

7902

6154

Diag. Cht. No. 6154

Form 504

CS-339

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. HO-1651 Office No. H-7902

LOCALITY

State OREGON-WASHINGTON

General locality COLUMBIA RIVER

Locality KNAPP TO KELLEY POINT

194/51

CHIEF OF PARTY

H. G. Conerly

LIBRARY & ARCHIVES

DATE Sept 13 - 1951

7902

AUG 31 1951

Form 537
(Ed. June 1946)

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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.

REGISTER NO. H-7902

Field No. H-1651

State Washington - Oregon

General locality Columbia River

Locality Knapp Landing to Kelley Point

Scale 1:10000 Date of survey June to July 1951

Instructions dated 21 Sept. 1950 C.S. 339

Vessel HODGSON

Chief of party H. G. Conerly

Surveyed by J. O. Boyer and A. M. Legako

Soundings taken by fathometer, ~~graph recorder, hand lead, etc.~~ hand lead

Fathograms scaled by Ship's personnel

Fathograms checked by Ship's personnel

Protracted by J. O. Boyer and D. L. Wheeler

Soundings penciled by D. E. Fischer

Soundings in ~~fathoms~~ feet at ~~XXXXXX~~ C.R.D.

(Mean lower low water during lowest river stages) and are true depths

REMARKS:

T8660

48'

47'

46'

122°45'

44

43

45°45'

T8664

T8665

H7902

45°42'

T8668

T8669

39'

48'30'

122°43'30'

T8672

DESCRIPTIVE REPORT

to accompany

- Hydrographic Survey No. H-7892, (HO-01518)
- No. H-7893, (HO-1251)
- ~~No. H-7894~~, (HO-1351)
- No. H-7895, (HO-1451)
- No. H-7901, (HO-1551)
- No. H-7902, (HO-1651)
- No. H-7903, (HO-1751)

Columbia River
Longview, Washington to Vancouver, Washington

Ship HODGSON
Horace G. Conerly
Chief of Party

A. PROJECT:

Project CS-339

This hydrographic survey was made in accordance with the following instructions.

1. Original instructions, 22/MEK, S-2-HO dated 24 May, 1949
2. Supplemental instructions, 22/MEK, S-2-HO dated 21 Sept., 1950
3. Related letter - Letter from Director 22/MEK, S-1-HO, dated 22 May, 1951.

B. SURVEY LIMITS AND DATES:

Sheet H-7892 extends from the mouth of Cowlitz River to coffin rock. Hydrography was begun 20 April, 1951 and ended 30 April 1951.

Sheet H-7893 extends from coffin rock to the downstream tip of Deer Island. Hydrography was begun 17 April 1951, and ended 19 April 1951.

Sheet H-7894 ^{combined with H-7893} extends from the downstream tip of Deer Island to the upstream tip of Deer Island. Hydrography was begun 1 May 1951, and ended 18 May 1951.

Sheet H-7895 extends from the upstream tip of Deer Island to Bachelor Shoal. Hydrography was begun 22 May 1951, and ended 13 June 1951.

Sheet H-7901 extends from Bachelor Shoal to Willow Point. Hydrography was begun 11 June 1951, and ended 22 June 1951.

Sheet H-7902 extends from Willow River to the mouth of the
Williamette River. Hydrography was begun 28 June 1951, and ended
23 July 1951. } present survey area

Sheet H-7903 extends from the mouth of the Williamette River to the Interstate Bridge, Vancouver Washington. Hydrography was begun 27 July 1951, and ended 17 August 1951.

B. CONT.:

Junction is made with ~~prior~~ surveys, H-7129 1946, H-7121 1946, H-7742 1949, H-7743 1949, and H-7744 1949, H-7129 is 1:8000 scale } not applicable
the remaining surveys are 1:5000 scale.

C. VESSEL AND EQUIPMENT:

Hydrography was done with launch No. 160, a 36 foot landing craft (L.C.P.R.). 808-A type depth recorder No.77 was used with the fish mounted on the keel.

