7655

Diag. Cht. No. 6157

325

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. HO-1348 Office No. H-7655

LOCALITY

State Oregon - Washington

General locality Columbia River

Locality Stanley Rock, Oregon to Klickitat ~~Light, Oregon~~ River, Wash.

1948

CHIEF OF PARTY

W.H.Bainbridge

LIBRARY & ARCHIVES

DATE 6 JULY 1950

B-1870-1 (1)

7655

JUL 5 1950

Form 537
(Ed. Nov. 1941)

REG. NO.

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 7655

Field No. Ho 1348

State Oregon - Washington

General locality Columbia River

Locality Stanley Rock to Klickitat ~~Light~~ River

Scale 1/ 10 000 Date of survey Oct. 1 to 21, 1948

Instructions dated 7 May 1947

Vessel HODGSON

Chief of party W.H.Bainbridge

Surveyed by R.M.Stone

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

Protracted by J.R.Wheeler

Soundings penciled by J.R.Wheeler

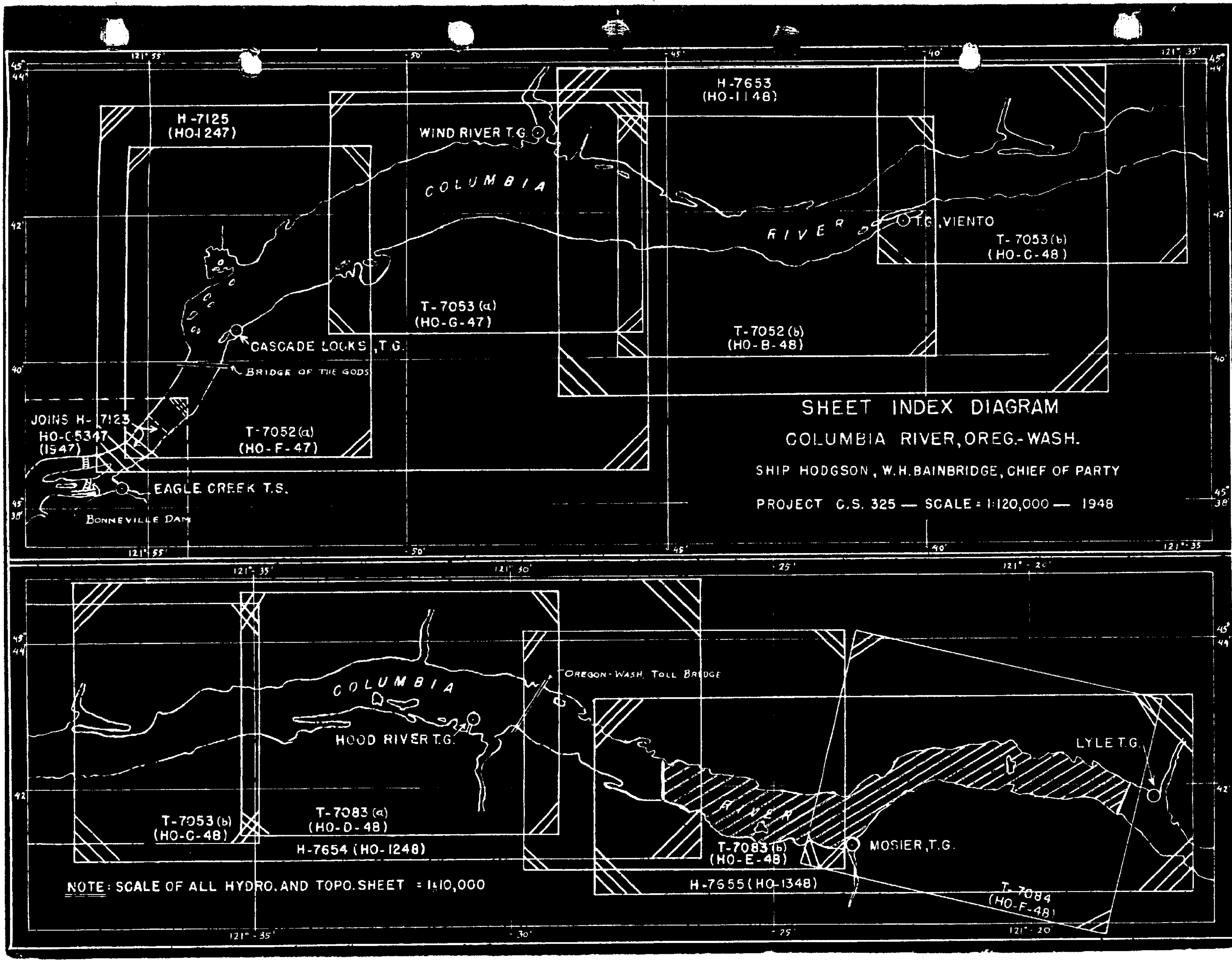
Soundings in fathoms feet at ~~MLW~~ ~~MLLW~~ ~~Columbia River datum.~~ the normal pool level which is 72 ft. above mean sea level

REMARKS: ~~The Columbia River datum between Bonneville and The Dalles, Ore. is Normal Pool Level, 72.0 feet above MSL~~

Fathograms scanned by E. Altizer
" checked " R.M.Stone

Final verification and inking by John E. Lotshaw, Cartographic Technician completed 7/9/75

U. S. GOVERNMENT PRINTING OFFICE 428975


SHEET INDEX DIAGRAM
COLUMBIA RIVER, OREG.-WASH.
SHIP HODGSON, W.H. BAINBRIDGE, CHIEF OF PARTY
PROJECT C.S. 325 — SCALE = 1:120,000 — 1948
H-7125
(HO-1247)
H-7653
(HO-1148)
WIND RIVER T.G.
COLUMBIA
RIVER
T.G. VIENTO
T-7053 (b)
(HO-C-48)
T-7053 (a)
(HO-G-47)
T-7052 (b)
(HO-B-48)
CASCADE LOCKS, T.G.
BRIDGE OF THE GODS
JOINS H-7123
HO-C5347
(1547)
T-7052 (a)
(HO-F-47)
EAGLE CREEK T.S.
BONNEVILLE DAM
OREGON-WASH. TOLL BRIDGE
HOOD RIVER T.G.
LYLE T.G.
T-7053 (b)
(HO-C-48)
T-7083 (a)
(HO-D-48)
H-7654 (HO-1248)
T-7083 (b)
(HO-E-48)
MOSIER, T.G.
H-7655 (HO-1348)
T-7084
(HO-F-48)
NOTE: SCALE OF ALL HYDRO. AND TOPO. SHEET = 1:10,000

DESCRIPTIVE REPORT

to accompany

Hydrographic Survey No. H-7655
(Field No. HO-1348)

Columbia River

Stanley Rock, Ore. to Klickitat ~~Light, Ore.~~ River Wash.

Scale 1 : 10,000 October 1948

Ship HODGSON

W. H. Bainbridge
Chief of Party

R. M. Stone
Hydrographer

PROJECT:

The hydrographic survey was made in accordance with instructions dated 7 May 1947, Reference No. 22/MEK; S-2-HO, Project. No. CS-325.

These instructions cover new basic hydrographic surveys of the Columbia River from Bonneville, Oregon to The Dalles, Oregon.

SURVEY LIMITS AND DATES:

This survey constitutes a new basic hydrographic survey of the Columbia River from Stanley Rock, Ore. to the vicinity of Klickitat ~~Light.~~ River. (Refer to "Sheet Index Diagram" appended to this report).

Field work on this sheet was begun on 1 October and concluded on 21 October 1948.

Satisfactory junction and overlap were made on Hydrographic Sheet H-7654 (1948), (Field No. HO-1248) approx. 0.6 mile upstream from Stanley Rock. The eastern limit of Sheet H-7655 terminates the 1948 seasons work.
Satisfactory junction was made with H-7777 (1949) on the East.

Comparisons were made with the latest U. S. Engineer's surveys of this area. (Refer to paragraph under the heading of "Comparison With Prior Surveys"). (A list of the latest U. S. Engineering maps of this area is appended to this report,- under "Applicable Data").

