7745

Diag. Cht. No. 6153

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. HO-05449 *Office No.* H-7745

LOCALITY

State Washington - Oregon

General locality Columbia River

Locality Longview

194 9

CHIEF OF PARTY

H.J.Healy

LIBRARY & ARCHIVES

DATE

B-1870-1 (1)

7745

MAR 2 7 1950

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 7745

Field No. Ho 05449

State Washington-Oregon

General locality Columbia River

Locality Longview

Scale 1/5 000 Date of survey Aug.2-Sept.15, 1949

Instructions dated 24 May, 1949

Vessel HODGSON Launch 141

Chief of party Henry J. Healy

Surveyed by J.O.Boyer

Soundings taken by ~~fathometer~~, graphic recorder, ~~hand lead, wire~~ XXXXXXXXXX

Fathograms scaled by Ship personnel

Fathograms checked by Ship personnel

Protracted by William M. Martin

Soundings penciled by William M. Martin

Soundings in ~~fathoms~~ feet at ~~MLW MLLW~~ Columbia River datum.
(Mean Lower Low Water During Lowest River Stages)

REMARKS: Smooth sheet and plotting by Seattle Processing Office.

Salisbury's use in title

U. S. GOVERNMENT PRINTING OFFICE 693019

DESCRIPTIVE REPORT

to Accompany Hydrographic Survey

Field Nos. HO-05149, HO-05249, HO-05349, HO-05449, HO-05549, HO-05649, and HO-05749 — H-7745 (1949)

Columbia River

Sandy Island to Crims Island

Scale 1:5,000

1949

SHIP HODGSON

Henry J. Healy,
Chief of Party.

A. Project:

This survey was made in accordance with instructions dated 24 May 1949, Project No. CS-339; and letter from Acting Director dated 16 June 1949, Subject: Bar Check

These instructions cover new basic hydrographic surveys in the Columbia River from Sandy Island to Cathlamet Bay, as requested (in part) by the U. S. Navy.

B. Survey Limits and Dates:

Sheet HO-05149 extends from Dike 36.3, thru the Sandy Island West Channel, to 0.5 mile downstream from Coffin Rock. Hydrography was begun 22 June and ended 21 July 1949.

Sheet HO-05249 covers the upstream half of Carroll Channel and its south entrance. Hydrography was begun 18 July 1949.

Sheet HO-05349 joins sheet HO-05249 and extends to Rainier, Oregon. Hydrography was begun 25 July and ended 2 August 1949.

other project surveys

Sheet HO-05449 (H-7745 (1949)) joins sheet HO-05349 (H-7744 (1949)) on the southeast and covers the river from bank to bank to Dibbles Dike. Hydrography was begun 2 August and ended 15 September 1949.

Sheet HO-05549 (H-7746 (1949)) joins sheet HO-05449 (H-7745 (1949)) on the northwest and covers the river from bank to bank to 0.5 mile downstream from Barlow Pt. Hydrography was begun 8 August and ended 17 August 1949.

Sheet HO-05649 joins sheet HO-05549 and covers the river from bank to bank to the downstream end of Fisher Island. Hydrography was begun 6 September and ended 14 September 1949.

Sheet HO-05749 joins sheet HO-05649 and covers the river from bank to bank to Bunker Hill Light. Hydrography was begun 23 August and ended 1 September 1949.

other project surveys

C. Vessel and Equipment:

Hydrography was accomplished with Launch No. 141, a 36-foot landing barge (LCPR). 808-A type depth recorder No. 778 was used with an outboard fish. The squat and settlement for this launch were accurately determined in 1946 and found to be negligible.

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

D. Tides and Currents:

Tides were recorded on portable automatic tide gages installed at Kalama, Longview, and Stella. (See discussion under TIDE NOTE attached.)

A 75-hour series of current observations were made at each of the following three locations:

(1) Vicinity of Deer Island Point:

Latitude 45° 58' 48"
Longitude 122° 50' 05"

(2) Near Longview Bridge:

Latitude 46° 06' 32"
Longitude 122° 57' 58"

(3) Downstream from Oak Point:

Latitude 46° 10' 57"
Longitude 123° 11' 08"

E. Smooth Sheet:

The smooth sheet will be prepared at a later date by the Seattle Processing Office.