The launch returned to the Ship HODGSON at the end of each working day.

D. TIDES AND CURRENTS:

See discussion under tide note attached.

Three 75 hour current observations were made at the following locations:

- (1) St. Helens, Oregon
Latitude 45 52.2'
Longitude 122 47.7'
- (2) Downstream from Willow Point
Latitude 45 46.1'
Longitude 122 45.9'
- (3) Mouth of the Willamette River
Latitude 45 38.6'
Longitude 122 46.4'

} not applicable

One current station was occupied for 27 hours upstream from Hewlett Point at Latitude 45 40.5' Longitude 122 46.1' } present survey

Current observations in the mouth of the Willamette River were made when the Columbia River had about 15 1/2 feet of flood water. The current was flowing upstream in the Willamette River at a velocity of about one knot to flow down the Multnomah Slough.

E. SMOOTH SHEETS:

The projections were made by hand on the Ship HODGSON.

F. CONTROL STATIONS: (Located By)

- 1, Triangulation observed through 1949.
- 2, Triangulation observed by H. G. Conerly in 1951.
- 3, Topographic and photo stations located in 1949.
- 4, Army Engineer triangulation observed through 1950. This was converted from lambert coordinates to Geographic Positions.
- 5, Stations located by hydrographic methods.

↑
see H-7901

G. SHORELINE AND TOPOGRAPHY:

Part of the shoreline and topography was done by photogrammetry and is to be added to the sheets later. The rest is from photogrammetry done in previous years.

Rev. par. 1

The low water line was determined wherever possible. Its entire delineation was prevented by steep banks, log rafts, and docks.

H. SOUNDINGS:

Soundings were measured with an 808 A type portable depth recorder, with a few leadline soundings added.

See fathometer report under separate cover for method of obtaining corrections to be applied to fathometer readings.

filed with H-7901

I. CONTROL OF HYDROGRAPHY:

Hydrography was controlled by three point fixes taken with sextants to shore objects.

J. ADEQUACY OF SURVEY:

The survey is considered to be adequate.

K. CROSSLINES:

About 8% of crosslines were run.

Soundings on the Vancouver upper range line which was a crossline do not check, as the Army Engineers dredge was working in this area during the survey. A copy of their survey, made after dredging, will be furnished the Supervisor M W District.

not applicable

L. COMPARISON WITH PRIOR SURVEYS:

H-6334(1938)

Prior surveys are H-6245/1937, H-6246 1937, H-6247 1937, H-6332 1938, and H-6333 1938. During the lapse of time between prior surveys and the present survey many changes have occurred from spring freshets and dredging. This survey should supersede all prior surveys.

Rev. par. 6b

Satisfactory junction was made with surveys H-7744 1949, H-7743 1949, H-7742 1949, H-7129 1946, and H-7121 1946.

not applicable

M. COMPARISON WITH CHART:

Comparison with chart 6153, print date Sept. 18, 1950.

All following survey depths reduced for river level corrections only and are not those shown on the Smooth Sheet.

Latitude 46-03+31", Longitude 122 53' 07" 21 feet depth charts shows 30 feet.

Latitude 46 04' 15", Longitude 122 53' 33" 14 feet depth chart shows 18 feet.