VESSELS AND EQUIPMENT:

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

VESSELS AND EQUIPMENT: (Continued)

808-A type depth recorder No. 62-S was used throughout the survey of this sheet.

In areas occupied by log rafts, hand lead soundings were required, which were obtained by a log walking party using Lead Line No. 2.

Least depths over shoals were verified by using Lead Line No. 5.

Depths at bottom sample locations were taken with Lead Line No. 4, which is a leadline made with a bottomsampler attached.

The launch operated from the Ship HODGSON, which was moored approx. ½ mile upstream from Hood River, Lat. 45° 42'.67, Long. 121° 29'.67.

The squat and settlement of Launch 141 was accurately determined on 11 October 1946 and found to be negligible. No change has taken place in the construction of the launch since that time.

A copy of the observations for squat and settlement is attached to this report, page 18.

Corrections to the fathometer soundings were obtained from tables prepared from the data furnished by the three daily bar tests. These tests extended to a depth of 90 feet and were made for the various scale settings of the fathometer. (Refer to "Velocity Correction Abstract" appended to this report), (pages 8 - 12 incl.).

TIDE AND CURRENT STATIONS:

(See discussion under Tide Note attached), (page 17).

No current stations were occupied during the time of this survey.

Numerous notes appear in the hydrographic records in regards to current conditions effecting the speed of the launch.

SMOOTH SHEET:

The projection for the smooth sheet was not made by the field party. Refer to the report from the Processing Office on this survey.

CONTROL STATIONS:

The area is covered by second order triangulation surveyed by W. M. Scaife, Chief of Party, Year 1939.

Topographic stations and hydrographic signals were located by graphic control on Topo. Sheets, Nos. T-7083(b) and T-7084, (Field Nos. HO-E-48 and HO-F-48, respectively), Columbia River, W. H. Bainbridge, Chief of Party, Year 1948.

SHORELINE AND TOPOGRAPHY:

The shoreline of the Columbia River appearing in pencil on the boat sheet was transferred from air photo compilation prints, compiled from aerial photographs taken 8 July 1939 and 3 August 1935. These photographs were compiled under the following project Nos. on a scale of 1 : 20,000:

graphic control surveys T-7083b and T-7084 used for source of smooth sheet shoreline

these prints not suitable for smooth sheet shoreline

Project Number	West Limit of Proj.	East Limit of Proj.
CS - 190	121° - 41.'0 Merid.	121° - 22.'0 Merid.
CS - 191	121 - 22.0	121 - 05.0

The original compilation was enlarged to the scale of the boat sheet, (1 : 10,000), in order that the shoreline could be transferred directly.

Instructions for this project states that topographic mapping is contemplated in the very near future.

topographic surveys still planned this date, 9/16/52

The zero curve was determined wherever possible. Its entire delineation was prevented by steep-to-banks, debris and snags accumulated along the edge of the river, log sticks forming log assorting pens at log dumps, and the danger of putting the launch hard aground with a strong river current. The difference between the river surface and the normal pool level varied from zero to 2½ feet.

SOUNDINGS:

Hydrography was done with the use of depth recorder No. 62-S mounted in Launch No. 141.

Thirteen days of launch hydrography and one day of hand leading were accomplished on this hydrographic sheet.

Numerous hand lead soundings were taken over shoal areas and in areas containing log rafts.

Bottom specimens were obtained at frequent intervals .

One serial temperature and salinity observation was made during the seasons work, however, these results were not used as all fathometer corrections were determined from the three daily bar checks. (Refer to Descriptive Report for Sheet H-7654).

Velocity corrections derived from the mean of the daily bar checks, and the reducers pertaining to the difference between normal pool datum and the elevation of the river surface, have been entered and checked in all hydrographic records in increments of two tenths of a foot.

An abstract of bar check comparisons and velocity corrections is attached to this report, pages 8 - 12 incl.

The hourly heights with their respective reducers are submitted on Form No. 362 under separate cover.

Lead line corrections have been entered and checked in all hydrographic records.

CONTROL OF HYDROGRAPHY:

All horizontal control was done by the three-point-fix method.

ADEQUACY OF SURVEY:

The survey is complete and should supersede all prior surveys for charting.

The junction or overlap with Hydrographic Survey H-7654, (HO-1248), ADEQUACY OF SURVEY: (Continued)

(Year 1948), is satisfactory. The depth curves can be adequately drawn at the junction.

CROSSLINES:

Eight percent of crosslines were run.

No discrepancies were noted in the crosslines.

COMPARISON WITH CHART: - all 10 items applied to 6157 - 1 Dec 49 - HV

A comparison was made with USC&GS Chart No. 6157, dated 12/30/46.

The following discrepancies were noted:

1. A least depth of 14.0 feet was found at Lat. 45° 41'.82, Long. 121° 26'.3~~6~~7,- bottom -- fine gray sand. This information was submitted to the Washington Office on 23 October 1948.

2. A least depth of 28 feet was found on the charted 30 ft. spot at Lat. 45° 41'.71, Long. 121° 23'.50.

3. A least depth of 11.4 feet was found at Lat. 45° 41'.95, Long. 121° 23'.20,- bottom -- rocky. This information was submitted to the Washington Office on 23 October 1948.

4. An uncharted depth of 21.0 feet was found at Lat. 45° 42'.03, Long. 121° 23'.0~~0~~2.

5. An uncharted depth of 25.0 feet was found at Lat. 45° 42'.1~~6~~7, Long. 121° 22'.6~~9~~8.

6. An uncharted depth of 28.7 feet was found at Lat. 45° 42'.30, Long. 121° 22'.3~~9~~8.

7. A least depth of 15.3 feet was found at Lat. 45° 42'.33, Long. 121° 22'.52, where a sunken rock is shown on the chart.

8. A least depth of ~~0.9~~ 1.0 feet was found at Lat. 45° 42'.40, Long. 121° 20'.5~~6~~5,- bottom -- fine gray sand. This information was submitted to the Washington Office on 14 October 1948.

COMPARISON WITH CHART: (Continued)

9. A least depth of 9.~~3~~ feet was found on the charted 11 ft. spot at Lat. 45° 42'.0~~4~~3, Long. 121° 20'.32.

10. A least depth of 6.~~3~~ feet was found on the charted 7 ft. spot at Lat. 45° 42'.00, Long. 121° 20'.22.

COMPARISON WITH PRIOR SURVEYS:

A comparison was made with the following U. S. Engineers survey prints: (Scale 1 : 5,000), "Mouth Of Willamette To The Dalles, Ore.".

	Print No.	(CL-106-13/23),	(Sheet 23 of 30),	dated 12/31/35.	
Bp.32119	" "	(CL-106-13/24),	(" 24 of 30),	" "	Review par. 6a
" 32118	" "	(CL-106-13/25),	(" 25 of 30),	" "	
" 32117	" "	(CL-106-13/26),	(" 26 of 30),	" "	

(Scale 1 : 5,000), "Vancouver, Wash. to The Dalles, Ore.".

Print No. (CL-106-38/ 7), (Sheet 7 of 7), dated (marked Void). was not applied to chart

The same discrepancies noted in the preceding paragraphs are applicable to the U. S. Engr's. surveys.

DANGERS AND SHOALS:

The dangers to navigation are the 14.0, 11.~~4~~ and ~~0.9~~ 1.0 ft. shoals described in paragraphs 1, 3 and 8, respectively, under heading -- "Comparison With Chart", page 5 of this report.

COAST PILOT INFORMATION:

A coast pilot report for part of the Columbia River section of the Pacific Coast Pilot was submitted on 12 November 1948, by W. H. Bainbridge, Comdr. USC&GS, Comdg. SHIP HODGSON.

A copy of this coast pilot report was appended to the descriptive report for Sheet No. H-7125, (HO-1247), which is a part of this seasons work. (Refer to pgs. 9-12 of Descriptive Report H-7125).