F. Control Stations:

The position of signals used to control sheets HO-05149, HO-05249, and HO-05349 were obtained from ~~topographic~~ graphic control sheets* HO-J-49, HO-K-49, HO-L-49, HO-M-49, HO-N-49. These ~~topographic~~ graphic control sheets are controlled primarily by triangulation executed by Soaife in 1937, Healy in 1949, and the U. S. Army Engineers. other project surveys

* G.C. Sheets subsequently destroyed. Desc. Reports filed w/ H-7743

The positions of signals for sheets HO-05449, HO-05549, HO-05649, and HO-05749 were obtained from photographs. The positions were put on the boat sheets by the Portland Photogrammetric Office. H-7745 (1949) Review, par. 1

The planetable sheets were necessary due to the late arrival of the photographs. They delayed progress for several weeks because it was necessary to get triangulation into Carroll Channel to control the topo sheets. Nearly the entire ship's force was used on this triangulation for a period of two weeks. Progress was slow because towers were necessary. This delay probably would not have been necessary if photographs had been available. not applicable to present survey.

G. Shoreline and Topography:

The shoreline and topography will be obtained from photographs by the Portland Photogrammetric Office. Review, par. 1.

H. Soundings:

Soundings were measured with an 808-A type portable depth recorder. The depths were measured in feet and scaled from the fathograms to the nearest 0.2 of a foot. A few soundings were measured from a skiff with a pole. A few soundings on shoals were obtained with a leadline.

The fathometer corrections were obtained by lowering a unit instead of the conventional bar. This method was approved by the Acting Director in a letter dated 16 June 1949. The method is described in detail in the Descriptive Report for Klickitat Light, Oregon to the Big Eddy submitted in June 1949. (Desc. Report for H-7776, 1949)

It will be noted that the fathometer corrections fall into three groups. This is due to the fact that the fathometer was worked on between these periods. The corrections for each group were determined and used.

I. Control of Hydrography:

All horizontal control of hydrography was done by the three-point fix method except a small area around the dock of the Port of Longview. This area was done on a 1:2,500 scale and controlled by ranges and a tag-line. on present survey

Signals located from photographs proved satisfactory for the control of hydrography on this 1:5,000 scale as no "jumps" were noticed on the boat sheets.

J. Adequacy of Survey:

This survey is complete and adequate and should supersede all prior surveys. except as noted in Review, par. 6 A.(1)

Indications of shoaling in some portions of the channel were not developed as it was known tha the U. S. Army Engineers were to dredge the channel in the area. The areas to be dredged are clearly indicated on the boat sheets. Dredging operations are now in progress.

K. Crosslines:

Eight percent of crosslines were run and no discrepancies were noted on the boat sheets.

L. Comparison with Prior Surveys:

A hydrographic survey of the channel for this portion of the Columbia River was made by the U. S. Army Engineers in the spring of 1949 on the following 1:5,000 scale sheets:

Kalama - - - - - - - - - - - - March 11, 1949
Debelower Bar- - - - - - - - - March 14, 1949
Slaughters Bar - - - - - - - - March 17, 1949 (Bp. 45485)
Walker I. - La Du Bars - - - - March 18, 1949
Stella - Fisher Bar- - - - - - March 22, 1949

The U. S. Army Engineers' survey and this survey agree very closely.

A hydrographic survey of this area was made on a scale of 1:10,000 by E. W. Knox in 1937 on Sheet Nos. 6246, 6245, 6244 and 6243. It is noted that since this survey the shoals around islands have changed and generally speaking there is now less water in the back channels than in 1937. Review, par. 5b.

M. Comparison with Chart No. 6153:

At Latitude 46° 00.43', Longitude 122° 52.33' chart shows 1 foot, boat sheet shows minus 1 foot.