not on present survey

M. CONT.:

Latitude 46 03' 06", Longitude 122 53' 07" dock now in ruins.
 Latitude 46 02' 35", Longitude 122 52' 58" small boat float.
 Latitude 46 01' 58", Longitude 122 52' 10" chart shows dolphin,
 only stub remains.
 Latitude 46 01' 29", Longitude 122 51' 55" chart shows dolphin,
 dolphin no longer exists.
 Latitude 46 01' 21", Longitude 122 51' 45" chart shows dolphin,
 dolphin no longer exists.
 Latitude 46 00' 57", Longitude 122 51' 17" least depth 34 feet.
 Latitude 46 00' 18", Longitude 122 50' 43" dock now in ruins
 only stub piles remain.
 Latitude 45 57' 30", Longitude 122 49' 14" chart shows dolphin
 only stub remains.
 Latitude 45 57' 17", Longitude 122 49' 12" chart shows dolphin,
 only stub remains.
 Latitude 45 55' 51", Longitude 122 48' 46" chart shows dolphin,
 dolphin no longer exists.
 Latitude 45 55' 24", Longitude 122 48' 32" 15 feet depth chart
 shows 20 feet.
 Latitude 45 56' 03", Longitude 122 48' 15" 29 feet depth in
 middle of dredged channel. Channel was dredged by the Army Engineers
 after survey.
 Latitude 45 55' 03", Longitude 122 48' 27" 26 feet depth near
 dredged channel, chart shows 31 feet depth.

not on present survey

Comparison with chart 6154, print Sept. 4, 1950.

Latitude 45 51' 08", Longitude 122 46' 56" shoalest depth 24 1/2 } not applicable
feet. Depth is near dredged channel.

Latitude 45 41' 15", Longitude 122 44' 15" channel 6 feet shoaler
then channel depth shown on chart. This area was being dredged by the (Sp. 48184
Army Engineers during Sept., 1951. This is a area of large amount of (48454
dredging in spite of strong currents.

The area from Latitude 45 38.9', Longitude 122 45.5' to Latitude
45 38.3', Longitude 122 44.6' is a log mooring area. An attempt was
made to show the offshore dolphins and piles, but there are numerous ones
inside, that were not located. The area on both sides of the northwestern
tip of Hayden Island is the same. } not on present survey

N. DANGERS AND SHOALS:

All newly found dangers and shoals are discussed above under
comparison with chart, or are clearly shown on the sheet.

O. COAST PILOT INFORMATION:

This information was submitted as a separate report.

P. AIDS TO NAVIGATION:

All aids to navigation are listed on form 567 which is a part of
this report. with H-7903

The geographic positions of the following lights do not agree with

P. CONT.:

no disagreement in position.

the positions shown in the 1951 Light List: Willow Light 23, light list No. 1136; Reeder Point Light 28, light list No. 1139; Knapp Point Light, light list No. 1133; Bachelor Point Light 13, light list No. 1130; and St. Helens Jetty Light 79, light list No. 1112.

Termini of two cable crossings are not shown on latest edition of chart 6153. (see smooth sheet)

Latitude 46 02' 20"	Longitude 122 52' 22"	} not on present survey
Latitude 46 02' 10"	Longitude 122 52' 54"	
Latitude 46 02' 20"	Longitude 122 52' 22"	
Latitude 46 02' 17"	Longitude 122 52' 52"	

Q. LANDMARKS FOR CHARTS:

All landmarks for charts are listed on form 567 which is a part of this report. filed with H-7903

S. BY-PRODUCT INFORMATION:

In areas near Vancouver, Wash. the river bottom is very rough. In these areas the water apparently moves the sand like wind driven sand dunes, since the steep side is almost invariably downstream.

T. TABULATION OF APPLICABLE DATA:

1. Tidal records for Longview, Kalama, Columbia City, Henrici, Knapp Point, Kelly Point, and Vancouver, forwarded to Washington.
2. Triangulation previous to 1951, and triangulation done by HODGSON in 1951.
3. Fathometer report forwarded to Washington. See H-7901
4. List of Geographic Positions of stations computed from coordinates furnished by U. S. E.D. See H-7901

