoals constitute the dangers. Narrow detached shoals, bare at mean lower low water, forma a ridge between the ~~Main~~ *South Channel* Channel and that immediately to the southward. *46-55.7*

Whitcomb Flats are of considerable extent. There are several spots on these flats which cover only at high water and then only to a depth of approximately 1 foot or less. Notes concerning this have been placed on the sheet.

The flat northwestward of Bay City has a small channel leading partway across it. *46-52.85*
124-04.8

The ruined beacon (*Topographic* ~~Triangulation~~ station Westport Wharf Beacon *now charted as pile* ~~1940~~) in latitude 46° 54.7, longitude 124° 06.0 is not charted. This is a danger to craft approaching Westport from the eastward. It is recommended that it be charted.

6- CHANNELS : The main channels have not been developed in their entirety and therefore the controlling depthscannot be given except for that portion embraced by the sheet.

The North Channel is not developed.

The South Channel has not been completely developed. The shoal water which splits it in ~~two~~, shows spots which bare at mean lower low water.

The channel south of Whitcomb Flats is marked by buoys. This channel shows a ~~decided~~ branching towards its eastern end, the minor or northerly branch leads off northeastward.

The narrow and winding channel in latitude 46° 52.9, ~~longitude~~ leads eastward across the flats, and, shoaling toward its eastern end, loses its continuity in a series of small holes.

The main channel leading southward through South Bay is narrow, marked by buoys and a range, and has a controlling depth of 12-feet to the highway bridge. At low water it is well defined by the steep-to edges of the mud flats.

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7- JUNCTIONS AND COMPARISONS : Satisfactory junction was made with the work of the United States Army Engineers.

Comparison with Chart 6195 shows that the present survey gives a more detailed delineation . The channels and shoal areas, are, in general, the same in position and in shape. The channel southward of Whitcomb Flats shows a northern branch as previously mentioned under " Channels " .

The "snag " shown on Chart 6195 in latitude $46^{\circ} 55.2'$, longitude $124^{\circ} 03.8'$ should be deleted from the chart. It is no longer in existence. is no longer charted.

GEOGRAPHIC NAMES

Acosta	Chart 6195	retain
Bay City	Chart 6195	retain
Laidlaw	Chart 6195	retain
South Bay	Chart 6195	retain
South Channel	Chart 6195	retain
Westport	Chart 6195	retain
Whitcomb Flats	Chart 6195	retain

TIDAL NOTE

The reduction of soundings to datum plane is governed by the tidal data secured during the process of the field work from the tide gages operated at Westport and Bay City. The dividing line has been drawn on the boat and smooth sheets.

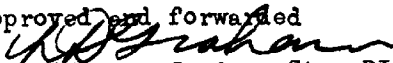
A copy of the letter from the Washington Office concerning the tidal data is attached hereto.

Curves for the supplying of the reducers for entering in the record books are attached. These curves have been reduced and drawn to give the true stages of the tide above mean lower lower water at the respective tide stations.

STATISTICS

Statute miles of sounding lines	262.5
Number of positions	2,043
Number of soundings (hand lead)	10,668
Area, square statute miles	7.4

NOTE: The above report is a rough draft which must be supplemented by additional data at the time of completion of the smooth plotting.

Approved and forwarded

 L.D. Graham, Comdg., Str. DISCOVERER

Respectfully submitted


 Earle A. Dally.

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6045

SUPPLEMENT
to
DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET FIELD #1140
Project HT 235
Grays Harbor, Washington
U.S.C. & G.S.S. DISCOVERER
1940

SURVEY METHODS:

The usual methods were used for the two days additional work on this sheet. The hydrography was done under the direction of Lt. Earle A. Dilly with the starboard launch of the ship "Discoverer". This work was done in the winter season of 1940.

The area covered is the northern most strip of hydrography approximately .2 miles in width.

CHARACTER OF THE BOTTOM:

The general character of the bottom covered by this additional work on the south side of the main channel is hard.

CROSSINGS & DISCREPANCIES:

The shoal sounding, Lat. 46 - 53.63 Long. 124 - 04.38.5 mentioned on page 2 of this report, appears to be correct and indicates the presence of a slight shoal. The least depth found reduced to 24 feet on the smooth sheet and was obtained on the first sounding past 13b (blue).