At Latitude 46° 00.43', Longitude 122° 52.28' charts shows 51 feet, boat sheet shows 14 feet.

At Latitude 46° 03.65', Longitude 122° 52.05' chart shows piling. These piling still exist.

At Latitude 46° 05.3', Longitude 122° 52.7' chart shows 2 dolphin and row of piling. These piling and dolphins still exist.

fall in other project surveys

At Latitude 46° 06.90', Longitude 122° 58.43' chart shows 17-foot shoal. A 27-foot sounding was obtained at the time hydrography was done in this area. At a later date a dredge worked in this area and now there is nothing shoaler than 30 feet.

28 ft. presently charted

Pres. survey shows least depth of 30 ft.

At Latitude 46° 07.88', Longitude 122° 59.75' chart shows 18 feet. The boat sheet has a 22-foot sounding here. This area is not completely developed on the boat sheet. The U. S. Army Engineer' show 18 feet here. It is recommended that the 18 foot sounding remain on the chart.

At Latitude 46° 08.99', Longitude 123° 02.72' chart shows 9 feet, boat sheet shows 14 feet.

At Latitude 46° 09.8', Longitude 123° 03.5' chart shows large piling area. This area still exists.

At Latitude 46° 09.5', Longitude 123° 03.2' chart shows dolphin. This dolphin no longer exists.

At Latitude 46° 09.7', Longitude 123° 03.8' chart shows a lone pile.

fall in other project surveys

This pile no longer exists.

At Latitude 46° 10.8', Longitude 123° 06.2' chart shows a lone pile. This pile no longer exists.

At Latitude 46° 10.9', Longitude 123° 06.4' chart shows 12 feet, boat sheet shows 11 feet.

fall in other project surveys

N. Danger and Shoals:

All newly found dangers and shoals are described above under Comparison with Chart.

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 ~~attached to this report.~~ C.L. 859 (1949)

Q. Landmarks for Charts:

All landmarks for charts are listed on Form 567 ~~attached to this report.~~ C.L. 859 (1949)

R. Geographic Names:

Geographic names are discussed in the Topographic Report for this area.

S. Silted Areas:

It was noted that the back channels are gradually being filled with sand. The bottom characteristic for these areas is hard fine sand in most instances.

T. Miscellaneous:

The western side of Cottonwood Island and the southern end of the dike at the eastern entrance to the back channel between Walker Island and Oregon are used as spoil areas for

the U. S. Army Engineers' dredge. Soundings in these areas will change frequently.

In this area divers are constantly clearing the river fishing lanes of snags. These snags are usually towed to a shoal area near the shore and left. Most shoal areas close to the shore are very foul because of this.

U. Tabulation of Applicable Data:

1. Descriptive Report for Graphic Control Sheets; sent to Seattle Processing Office.
2. Coast Pilot Report; sent to Washington Office.
3. Airphoto Report; sent to Seattle Processing Office.
4. Leveling Record Books; sent to Washington Office.
5. Tide Marigrams; sent to Washington Office.
6. Daily Bar Checks; sent to Seattle Processing Office.
7. Abstract of Bar Checks; sent to Seattle Processing Office.
8. Graphs of Bar Checks; sent to Seattle Processing Office.
9. Recovery Notes; sent to Seattle Processing Office.
10. Description of recoverable topographic stations; sent to Seattle Processing Office.

Respectfully submitted,

/s/ John O. Boyer,
Lieut. (j.g.), USC&GS
Jr. H&O, Engr.

Approved for Commander Henry J. Healy,
Chief of Party

by Paul Taylor,
Lt. Comdr., USC&GS
Exec. Officer, Ship HODGSON

APPROVAL SHEET

Columbia River

Sandy Island to Crims Island

Project CS-339

1949

The records for this hydrographic survey have been examined and found to be complete.

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

This survey is complete, adequate in detail, and is approved for Commander Henry J. Healy, Chief of Party.

/s/ Paul Taylor

Paul Taylor
Lt. Comdr., USC&GS
Exec. Officer, Ship HODGSON

H 7745 Ho 05449
H 7746 Ho 05549 (1949)
H 7747 Ho 05649

Columbia River
below Longview.