Respectively submitted,
Dan L. Wheeler
Dan L. Wheeler
Ensign, USC&GS

Approved and Forwarded

Horace G. Conerly
Horace G. Conerly
Lt. Comdr., USC&GS

Name Used in Hydro- graphic Survey	Source of Station
BE	Volume 2
BAR	Willow Bar 5, 1949 (U.S.E.)
BOW	BOW (U.S.E.), 1937
BOX	Volume 2
CON	Volume 2
COW	Volume 2
DAY	MORGAN BAR DIKE DAYBEACON NO. 3, 1937
DIKE	DIKE 14.1 DOLPHIN EAST END, 1937
DRED	DREDGE (WASH.), 1937
EAST	DIKE 14.5 DOLPHIN EAST END, 1937
--	EAT, 1937
END	DIKE 14.7 DOLPHIN EAST END, 1937
FIRE	Volume 2
FIX	Volume 2
FLAG	MORGAN LANDING FLAGPOLE, 1937
--	Flat, 1949 (U.S.E.)
FOUR	FOUR ₂ (U.S.E.) (ORNG.), 1912
4 LT.	Willamette River 4 Lt., 1948 (U.S.E.)
40 LT.	Morgan Dike 40 Lt., Volume 2
FOX	Volume 2
GAB	River Gable High Barn, 1945 (U.S.E.)
GAGE	Volume 2
GAN	Morgan Upper Range Front, 1950 (U.S.E.)
GO	Reg. No. H-7901
H	Hewlett Dike 33 Lt., 1949 (U.S.E.)
HOT	Volume 2
HUT	Hutchinson Dike Light, 1949 (U.S.E.)
KNAPP	Knapp Point Lt., 1944 (U.S.E.)
LAT	Volume 2
LEAN	Lean Tran, 1949 (U.S.S.)
LEG	Reg. No. H-7901
LET	Volume 2
LOW	Willow Range Front, Volume 2
MAT	Matthews Point Lt. 45, 1949 (U.S.E.)
MOR	Morgan Lower Range Front, 1949 (U.S.E.)
--	Morgan Lower Range Rear, 1949 (U.S.E.)
--	Morgan Upper Range Rear, 1949 (U.S.E.)
--	Nab 2, 1949 (U.S.E.)
NIC	Reg. No. H-7901
NO. 23	Willow Light No. 23, Volume 2
NO. 36	Morgan Dike Light No. 36, 1949 (U.S.E.)
OUT	Volume 2
PAN	Vancouver Lower Range Rear, 1949 (U.S.E.)
RAT	Volume 2
RED	Reg. No. H-7901
REED	Reeder Point Lt., 1949 (U.S.E.)
AM	Dike 15.5, 1949 (U.S.E.)
6 LT.	Willamette River 6 Lt., 1948 (U.S.E.)
TAP	Dike 15.3, 1948 (U.S.E.)
TEA	Volume 2
39 LT.	Morgan Bar Dike 39 Lt., 1949 (U.S.E.)
TOE	Volume 2

TREE	Volume 2
TRI	Volume 2
2 LT.	Willamette River 2 Lt., 1948 (U.S.E.)
VAN	Vancouver Lower Range Front, 1949 (U.S.E.)
WIL	Willow Bar 7, 1949 (U.S.E.)
--	Willow Range Rear, 1949 (U.S.E.)

NOTE: Stations not having hydro name were used in control only.

ABSTRACTS OF RIVER LEVEL CORRECTIONS
Hydrographic Sheet Field HO-1651
Registry H-7902

