7940

Diag. Cht. Nos. 5902-2 & 6002-2

es-339

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. HO-1851 *Office No.* H-7940

LOCALITY

State OREGON - WASHINGTON

General locality LOWER COLUMBIA RIVER

Locality WARRENTON, OREGON

19~~4~~51

CHIEF OF PARTY

H. G. Conerly

LIBRARY & ARCHIVES

DATE FEBRUARY 20, 1952.

B-1870-1 (1)

7940

7940

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-7940

Field No. HO-1851

State Oregon - Washington ✓

General locality Lower Columbia River ✓

Locality Warrenton, Oregon ✓

Scale 1:10000 ✓ Date of survey Sept. & Oct. 1951 ✓

Instructions dated 26 July 1951

Vessel HODGSON

Chief of party H. G. Conerly ✓

Surveyed by A. M. Legako and D. L. Wheeler ✓

Soundings taken by fathometer, ~~graphic recorder~~, hand lead, ~~wire~~ Pole - shoal walking

Fathograms scaled by Ship's personnel

Fathograms checked by Ship's personnel

Protracted by L. R. Whitney

Soundings penciled by D. E. Fisher

Soundings in ~~fathoms~~ feet at ~~MLLW~~ MLLW ✓
and are true depths

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 777032

Cy ✓ sube

DESCRIPTIVE REPORT

to accompany

Hydrographic Survey H-7940 (Field No.) HO-1851
~~H-7941 (Field No.) HO-1951~~

Lower Columbia River

Scale 1:10,000

1951

Ship HODGSON

Horace G. Conerly,
Chief of Party

A. Project

Project CS-339

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

1. Original instructions, 22/MEK,S-2-HO, dated 24 May 1949.
2. Supplemental instructions, 22-EH, S-2-HO dated 26 July 1951.

B. Survey Limits and Dates

Hydrographic Sheet H-7940 (1951) extends from Longitude 123° 50' 30" to Desdemona Sands Lt. Northern limit is Latitude 46° 13' 45". Southern limit is the shoreline including Youngs Bay to highway bridges spanning the Lewis and Clark River and Youngs River. Hydrography was begun 6 Sept. 1951 and ended 29 Oct. 1951.

F.E. 7-1952 (1951)

Hydrographic sheet ~~H-7941~~ covers Baker Bay West Channel from Baker Bay West Channel 14 Lt. to Baker Bay West Channel Range Front. Hydrography was begun 11 Oct. 1951 and ended same day.

Strong winds and some rain during October prevented further work around Sand Island and Baker Bay area.

C. Vessel and Equipment

F.E.7-1952
Hydrography on Sheet ~~H-7941~~ was accomplished with Launch No. 160, a 36 foot landing craft (LCPR). An 808 type portable depth recorder No. 77 was used with fish mounted on the keel.

Hydrography on sheet H-7940 was done with Launch No. 160 and Launch No. 134. Launch No. 134 is a 24 foot Navy Plane Personnel Craft. It was used for pole soundings only in the vicinity of Desdemona Sands.

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

D. Tide and Current Stations

See discussion under Tide Note attached.

One current station was occupied for 75 hours at Lat. 46° 14.95', Long. 123° 58.69'.

E. Smooth Sheet

The projections were made by hand on the Ship HODGSON.

F. Control Stations

On hydrographic sheet H-7940 the signals were located by third and fourth order triangulation done in 1909, 1913, 1935 and 1951.

On hydrographic sheet ~~H-7941~~ F.E.7 (1952), 1935 triangulation and Army Engineer's stations were used for signals. The Army Engineer stations were converted from Lambert Coordinates to U.S.C.&G.S. Coordinates.

G. Shoreline and Topography

The shoreline and topography is to be added by the Portland Photogrammetry Office at a later date. The photographs were taken in the fall of 1951.

The low water line on Sheet H-7940 was completely developed whenever possible but in some places it could not be defined due to wharfs, docks, and canneries. The low water line was not sounded in the vicinity of Baker Bay due to bad weather conditions and insufficient time for further development.

H. Soundings

An 808A type fathometer was used for sounding. Some pole soundings and shoal walking were done on Desdemona Sands. Walking of the shoals was done at low tide to outline the low water line. A handlead was used for sounding along th the Astoria Port Docks.

See fathometer report under separate cover for method of obtaining corrections to be applied to fathometer readings. *See H-7901*

I. Control of Hydrography

Hydrography was controlled by 3 point fixes taken with sextants to shore objects.

J. Adequacy of Survey

The survey on Sheet H-7940 is considered adequate. Sheet ~~H-7941~~ F.E.7 (1952) was not finished and should not be considered as adequate.

K. Cross Lines

About 8% of cross lines were run. Discrepancies were very small and were not considered important. (Resolved during verification)

L. Comparison with Prior Surveys

Hydrographic Sheet H-7940 should supersede all prior surveys. Every year the Columbia River undergoes considerable change due to spring freshets and dredging. The last prior surveys in this area were done in 1935 and a com-

parison with the current survey would have little value. *See Review, par. 5*

Prior surveys in the area of H-7941 are H-1018 and H-1019. These two surveys were made in 1868. New surveys are needed in this area particularly in Baker Bay.

