6244

Form 504
Rev. Dec. 1933

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic } *Sheet No.* OW-18

Additional information in
Descriptive Report of H-6242

State Oregon-Washington

LOCALITY

Columbia River
Stella to Mt. Coffin

1937

CHIEF OF PARTY

Robert W. Knox

U. S. GOVERNMENT PRINTING OFFICE: 1934

Form 537

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

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. OW-18

REGISTER NO. 6244

State OREGON -WASHINGTON

General locality Columbai River

Locality Stella to Mt. Coffin

Scale 1:10,000 Date of survey Sept 15 to Oct 8, 1937

Vessel chartered launch 29J295

Chief of Party Robert W. Knox

Surveyed by R.W.K

Protracted by * R. M. Sylar

Soundings penciled by T. A. Renton

Soundings in ~~fathoms~~ feet

Plane of reference Columbia River datum (mean lower low water during lowest river stages)

Subdivision of wire dragged areas by

Inked by H.F. Stegman

Verified by H.F. Stegman

Instructions dated February 26, 1935, 19

Remarks:

U. S. GOVERNMENT PRINTING OFFICE

SHEET OW-18 Surveyed by R. W. Knox

This sheet is a survey of the Columbia River, extending from Stella to Mt. Coffin, and includes a survey of ~~Big Slough~~ Coal Creek slough to about a half mile beyond the limits now shown on chart 6153, and a survey of Fisher Island Channel. The sheet joins survey OW-17 on the west and survey Ow-19 on the east. H-6243 H-6245

SHORE LINE AND SIGNALS: The shore line and topographic signals originate from topographic sheets A, AA and B, of the 1937 season. T-6567a&b T-6568a All triangulation stations, with the exception of Point (USE), are from this party's triangulation scheme of 1936.

DANGERS: The only danger in the area covered by this sheet is an 18 foot spot about 100 meters S by E of the La Du light.

ANCHORAGES: There are no designated anchorages inthis area, but vessels have been observed to anchor in several places while awaiting clear weather.

CHANNELS: 1) As the main ship channel was not completely sounded, the maximum depth permitted with not be discussed.

2) Coal Creek Slough (new name recommended, old name Big Slough) - used as log raft storage exclusively. Nineteen feet may be carried to within about a half mile of the eastern limits where the channel quickly shoals to a few feet of water. 14 ft. controls at entrance

3) Fisher Island Channel; used by cannery tenders, small craft fishermen and as log storage grounds; the Longview Yacht Club has a number of floats near 0 Sep, in ø 46° ~~0.1~~ 10.2', λ 123° 03.0'. Eight feet may be carried through this channel.

4) Between Walker Island and the Oregon shore; used for log raft storage. The shoal area north of Dibblee Point limits the maximum depth which may be carried through the entire channel to about 10 feet.

BOTTOM: Hard sand predominates, with a few soft mud specimens.

DISCREPANCIES: No discrepancies were noted in the plotting and reviewing of this sheet aside from the changes to objects and angles noted and explained in the sounding volumes.

COMPARISION WITH PREVIOUS SURVEYS:

1) USE survey of December, 1936 and February, 1937, B-7-19/16, is in good agreement with the present survey, very few differences of more than a foot being noted except a few soundings on several Engineers cross lines: a) about 650 meters NW of the Mayger light, in ø 46° 10.3', λ 123° 05.9', several 29 and 30 foot soundings fall in 32 to 34 feet of water; b) about 450 meters NNW of A Mayger, in ø 46° 10.2', λ 123° 05.8', the soundings appear 2 feet too shoal. B.P. 30314 Survey in good agreement with B.P.

SHEET OW-18, continued.

c) about 260 meters N of △Mayger, ø 46° 10.1', λ 123° 05.7', the Engineers line shoals to 39 and 37 feet, whereas the present survey indicates the bottom is dropping off to 45 feet; d) about 310 meters NE of △Mayger, ø 46° 10.05', λ 123° 05.3', the Engineers line shows a steady depth of 41 feet, whereas the present survey shows a definite deepening to a maximum depth of 50 feet.

c. 37' on B.P., 39' on survey.

d. Not so. Good agreement.

