

7813

Diag. Cht. No. 6154 (Insert)

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. HC-05150 Office No. H-7813

LOCALITY

State OREGON

General locality WILLAMETTE RIVER

Locality BUTTEVILLE TO CHAMPOEG STATE PARK

19 50

CHIEF OF PARTY

W. H. Bainbridge

LIBRARY & ARCHIVES

DATE

Jan 3-1951

B-1870-1 (1)

7813

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. **7813**

Field No. **HQ-05150**

State **Oregon**

General locality **Willamette River**

Locality **Butteville to Champoug/Park, Oregon**
State

Scale **1:5000** Date of survey **3/28/50 to 4/11/50**

Instructions dated **28 Nov. 1945**

Vessel **Ship HODGSON**

Chief of party **W. H. Bainbridge**

Surveyed by **Paul Taylor**

Soundings taken by ~~fathometer~~, graphic recorder, hand lead, ~~etc~~

Fathograms scaled by **Ship personnel**

Fathograms checked by **Ship personnel**

Protracted by **Clifford C. Cummings**

Soundings penciled by **Clifford C. Cummings**

Soundings in ~~fathometers~~ feet at ~~Willamette River Datum~~

which is locally 50.4 ft. above Mean Sea Level

REMARKS:

DESCRIPTIVE REPORT

to accompany

Hydrographic Surveys Nos. HO-05150 & HO-05250

Willamette River

Butteville, Oregon to Ash Island, Oregon

Scale 1:5000

Ship HODGSON

March & April 1950

W. H. Bainbridge
Chief of Party

A. Project:

Project CS-323.

This hydrographic Survey was made in accordance with the following instructions:

1. Original Instructions, 22/MEK, 1995 WE 1, dated 28 November 1945.
2. Supplemental Instructions, 22/MEK, S-2-HO, dated 12 October 1948.

These instructions cover new basic hydrographic surveys of the Willamette River from Oregon City, Oregon to the vicinity of Ash Island, south of Newberg, Oregon.

B. Survey Limits and Dates:

This survey constitutes a new basic hydrographic survey of the Willamette River from Butteville (Latitude 45° 15'9, Longitude 122° 50'6) to Ash Island (Latitude 45° 16'6, Longitude 122° 58'7) Oregon. A junction with Sheet HO-05149 was made at Butteville. Hydrography was begun 28 March 1950 and ended 11 April 1950.
[H-7796 (1949)]

C. Vessel and Equipment:

Hydrography was accomplished with Launch No. 141, a 36-foot landing barge (LCPR).

808-A type depth recorder No. 77 was used throughout the survey.

Soundings in areas occupied by logs were obtained with a leadline while walking the logs.

The launch operated from Champoeg State Park where it was left anchored each evening. The State Park caretaker looked after the launch. Party personnel rode by truck from Portland to Champoeg Park each day.

D. Tide and Current Stations:

See discussion under TIDE NOTE attached to this report and no current stations were observed.

E. Smooth Sheet:

The smooth sheet ^{was} ~~will be~~ prepared by the Seattle Processing Office.

F. Control Stations:

Hydrographic signals were located by photogrammetric methods and sextant angles. Because of the physical changes made since the pictures were taken, from which the map manuscript was made, difficulty was experienced in signal identification. Pictures flown by the Forest Service in 1948 were field inspected. The ^{T-8810 (1947)} Portland Photogrammetric Office oriented these pictures on the original map manuscript.

G. Shoreline and Topography:

The shoreline and topography ^{was} ~~will be~~ obtained from air photo compilations. ^{T-8810 (1947)}

H. Soundings:

Soundings were obtained with an 808-A portable depth recorder No. 77.

Hand lead soundings were obtained while walking logs in areas containing log rafts.

Fathometer corrections were obtained from the result of two bar checks taken daily. A mean of all the bar checks for each depth was plotted and a curve drawn for each boat sheet. Corrections were taken off these curves.

Lead line corrections were determined by checking the line with a tape.

I. Control of Hydrography:

All hydrography was controlled by 3-point fixes taken with sextants to shore objects.