DATE	TIME 105 M.W.	ZONE A	TIME 105M.W.	ZONE B	TIME 105M.W.	ZONE C	TIME 105 M.W.	ZONE D	TIME 105M.W.	ZONE E
6/29/51	0800-1200 1200-end	14.4 14.2	0800-0830 0831-1548 1549-end	14.8 14.6 14.4	0800-1100 1101-end	15.0 14.8	0800-1348 1349-end	15.2 15.0	0800-0930 0931-1630 1631-end	15.6 15.4 15.2
6/30/51	0800-1100 1101-end	14.0 13.8	0800-end	14.2	0800-0830 0831-end	14.6 14.4	0800-1400 1401-end	14.8 14.6	0800-end	15.0
7/5/51	0800-end	12.8	0800-end	13.0	0800-1400 1401-end	13.2 13.4	0800-end	13.6	0800-end	13.8
7/6/51	0800-1330 1301-end	12.8 12.6	0800-1400 1401-end	13.0 12.8	0800-1530 1531-end	13.2 13.0	0800-1700 1701-end	13.4 13.2	0800-end	13.6
7/13/51	0800-1220 1221-end	11.4 11.2	0800-0815 0816-1324 1325-end	11.8 11.6 11.4	0800-0900 0901-1648 1649-end	12.0 11.8 11.6	0800-1140 1141-end	12.2 12.0	0800-1230 1231-end	12.4 12.2
7/20/51	0800-0930 0931-1530 1531-end	11.2 11.0 10.8	0800-1520 1521-end	11.2 11.0	0800-1530 1531-end	11.4 11.2	0800-1512 1513-end	11.6 11.4	0800-1500 1501-end	11.8 11.6
7/23/51	0800-1400 1401-end	10.4 10.2	0800-1500 1501-end	10.6 10.4	0800-1530 1531-end	10.8 10.6	0800-1624 1625-end	11.0 10.8	0800-1630 1631-end	11.2 11.0

Fathometer Corrections

Sheet Field HO-1651 (H-7902)

Fathometer NO. 77

Launch CS-160

Corrections for "a" thru "f" days, Volumes 1 - 4.

"A" Scale

Fath-Depth Feet	Corrections Feet
0.0 - 2.5	+1.6
2.6 - 6.3	+1.4
6.4 - 10.7	+1.2
10.8 - 14.9	+1.0
15.0 - 20.2	+0.8
20.3 - 27.8	+0.6
27.9 - 36.8	+0.4
36.9 - 45.4	+0.2
45.5 - 54.2	0.0
54.3 - 63.0	-0.2

"B" Scale

36.9 - 45.4	+1.4
45.5 - 54.2	+1.2
54.3 - 63.0	+1.0
63.1 - 71.6	+0.8
71.7 - 80.3	+0.6
80.4 - 88.8	+0.4

"C" Scale

63.1 - 71.6	+1.4
71.7 - 80.3	+1.2
80.4 - 88.8	+1.0

NOTE: Corrections between "A", "B", and "C" Scales taken from fathometer corrections for Sheets HO-1151, HO-1251 and HO-1351.
 H-7892 H-7893)

Bathometer Corrections

Sheet Field HO-1651 (H-7902)

Fathometer No. 77

Launch CS-160

Corrections for "g" and "h" days, Volume 5

"A" Scale	
Fath. Depth	Correction
Feet	Feet
0.0 - 3.8	+1.6
3.9 - 7.4	+1.4
7.5 - 11.7	+1.2
11.8 - 16.3	+1.0
16.4 - 23.1	+0.8
23.2 - 32.0	+0.6
32.1 - 41.0	+0.4
41.1 - 50.0	+0.2
50.1 - 58.9	0.0
59.0 - 67.8	-0.2

"B" Scale	
32.1 - 41.0	+1.6
41.1 - 50.0	+1.4
50.1 - 58.9	+1.2
59.0 - 67.8	+1.0
67.9 - 76.5	+0.8
76.6 - 85.5	+0.6

"C" Scale	
67.9 - 76.5	+1.4
76.6 - 85.5	+1.2
85.6 - -	+1.0

Note: Corrections between "A", "B", and "C" scales
 taken from Sheets HO-1151, HO-1251 and HO-1351.
 H-7892 H-7893

TIDE NOTE

Hydrographic Sheets: H-7892, H-7893, H-7894, H-7895,
H-7901, H-7902, H-7903

The tides were recorded by portable automatic tide gages. The staffs were connected to USC&GS bench marks and referred to the Columbia River Datum.

The tide gages were established so that two gages could be used to determine the river level corrections on all but one sheet. Hydrographic sheet H-7893 was a small sheet and the Kalama tide gage was used directly for river level corrections. The remaining sheets were zoned for a 0.2 foot differences between adjacent zones. This difference however was as much as 0.4 foot on a few occasions.