2) USE survey of August, 1937 (no register number on the print furnished this party), a latter survey of the Fisher-Stella Bar, is in good agreement with the present survey, differences being noted only along the edges of the dredged channel.

B.P. 30852

3) USE survey of October 18, 1935, B-7-18/48, is in fair agreement with the present survey, many depths being the same, but where differences occur indicating, generally, that the channel has deepened since the former survey. Little difference was noted in the area outside the main ship channel, those of importance being: a) NW of the Walker Island light in ø 46° 09.4', λ 123° 03.5', the 35 foot curve has receded about 100 meters; b) about 230 meters NE of the Walker Island Southeast light the present survey shows a 32 foot sounding well into the channel, whereas the former survey records a 34 close by; c) about 250 meters NE of dike 51.7, in ø 46° 08.8', λ 123° 02.3', the former survey shows the 35 foot curve crossing and re-crossing the channel, and while the present survey did not completely survey the channel, there is an indication that the depths have increased in this vicinity.

B.P. 29346

a. Not so. Good agreement.

b. ✓

c. Not so. B.P. shows 35½ ft. in open area on survey. 35' curve does not cross and re-cross channel.

4) Between Barlow Point light and the vicinity of Slaughters Bar Lower Rear Range Light, the channel was completely surveyed, as it is the custon of the U. S. Engineers to space their lines rather widely in areas materially deeper than the controlling depth. During the field season the Assistant Engineer in charge of the survey launch Robert Gray informed the writer that it was the intention of his Department to resurvey the La Du-Walker Island Bar within a few months.

~~No B.P. agrees as Good. Latest survey on file.~~

B.P. 29346 is latest U.S.E. survey of this area on file.

5) USE survey of April 3, 1937, B-8-17/36, is in good agreement with the present survey. Near the west limits of the former survey, in the deeper portion of the channel, the differences in depths noted indicates a slight deepening of the channel. A rigid comparision of the soundings on this and the present survey was found to be difficult owing to the extreme distortion in the Engineers print. The depths outside the main ship channel are believed to be in good agreement with indications of some deepening. The important differences noted follow: a) the low water line of the area south of ⊙ Old, in ø 46° 07½', λ 123° 00½', was found to be considerable larger than shown on B-8-17/36, whereas the patch about a half mile southeast was found to be as previouly shown; b) the 18 foot shoal (charted) about 100 meters S by E of the La Du light is indicated on the present survey by a 21 foot sounding. As the U. S. Engineers have this immediate area developed on several of their previous surveys it is recommended the 18 be retained. See par. 8a, review.

B.P. 30446

✓

6) USE survey of August, 1937 (no register number on the advance copy furnished this party), a channel survey of the

B.P. 30853

SHEET OW-18, continued.

vicinity entirely covered by the above discussed sheet, is in fair agreement with the present survey. The bottom is very lumpy, the 35 foot curve crossing and re-crossing the channel, this probably accounting for the large number of differences noted.

CHART 6153, issue of September, 1937.

1) Main channel - In good agreement with the present survey, most of the differences in depth were noted on or near the edges of the dredged channel. The more important of them follow:

	ø	λ	depths charted	present	
a)	46° 10.6'	123° 06.65'	4	11	Dumping grounds for pipe line dredge
b)	10.3	05.3	23	27-33	
c)	09.55	03.7	32	38	
d)	09.35	03.55	29	33	Near edge of channel
e)	08.65	02.0	35	~~45~~ 37	As above
f)	08.2	00.9	29	35	
g)	07.9	122 59.7	18	29 to 32	Previously mentioned in report
h)	07.7	59.35	29	~~34~~	In secondary channel leading to Weyerhaeuser pier
~~i)~~	~~07.2~~	~~59.4~~	~~32~~	~~39~~	

See par. 8a, review.

2) Coal Creek Slough - In good agreement with the present survey except for the depths near the entrance where extensive shoaling has taken place; charted 39, 30 and 36 foot soundings now fall in 20, 20 and 25 feet of water, respectively.

3) Fisher Island Channel - In very poor agreement with the present survey, particularily west of O Pol. It is believed no useful navigational purpose would be served by a detailed comparision. Mention is made, however, of a charted 8 foot sounding in ø 46° 10.2', λ 123° 04.9' which falls in ~~20~~ 10 feet on the present survey.