Processing Office Notes.

Smooth sheets. The projections were made by hand on Whatman paper. The topography and topographic signals were transferred by reflecting projector from the sources shown below.

	H 7745	H 7746	H 7747
Ho N 49	X		
T 9855			X
9856			X
9857			X
9858		X	X
9859	X	X	
9860	X	X	
9861	X		

Hydrographic Sta.PIL. Located by strong sextant fix with check angle Vol.2 P 51. It plots near a pile located by air-photo. It may be a corrected location for the pile or a different object. falls within H-7746

Sand ridges. Attention is called to sand ridges in the river bottom. They occur chiefly in the wider channels and lay across the river current. The fathograms give a fine record of these features. The variations in depth from trough to crest run up to ten feet.

Junctions. Good.

Edgar E. Smith
Cart Engr.
Seattle Processing Office
3/15/50

TIDE NOTE

to accompany

Hydrographic Survey Field Nos. HO-05149, 05249, 05349, 05449, 05549, 05649, and 05749

Columbia River — Project CE-339

Sandy Island to Crims Island — 1949

The tide reducers for this section of the Columbia River were determined from portable tide gage recordings at Kalama, near the upstream extremity of the work; Longview, near the center of the area; and Stella, near the downstream extremity of the work. The gages were referred to the Columbia River Datum as established by the U. S. Army Engineers'.

The area was divided into seven zones, one zone for each sheet. The small difference in heights and times between the various gages showed that additional zones were not necessary.

Comparison of Simultaneous Observations at Kalama(A), Longview(B), and Stella(C):

	MHW	LHW	HLW	LLW
Time Difference (A-B) hr.	0.30	0.25	0.48	0.82
Height Difference (A-B) ft.	-0.70	-0.55	0.14	0.28
Time Difference (C-B) hr.	-0.58	-0.53	-0.81	-0.98
Height Difference (C-B) ft.	0.20	0.16	-0.56	-0.57

The reducers for each sheet were determined graphically. Tide curves were drawn for the gage on either side of the work. The reducers were obtained from a third curve drawn between the two plotted curves. The distances between the third curve and the other two are proportionally the same as the distances between the center of the hydrographic sheet and the tide gages.

The reducers for Sheet HO-05149 were taken directly from the Kalama gage, 05449 directly from Longview gage and 05749 directly from Stella gage.

Station	Latitude	Longitude	Staff Reading Corresponding to Columbia River Datum
Kalama	46° 00.5'	122° 50.8'	0.0
Longview	46° 06.5'	122° 57.5'	1.1
Stella	46° 11.4'	123° 07.6'	0.5

1 copy

FATHOMETER CORRECTIONS

Sheet Nos. HO-05449 H-7745 (1949)
HO-05549

Depth (feet)	"A" Scale Correction (feet)
0 - 3.2	+ 0.8
3.3 - 7.4	+ 0.6
7.5 - 19.0	+ 0.4
19.1 - 27.0	+ 0.2
27.1 - 33.0	0.0
33.1 - 41.0	− 0.2
41.1 - 55.0	− 0.4

Depth (feet)	"B" Scale Correction (feet)
35.0 - 38.5	+ 1.0
38.6 - 90.0	+ 0.8

Depth (feet)	"C" Scale Correction (feet)
70.0 - 87.0	+ 1.4
87.1 -	+ 1.2

V.R.M.S.