J. Adequacy of Survey:

The survey ~~is~~ complete and adequate and should supersede all prior surveys.

The junction with Sheet ^{H-7796 (1949)} HO-05149 is satisfactory.

K. Crosslines:

Eight percent of crosslines were run.

The crossings were satisfactory.

L. Comparison with Prior Surveys:

No prior surveys have been made in this area.

M. Comparison with Chart:

There are no existing navigational charts for this area.

N. Dangers and Shoals:

The only danger to navigation found, other than numerous snags and deadheads, is the concrete structure at the end of discharge pipe of the Newberg Paper Mill, located at Lat. 45° 17'08N, Long. 122° 57'67W. This structure is awash at 12.8 feet above Willamette River Datum. *See H-7814 (1950) for Conc. Struc.*

O. Coast Pilot Information:

Traffic through this area consists of small pleasure boats and small tugs used in moving log rafts.

This portion of the Willamette should be navigated by steering generally a mid-river course.

Submerged logs are a constant danger to navigation.

P. Aids to Navigation:

No aids to navigation are maintained in this area.

Q. Landmarks for Charts and Geographic Names:

The only landmarks recommended for charting are:

Flagpole, Champoeg Park, 1947 (H-7813)
TANK, NEWBERG, 1945 (H-7814)
D/S of 3 Tall Stacks, Photo No. 5180

These landmarks are listed on Form 567 attached.

R. No recommendations are made for Geographic Names.

R. Tabulation of Applicable Data:

1. Leveling Records, Form No. 258, 3 Vols., to Washington Office.
2. Tides, Form 277, 3 Vols., to ~~Seattle Processing~~ Office.
3. Fathograms, 12 each, to Seattle Processing Office.
4. Cahier, containing fathometer corrections abstract and curves, to Seattle Processing Office.
5. Print, U.S. Engineers, Low Water Profile, Mouth of Willamette to Newberg, Oregon, 1929 Datum, 1940 Low Water; sent to Seattle Processing Office 3/21/49.

Approved
W. H. Bainbridge
W. H. Bainbridge,
Commander, USC&GS
Chief of Party

Respectfully submitted,
Paul Taylor
Paul Taylor,
Lt. Comdr., USC&GS

Abstracts of River Level Corrections

Hydrographic Sheet HO-05150

(~~To be~~ Entered in Tide Reducer Column in hydro record books)

Date	Time	Zone 1	Time	Zone 2
3/28/50	all day	14.6	all day	14.8
3/29/50	all day	14.5	all day	14.7
3/31/50	-- 1048 -- end	12.6 12.4	-- 1248 -- end	12.6 12.4
4/7/50	all day	11.2	all day	11.2
4/10/50	-- 1118 -- end	10.0 9.8	-- 1118 -- end	10.0 9.8
4/11/50	all day	9.2	all day	9.2

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FATHOMETER CORRECTIONS

Hydrographic Sheet HO-05150

All Days

"A" Scale

+1.8 ft. to 1.3 ft.
+1.6 ft. to 3.2 ft.
+1.4 ft. to 5.2 ft.
+1.2 ft. to 7.2 ft.
+1.0 ft. to 9.4 ft.
+0.8 ft. to 11.9 ft.
+0.6 ft. to 14.4 ft.
+0.4 ft. to 17.2 ft.
+0.2 ft. to 20.3 ft.
0.0 ft. to 23.3 ft.
-0.2 ft. to 26.5 ft.
-0.4 ft. to 29.6 ft.
-0.6 ft. to 32.7 ft.
-0.8 ft. to 35.4 ft.
-1.0 ft. to 38.1 ft.
-1.2 ft. to 40.6 ft.
-1.4 ft. to 42.7 ft.
-1.6 ft. to 44.9 ft.
-1.8 ft. to 47.1 ft.
-2.0 ft. to 49.3 ft.
-2.2 ft. to 51.3 ft.
-2.4 ft. to 53.3 ft.
-2.6 ft. to 55.4 ft.
-2.8 ft. to end