AIDS TO NAVIGATION:

There are no floating aids to navigation located within the limits of this hydrographic sheet.

AIDS TO NAVIGATION: (Continued)

The positions of the fixed aids to navigation pertaining to this survey are reported on Form No. 567, a copy of which is appended to this report. pages 19 and 20.

Klickitat River Light, Lat. 45° 41'.67, Long. 121° 18'.32, was moved in 1946. Its new location is listed on Form No. 567, "Fixed Aids To Navigation".

There are no ranges maintained for navigation within the limits of this hydrographic sheet.

There are no bridges over the Columbia and its tributaries located in this area.

LANDMARKS FOR CHARTS:

Data relative to landmarks for charts is submitted on Form 567, a copy of which is appended to this report, page 21.

A list of the recommended landmarks within the limits of this hydrographic sheet is as follows:

Charting Name	Description
MONUMENT	Memaloose Island Tombstone Monument
AERO	Portland-Spokane Airway Beacon No. 6B, Flashing every 10 seconds, located 2.5 miles ESE of Mosier, Oregon.

GEOGRAPHIC NAMES:

A Geographic Name List is attached to this report, page 16.

SILTED AREAS:

No silted areas are involved.

VELOCITY CORRECTION ABSTRACT:

Tabulations of the three daily bar checks for Launch No. 141 are shown on the following pages:

Velocity corrections were derived from the mean of the daily bar checks and are listed separately for the launch.

FATHOMETER CORRECTIONS
SHEET HO-1348 (H-7655)
Launch No:141

A Scale							B Scale						C Scale					
5	10	15	20	30	40	50	40	50	60	70	80	90	70	80	90	TIME	DAY	DATE
+0.1	0.0	+0.1	0.0	-0.6	-0.5	-1.0	0.0	-0.3	-1.0	-1.8	-2.2	-2.0	+1.0	+0.7	0.0	0835	"a"	10-1-48
															+0.5			
0.0	0.0	0.0	0.0	-0.5	-0.8	-1.2	-0.1	-0.9	-1.0	-2.0	-2.0			+0.8				
+0.2	0.0	0.0	0.0	-0.5	-0.7	-0.9	-0.2	-0.6	-1.0							1300		
+0.4	+0.4	+0.2	+0.1	-0.1	-0.5	-1.0	-0.2	-0.7										
+0.1	0.0	0.0	-0.2	-0.6	-0.8	-1.0	-0.2	-0.8	-1.0							1528		
0.0	0.0	0.0	0.0	-0.2	-0.7	-1.0	-0.4	-1.0										
+0.2	0.0	0.0	-0.2	-0.4	-0.8	-0.8	-0.2	-0.2	-1.0	-1.0	-1.2	-1.3	+2.0	+1.4	+1.3	0838	"b"	10-5-48
+0.5	+0.4	+0.2	0.0	-0.2	-0.7	-0.8	-0.1	-0.2	-1.0	-1.0	-1.0		+1.8	+1.5				
0.0	+0.1	0.0	0.0	-0.3	-0.4	-0.8	-0.2	-0.4								1250		
+0.3	+0.1	0.0	0.0	-0.2	-0.2		-0.1											
+0.2	+0.2	0.0	+0.1	-0.3	-0.8	-1.0	-0.2	-0.2	-0.7							1626		
+0.3	+0.4	+0.2	+0.1	0.0	-0.6	-0.8	0.0	0.0										
+0.5	+0.2	+0.1	+0.1	0.0	-0.3	-0.2	0.0	0.0	-0.3	-1.0	-1.0	-1.2	+1.5	+1.4	+1.0	1340	"c"	10-6-48
0.0	0.0	0.0	0.0	-0.2	-0.8	-0.7	-0.3	-0.2	-0.5	-1.0	-1.2		+1.6	+1.0				
+0.1	+0.1	0.0	+0.1	-0.2	-0.6	-0.8	-0;2	-0.2								1649		
+0.1	+0.1	0.0	0.0	-0.2	-0.6		-0.2											
+0.3	+0.2	0.0	0.0	-0.1	-0.3	-0.8	-0.1	-0.7	-1.0	-1.0	-1.8	-2.0	+1.5	+1.0	+0.9	0822	"d"	10-7-48
0.0	0.0	0.0	0.0	-0.3	-0.7	-0.8	-0.5	-0.8	-1.0	-1.6	-2.0		+1.0	+0.9				
+0.3	0.0	-0.1	-0.3	-0.8	-0.8		0.0									1245		
+0.2	+0.2	+0.2	-0.2	-0.6														
+0.3	+0.4	+0.2	+0.1	-0.1	-0.1	-0.3	-0.1	-0.9	-0.4							1625		
+0.8R	+0.9R	+0.6R	+0.2R	+0.2R	0.0R	0.0R	0.0	-0.2										
								-0.5										
+0.2	+0.1	+0.1	0.0	0.0	-0.2	-0.2	-0.1	-0.2	-0.8	-1.0			+1.2			0825	"e"	10-8-48
0.0	+0.2	+0.1	0.0	0.0	-0.1	-0.2	-0.1	-0.2	-1.0									
+0.4	0.0	0.0	0.0	-0.3	-0.4	-0.7	0.0	0.0	-0.9	-1.0						1255		
+0.4	+0.1	+0.1	0.0	0.0	-0.3	-0.6	0.0	-0.2	-0.9									
+0.4	+0.2	+0.1	0.0	-0.2	-0.6	-0.6	-0.1	-0.2	-0.3	-013R	-1.0	-1.2		+1.7	+1.4	1500		
0.0	+0.1	+0.2	0.0	0.0	-0.4	-0.8	0.0	-0.2	-0.8	-1.0	-1.1		+1.7	+1.8				
+0.2	+0.1	+0.1	+0.1	0.0	-0.8	-0.9	-0.4	-0.6	-1.0	-1.3	-1.9		+1.0	+1.0	+0.8	1300	"f"	10-11-48
+0.7R	+0.3	+0.1	0.0	-0.2	-0.5	-0.8	-0.1	-0.5	-1.0	-1.2	-1.2		+1.0	+1.0				
+0.5	+0.3	+0.1	+0.2	0.0	-0.3	-0.7	0.0	-0.1	-0.3	-0.8	-1.0		+2.0	+2.0		1635		
+0.5	+0.2	+0.1	0.0	00.0	-0.3	-0.5	0.0	-0.1	-0.8	-1.0			+1.8					
+0.2	+0.1	+0.1	0.0	-0.5	-0.8	-1.0	-0.2	-0.7	-0.8	-1.8	-2.0	-2.0	+1.0	+0.8	+0.2	0817	"g"	10-12-48