LEAD LINE CORRECTION

Depth (feet)	Correction (feet)
0 - 10.0	0.0
10.1 - 16.6	- 0.2
16.7 - 110.0	- 0.4

BOTTOM SNAPPER CORRECTION

Depth (feet)	Correction (feet)
0 - 12.2	0.0
12.3 - 24.1	+0.2
24.2 - 33.2	+0.4
33.3 - 35.6	+0.6
35.7 - 53.8	+0.8
53.9 - 64.9	+1.0
65.0 - 90.6	+1.2

TIDE REDUCERS

H-7745 (1949)

Sheet HO-05449

Longview Gage

2 August 1949

2.8	ft.	to	0818
3.0	"	"	0842
3.2	"	"	0900
3.4	"	"	0914
3.6	"	"	0929
3.8	"	"	0943
4.0	"	"	1000
4.2	"	"	1020
4.4	"	"	1100
4.6	"	"	1200
4.4	"	"	1242
4.2	"	"	1314
4.0	"	"	1344
3.8	"	"	1414
3.6	"	"	1450
3.4	"	"	1524
3.2	"	"	1600
3.0	"	"	1630
2.8	"	"	1705

3 August 1949

2.6	ft.	to	0826
2.4	"	"	0917
2.6	"	"	0943
2.8	"	"	1000
3.0	"	"	1016
3.2	"	"	1028
3.4	"	"	1045
3.6	"	"	1100
3.8	"	"	1116
4.0	"	"	1136
4.2	"	"	1200
4.4	"	"	1400
4.2	"	"	1444
4.0	"	"	1515
3.8	"	"	1547
3.6	"	"	1614
3.4	"	"	1642
3.2	"	"	end

4 August 1949

2.8	ft.	to	0813
2.6	"	"	0834
2.4	"	"	0904
2.2	"	"	1035
2.4	"	"	1100
2.6	"	"	1118
2.8	"	"	1132
3.0	"	"	1146

4 August 1949 (contd)

3.2	ft.	to	1200
3.4	"	"	1213
3.6	"	"	1225
3.8	"	"	1238
4.0	"	"	1252
4.2	"	"	1309
4.4	"	"	1331
4.6	"	"	1513
4.4	"	"	1542
4.2	"	"	1600
4.0	"	"	1620
3.8	"	"	1655
3.6	"	"	end

5 August 1949

3.2	ft.	to	0828
3.0	"	"	0900
2.8	"	"	0925
2.6	"	"	1000
2.4	"	"	1024
2.2	"	"	1123
2.4	"	"	1150
2.6	"	"	1208
2.8	"	"	1218
3.0	"	"	1234
3.2	"	"	1244
3.4	"	"	1255
3.6	"	"	1304
3.8	"	"	1311
4.0	"	"	1320
4.2	"	"	1329
4.4	"	"	1342
4.6	"	"	1354
4.8	"	"	1412
5.0	"	"	1544
4.8	"	"	1618
4.6	"	"	1700

10 August 1949

4.4	ft.	to	0822
4.2	"	"	0847
4.0	"	"	0912
3.8	"	"	0938
3.6	"	"	1003
3.4	"	"	1028
3.2	"	"	1055
3.0	"	"	1120
2.8	"	"	1145
2.6	"	"	1212
2.4	"	"	1245
2.2	"	"	1318
2.0	"	"	1418
2.2	"	"	1440
2.4	"	"	1452
2.6	"	"	1500
2.8	"	"	1509
3.0	"	"	1518
3.2	"	"	1528
3.4	"	"	1536
3.6	"	"	1543
3.8	"	"	1552
4.0	"	"	1600
4.2	"	"	1609
4.4	"	"	1620
4.6	"	"	1632
4.8	"	"	1649
5.0	"	"	end

15 September 1949

2.4 ft. all day

H 7745
Ho 05449

Columbia River

List of geographic names
penciled on smooth sheet.

Columbia River

Washington

Cowlitz County

Oregon

Columbia County

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography:~~ 13 April 1950

Division of Charts: R. H. Carstens

Plane of reference approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 7745

Locality Longview, Columbia River

Chief of Party: H. J. Healy in 1949
Plane of reference is Columbia River Datum, reading
1.2 ft. on tide staff at Longview
25.2 ft. below B. M. W 317 (USE)

Condition of records satisfactory except as noted below:

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

U. S. GOVERNMENT PRINTING OFFICE 756675

GEOGRAPHIC NAMES

Survey No. H-7745

Name on Survey	On Chart No. 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	
Oregon									USGB	1
Columbia County										2
Washington									USGB	3
Cowlitz County										4
Columbia River									USGB	5
Longview										6
Longview Bridge										7
										8
										9
					Names underlined in red are approved. 6-21-50 L. Heck					10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7745

Records accompanying survey:

Boat sheets 2; sounding vols. 3; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 1 envel.;

special reports, etc. .....