"B" Scale

+0.2 ft. to 36.3 ft.
0.0 ft. to 38.3 ft.
-0.2 ft. to 40.3 ft.
-0.4 ft. to 42.3 ft.
-0.6 ft. to 44.3 ft.
-0.8 ft. to 46.3 ft.
-1.0 ft. to 48.3 ft.
-1.2 ft. to 50.3 ft.
-1.4 ft. to 52.3 ft.
-1.6 ft. to 54.3 ft.
-1.8 ft. to 56.3 ft.
-2.0 ft. to 58.3 ft.
-2.2 ft. to 60.3 ft.
-2.4 ft. to 62.2 ft.
-2.6 ft. to 64.2 ft.
-2.8 ft. to 66.2 ft.
-3.0 ft. to 68.2 ft.
-3.2 ft. to 70.2 ft.
-3.4 ft. to 72.2 ft.
-3.6 ft. to 74.2 ft.
-3.8 ft. to 76.2 ft.
-4.0 ft. to 78.2 ft.
-4.2 ft. to 80.2 ft.
-4.4 ft. to 82.2 ft.

<u>HYDROGRAPHIC NAME</u>	<u>ORIGIN</u>
ACT	Photo No. 5037
BIG	Photo No. 5002
BOB	Photo No. 5041
BOX	Photo No. 5003
BUM	Photo No. 5005
CAB	Photo No. 5043
CAT	Photo No. 5000
CRY	Photo No. 5005 ⁷
CUT	Photo No. 5004
DAY	Photo No. 5008
DIM	Photo No. 5047
DOT	Photo No. 5043-A
END	Photo No. 5044
EVA	Photo No. 5009
FIG	Photo No. 5011
FIR	Photo No. 5019
FOG	Photo No. 5045
FOX	Photo Ng. 5001
GAL	Photo No. 5010
GOB	Photo No. 5014
GONE	Photo No. 5033 - GONE 1947
GUS	Page 5, Vol. 1
HUT	Photo No. 5013
IVAN	Photo No. 5046 - IVAN 1947
JAP	Photo No. 5018
JOY	Page 5, Vol. 1
KID	Photo No. 5015
LOG	Photo No. 5020
LUX	Photo No. 5017
MUG	Photo No. 5022
ORA	Photo No. 5026
PIT	Page 5, Vol. 1
POT	Photo No. 5021
RAG	Photo No. 5023
RED	Photo No. 5006
SAD	Photo No. 5028
SIR	Photo No. 5025
SKY	Photo No. 5030
TAX	Photo No. 5032
TUB	Photo No. 5027
VET	Photo No. 5029
WAT	Photo No. 5031
WIN	Page 5, Vol. 1
YES	Photo No. 5036
ZIG	Photo No. 5038

Ho 05150

7813

~~&~~

~~Ho 05250~~

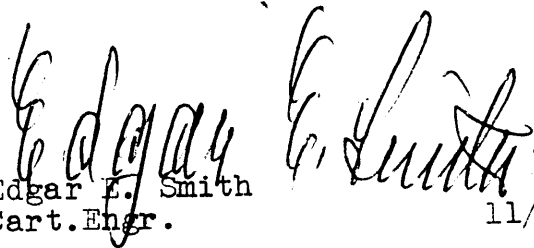
~~7814~~

Willamette River
Oregon

Processing Office Notes.

Smooth sheets.

The projections were made by hand on Whatman paper. Geographic positions are from Pages 880 and 891 of the lithographed GP's for Oregon. Topographic signals were transferred from sheets ~~F-8809, 78810 and 8811. (1947)~~. Sextant angles to locate the hydro signals are recorded in the sounding records.



Edgar E. Smith
Cart. Engr.

11/15/50

7813

STATISTICS

for

Hydrographic Survey HO-05150

Willamette River

1950

Vol No.	Date	Day Letter	No. of Positions	No. of H. L. Soundings	Stat. Miles Soundings
1	3/28/50	a	37	--	4.8
1	3/29/50	b	133	--	14.5
1&2	3/31/50	c	116	--	9.8
2	4/7/50	d	27	4-	1.8
2	4/10/50	e	118	131	6.9
2	4/11/50	f	19	--	1.9
			TOTAL 450	135	39.7

Total area of hydrography = 0.40 sq. stat. miles.