During April and early part of May some tide action was noted, but as the river rose this action became less, and the tide curves approached horizontal lines during June and July. In early August some tide action was again becoming apparent.

Daylight Saving Time, or the 105 meridian west, was used from 1600 April 29, 1951 to 2400 September 29, 1951. Prior to and succeeding the above dates Pacific Standard Time or the 120 meridian west was used.

Tide stations were maintained at the following locations during the time of work in each area:

Station	Latitude	Longitude	Staff Reading in Feet Corresponding to C.R.D.
Longview, Wash.	46 06.5'	122 57.6'	-2.8
Kalama, Wash.	46 00.6'	122 57.4'	0.0
Columbia City, Or.	45 43' 32"	122 48' 19"	-3.5
Henrici Landing	45 48.7'	122 47.8'	-4.75
<u>Knapp Landing</u>	45 44' 31"	122 45' 22"	-10.75
<u>Kelley Point</u>	45 39.12'	122 45.8'76'	-9.55
Vancouver, Wash.	45 37.6'	122 40.5'	-0.90

STATISTICS

FOR

HYDROGRAPHIC SURVEY FIELD NO. HO-1651
REGISTRY NO. H-7902

LAUNCH NO. 160

DATE	DAY	VOL.	HANDLEAD SOUNDINGS	POSITIONS	STAT. MILES OF SOUNDING
6/28/51	a	1		114	19.0
6/29/51	b	1&2		207	28.3
6/30/51	c	2		114	13.1
7/5/51	d	2&3		192	35.4
7/6/51	e	3&4		204	32.8
7/13/51	f	4		51	5.6
7/20/51	g	4&5		156	20.3
7/23/51	h	5		152	14.8
Total for sheet - - - - -				1190	169.3

Total area of hydrography - 3.6 sq. stat. miles

112

NOTE TO ACCOMPANY

SHEET HO-1651 REG. H-7902

The U.S.E. Dredge Multnomah will dredge the channel full length of this sheet beginning about 1 Sept.

The Assistant to the Chief Hydrographer stated that he would forward two copies of the survey of the dredged channel to the Supervisor, {Bp. 48184 & 48454} Midwestern District, upon completion. One of the copies is intended for the Director.

CC: Supervisor, MW District

Horace G. Conerly
Horace G. Conerly,
Lt. Comdr., USC&GS
Commanding

APPROVAL SHEET

Hydrographic Survey No.	H-7892	HO-1151
	H-7893	HO-1251
	H-7894	HO-1361
	H-7895	HO-1451
	H-7901	HO-1551
	<u>H-7902</u>	<u>HO-1651</u>
	H-7903	HO-1751

Columbia River

Longview, Washington to Vancouver, Washington

Project CS-339

The records for these hydrographic sheets have been examined and found to be complete.

The smooth sheets have been examined and found to be complete.

This survey is complete, adequate in detail and is approved.

Horace G. Conerly
 Horace G. Conerly
 Lt. Comdr., USC&GS
 Commanding Ship HODGSON

R.H.C.

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~DIVISION OF HYDROGRAPHY AND TOPOGRAPHY~~

14 November 1951

Division of Charts: R. H. Carstens

Plane of reference approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 7902

Locality Willow Range, Columbia River

Chief of Party: H. G. Conerly in 1951
Plane of reference is Columbia River Datum, reading
-10.7 ft. on tide staff at Knapp Landing
19.0 ft. below B. M. W 73 No 1 (1938)

-9.6 ft. on tide staff at Kelley Point
39.8 ft. below B.M. KELLEY POINT (1938)

Condition of records satisfactory except as noted below:

E. C. McKay
Section
Chief, ~~Division of Tides and Currents.~~

GEOGRAPHIC NAMES

Survey No. H-7902

Name on Survey	Source											
	A	B	C	D	E	F	G	H	K			
<u>Washington</u>											BN	1
<u>Oregon</u>											"	2
<u>Columbia River</u>											"	3
<u>Knapp</u>												4
<u>Hewlett Point</u>											BN	5
<u>Kelley Point (not Kelly)</u>											"	6
<u>Willamette River</u>											"	7
												8
												9
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												M 234

Names underlined in
red are approved
1-18-57
L. Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7902

Records accompanying survey:

Boat sheets; sounding vols. 5.....; wire drag vols.;
 bomb vols.; graphic recorder rolls *A. Env.*;
 special reports, etc. *1 Smooth Sheet*;

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

Number of positions on sheet		<i>1180</i>	
		
Number of positions checked		<i>17</i>	<i>87</i>
		
Number of positions revised		<i>5</i>	<i>0</i>
		
Number of soundings revised (refers to depth only)		<i>4</i>	<i>24</i>
		
Number of soundings erroneously spaced		<i>12</i>	<i>6</i>
		
Number of signals erroneously plotted or transferred	<i>1 signal revised by Hydro Party</i>	
Topographic details	<i>Shoreline added by J.T. Gallahan - 18 hrs</i>		
	<i>16 hrs</i>	Time
Junctions	<i>4 hrs</i>	Time
Verification of soundings from graphic record	<i>7 hrs</i>	Time
	<i>Preliminary Verification - Ernest Thomas 37 hrs</i>		<i>121</i>
Verification by <i>G. N. Stephanos</i>	<i>184 hrs</i>	Total time	Date <i>3/31/58</i>
Reviewed by <i>A. J. Hoffman</i>	<i>28 hrs</i>	Time	Date <i>4/21/52</i>
Addendum to Review by <i>F. R. Pease</i>	<i>59 hrs</i>	Time	Date <i>8-30-65</i>
<i>(Depth curves inked)</i>			
<i>Stini</i>	<i>2 hrs</i>		

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7902

FIELD NO. HO-1651

Oregon-Washington, Columbia River, Knapp to Kelley Point

Project No. CS-339

Surveyed in June - July 1951

Scale 1:10,000

Soundings:

Control:

808 Fathometer
Handlead

Sextant fixes on shore signals

Chief of Party - H. G. Conerly
Surveyed by - J. O. Boyer and A. M. Legako
Protracted by - J. O. Boyer and D. L. Wheeler
Soundings plotted by - D. E. Fischer
Preliminary Verification by - E. E. Thomas
Verified and inked by - ~~J. E. Chambers~~ *G. N. Stephanos*
Reviewed by - A. J. Hoffman, 21 April 1952
Inspected by - R. H. Carstens
Depth curves inked by F. B. Pausen 8-30-65

1. Shoreline and Signals

shoreline added
The shoreline will be applied when the verification of the survey is completed. Air-photographic surveys T-8660, T-8664, T-8668, T-8669 and T-8672 of 1945 cover the area of the present survey.

The source of the signals is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated.

There are numerous irregularities in the bottom caused by dredging and river currents.

4. Junctions with Contemporary Surveys

The present survey junctions adequately with H-7903 (1951) on the southeast. The junction with H-7901 (1951) on the north will be considered in the review of that survey. There is no contemporary adjoining survey on the southwest. However, charted depths are in adequate agreement with present depths in this area.

5. Comparison with Prior Surveys

a. H-1671 (1885) 1:10,000 H-1673 (1885) 1:10,000

These prior surveys have been superseded by H-6332, H-6333, and H-6334 and are considered in the review of those surveys. Further consideration in the present review is deemed unnecessary.

b. H-6332 (1938) 1:10,000 H-6333 (1938) 1:10,000
H-6334 (1938) 1:10,000

A comparison between these prior surveys and the present survey reveals numerous changes in the river bottom which are caused by river currents and dredging. A shoaling of the river bottom has occurred in several areas east of the dredged channel. Examples of appreciable changes in depths are shown in the following comparison:

<u>Latitude</u>	<u>Longitude</u>	<u>Prior Depth</u>	<u>Present Depth</u>
45° 40.30'	122° 45.94'	13-ft.	3-ft.
45° 41.82'	122° 45.93'	10-ft.	2-ft.
45° 44.18'	122° 45.46'	38-ft.	29-ft.