Copy

FATHOMETER CORRECTIONS
SHEET HO-1348 (H-7655)
Launch No. 141

A							B						C					
5	10	15	20	30	40	50	40	50	60	70	80	90	70	80	90	TIME	DAY	DATE
0.0	0.0	0.0	-0.1	-0.5	-0.8	-1.0	-0.3	-0.8	-1.2	-1.8	-2.0		+1.2	+0.4				
+0.3	+0.2	0.0	+0.1	-0.2	-0.7	-1.0	-0.2	-0.3	-0.7	-1.0			+1.2			1300		
0.0	+0.2	0.0	+0.1	-0.1	-0.3	-0.9	-0.1	-0.3	-1.0									
+0.4	0.0	0.0	0.0	-0.3	-0.8	-1.0	-0.1	-0.2										
					-0.9		-0.1											
+0.3	+0.2	+0.1	0.0	-0.4	-0.4	-0.9	-0.1	-0.1	-1.0	-1.0	-2.0		+1.9	+1.0	+1.0	0816	"h"	10-13-48
0.0	+0.1	0.0	0.0	-0.1	-0.4	-0.9	0.0	-0.2	-1.0	-1.0	-1.9		+1.5	+1.0				
+0.8R	+0.3	+0.2	0.0	-0.2	-0.6	-1.0	-0.1	-0.3								1310		
+0.4	+0.2	+0.1	0.0	-0.2	-0.8		-0.2						+1.0			1635		
0.0	0.0	-0.1	-0.2	-0.5	-1.0	-1.1	-0.3	-0.7	-1.0	-1.5								
+0.3	+0.2	0.0	0.0	-0.8	-1.0	-1.2	-0.5	-0.7	-1.1							0822	"j"	10-14-48
0.0	0.0	0.0	-0.4R															
+0.2	+0.1	0.0																
+0.3	+0.2	+0.1	0.0	-0.2	-0.5	-0.9	-0.5	-0.8	-1.0	-1.0	-1.3	-1.8	+1.0	+0.9	+0.5	0820	"k"	10-15-48
+0.4	+0.3	+0.2	+0.1	0.0	-0.4	-0.3	-0.5	-0.2	-0.8	-1.0	-1.1		+0.8	+1.0				
+0.2	0.0	0.0	0.0	-0.1	-0.2		-0.1									1300		
+0.2	+0.3	+0.1	0.0	-0.2														
+0.2	+0.2	0.0	+0.1	0.0	-0.1	-0.1	0.0	0.0	-0.2	-0.2R	-0.9	-1.2	+2.0	+1.8	+1.4	1548		
+0.2	+0.2	+0.2	0.0	0.0	0.0	-0.2	0.0	-0.1	-0.2	-0.6	-1.0		+1.8	+1.8				
+0.4	0.0	0.0	0.0	0.0	-0.2	-0.2	-0.1	-0.1	-0.9	-1.0	-1.8		+1.3	+1.2	+1.2	0822	"l"	10-19-48
+0.4	+0.3	+0.2	0.0	-0.1	-0.2	-0.8	0.0	-0.2	-0.9	-1.0	-1.6		+1.2	+1.4				
+0.7	+0.2	0.0	-0.2	-0.8	-1.0	-1.0	-0.5	-0.7	-1.1	-1.3	-2.0		+1.2	+1.0	0.0	1256		
+0.5	+0.2	+0.1	0.0	-0.4	-1.0		-0.2			-2.0	-2.0		+1.0	+0.7				
0.0	0.0	0.0	-0.1	-0.4	-0.9	-1.1	-0.7	-1.0	-1.0	-1.2	-1.8	-1.7		+0.8	+0.8	1639		
+0.2	+0.1	0.0	0.0	-0.1	-0.3	-0.5	-0.2	-0.4	-1.0	-1.2	-1.8		+1.2	-0.8	0.0	0833	"m"	10-20-48
+0.2	+0.1	0.0	-0.1	-0.3	-1.0	-1.1	-0.7	-1.0	-1.2	-1.8	-2.0		+1.0	+0.8				
+0.2	+0.1	0.0	-0.1	-0.3	-0.5	-1.0	-0.4	-0.9	-1.2	-2.0	-2.0		+1.0	+0.2				
+0.5	+0.3	+0.1	+0.1	0.0	0.0	0.0	+0.1	0.0								1254		
+0.5	+0.3	+0.1	+0.1	+0.1	0.0		+0.1											
+0.4	+0.2	0.0	0.0	-0.1	-0.2	-0.4	-0.1	-0.3	-0.8	-1.0	-1.4	-1.6	+1.2	+1.1	+0.9	1632		
+0.1	+0.1	0.0	0.0	0.0	-0.2	-0.2	-0.1	-0.2	-0.8	-1.0	-1.3		+1.6	+1.0				
+0.4	+0.3	+0.1	0.0	-0.5	-0.5	-0.8	-0.2	-0.6	-1.0	-1.1	-2.0	-2.0	+1.0	0.0	0.0	0818	"n"	10-21-48
+0.3	+0.3	+0.2	0.0	-0.2	-0.6	-1.0	-0.3	-1.0	-1.0	-1.5	-2.0		+1.0	0.0				
+0.3	+0.1	0.0	0.0	-0.4	-0.3		-0.2									1725		
0.0	0.0	+0.1	0.0	-0.2														
+15.4	+9.8	+4.0	0.0	-15.0	-32.2	-39.5	-10.9	-23.0	-38.6	-44.5	-52.5	-18.0	+45.2	+34.0	+11.9	SUM		
+0.24	+0.15	+0.06	0.0	-0.23	-0.52	-0.74	-0.17	-0.42	-0.86	-1.24	-1.59	-1.64	+1.33	+1.03	+0.70	MEAN		

C.P.T. AML

Determination Of Velocity Corrections For "D" Scale Of The Fathometer:

During the course of hydrography, when the fathometer was shifted from the "C" to the "D" scale, or vice versa, the difference between these two scales was tabulated as follows: (Only at times when the river bottom was relatively flat):

Hydro Sheet	Vol.	Page	Position	Launch	Depth C-scale	Depth D-scale	Diff.
(HO-1247)	16	64	9- 10 k	141	106.0	105.0	1.0 ft.
"	17	47	11- 12 m	"	125.5	124.2	1.3
"	18	15	158-159 m	"	110.0	109.0	1.0
(HO-1148)	1	6	8- 9 a	141	121.3	120.3	1.0
"	1	9	22- 23 a	"	110.0	109.0	1.0
"	1	10	26- 27 a	"	112.5	111.5	1.0
"	1	16	45- 46 a	"	122.6	121.7	0.9
"	9	55	79- 80 p	"	113.0	112.0	1.0
(HO-1248)	8	12	46- 47 m	141	120.0	119.0	1.0
"	8	61	223-224 m	"	118.5	117.5	1.0
"	9	18	36- 37 n	"	112.5	112.0	0.5
"	14	16	31- 32 r	"	112.5	111.5	1.0
(HO-1348) H-7655	6	25	241-242 h	141	113.0	111.8	1.2
" "	7	11	191-192 k	"	121.0	120.0	1.0
" "	8	51	2- 3 n	"	122.0	121.3	0.7
" "	8	52	6- 7 n	"	110.2	109.3	0.9
						Mean	1.0 ft.

For the entire season's work, it was found that the "C" scale showed a depth one foot deeper than the corresponding depth on the "D" scale.

Velocity corrections were determined for the "D" scale from a curve drawn parallel to that of the "C" scale and allowing for the one foot difference described above.

Copy Rmd.

STATISTICS

for

HYDROGRAPHIC SURVEY, (HO-1348), H-7655

Project CS-325 Year 1948
Columbia River Ship HODGSON

Vol. No.	Day Letter	Date	No. of Pos.	No. of H.L. Soundings	Stat. Miles Of Sdgs.	Launch No.
1	a	10/ 1/48	180		25.0	141
1 & 2	b	10/ 5/48	192		25.6	"
2	c	10/ 6/48	86		6.0	"
2 & 3	d	10/ 7/48	236		26.6	"
3 & 4	e	10/ 8/48	162		20.9	"
4	f	10/11/48	123		12.3	"
4 & 5	g	10/12/48	233		32.0	"
5 & 6	h	10/13/48	244	1	22.2	"
6	j	10/14/48	51	1	4.5	"
6 & 7	k	10/15/48	206	11	13.4	"
7	l	10/19/48	228	3	20.1	"
7 & 8	m	10/20/48	217	11	23.6	"
8 & 10	n	10/21/48	249	18	18.0	"
TOTAL for Launch No. 141			2407	45	250.2	
9	a	10/20/48	65	226	3.5	Log Walking and Dinghy
TOTAL for Log Walking and Dinghy			65	226	3.5	
TOTAL (Sheet H-7655) - - -			2472	271	253.7	

TOTAL AREA OF HYDROGRAPHY - - - 4.90 square statute miles

copy - Am8

LIST OF STATIONS ON H-7655, (HO-1348)