.....

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

Number of positions on sheet		670
Number of positions checked		62
Number of positions revised		2
Number of soundings revised (refers to depth only)		17
Number of soundings erroneously spaced		.....
Number of signals erroneously plotted or transferred		.....
Topographic details	Time	12 hrs
Junctions	Time	24 hrs
Verification of soundings from graphic record	Time	68 hrs.

Verification by Jesse H. Eaton Total time 104 hrs. Date 10-2-50

Reviewed by J.A. Dinsmore Time 24 hrs. Date 12 Dec. 1950

M-2232-1

STATISTICS

for

Hydrographic Survey Field No. HO-05449

7745

Launch No. 141

DATE	DAY	VOL.	HANDLEAD SOUNDINGS	POSITIONS	STAT. MILES OF SOUNDINGS
8/2/49	a	1	--	195	27.0
8/3/49	b	1&2	14	211	29.5
8/4/49	c	2&3	4	189	17.0
8/5/49	d	3	27	49	1.8
8/10/49	e	3	42	12	--
9/15/49	f	3	--	14	0.9
	Total for Sheet		87	670	76.2

Total area of hydrography - - - - - -1.4 square miles.

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY — REGISTRY NO. H-7745

FIELD NO. HO-05449

Oregon-Washington, Columbia River, Vicinity of Longview
Surveyed in August - September 1949 — Scale 1:5,000
Project No. CS-339

Soundings:

808 Fathometer

Control:

Sextant fixes on shore signals

Chief of Party - H. J. Healy
Surveyed by - J. O. Boyer
Protracted by - W. M. Martin
Soundings plotted by - W. M. Martin
Verified and inked by - J. H. Eaton
Reviewed by - T. A. Dinsmore, 12 December 1950
Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline originates with the* unreviewed manuscripts of air-photographic surveys T-9259, T-9260 and T-9261 (1949).

The signals are from the above surveys and graphic control survey HO-N-49 (field number, 1949) which has been subsequently destroyed. Fixes for supplementary hydrographic signals are recorded in the sounding volumes of the present survey.

2. Sounding Line Crossings

Considering the uneveness of the bottom, depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated except where piling and dolphins prevented the development of portions of the inshore depth curves.

* Revised to agree with reviewed manuscript on 6/30/53, by Gearhardt, ck'd by Stirnc GFJ

The bottom for the most part is very uneven. The lumpiness occurring throughout the mid-river area results from sand ridges which lie generally normal to the axis of the river. Differences in depths from the trough to the crest of these sand ridges are as much as 15 feet.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-7744 (1949) on the southeast (upstream) and H-7746 (1949) on the northwest (downstream).

5. Comparison with Prior Surveys

a. H-1369a (1877) 1:10,000

H-1369a has been superseded by H-6244 and H-6245 (1937). A comparison between this early survey and the 1937 surveys was made in the reviews of the latter surveys and further consideration of the early survey in the present review is deemed unnecessary.

b. H-6244 and H-6245 (1937) 1:10,000

The present survey falls within the area covered by these prior surveys. A comparison between the prior and present surveys reveals many bottom changes. Considerable shoaling is indicated through the mid-river channel where prior depths of 30 to 48 ft. are now superseded by depths ranging from 22 to 44 ft. The natural and artifical changes that have taken place throughout the area are so extensive as to make a detailed comparison of little value. The main river channel is dredged periodically by the Corps of Engineers and the spoil is dumped in the shoal areas surrounding the river islands. This together with the spring freshets which cause a shifting of the bottom are the principal factors contributing to the extensive changes that have taken place.

Numerous Corps of Engineers surveys have since superseded the above prior surveys in the charting of the greater portion of the area under consideration. The prior surveys contain no information in the common area which needs to be retained and are entirely superseded by the present survey for charting purposes.