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TIDE NOTE

to accompany

Hydrographic Survey Field No. HO-05150

Willamette River

1950

The datum of the Willamette River has been determined by the Corps of Engineers, Portland, Oregon. This datum (or river gradient) is shown on a profile drawing titled "Low Water Profile, Mouth of Willamette to Newberg, 1929 Datum, 1940 Low Water". A copy of this profile was sent to the Seattle Processing Office in March 1949 with the records for Hydrographic Survey Sheets H-7635, H-7636, and H-7637.
filed with H. 7813

Tide staffs installed at Butteville, Oregon and Champeog State Park, Oregon were used to determine river level corrections for this sheet. The staff at Butteville was connected to three level bench marks by levels with a first-order level. The staff at Champeog Park was connected to four bench marks by levels run with a first-order level.

The tide staffs were read by ship personnel and recorded in Form No. 277 every half hour while hydrography was being done.

The height of the water surface above the river datum was 0.0 to 0.2 feet greater at Champeog Park than at Butteville. It is recommended that the sheet be divided into two zones, using the staff at Butteville to control the eastern half of the sheet and the staff at Champeog Park to control the western half.

STATION	LATITUDE	LONGITUDE	STAFF READING CORRESPONDING TO RIVER DATUM
Butteville	45° 15:77	122° 50:56	+0.4
Champeog Park	45° 15:45	122° 54:11	-6.1

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Ho 05150

Willamette River
Oregon

List of geographic names
penciled on smooth sheet.

Willamette River

Oregon

Butteville

APPROVAL SHEET

Hydrographic Survey Nos. HO-05150
&
HO-05250

7813

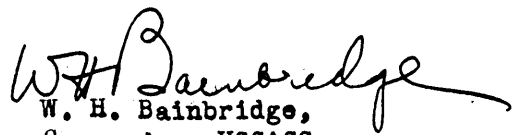
Willamette River

Butteville, Oregon to Ash Island, Oregon

The records for these hydrographic sheets have been completed thru the field reductions, examined and found to be complete.

The survey is adequate. A wire drag survey would be necessary to locate all snags, dead heads and fallen trees, but would not be justifiable as changes occur with each freshet and during the logging operations.

The smooth sheets will be plotted at a later date by the Seattle Processing Office.


W. H. Bainbridge,
Commander, USC&GS
Chief of Party.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED

STRIKE OUT ONE

Longview, Washington

23 May, 1950

I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be charted on (~~the~~) the charts indicated.
The positions given have been checked after listing by Paul Taylor

W. H. Bainbridge
Chief of Party

STATE	Oregon	CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION				METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED			
					LATITUDE	D. M. METERS	LONGITUDE	D. P. METERS							DATUM		
		Flagpole	Flagpole, Champoeeg State Park	H-7813	--	15	15	787	122	54	109	N.A.	1927	Photo	1947	X	6172
		tank	Tank, Newberg	H-7814	--	15	17	441	122	57	828	"	1945	Triang.	1947	X	6172
		stack	D/S of 3 tall stacks	H-7814	Fix	15	17	375	122	57	831	"	1947	Photo	1947	X	6172
			<i>1/5: down stream</i>														
			Note: Positions scaled from Boat Sheet. See L. 575 (1947) for depths of different values. 20 m.														

GEOGRAPHIC NAMES
Survey No. H-7813

Name on Survey	On Chart No.		On previous survey No.		On U. S. quadrangle Maps		From local information		On local Maps		P. O. Guide or Map		Rand McNally Atlas		U. S. Light List	
	A	B	C	D	E	F	G	H	K							
Oregon													USGB		1	
<u>Willamette River</u>													"		2	
<u>Butteville</u>															3	
<u>Champoeg State Park</u>															4	
															5	
															6	
															7	
															8	
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															25	
															26	
															27	
															M 234	

Names underlined in red are approved. 1-9-51. L. HECK

Hydrographic Surveys (Chart Division)

H-7813
HYDROGRAPHIC SURVEY NO.

Records accompanying survey:

Boat sheets¹; sounding vols. .²....; wire drag vols.;
bomb vols.; graphic recorder rolls ² envel.;
special reports, etc.
.....