Name Used In Hydrographic Survey	Origin Of Station
ACE	T-7083(b), (HO-E-48)
ANDY	T-7084 , (HO-F-48), ANDY (USE) 1940
ARM	T-7083(b), (HO-E-48)
BARD	T-7084 , (HO-F-48), BARD (USE) 1940
BAT	T-7083(b), (HO-E-48)
BIG	"
BOX	"
CAT	"
COMET	T-7083(b), (HO-E-48), COMET (USE) 1940
CON	T-7084 , (HO-F-48), FALCON (USE) 1940
COON	T-7083(b), (HO-E-48), COON (USE) 1940
COP	"
COW	"
DAY	"
DIX	"
DOG	T-7084 , (HO-F-48)
EAR	T-7083(b), (HO-E-48)
EAST	MOSIER RAILWAY STATION EAST GABLE, 1939
EAT	T-7084 , (HO-F-48)
EGG	T-7083(b), (HO-E-48)
FAT	"
FIG	"
FOX	T-7084 , (HO-F-48)
GAS	"
GEO	STRAIGHTS POINT LIGHT, 1939
GIN	T-7083(b), (HO-E-48), GINGER (USE) 1940
HEN	T-7084 , (HO-F-48)
HORN	T-7083(b), (HO-E-48), HORN (USE) 1940
IDA	T-7084 , (HO-F-48)
ION	"
JAP	"
JOE	"
KEY	"
KID	"
KIT	T-7084 , (HO-F-48), KLICKITAT RIVER LIGHT
LAND	MEMALOOSE ISLAND LIGHT, 1939
LEO	T-7084 , (HO-F-48)
LORD	T-7083(b), (HO-E-48), LORD (USE) 1940
MAN	T-7084 , (HO-F-48)
MAX	"
MOS	T-7084 , (HO-F-48), MOSIER (USE) 1940
NEW	"
NIG	"
NORTH	NORTH POWER LINE TOWER APEX, 1939
OAK	T-7084 , (HO-F-48),
OASIS	T-7083(b), (HO-E-48), OASIS (USE) 1940
OIL	T-7084 , (HO-F-48)
ORA	"
OWL	T-7084 , (HO-F-48)

LIST OF STATIONS ON H-7655, (HO-1348) (Cont'.)

Name Used In Hydrographic Survey	Origin Of Station
PAL	T-7084 , (HO-F-48)
PER	MOSIER UPPER LIGHT, 1939
PIN	T-7084 , (HO-F-48)
POST	MILEPOST (USE), 1939
QUO	BENCH MARK Q-43, 1939
RAT	T-7084 , (HO-F-48)
RIG	"
ROC	MEMALOOSE ROCK BEACON, 1939
ROY	T-7084 , (HO-F-48)
RUM	"
SAGO	T-7084 , (HO-F-48), SAGO (USE) 1940
SAM	"
SHE	T-7083(b), (HO-E-48)
SIR	T-7084 , (HO-F-48)
SKY	"
SOUTH	SOUTH POWER LINE TOWER APEX, 1939
SOW	T-7084 , (HO-F-48)
SUE	T-7083(b), (HO-E-48)
TOKE	T-7083(b), (HO-E-48), TOKE (USE) 1940
TOM	MEMALOOSE ISLAND TOMBSTONE MONUMENT, 1939
TON	T-7083(b), (HO-E-48), TONY (USE) 1940
TOY	"
TRY	T-7084 , (HO-F-48)
VAN	"
VET	T-7083(b), (HO-E-48)
VEX	"
VIA	"
VIL	T-7084 , (HO-F-48), VILLA (USE) 1940
VIM	"
WAG	T-7083(b), (HO-E-48)
WAS	WASCO LIGHT, 1939
WEST	MOSIER RAILWAY STATION WEST GABLE, 1939
WIN	T-7083(b), (HO-E-48)
YAM	"
ZAG	T-7083(b), (HO-E-48)

NOTE:
MEMALOOSE ISLAND DAY BEACON, (a nonfloating aid), was originally shown on the boat sheet, but was not used as a hydrographic signal.

AERO, Portland-Spokane Airway Beacon No. 6B, (a landmark for charts), was not used as a hydrographic signal.

TIDE NOTE

To Accompany

HYDROGRAPHIC SURVEY, (HO-1348), H-7655

Columbia River Proj. CS-325
Stanley Rk. to Klickitat River ~~Lt.~~ Year 1948

The section of the Columbia River from The Dalles, Oregon to Bonneville Dam is a pool formed by the water held back by Bonneville Dam. The datum of this pool, as determined by the U. S. Engineering Dept., is 72.0 feet above mean sea level.

Automatic tide gages (or river level recording gages) were established and maintained at the following locations in this pool during the progress of hydrography on this sheet:

Station	Latitude	Longitude	Staff Reading Corresponding To Pool Datum
Hood River, Ore.	45° - 42'.83	121° - 30'.58	1.00 ft.
Mosier, Ore.	45 - 41.12	121 - 23.60	1.10
Lyle, Wash.	45° - 41'.80	121° - 17'.47	14.35 ft.

Hourly heights were scaled from marigrams from each of the above gages for the period of time hydrography was done on this sheet. From these results, tide reducers (or river level corrections), showing relation between normal-pool-level and elevation of the water surface, were determined to the nearest 0.1 ft. It was found that the gradient of the river's surface did not exceed 0.2 ft. between adjacent gage sites, hence, one zone covering the entire hydrographic sheet and using the reducers for the Mosier, Ore. gage proved adequate.

The hourly heights with their respective reducers are submitted on Form No. 362 under separate cover.

OBSERVATIONS FOR SQUAT

Launch No. 141

Willamette River, Vicinity of Hawthorne Bridge, Portland, Ore.

Weather: Calm

Launch fuel tanks approximately half full.

Observations taken with Wye Level set up on east shore of river.

Time 0900 AM

Date 11 October 1946

Observations taken with launch idle, then running slow speed (as used when sounding down stream), then running about 2/3 speed (as used when sounding up stream).

Obs. No.	Idle	Slow Speed Going Away	Slow Speed App-roach	Slow Speed Mean	Squat	Fast Speed Going Away	Fast Speed App-roach	Fast Speed Mean	Squat
1st.	1.27	1.30	1.32	1.31	0.04	1.35	1.38	1.36	0.09
2nd.	4.87	4.92	4.88	4.90	0.03	5.03	5.04	5.04	0.17
3rd.	4.67	4.70	4.72	4.71	0.04	4.82	4.79	4.80	0.13
				Mean	0.04			Mean	0.13

C'py And.

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

TO BE CHARTED
~~TO BE DELETED~~ } STRIKE OUT ONE

Portland, Oregon 1 Dec. , 1948

I recommend that the following objects which have (have ~~not~~) been inspected from seaward to determine their value as landmarks be charted on (~~deleted from~~) the charts indicated.

The positions given have been checked after listing by R. M. Stone

W. H. Bainbridge
Chief of Party.

STATE Oregon, Washington (Columbia River)