-o-

SHEET OW-18 (H6244) STATISTICS Boat 29J295

Date 1937	Day letter	Volume	Number of soundings	Number of Positions	Statute miles of sounding
Sept					
15	a	1	556	119	15.6
16	b	1	1004	213	27.3
17	c	1&2	893	191	24.0
20	d	2	531	116	14.2
21	e	2	870	179	24.2
22	f	2&3	937	206	25.6
23	g	3	814	181	16.9
24	h	3	698	156	17.6
27	j	4	573	130	14.9
28	k	4	803	177	19.1
29	l	4	387	122	11.4
Oct					
5	m	5	331	82	9.0
7	n	5	469	115	11.1
8	p	5	133	30	3.6
	totals		8,999	2,017	234.5

Area = 9.2 square statute miles.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. H6244

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

Number of positions on sheet	2,017.
Number of positions checked	174.
Number of positions revised	22.
Number of soundings recorded	8,999
Number of soundings revised	43. in addition to those changed by correcting positions.
Number of signals erroneously plotted or transferred	1. (signal used in hydrography but not plotted on smooth sheet.)

Date: June 8, 1938

Verification by Harold J. Stegman Time: 20 days 2 hrs.

Review by J. A. McCormick, July 22, 1938. Time: 34 hrs.

HYDROGRAPHIC SURVEY NO. H-6244

Smooth Sheet Yes

Boat Sheet Yes

Sounding Records 5 Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes (Vol. 31)

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) None

Remarks HYDROGRAPHY

Total Days 14

Last Date Oct. 8, 1937

	Remarks	Decisions
1		see T-6567
2		USGB decision
3		see T-6567
4		" "
5		" "
6		" "
7		USGB decision
8		" "
9		" "
10		see T-6568
11		see T-6567
12		USGB decision
13		see T-6567
14		USGB decision
15	For Title Only	" "
16		" "
17		USGB "
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		

M 234

GEOGRAPHIC NAMES

Survey No. H6244

Name on Survey	On Chart No. 6153 A,	On previous survey No. B,	On U. S. quadrangle Maps C,	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Coal Creek Slough	GNS									1
Crims Island	✓									2
Bradbury slough	✓									3
Mayger	✓									4
Green Point	✓									5
Coal Creek	GNS									6
Fisher Island	✓									7
Walker Island	✓									8
Dibblee Point	✓									9
Mt. Coffin	✓									10
Stella	✓									11
Barlow Point	✓									12
Fisher Island Chan.	✓									13
Columbia River	✓									14
Washington	✓									15
Oregon	✓									16
Rinearson Slough	✓									17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

Names underlined in red approved by GPE on 4/1/39

M 234 ✓

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Ed. Feb. 1935

TIDE NOTE FOR HYDROGRAPHIC SHEET

March 15, 1938

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. E. P. Ellis

Plane of reference
~~Tide Reducers are~~ approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 6244

Locality Stella to Mt. Coffin, Columbia River

Chief of Party: R. W. Knox in 1937
Plane of reference is Columbia River Datum reading
0.0 ft. on tide staff at Stella
22.3 ft. below B.M. 1
0.2 ft. on tide staff at Walker Island
14.2 ft. below B.M. 1 A.B.
-0.1 ft. on tide staff at Longview (off limits of H-6244 See H-6245)
23.5 ft. below B.M. U. S. E.

Height of mean high water above plane of reference is approximately 4½ feet.

Condition of records satisfactory except as noted below:

Tide reducers entered in whole feet. Reducers to nearest 1/2 foot can be furnished if needed.

Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE

Verifier's Report
Hydrographic Survey H-6244 (1937)

Surveyed: Sept. 15 - Oct. 8, 1937

Chief of Party: R. W. Knox

Surveyed by: R. W. Knox

Protracted by: R. M. Sylar

Soundings penciled by: T. A. Renton

Verified and inked by: H. F. Stegman

This survey conformed to the requirements of the general instructions, with the following exceptions:

1. Positions 186 - 189 b were not plotted on boatsheet.
2. Soundings between 84 - 88 a were not inked on boat sheet.

} Not criticised in review.

3. ⊙ X, Lat. 46-11.0, Long. 123-06.2, altho used in the hydrography was not plotted on the smooth sheet. This signal was called Tsk on the topographic sheet. Changed to "X" on topo sheet.