Positions 1 - 24a (blue) were rejected in the field due to poor visibility. This day begins with position 25a (blue).

Positions 49 - 50s (blue) were rejected in the field and not renumbered, therefore there are no such positions plotted on the smooth sheet.

The crossings on this sheet are satisfactory.

DANGERS:

There were no additional dangers found by this work.

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STATEMENT
to accompany
HYDROGRAPHIC SHEET FIELD #1140

The smooth plotting and the penciling of soundings on this sheet was done by Robert W. Lowe, Ass't. Engineering Draftsman under the supervision of Lt. S. B. Grenell at the Oakland Processing Office. ✓

The depth curves were drawn and the descriptive report supplemented by R. W. Lowe. The descriptive report was written by Lt. Earle A. Deily and forwarded to the Oakland Processing Office for completion at conclusion of smooth plotting.

The completed smooth sheet has been inspected and is approved.

Lt. S. B. Grenell
H. & G. Engineer
Officer in Charge
Oakland Processing Office

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DIVISION OF CHARTS
SURVEYS SECTION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTER NO. 6646
Field No. 1140

Washington, Grays Harbor, South Bay
Surveyed in January - November 1940, Scale 1:10,000
Instructions dated April 13 and June 26, 1939

Soundings: Hand lead

Control: Visual Fixes on Shore
Signals

Chief of Party - G. L. Bean & L. D. Graham
Surveyed by - V. M. Gibbens, G. E. Boothe & E. A. Deily
Protracted by - R. W. Lowe
Soundings plotted by - R. W. Lowe
Verified and inked by - B. Gregorowicz
Reviewed by - R. H. Carstens
Inspected by - H. R. Edmonston

1. Shoreline and Signals

The shoreline and topographic signals originate with T-6806 (1940), T-6807 (1940) and T-6808 (1940).

2. Sounding Line Crossings

Satisfactory.

3. Depth Curves

Satisfactory.

4. Junctions with Contemporary Surveys

On the north the survey satisfactorily joins the hydrographic surveys of the U. S. Engineers shown on blueprints 34000 and 34001 of March 1940.

On the west the survey joins the U. S. Engineers' survey shown on blueprint 31899 of 1938. Changes in depth of 4 feet have occurred between the times of the surveys and consequently the present survey should supersede in the common area.

A satisfactory junction was made with H-6665 (1940-41) on the east.

To the south the project surveys have not been completed.

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5. Comparison with Prior Surveys

H- 809 (1862) 1:20,000
H-1589a (1883) 1:20,000
H-2085 (1891) 1:20,000
H-2371 (1898) 1:20,000
H-3229 (1911) 1:10,000
H-3230 (1911) 1:10,000

These surveys cover the entire area of the present survey. The channel running south from Whitcomb Flats has remained practically constant in depth and position since the earliest surveys. However, considerable changes have taken place in the channels to the north and south of Whitcomb Flats. The position of the east-westerly channel to the south of Whitcomb Flats has remained approximately the same but in certain areas there are changes in depth of 6-7 feet, as at Lat. $46^{\circ}54.05'$, Long. $124^{\circ}04.3'$. The bar in Lat. $46^{\circ}55.5'$, Long. $124^{\circ}04'$ has developed since the 1883 survey. The center of the channel in Lat. $46^{\circ}55.6'$, Long. $124^{\circ}04.0'$ has moved northward 200 meters and the channel has shoaled from 2-8 feet. The channel in Long. $124^{\circ}05'$ to the west of Whitcomb Flats has developed since the 1911 survey. In this changeable region the present survey is adequate to supersede the older surveys in the common area.

6. Comparison with Chart 6195

a. Hydrography.

The chart drawing to which this survey had been applied was used in the comparison. All soundings and depth curves within the area were taken from the present survey and U. S. Engineer's blueprint 35659 (1941). No discrepancies were noted.

b. Aids to Navigation.

The aids to navigation satisfactorily mark the features for which they were intended and are in substantial agreement with their positions and notations on the chart with the following exceptions:

- A. Buoy S5 in Lat. $46^{\circ}53.42'$, Long. $124^{\circ}04.7'$ is charted as buoy C5 and the white spar buoy in Lat. $46^{\circ}54.75'$, Long. $124^{\circ}05.05'$ is charted as buoy C1. These buoys were changed since the survey was accomplished. The notice of the change was published in the Coast Guard Notice to Mariners No. 19, 1940.