CHARTING NAME	DESCRIPTION	Est. Rebuilt	SIGNAL NAME	LATITUDE ° '	LATITUDE D.M. METERS	LONGITUDE ° '	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
	(Fl. W. 4 sec. R&F) COLLINS POINT light (Rebuilt-date?)	1938	FIG	45-41	(268.1) 1584.3	121-44	(1041.2) 257.2	N.A. 1927	Topo T-7052(b)	1948	x			6157
	(Fl.W. 4 sec. RMF.) COOKS light	1935 --	COOK	45-42	538.7	121-41	134.2	"	Triang.	1939	x			6157
	(Fl. W. 4 sec.) FARHAM CREEK light	1935 --	FER	45-42	75.4	121-38	564.0	"	Triang.	1939	x			6157
	(Fl. W. 1 sec.) MITCHELL POINT RANGE FRONT	1938 --	MIT	45-42	695.0	121-36	408.4	"	Triang.	1939	x			6157
	(F.R.) MITCHELL POINT RANGE REAR	1938 --	ACE	45-42	(1300.0) 552.0	121-36	(552.0) 746.0	"	Topo T-7053(b)	1948	x			6157
	(F.R.) UNDERWOOD RANGE FRONT	1934 --	KID	45-43	(441.9) 1410.5	121-31	(494.8) 802.6	"	Topo T-7083(a)	1948	x			6157
	(F.R.) UNDERWOOD RANGE REAR	1934 --	LAD	45-43	(384.4) 1468.0	121-31	(627.4) 670.0	"	"	1948	x			6157
	(Fl.W. 4 sec.) HOOD POINT light	1938 --	REO	45-43	1195.5	121-30	807.1	"	Triang.	1939	x			6157
	(Fl.W. 4 sec.) WASCO light	1934 --	WAS	45-41	1156.9	121-26	609.7	"	Triang.	1939	x			6157
	(Fl.W. 4 sec.) STRAIGHTS POINT light	1934 --	GEO	45-41	1574.6	121-23	890.5	"	Triang.	1939	x			6157
	(Fl.W. 4 sec.) MOSIER UPPER light	1938 --	FER	45-42	155.0	121-21	1105.3	"	Triang.	1939	x			6157
	(Fl.W. 4 sec.) MEMALOOSE ISLAND light	1934 1938	LAND	45-42	469.5	121-20	511.8	"	Triang.	1939	x			6157
	(Fl.R. 4 sec.) KLICKITAT RIVER light	1938 1946	KIT	45-41	(606.4) 1246.0	121-18	(882.0) 416.2	"	Topo T-7084	1948	x			6157
BEACON	(Truncated concrete base-all that remains) MEMALOOSE ROCK DAY BEACON		ROC	45-42	606.6	121-20	450.7	"	Triang.	1939	x			6157

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

TO BE CHARTED
~~NOT TO BE CHARTED~~
} STRIKE OUT ONE

Portland, Oregon 1 Dec. , 1948

I recommend that the following objects which have (have ~~not~~) been inspected from seaward to determine their value as landmarks be charted on (~~deleted from~~) the charts indicated.

The positions given have been checked after listing by R. M. Stone

W. M. Bainbridge
Chief of Party.

STATE Oregon, Washington (Columbia River)

CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION: LATITUDE ° '	LATITUDE D.M.METERS	LONGITUDE ° '	LONGITUDE D.P.METERS	DATUM	METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
BEACON	(White stake - white reflector) MEMALOOSE ISLAND DAY BEACON		45-42	(1616.4) 236.0	121-20	(745.1) 553.0	N.A. 1927	Topo T-7084	1948	x			6157

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

~~NONFLOATING AIDS~~ OR LANDMARKS FOR CHARTS

TO BE CHARTED
~~TO BE DELETED~~ } STRIKE OUT ONE

Portland, Oregon 26 Nov., 1948

I recommend that the following objects which have (have ~~not~~) been inspected from seaward to determine their value as landmarks be charted on ~~(deleted from)~~ the charts indicated.

The positions given have been checked after listing by R. M. Stone

W. H. Bainbridge
Chief of Party.

STATE Oregon, Washington (Columbia River)

CHARTING NAME	DESCRIPTION	SIGNAL NAME	LATITUDE ° '	LATITUDE D.M. METERS	LONGITUDE ° '	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
BURNER	Saw-dust Burner, Broughton Lumber Co., Hood, Washington	GAS	45-43	(992.9) 895.5	121-33	(649.2) 648.3	N.A. 1927	Topo T-7083(a)	1948	x			6157
STACK	Black Stack, Broughton Lumber Co., Hood, Washington	FAR	45-43	(996.2) 858.2	121-33	(627.0) 670.5	"	"	"	x			"
AERO	(Portland-Spokane Airway Beacon, near Triang. Sta. GEORGE) 1-mile E of Hood River, Oregon) (Fl. ev. 10 secs.) (Aero Beacon No. 6A)	AIR	45-42	834.7	121-29	590.4	"	Triang.	1939	x			"
TOWER	(South Power Line Tower)(Apex) (Oreg.)	SOUTH	45-42	550.5	121-28	561.3	"	"	"	x			"
TOWER	(North Power Line Tower)(Apex) (Wash.)	NORTH	45-42	927.0	121-28	85.0	"	"	"	x			"
TOWER	(Small Power Line Tower, Apex) (Wash.)	POW	45-42	1044.5	121-27	1233.8	"	"	"	x			"
ONUMENT	(Memaloose Island Tombstone Monument)(Oreg.)	TOM	45-42	269.6	121-20	530.9	"	"	"	x			"
AERO	(Portland-Spokane Airway Beacon) (2.5 mile ESE of Mosier, Oreg.) (Aero Beacon No. 6B)(Fl.ev. 10 secs)		45-41	439.5	121-21	140.0	"	"	"	x			"

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should ...

APPLICABLE DATA:

	Date Forwarded To: Washington D.C. Office	Date Forwarded To: Seattle Processing Office
2 - Topographic Sheets, (HO-E-48), T-7083(b) (HO-F-48), T-7084 ----		2/25/49
1 - Hydrographic Sheet (HO-1348), H-7655 (Boat Sheet) ----		2/23/49
10 - Volumes, Sounding Records, Form 275 --------		2/15/49
13 - Fathograms for Hydro Sheet H-7655 ---------		2/16/49
43 - Description of Recoverable Topographic Stations- - (Form 524)		2/18/49
33 - Recovery of Triangulation Stations,-(Form 526) - -		2/18/49
1 - Progress Sketch, Combined Operations -------	(Monthly)	
1 - Sketch, Sheet Layout ----------------	9/ /47	
1 - Season's Report, (Year 1948) ------------	12/16/48	
5 - Prints, U. S. Engr's., Portland, Ore. -------		2/23/49

(Scale 1 : 5,000) Series Dated:

1935 Survey, "Mouth of Willamette to The Dalles, Ore"
Print No. (CL-106-13/23), (No. 23 of 30), 12/31/35
" " (CL-106-13/24), (No. 24 of 30), "
" " (CL-106-13/25), (No. 25 of 30), "
" " (CL-106-13/26), (No. 26 of 30), "

1945 Survey, "Vancouver, Wash.to The Dalles, Ore."
Print No. (CL-106-38/ 7), (No. 7 of 7), no date

To Wash with Sketch Sheet

	Date Forwarded To: Seattle Processing Office
1 - Sheet, Compilation of Aerial Photographs ----- Proj. CS-190, Scale 1 : 20,000	2/23/49
1 - Sheet, Compilation of Aerial Photographs ----- Proj. CS-191, Scale 1 : 20,000	2/23/49

(Note: For this survey, enlargements were made to a scale of 1 : 10,000, comprising of 4 additional sheets).

Data used in determining difference between normal - pool-level and elevation of water surface:

Gage Locations	Report Of Tide Sta. Form #681	Level Record Form #258	Mari-grams	Hourly Heights Form #362
Hood River, Ore.	1	1	26	3
Mosier, Ore.	1	1	17	2
Lyle, Wash.	1	1	7	1

2/7/49

Respectfully submitted,

R. M. Stone

R. M. Stone, Lieut. USC&GS
H. & G. Engr.

Approved:

Henry J. Healy

Henry J. Healy, Lt. Comdr. USC&GS
Commanding Ship HODGSON

APPROVAL SHEET

Hydrographic Survey No. H-7655
(Field No. HO-1348)

Columbia River

Stanley Rock, Oregon to Klickitat ~~Light, Oregon~~ River, Wash.

Project CS-325

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

The smooth sheet had not been plotted at the time of writing this report.

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

Henry J. Healy
Henry J. Healy,
Lt. Comdr., USC&GS
Commanding Ship HODGSON

H 7655
Ho 1348

Columbia River
Stanley Rock to Klickitat River ~~Light~~.

Processing Office Notes.

Smooth sheet. The smooth sheet was made by hand on Whatman paper. The prints mentioned on page 3 as the source of boat sheet shoreline is not suitable for shoreline on this sheet. Short stretches of shoreline found on current graphic control sheets T 7083b and T 7084 were transferred to the smooth sheet together with the topographic signals. Δ Stations are from Pages 536 to 542 Adjusted GP's for Washington.