4. ⊙ May, Lat. 46-10.3, Long 123-03.2 was called Maybe in the sounding record to avoid confusion with △ May. The name was changed to Maybe on the smooth sheet by the Verifier. Changed to Maybe on topo sheet. ✓

5. The field plotter made some corrections in the sounding record in black pencil. Not criticised in review.

The field plotting on this sheet was neatly done, but the plotter was apparently pressed for time, as there was no investigation made of even the most obvious errors. Of a total of 174 positions checked, 22 were found to be in error. Since some of these positions were as much as a centimeter out of position the error was easy to detect.

It is probable that the use of signals with similar or identical names caused some confusion to the field party.

At least when these signals were in the same vicinity another potential source of error was introduced. Some of the more noticeable cases of this kind were as follows:

1. Two signals "Tel" about 3/4 mile apart. Lat 46-09.0 Long. 123-03.5 See par. 1a, review.
2. Two signals "Tay" about 1 1/4 mile apart Lat. 46-10.4 Long. 123-07
3. Signal Cor occurs on the sheet three times.
4. Signals Rin, Rine, and Oin are all along one mile of shoreline, ϕ-46-08.0, λ 123-02.5
5. Signals Bus and Bars are adjacent ϕ-46-08.8 λ-123-03.3

The position of the spar buoy at ϕ-46-07.7 λ-122-59.6 was plotted by the verifier from ranges in the sounding record Vol. 2 pp. 8-9. The field plotter had placed it 100 meters SE of this position. The buoy was inked in black to conform to boatsheet, although the field plotter had shown in red. Color removed and only outline of symbol shown as the buoy is neither black nor red but a combination of both.

It was necessary for the verifier to plot positions 53-56a, as this line of soundings was not completed by the field draftsman. A series of seven soundings positions 116-117g were penciled in reverse order.

Topographic sheets 6567 and 6568 (1937) were the source of the high waterline and topo signals on this sheet. A comparison was made between H-6244 and the topographic sheets, and no discrepancies in offshore detail were noted. There were however several differences in the names of signals at ϕ-46-10.0, λ-123-06.3. These were as follows:

Topographic sheet T-6567b	Hydrographic Sheet H-6244	
New	Tay	Changed on topo sheets.
L	Cor	
N.E. Corner Store, U.S.E.	New	

Triangulation stations Brown and Blast were omitted from the smooth sheet - they were not used in the hydrography, however.

There is no indication of what constitutes signal Doc, an offshore signal at ϕ-46-10.0, λ-123-05.6 It is possibly a dolphin but is not definitely marked as such. ~~Undoubtedly~~ Undoubtedly a dolphin and so indicated on sheet.

Junctions were made with adjacent sheets H-6243 (1937) and H-6245 (1937). No descrepancies were noted along these junctions. Near the junction with H-6243, in Lat 46-11.2, long. 123-07.0, the soundings between positions 80 and 82 e were omitted because the positions were uncertain, and the latter one did not check for time. (See vol. 2 P. 44 of sounding record, and boat sheet)

pos. 80 to 82 satisfactory and soundings inked.

June 8, 1938

Harold F. Clayman

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6244 (1937) FIELD NO. OW-18

Stella to Mt. Coffin, Columbia River, Oregon - Washington
Surveyed in September - October 1937, Scale 1:10,000
Instructions dated February 26, 1935 (R. W. Knox)

Hand Lead Soundings. 3 Point fixes on shore signals.

Chief of Party - R. W. Knox.
Surveyed by - R. W. Knox.
Protracted by - R. M. Sylar.
Soundings plotted by - T. A. Renton.
Verified and inked by - H. F. Stegman.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except as follows:

a. Several signal names were repeated within the limits of the sheet and many others were in close proximity to names of similar sound or spelling (par. 12). The use of numerals instead of names as was done in some places is also undesirable.

b. Fixes were obtained on the prolongations of La Du and Slaughters Bar Lower Ranges but neither azimuth lines nor bearings were shown on the sheet (par. 160k). The latter information was added in the office. Fixes were not obtained for Stella and Longview Ranges, but this will be discussed in the reviews of the contemporary topographic surveys.