6. Comparison with Chart 6153 (Latest print date 9/18/50)

A. Hydrography

Charted hydrography originates principally with various surveys by the Corps of Engineers, the latest of which is October 1949 (Bp. 45891). A few scattered soundings are from the prior surveys previously discussed and the present survey prior to verification and review.

In comparing the survey with the charted soundings, many differences are noted. However, differences between successive Engineers' surveys of any section of this highly changeable area are as marked as those between the present survey and prior Engineers' surveys. Attention is particularly directed to the following differences:

(1) The 13-ft. "RK" sounding charted in lat. 46° 06.42', long. 122° 57.63', from a 1943 Corps of Engineers survey (Bp. 37899) falls in depths of 30-36 ft. on the present survey. The latest Engineer survey (Bp. 45891, October 1949) shows 22 ft. in the above location. The development on the Engineer survey and the present survey is not considered adequate to disprove this prior sounding. It is, therefore, recommended that the 13-ft. prior sounding be retained on the chart until disproved by subsequent surveys.

(2) The 16-ft. sounding charted in lat. 46° 06.27', long. 122° 57.80', from a survey by the Corps of Engineers in October 1949 (Bp. 45891) falls in depths of 18-23 ft. on the present survey. Inasmuch as the Engineer survey is subsequent to the present survey, the 16-ft. sounding should be retained on the chart.

Except as noted in paragraph (1) above, all information charted from sources prior to the present survey are superseded by the present survey and subsequent Engineers' surveys.

A comparison has also been made with Chart 3362 (1st. Edition of July 1950). The charted information originates with the present survey prior to verification and review supplemented by a later survey by the Corps of Engineers (Bp. 45891, October 1949). No revisions are recommended.

B. Dredged Channels

The project depth in the main channel is 35 ft. The present survey shows numerous soundings ranging in depth from 28-34 ft. within the limits of the marked channel. Inasmuch as dredging has been accomplished since the time of the present survey, it is presumed that the project depth has been subsequently restored.

C. Aids to Navigation

The gong and siren on Longview Bridge are shown on the present survey to be located on the north pier. These positions are identical with those shown on T-9260 (1949) and as furnished in Chart Letter 859 (1949). The charted positions of the gong and siren show them to be located on the north and south piers, respectively. The positions given in the 1950 Light List which is subsequent to the present survey agree with the charted positions.

T-9260 changed during review, siren on south pier

The buoy located in lat. 46° 07.07', long. 122° 59.03, on the present survey is charted about 200 meters NNW of the survey position. The charted position more adequately marks the channel limits.

Except as noted above, aids on the present survey are in substantial agreement with the charted aids and adequately mark the features intended.

7. Condition of Survey

a. The sounding records are complete; the Descriptive Report covers all matters of importance.

b. The smooth plotting was accurately done.

c. The charted 13-ft. shoal discussed in paragraph 6A (1) was not investigated on the present survey.

8. Compliance with Project Instructions

Except as noted in paragraph 7c, the survey adequately complies with the Project Instructions.

9. Additional Field Work

The survey generally provides good coverage. Inasmuch as this is a highly changeable area over which the Corps of Engineers make periodic surveys, no additional field work is recommended. Further information on the 13-ft. shoal mentioned in paragraph 7c above will probably be revealed on subsequent surveys by the Corps of Engineers.

Examined and approved:

H. R. Edmonston
Chief, Nautical Chart Branch

R. W. Knox
Chief, Division of Charts

L. S. Hubbard
Chief, Section of Hydrography

W. M. Scaife
Chief, Division of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7745

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
4/21/50	3362B	J.C. McGann	(Before) ~~After~~ Verification and Review
8 May 50	3362-A	H.E. MacEwen	(Before) ~~After~~ Verification and Review
15 May 50	6153	Nichols	~~Before~~ ~~After~~ Verification and Review Partial application.
Nov 1951	6153	Wittman	~~Before~~ After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.