Discrepancy.

ϕ	λ	Pos.	Feet.
45 41.9	121 25.4	45-46m	58-42
		112-113k	41-36

This could be caused by increasing launch speed as it left the north bank of the river. There seems to be a pothole against the north bank.

discrepancy has been corrected

Other subjects have been considered in the report of the field party.

Edgar E. Smith
Edgar E. Smith
Cart. Engr.
6/29/50

GEOGRAPHIC NAMES

Survey No. H-7655

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Washington									USGB	1
Klickitat County										2
Oregon									USGB	3
Wasco County										4
Columbia River									U S G B	5
Stanley Rock										6
Eighteenmile Island			(one word)							7
Mosier										8
Mosier Creek										9
Streights Point										10
Memaloose Island										11
Klickitat River Light										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

Names underlined in red are approved. 7-14-50. L Heck

M 234

H 7655
Ho 1348

Columbia River
List of geographic names
penciled on smooth sheet.

Columbia River

Washington

Oregon

Klickitat County

Wasco County

Memaloose Island

Eighteenmile Island

Mosier

Mosier Creek

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ..H-7655..

Records accompanying survey:

Boat sheets ..1..; sounding vols. ..10..; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls ..7 envel.;

special reports, etc. 5 prints USED Columbia River ....

....

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

Number of positions on sheet		......
Number of positions checked		......
Number of positions revised		..2..
Number of soundings revised (refers to depth only)		......
Number of soundings erroneously spaced		......
Number of signals erroneously plotted or transferred		......
Topographic details	Time	......
Junctions	Time	......
Verification of soundings from graphic record	Time	......
Preliminary Inspection by G F Jordan	5 hrs	10-11-51
Prelim. Verif. O. Svendsen	24 hrs	11-20-51

Verification by.................... Total time ...... Date ....

Additional sounding lines verified - D.R. Engle 27 hrs 9-2-52

Reviewed by....A.J. Hoffman........... Time 33 hrs. Date 9/17/52

Stirni 4 hrs.

M-2232-1

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H-

The verifier should deal with the present hydrographic survey only, as the reviewer considers its relation to previous surveys and published charts. He should be thoroughly familiar with Chapters 3, 7 and 9 of the Hydrographic Manual.

1. The descriptive report was consulted and appropriate notes were made in soft pencil regarding action taken.

2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude.

3. All reference to survey sheets mentioned in the descriptive report include the registry number and year.

4. Geographic names of hydrographic features if on sheet are in slanting lettering and of topographic features in vertical lettering.

5. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken.

6. All positions verified instrumentally were check marked in the sounding records.

7. All critical soundings are clear and legible and are a little larger than the adjacent soundings.

8. The metal protractor has been checked within the last three months.

9. The protracting and plotting of all bad crossings were verified.

10. All detached positions locating critical soundings, rocks or buoys were verified.

11. The boat sheet was compared with the smooth sheet.

12. The spacing of soundings as recorded in the records was closely followed.

13. The bottom characteristics were shown on outstanding shoals.

14. The reduction and plotting of doubtful soundings were checked.

15. The transfer of contemporary topographic information was carefully examined.

16. All junctions were transferred and overlapping curves made identical.

17. The notation "JOINS H- (19--)" was added in ink for all contemporary adjoining or overlapping sheets now registered. Those not verified are shown in pencil.

18. The depth curves have been inspected before inking.

19. All triangulation stations and transfer of topographic and hydrographic signals were checked.

20. Heights of rocks were checked against range of tide.

21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve.

22. Unnecessary pencil notes have been removed.

23. Objects on which signals are located and which fall outside of the low water line have been described on the sheet.

24. The low water line and delineation of shoal areas have been properly shown.

25. Degree and minutes values and symbols have been checked.

26. Questionable soundings have been checked on the fathograms.

27. Source of shoreline and signals (when not given in report).

28. All notes on sheet are in accordance with figure 171 in the Hydrographic Manual.

29. All aids located, with those on contemporary topographic sheets, have been shown on survey.

30. Depth curves were satisfactory except as follows:

31. Sounding line crossings were satisfactory except as follows:

32. Junctions with contemporary surveys were satisfactory except as follows:

33. Condition of sounding records was satisfactory except as follows:

34. The protracting was satisfactory except as follows:
pos. 25m labeled as 1706
pos. 1706 labeled as 25m A.J.H.

35. The field plotting of soundings was satisfactory except as follows:

36. Notes to reviewer:

Verified by Date

NOAA FORM 77-27
(9-72)
(PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-13)

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-7655

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS	1
DESCRIPTIVE REPORT	1	OVERLAYS	

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES		7				
CAHIERS						
VOLUMES		11				
BOXES						

T-SHEET PRINTS (List) T-7083b
One sheet, ~~unnumbered~~

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES
The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS: PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				2472
POSITIONS CHECKED		1807		
POSITIONS REVISED		2		
DEPTH SOUNDINGS REVISED		42		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		15		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		Ø		
	TIME (MANHOURS)			
Verification of Control		Ø		
Verification of Positions		37		
Verification of Soundings		6Ø		
Smooth Sheet Compilation		9Ø		
TOTALS		187		

	BEGINNING DATE	ENDING DATE
PRE-VERIFICATION BY		
VERIFICATION BY John E. Lotshaw John Lotshaw	1Ø/8/74	7/1Ø/75
REVIEW BY See enclosed report of review		

U.S. G.P.O. 1972-769-562/439 REG. #6

FORM C&GS-946A
(REV. 11-65)
(PRES. BY HYDROGRAPHIC
MANUAL, 1994)

U.S. DEPARTMENT OF COMMERCE
ESSA
COAST AND GEODETIC SURVEY

VERIFIER'S REPORT

HYDROGRAPHIC SURVEY, H 7655

INSTRUCTIONS - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

CL - Check List Items: should be checked as having been completed during the verification processes.

R - Report Item: This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R
Note: The verifier should first read the Descriptive Report for general information and problems. 1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None	X	
2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None	X	
3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None	X	
Part II - SHORELINE AND SIGNALS		
4. Source of shoreline signals Remarks Required: -- List all surveys a. Give earliest and latest dates of photographs b. Field inspection date c. Field Edit date d. Reviewed-Unreviewed	X	
5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.	X	
6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None	X	
7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.	X	
Part III - JUNCTIONS		
Note: Make a cursory comparison preliminary to inking soundings in area of overlap. 8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None	X	
9. The notation in slanted lettering "JOINS H---- (19)" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None	X	

Part III - JUNCTIONS (Continued)	CL	R
10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are SUPERSEDED.	X	
Part IV - VOLUMES		
11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes. Remarks Required: -- None	X	
12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following: (a) rocks (b) line turns (c) position values of beginning and ending of lines (d) bar check or velocity correctors (e) time recording (f) notes or markings on fathograms (g) was reduction of soundings accurately done? (h) was scanning accurate? (i) were peaks at uneven intervals missed? (j) were stamps completed? (k) references to adjacent features	X	
Part V - PROTRACTING		
13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None	X	
14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None	X	
15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None	X	

Part [illegible] (Continued)	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.	X	
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.	X	
Part VI - SOUNDINGS 18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None	X	
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.	X	
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None	X	
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None	X	
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.	X	
Part VII - CURVES 23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected.		X
24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following: a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed Remarks Required: -- None	X	
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.	X	

Part VIII - AIDS TO NAVIGATION	CL	R
26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. Remarks Required: -- Conflicts of any nature listed.	X	
27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required: -- None	X	
Part IX - BOATSHEET 28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None	X	
29. Heights of rocks awash were correctly reduced and compared with topographic information. Remarks Required: -- Note excessive conflicts with topographic information.	X	
Part X - GENERAL 30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None	X	
31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None	X	
32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: -- None	X	
33. The bottom characteristics are adequately shown. Remarks Required: -- None	X	
Part XI - NOTES TO THE REVIEWER 34. Unresolved discrepancies and questionable soundings.	X	
35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.	X	
36. Supplemental information.		X