M. Comparison with Chart 6151 (~~edition~~ *Print* date 9 July 1951)

Hydrographic Sheet H-7940:
Latitude 46° 10' 51", Long. 123° 53' 41" chart shows house;- only broken piles remain. ✓
Lat. 46° 12' 34", Long. 123° 51' 31" chart shows fish house;- Now in ruins only broken piles remain. ✓
Lat. 46° 10' 48", Long. 123° 51' 32" docks in ruins. ✓
Lat. 46° 11' 46", Long. 123° 55' 50" chart shows dolphin; dolphin now gone. ✓
Lat. 46° 11' 33", Long. 123° 55' 26" docks partially in ruins. ✓
Lat. 46° 12' 34", Long. 123° 52' 40" chart shows pile; - pile now gone. ✓

Desdemona Sands has moved in a westerly direction and has increased in size. ✓

See H-7941 { The USED are using the deep water area S of Sand Island for a dumping area for material dredged from the main channel to the south and southeast. ✓

See F.E.-7-1941

Hydrographic Sheet ~~H-7941:~~ *(not applicable to present survey)*
At Lat. 46° 16.07', Long. 124° 01.85' a new rock jetty was nearing completion in Oct. 1951. This jetty appears on photographs taken in the fall of 1951 for Project PH-50. It was constructed to cause scouring action in the channel and it is believed that it will cause changes in nearly all the area of this sheet.

N. Dangers and Shoals

In the area of Sheet H-7940 there are no dangers and shoals other than those clearly shown on the sheet. ✓

Sheet ~~H-7941~~ F.E.7 (1952) is not near enough complete to show shoals and dangers.

O. Coast Pilot Information

This information will be submitted as a separate report. ✓

P. Aids to Navigation

All aids to navigation are listed on Form 567 which is a part of this report. ✓

The unattended unlighted ranges were located in Fort Stevens mooring basin by 3 point fixes with check angles. ✓

At the beginning of the field work red nun buoy No. 32 was located by a three-point fix. At a later date this buoy was removed and had not been replaced at the close of the season. *(Buoy not shown on smooth sheet)* ✓

Q. Landmarks for Charts

All landmarks for charts are listed on Form 567 which is a part of this report. (Also see C.L. 10, 1952)

R. Geographic Names

Not applicable.

S. Silted Areas

The west channel entrance Lat. 46° 16', Long. 124° 02' leading into Baker Bay has silted badly. At present the range does not mark the channel. A new rock jetty is being built out from Sand Island and was nearing completion at the close of the season. The purpose of the jetty is to cause a scouring action that will maintain navigable depth in this channel. Applicable to H-7941 F.E. 7 1952

T. Low Water Line

The low water line on Desdemona Sands was located by a combination of shoal walking and fathometer soundings. The zero curve was drawn on the smooth sheet adjacent to one foot soundings obtained by shoal walking for a short stretch at the eastern extremity of Desdemona Sands. It is believed that this curve is correctly delineated because of the known steep drop off at the edge of the shoal.

U. Tabulation of Applicable Data

1. Tidal records for Astoria Port Dock, Ft. Stevens & Ft. Canby forwarded to Washington.
2. Tide reducer curves and corrections forwarded under separate cover.
3. Triangulation previous to 1951, and triangulation done by HODGSON in 1951.
4. Fathometer report forwarded to Washington. H-7901

Respectfully submitted,

Dan L. Wheeler

Dan L. Wheeler,
Ensign, USC&GS

Approved and forwarded:

Horace G. Conerly

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

STATISTICS
FOR
HYDROGRAPHIC SHEET FIELD NO. HO-1851

H-7940

SHIP HODGSON

PROJECT CS-339

Launch No. 160

DATE	DAY	VOL.	HANDLEAD SOUNDINGS	POSITIONS	STAT. MILES OF SOUNDINGS
9/6/51	a	1	--	227	36.5
9/10/51	b	1&2	--	132	19.6
9/12/51	c	2&3	--	205	28.0
9/13/51	d	3	2	190	19.2
9/17/51	e	3&4	74	74	5.2
9/18/51	f	4	1	229	33.5
9/19/51	g	7	2	152	21.0
9/20/51	h	7&8	--	283	50.7
9/21/51	j	8&9	--	169	29.6
9/24/51	k	9	--	158	25.3
9/26/51	l	9&10	--	79	10.9
10/2/51	m	10	--	100	9.3
10/3/51	n	10&11	--	184	23.1
10/4/51	p	11&5	--	237	26.7
10/5/51	q	5&12	2	250	31.2
10/8/51	r	12&13	1	236	32.5
10/12/51	s	13	1	190	29.9
10/16/51	t	13&14	1	273	41.5
10/25/51	u	6	--	136	16.5
10/26/51	v	14&15	41	184	25.1
10/29/51	w	15	42	169	24.3
		TOTAL - - - -	168	3857	539.6

Launch No. 134

9/17/51	a	5&6	95	95	6.7
9/18/51	b	5	33	33	2.4
		TOTAL - - - -	128	128	9.1

TOTALS FOR SHEET - - - 294 3985 548.7

TOTAL AREA 17.2 sq. stat. miles

Copy ✓ xbl

TIDAL NOTE

Hydrographic Sheets H-7940 and ~~H-7941~~ F.E.F- 1952

The tides were recorded by portable automatic tide gages. The tide staffs were connected to U.S.C.&G.S. bench marks and referred to MLLW.