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- B. The buoy FLR"24" (Lat. 46°56.0', Long. 124°04.7') is charted 500m. east of the survey position. The change in position was made since the survey was accomplished. The notice of the change was published in the Coast Guard Notice to Mariners No. 3, 1941.
- C. The following buoys are not charted and may be temporary buoys:
 - White spar, Lat. 46°53.8', Long. 124°04.6'
 - " " , " 46°55.0', Long. 124°05.1'
 - " " , " 46°54.5', Long. 124°02.1'
 - " " , " 46°54.1', Long. 124°03.6'
- D. Spar buoy No. 3, survey position Lat. 46°54.35', Long. 124°02.5' has evidently shifted from its charted position which is 0.6 mile to the westward and should be replaced in its proper location.
- E. Black spar buoy No. 5, charted position Lat. 46°54.3', Long. 124°03.1' was not located on this survey.

7. Condition of Survey

Satisfactory.

8. Compliance with Instructions for the Project

Satisfactory except that the number of miles of cross lines totaled only 3% of the regular system of sounding lines instead of 8% as required by the instructions.

9. Additional Field Work Recommended

None in the completed area. The surveys should be extended south of the highway bridge to the head of small boat navigation.

10. Superseded Surveys

H- 809	(1862)	in part
H-1589a	(1883)	" "
H-2085	(1891)	" "
H-2371	(1898)	" "
H-3229	(1911)	" "
H-3230	(1911)	" "

Robert W. Knaf Examined and approved: *J. S. Borden*
 Chief, Surveys Section, Chief, Division of Charts
Ired. L. Peacock *W. Rude*
 Chief, Section of Hydrography Chief, Division of Coastal Surveys

C O P Y

H 6646

30-FLM

DEPARTMENT OF COMMERCE
U. S. Coast and Geodetic Survey
Washington

March 25, 1940.

To: The Commanding Officer,
U. S. C. & G. S. Ship DISCOVERER,
c/o General Delivery,
Aberdeen, Washington.

From: The Director,
U. S. Coast and Geodetic Survey.

Subject: Tide data, Washington.

With reference to your letter of March 14, the requested tide planes referred to the zero of the staff at each station and the mean ranges at the different stations are as follows:

	Aberdeen feet	Westport feet	Bay City feet
MHW	9.6	9.5	11.1
MTL	5.7	6.0	7.5
MLLW	0.4	1.2	2.5
Mean range	7.8	6.9	7.2

(Sgd.) J. H. Hawley

Acting Director

Certified True Copy

SUPPLEMENT
 to
 STATISTICS
 to accompany
 HYDROGRAPHIC FIELD SHEET #1140

Date	Day Letter	Statute Miles	No. of Soundings	No. of Positions
Nov. 4	a green	12.6	530	92
Nov. 5	b "	<u>9.9</u>	<u>530</u>	<u>84</u>
Fall Season Totals		22.5	1,060	176
Spring Season Totals		<u>262.5</u>	<u>10,668</u>	<u>2,043</u>
Grand Totals		285.0	11,728	2,219

Area, Square Statute Miles

Spring Season	0.4
Fall Season	<u>7.4</u>
Total	7.8

TIDAL NOTE

The Bay City tide gage is located at the south corner of the sardine factory dock, lat. 46-51.7, long. 124-03.7. The Westport tide gage was located at the north corner of the Coast Guard boathouse dock, lat. 46-54.6, long. 124-06.5.