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

Number of positions on sheet	.....	450
Number of positions checked	.....	6
Number of positions revised	.....	2
Number of soundings revised (refers to depth only)	.....	5
Number of soundings erroneously spaced	.....
Number of signals erroneously plotted or transferred	.....
Topographic details	Time	.....²
Junctions	Time	.....⁷
Verification of soundings from graphic record	Time	.....⁴

Verification by.....*W. J. ...*..... Total time⁵⁷ Date *Feb. 1951*

Reviewed by.....*Lu Jeskud*..... Time¹⁰ Date *2-13-51*

PMG

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

5 January 1951

Division of Charts: R. H. Carstens

Plane of reference approved in 2
volumes of sounding records for

HYDROGRAPHIC SHEET 7813

Locality Champoeg Park, Willamette River, Oregon

Chief of Party: W. H. Bainbridge in 1950

Plane of reference is Willamette River Datum, reading

0.4 ft. on tide staff at Butteville

19.8 ft. below B. M. 1 (1950)✓

-6.1 ft. on tide staff at Champoeg Park

31.8 ft. below B. M. TAB (1935)

Condition of records satisfactory except as noted below:

E. C. McKay

Section

Chief, ~~Division of Tides and Currents~~

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7813

FIELD NO. HO-05150

Oregon, Willamette River, Butteville to Champoeg State Park
Surveyed in March - April, 1950 Scale 1:5,000
Project No. CS-323

Soundings:

Control:

808 Fathometer

Sextant fixes on shore signals

Chief of Party - W. H. Bainbridge
Surveyed by - P. Taylor
Protracted by - C. C. Cummings
Soundings plotted by - C. C. Cummings
Verified and inked by - L. V. Evans III
Reviewed by - I. M. Zeskind, 13 February 1951

1. Shoreline and Signals

The shoreline of the present survey originates with air-photographic survey T-8810 of 1947.

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

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Bottom Configuration and Depth Curves

The usual depth curves are adequately drawn.

The bottom is very irregular and in general, slopes abruptly from shore to depths of 12 to 30 ft. Channel deeps and shoals contribute to the bottom irregularity. Depths along the axis of the natural channel range from 15 to 54 ft.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-7814 (1950) on the west and with H-7796 (1949) on the northeast.

5. Comparison with Prior Surveys

There are no prior surveys of the area by this Bureau.

6. Comparison with Chart

There are no charts of the area by this Bureau.

7. Condition of Survey

- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth plotting was accurately done.
- c. The shoal indications noted in paragraph 9 below were not adequately developed.

8. Compliance with Project Instructions


The survey adequately complies with the Project Instructions, except as noted in paragraph 7c and 9.

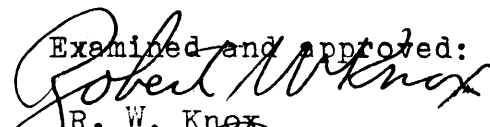
9. Additional Field Work

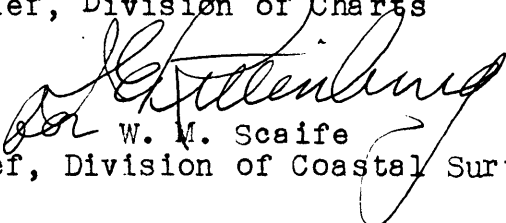
This is a very good survey; however, further investigations of the following shoal indications should be accomplished for the determination of least depth:

- a. The 10-ft. sounding in lat. $45^{\circ} 15.59'$, long. $122^{\circ} 50.97'$.
- b. The 10-ft. sounding in lat. $45^{\circ} 15.51'$, long. $122^{\circ} 53.49'$.
- c. The 16-ft. sounding in lat. $45^{\circ} 15.62'$, long. $122^{\circ} 54.24'$.


H. R. Edmonston
Chief, Nautical Chart Branch


L. S. Hubbard
Chief, Section of Hydrography

Examined and approved:

R. W. Knox
Chief, Division of Charts


W. M. Scaife
Chief, Division of Coastal Surveys