Verified by	Date
John E. Lotshaw John E. Lotshaw, Cartographic Technician	7/10/75

Preliminary Verification

H-7655

Instructions

1. Check junctions and bring curves into agreement if applicable. ✓

2. Verify the following:

Crossing 209-211m	lat. 45° 42.10,	long. 121° 26.87' ✓
18 ft	41.98,	26.66 ✓
32, 40, 36 ft	41.72,	26.51 ✓
6 ft	42.10,	26.38 ✓
14 ft	41.85,	26.35 ✓
Crossing	41.91,	25.37 ✓
18 ft.	41.55	25.20 ✓
16, 27 (222 l)	41.82	23.67 ✓
24 ft	42.05	23.11 ✓
19 ft.	42.45	20.87 ✓
Spit Soundings	42.40	20.5–20.75 ✓
rock	42.36	20.34 ✓
8 ft	42.38	20.43 ✓
rock	42.37	20.18 ✓
rock	42.31	20.10 ✓
13, 24	42.05	20.48 ✓
35, 39	42.35	19.65 ✓

3. Verify all soundings or features indicated by the penciled notes on the sheet.

J. F. Jordan
10-11-51

P.S. Note plotting overlay is with boat sheet (help in finding positions).

VERIFIER'S REPORT

H-7655 CS-325 HO 1348

Verification of H-7655 has been completed in accordance with instructions contained in C323 letter dated April 23, 1974 (attached). All critical elevations, topographic detail, crosslines, and selected lines of the main scheme of hydrography have been previously verified, reviewed, and inked. Verification has been confined to the remaining hydrography, and to the delineation of depth curves.

PART VII CURVES

23. Depth curves were inspected by Richard Lynn, Cartographic Technician.

PART XI NOTES TO THE REVIEWER

36. Shoreline is not available for the major portion of this sheet. One manuscript (unnumbered) is available, covering parts of the area west of 121°24'. Other segments of topographic detail are inked on the smooth sheet, but are not supported by available manuscripts. Lack of shoreline has made delineation of depth curves difficult in some cases. The area adjacent to Memaloose rock, for example, is ill-defined because of a lack of topographic detail.

An excessive number of soundings were pencilled on the smooth sheet. Many of these were not inked, due to congestion. Whenever possible, soundings not inked were annotated by a NP designation in volumes.

Deterioration of the smooth sheet surface and wearing of the ink and pencil markings on it have made some annotations, such as position numbers, largely illegible.

Respectfully submitted,

John E. Lotshaw

John E. Lotshaw
Cartographic Technician
July 10, 1975

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

Date: April 23, 1974

Reply to Attn of: C323

Subject: Hydrographic Surveys Forwarded for Verification

To: Chief, Processing Division (CPM3)

In accordance with your request there will be forwarded several pencilled smooth sheets for manual verification. Those in the Columbia River above the Bonneville Dam will have no high water line from photogrammetric surveys inasmuch as none is available which is contemporary with the hydrography. Our series of photogrammetric surveys were made from photographs largely of 1957-58 and in various areas contain shoreline changes subsequent to the date of the hydrographic survey of 1951. The sections of high water line shown from graphic control surveys will be retained on the smooth sheets.

On the Columbia River sheets the congestion of pencilled soundings is excessive and many soundings can be eliminated by selection.

There appears to be something faulty with the plot of hydrography in Wind River on H-7125. The problem may be one of signal location that will require resolving before the soundings are inked. To assist in the study a copy of a portion of T-10840 showing the shoreline of Wind River will also be furnished.

Surveys H-7653 and H-7655 have been given a preliminary verification which included checking the transfer of information from the graphic control sheets. Only copies of graphic control sheets for the other two Columbia River surveys will be furnished.

Raymond H. Carstens

Raymond H. Carstens
Chief, Hydrographic Survey Branch

APPROVAL SHEET

The smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic Manual, except as noted in the Verifier's Report.

Examined and approved,

James S. Green
Supervisory Cartographic Technician

Approved and forwarded,

Walter F. Forster, Cdr., NOAA
Chief, Processing Division
Pacific Marine Center

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~ 18 July 1950

Division of Charts: R. H. Carstens

Plane of reference approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 7655

Locality Columbia River (Washington - Oregon)

Chief of Party: W. H. Bainbridge in 1948
Plane of reference is Columbia River (Pool) Datum or 72.0 ft. above Sea-level of
1.1 ft. on tide staff at Mosier, Oregon 1929, reading
26.6 ft. below B. M. E 263 (1941)

1.0 ft. on tide staff at Hood River, Oregon
6.5 ft. below B. M. Y 198 (1940)

14.4 ft. on tide staff at Lyle, Washington
29.0 ft. below B. M. Q 43 (1933)

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-7655 FIELD NO. HO-1348

Oregon-Washington, Columbia River, Stanley Rock to Klickitat River

Project No. CS-325

Surveyed in October 1948 Scale 1:10,000

Soundings:

808 Fathometer
Handlead

Control:

Sextant fixes on shore signals

Chief of Party - W. H. Bainbridge
Surveyed by - R. M. Stone
Protracted by - J. R. Wheeler
Soundings plotted by - J. R. Wheeler
Preliminary Verification by - O. Svendsen and D. R. Engle
Verified and inked by -
Reviewed by - A. J. Hoffman, 17 September 1952
Inspected by - R. H. Carstens

1. Shoreline and Signals

The sections of shoreline inked on the present survey originate with graphic control surveys T-7083b and T-7084 of 1948. Complete air-photographic coverage of the area is planned in the near future. At present there are no contemporary topographic surveys from which the shoreline can be completed.

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 except in foul inshore areas.

The bottom is irregular. Numerous deeps fall close inshore, and pinnacle rocks and shoals rising abruptly from general channel depths are scattered throughout the area.

4. Junctions with Contemporary Surveys

The junctions with H-7654 (1948) on the west and with H-7777 (1949) on the east will be considered in the review of those surveys.

5. Comparison with Prior Surveys

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

6. Comparison with Chart 6157 (Print date 4/10/50)

a. Hydrography

Charted hydrography originates with Corps of Engineers Bps. 32117 to 32119 of 1917, supplemented by critical soundings from the present survey boat sheet. Depths charted from the Corps of Engineers surveys differ in some areas by as much as 12 ft. with present depths, as for example, in lat. 45° 41.65', long. 121° 24.30' where a charted depth of 44-ft. falls in present depths of 32-ft. The 10-ft. depth charted in lat. 45° 41.38', long. 121° 25.40' falls on a shoal, shown on the present survey to be bare at the sounding datum, and should be disregarded.

The present survey is adequate to supersede the charted information.

b. Aids to Navigation

There are no floating aids to navigation in the area of the present survey.

The charted positions of the light and daybeacon on Memaloose Island have been revised subsequent to the present survey in accordance with Notice to Mariners 42 (1949). All other fixed aids to navigation located 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 and Descriptive Report are complete and comprehensive.

b. The smooth plotting was very well done.

c. The preliminary verification of this survey was confined to critical soundings, discrepancies at crossings, and unnatural depth curves and bottom configuration. Additional lines of soundings were also verified and inked in order to detect inaccuracies in field data or plotting.

Completion of the verification, inking and application of remaining shoreline is deferred until some future date, at which time the inspection of the 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 Recommended

This is an excellent basic survey and no additional field work is recommended.

Examined and approved:

H. R. Edmonston
Chief, Nautical Chart Branch

H. Arnold Karo
Chief, Division of Charts

L. S. Hubbard
Chief, Section of Hydrography

Earl O. Heaton
Chief, Division of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7655

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
1 Dec 49	6157	Nichols	Before ~~After~~ Verification and Review Application
			of critical data only from ~~boat sheet~~ smooth sheet
			Before After Verification and Review 11/5/52
			Before After Verification and Review
4/9/57	6157	S.a.M.	~~Before~~ After preliminary Verification and Review
			completely applied.
			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.