LIST OF SIGNALS
to accompany
HYDROGRAPHIC SHEET FIELD #1140

TRIANGULATION

✓ <u>Bayview</u>	1940 ✓	✓ <u>Range Marker</u> , South of Bay City Bridge	1940 ✓
✓ School House <u>Cupola</u> , Westport	1940 ✓	<u>West Gable</u> , Hip Roof, <u>New Barn</u> , Ocosta	1939 ✓
West port ✓ South Gable, House, East End of County <u>Dock</u>	1940 ✓	✓ <u>North Jetty</u>	1909 ✓
<u>East Base</u> , Grays Harbor	1909 ✓	✓ <u>Notch</u>	1939 ⁴⁰
✓ <u>Grange</u>	1940 ³⁹	✓ <u>Chimney On House</u> , Grass Id.	1940 ✓
✓ <u>Gunville</u>	1940 ✓	<u>Grays Harbor 2 Upper Range Rear</u>	1940 ✓
✓ Range Marker, North Side Of Bay City <u>Bridge</u>	1940 ✓	✓ <u>Black Stack</u> , Bay City Sardine Factory	1940 ✓
✓ <u>Kite</u>	1940 ³⁹	<u>Tank</u> , Elevated, White, Green Roof, Westport	1939 ✓
		<u>Westport</u>	1940 ✓
		<u>Grays Harbor L.H.</u>	1909

TOPOGRAPHIC SIGNALS

T-6508(1940)

Sheet "A" T-6505 (1940)	Sheet "B" T-6506 (1940)	Sheet "C" T-6507 (1940)	Sheet "D"
Con	Pole	Lone Tree	Trip

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H6646**

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

Number of positions on sheet	2219
Number of positions checked	226
Number of positions revised	2
Number of soundings recorded	1128
Number of soundings revised	32
Number of soundings erroneously spaced	12
Number of signals erroneously plotted or transferred	0

Date: *July 8 1941*
Verification by *B. Gregorovich*
Review by *R. H. Carstens*

Time: *160*
Time: *38³*

HYDROGRAPHIC SURVEY NO. H6646

Smooth Sheet One

Boat Sheet Two

Records; Sounding 8 Vols., Wire Drag Vols., Bomb Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

Landmarks for Charts (Form 567) Yes

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) None

Special Chart for Lighthouse Service -----
(Circular Nov.30, 1933)

Hydrography: Total Days ; Last Date

Remarks

Remarks

Decisions

	Remarks	Decisions
1		468 240-41
2		"
3		469 240-241
4		468 240-241
5		"
6		"
7		"
8		469 240-241
9		"
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GEOGRAPHIC NAMES
 Survey No. **H6646**

Name on Survey										
	A, On Chart No.	B, On previous survey No.	C, On U. S. quadrangle Maps	D, From local information	E, On local Maps	F, P. O. Guide or Map	G, Rand McNally Atlas	H, U. S. Light List	K	
Bay City										1
Grass Island										2
Grays Harbor										3
Laidlaw										4
Ocosta										5
South Bay										6
Westport										7
Whitcomb Flats										8
South Channel										9
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L. Heck on 5/28/42

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~

No. H **H6646**
~~NO. 1~~

received Apr. 2, 1941
 registered Apr. 14, 1941
 verified
 reviewed
 approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25	✓	ABC	Page 2
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90			

RETURN TO

82	T. B. Reed
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✓ TBSOR

RAC
H.C.

TIDE NOTE FOR HYDROGRAPHIC SHEET

Coastal Surveys:
Division of ~~Hydrography and Topography~~

May 8, 1941

✓ Division of Charts: Attention: Mr. H. R. Edmonston.

Plane of reference approved in
8 volumes of sounding records for

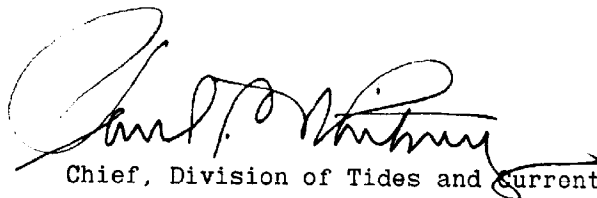
HYDROGRAPHIC SHEET 6646

Locality South Bay, Grays Harbor, Washington

Chief of Party: G. L. Bean and L. D. Graham in 1940
Plane of reference is mean lower low water reading
1.2 ft. on tide staff at Westport
15.4 ft. below B. M. 2
2.5 ft. on tide staff at Bay City
40.9 ft. below B. M. "KITE"

Height of mean high water above plane of reference is 8.3 feet at
Westport; 8.5 feet at Bay City.

Condition of records satisfactory except as noted below:


Chief, Division of Tides and Currents.

Applied to Patent 6195 Sept 3, 1941 W.A.B. (Note: This sheet not reviewed at this time)
Inspected after review #772 1-8-43