The 3½-ft. sounding (charted as 3-ft.) in lat. 45° 41.80', long. 122° 46.07', from H-6333 falls in 14-ft. depths on the present survey. This sounding is described as being on a sunken barge loaded with rocks and has been carried forward to supplement present depths. A subsequent survey by the Corps of Engineers Bp. 48184 (1951) confirms the existence of the 3½-ft. sounding.

The present survey with the addition indicated above is adequate to supersede these prior surveys in the common area.

6. Comparison with Chart 6154 (Print date 1/14/52)a. Hydrography

Charted hydrography originates principally with the present survey prior to verification. Only minor revisions were made during the preliminary verification.

b. Aids to Navigation

The temporary lighted buoy located in lat. 45° 39.27', long. 122° 45.68' on the present survey has been discontinued. Willamette River Light has been rebuilt in this vicinity and is charted in accordance with Notice to Mariners 40, 1951.

c. Dredged Channels

The project depth in the main river channel is 35 ft. The present survey shows numerous soundings ranging in depth from 26-34 ft. within the limits of the marked channel. Dredging accomplished since the present survey was made has probably restored the project depth.

7. Condition of Survey


- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth plotting was adequate. This was one of a series of six river surveys plotted by the hydrographic party directly on the smooth sheet.
- c. The preliminary verification of this survey was confined to critical soundings, discrepancies at crossings and junctions, and an inspection for conflicts with topographic detail. Completion of the verification, inking and application of the shoreline is deferred until some future date, at which time the inspection of the junctions, curves and shoreline will be completed by the reviewer.


8. Compliance with Project Instructions


The survey adequately complies with the Project Instructions.

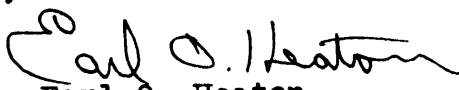
9. Additional Field Work

This is a very good basic survey and no additional field work is recommended.


H. R. Edmonston
Chief, Nautical Chart Branch


L. S. Hubbard
Chief, Section of Hydrography

Examined and approved:

H. Arnold Karo
Chief, Division of Charts


Earl O. Heaton
Chief, Division of Coastal Surveys

ADDENDUM TO REVIEW

H-7902 (1951)

Verified and Inked by-----G. N. Stephanos
Review Addendum by-----F. B. Powers 8/30/65
Inspected by-----R. H. Carstens

The verification of this survey has been completed. Soundings and depth curves have been completely inked.

Shoreline

Minor changes were made to the shoreline from the reviewed photogrammetric surveys, T-8660, T-8664, T-8668, T-8669, and T-8672, all of 1945-46, during the addendum to H-7902.

Junctions with Contemporary Surveys

An adequate junction has been affected with H-7901 (1951) on the north.

The junction on the south will be considered in the review of H-7903 (1951).

Comparison with Chart 6154 (latest print date 8-9-65)

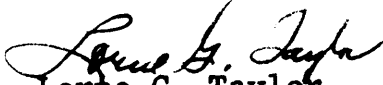
The charted hydrography originates largely with the U. S. Corps of Engineers' surveys of 1963 and 1965, supplemented by soundings from the present survey after preliminary verification and review. Only minor differences of 1-2 ft. in depths are noted between present depths and depths charted from the present survey.

The piling located on the present survey in latitude ^{corrected 3/29/66} 45°40.45' and longitude 122°46.47' has not been charted. ^{ch. 6154} *HC*

Condition of Survey

- (a) Completion of verification and inking reveals that the smooth plotting was well done.
- (b) The Descriptive Report is complete and comprehensive.

Approved:


Lorne G. Taylor
Chief, Nautical Chart
Division