The Descriptive Report is complete and satisfactorily covers all items of importance. General information concerning this area will be found in the descriptive report for H-6242 (1937).

2. Compliance with Instructions for the Project.

The survey satisfies the instructions for the project except that the special chart for use of the Lighthouse Service in locating aids was not furnished (Circular Nov. 30, 1933).

3. Shoreline and Signals.

Shoreline and topographic signals originate with T-6567a & b (1937) and T-6568a (1937).

4. Sounding Line Crossings.

Sounding line crossings are satisfactory.

5. Depth Curves.

The usual depth curves may be satisfactorily drawn.

6. Junctions with Contemporary Surveys.

The junctions with H-6242 (1937) on the northwest and H-6245 (1937) on the southeast are satisfactory.

7. Comparison with Prior Surveys.

H-1336 (1876), 1:10,000; H-1368 (1877), 1:10,000; H-1369a (1877) 1:10,000.

The present survey falls entirely within the combined area of the above surveys. Extensive natural and artificial changes make a detailed comparison of little value. It should be noted, however, that soundings in Rinearson Slough originate with H-1368 (1877). Navigation into the slough is obstructed by a railroad bridge across the entrance. Engineers blueprint 22976 (1929) shows a single sounding of 3 feet in the approach, but no soundings above the bridge. The present survey, and also T-6568a (1937) show a line of piles across the entrance. Soundings on H-1368 (1877) should be omitted in future charting of the slough. Numerous U. S. Engineers' surveys have long since superseded the above surveys in the charting of the greater portion of the area under consideration. The old surveys contain no information in the common area which needs to be retained and should be superseded by the present survey in future charting.

8. Comparison with Chart 6152 (New Print dated Dec. 10, 1937)
Chart 6153 (New Print dated Sept. 27, 1937).

a. Hydrography.

Depths charted in Coal Creek and Rinearson Sloughs originate with surveys discussed in the foregoing paragraphs. The source of those in Fisher Island Channel could not readily be ascertained but they are undoubtedly from U. S. Engineers' surveys made prior to 1913, the date of the first edition of Chart 6153. All other depths are from Engineers' surveys of 1929 to August, 1937, (present survey, Sept. - Oct. 1937). In comparing the survey with the charts every sounding charted in the common area was considered and many differences noted in addition to those listed in the descriptive report. Investigation of the differences was facilitated by the existence in the files of Engineers' surveys of this area executed in January - April of 1938 (blueprints 31522 to 31524, inclusive). Differences between successive Engineers' surveys of any one section of this highly changeable area were as marked as those between the present survey and previous Engineers' surveys. A detailed account of the comparisons would serve no useful purpose and it is considered sufficient to state that Engineers' surveys of dates

prior to that of the present survey contain no information which is not adequately covered by the present survey or subsequent Engineers' surveys. The prior Engineers' surveys may therefore be disregarded in future charting.

b. Aids to Navigation.

Positions on the survey of the rear range beacon in lat. 46° 07.8', long. 122° 59.4', and the spar buoy in lat. 46° 07.7' long. 122° 59.6' fall 60 meters south and 110 meters west respectively of the charted positions. Survey positions of all other fixed and floating aids in the area are in substantial agreement with those charted. The positions on the survey adequately mark the features intended and should control for charting.

True bearings of 113° 55', and 324° 45' were determined for La Du and Slaughters Bar Lower Ranges respectively as compared with values of 114° and 324° given in the Pacific Coast Light List.

9. Field Plotting.

The field plotting was fairly satisfactory. Several glaring errors in plotting and penciling of soundings were corrected by the office verifier.

10. Additional Field Work Recommended.

No additional work is required.

11. Superseded Old Surveys.

Within the area covered the present survey supersedes the following old surveys for charting purposes:

H-1336 (1876) in part
H-1368 (1877) entirely
H-1369a(1877) in part.

12. Reviewed by - J. A. McCormick, July 22, 1938.

Inspected by - E. P. Ellis.

Examined and approved:

T. B. Reed,
Chief, Section of Field Records.

K. T. Adams
Chief, Division of Charts.

Fred. L. Peacock
Chief, Section of Field Work.

Chief, Division of H. & T.

applied to chart 6153. Sept. 20, 1938 J.H.S.