F.E. 7-1952

On Hydrographic Sheet ~~H-7941~~ the Fort Canby tide gage was used direct for the reducers. Hydrographic Sheet H-7940 was divided into four zones. The zones were spaced equidistant between the gages at "Port of Astoria" and the "Fort Stevens". The sheet was zoned for a 0.2 foot difference between adjacent zones. This difference was exceeded a few times, but did not exceed 0.4 foot.

The 105 meridian West was used for the time of day until 1 Oct. 1951 at which date the time was changed back to Pacific Standard time or the 120 Meridian West.

Tide gages were as follows:

Station	Latitude	Longitude	Staff Reading feet corresponding to MLLW
Astoria Port Docks	46° 11' 17"	123° 51' 27"	3.4
Fort Stevens	46° 12' 11.5"	123° 57' 02.0"	-0.25
Fort Canby	46° 17' 07"	124° 03' 02"	2.5

ABSTRACT OF VELOCITY CORRECTIONS

FOR HYDROGRAPHIC SHEET H-7940
~~H-7941~~ F.E.-7-1952

"A" Scale

Fathometer Reading Ft.	Correction Feet
0 to 7.2	+2.2
7.3 to 12.0	+2.0
12.1 to 16.8	+1.8
16.9 to 21.4	+1.6
21.5 to 26.2	+1.4
26.3 to 31.0	+1.2
31.1 to 35.8	+1.0
35.9 to 40.5	+0.8
40.6 to 45.2	+0.6
45.3 to 50.0	+0.4
50.1 to 54.8	+0.2

"B" Scale

Fathometer Reading Feet	Correction Feet
35.0 to 35.8	+2.2
35.9 to 40.5	+2.0
40.6 to 45.2	+1.8
45.3 to 50.0	+1.6
50.1 to 54.8	+1.4
54.9 to 59.6	+1.2
59.7 to 64.4	+1.0
64.5 to 69.2	+0.8

Abstract of Leadline No. 6 Corrections

Leadline Depth In Feet	Correction Feet
0 to 29.9	+0.2
30.0 to 52.0	0.0

1 Copy ~ 4pcc

LIST OF STATIONS ON SHEET H-7940

HYDRO NAME	SOURCE
Astor	ASTOR COLUMN, 1935
Bay	YOUNGS BAY ENTRANCE LIGHT, 1951
Black	WARRENTON BLACK TANK, 1935
Boat	D/S GABLE BOAT HOUSE AT PILOT STATION, 1951
Box	ASTORIA BOX CO. TALLEST STACK, 1935
Can	POINT ADAMS CANNERY STACK TALLEST OF 2, 1951
--	Cannery 36 Lt., Volume 1
C.R.P.A.	C.R.P.A. STACK, 1935
Dog	4th Order Triang., 1951
East	FORT STEVENS EAST JETTY LT., 1951
Flag	COAST GUARD STATION STEEL FLAGPOLE, 1951
Fort	FORT STEVENS QUARTERMASTER TANK, 1951
Gage	Volumes 3 & 6 (2-Tide gages) not used as hydro. signals
Grain	~~Volume 1~~ (not in sdg. Vols. (same signal as △ ELEVATOR, 1935 shown on T-6521a. (1936)
Gun	GUN, (U.S.E.), 1905
Hot	YOUNGS BAY LIGHT, 1951
Jet	FORT STEVENS WEST JETTY LT., 1951
Look	COAST GUARD LOOKOUT TOWER, 1951
Low	LOWER SANDS LT., 1951
Mar	U/S GABLE WEST ELEVATED HOUSE, 1951
N.W.	KAST N. W. RADIO TOWER 1951
Off	OFFSHORE GABLE HIGH HOUSE, 1951
Pan	SKIPANON WATERWAY LIGHT, 1951
Pod	4th Order Triang., 1951
Ran	FLAVEL RANGE FRONT 28 LIGHT, 1951
Rear	FLAVEL RANGE REAR LIGHT, 1951
Russ	ASTORIA FINNISH CONGREGATIONAL CHURCH STEEPLE, 1913
Sands	DESDEMONA SANDS LT., 1935
S.E.	KAST S. E. RADIO TOWER, 1951
Skipan	SKIPAN, 1951
Span	YOUNGS BAY R.R. BRIDGE SWING SPAN LIGHT, 1909
Stack	ASTORIA P.P.& L. STACK, 1935
Tank	ASTORIA PORT DOCKS BLACK TANK, 1935
--	Tansy Point Range Front Light, 4th order Triang., 1951
26 Lt.	FORT STEVENS WHARF 26 LT., 1951
Up	DESDEMONA UPPER SANDS LT., 1951
Vel	FLAVEL TANK, 1951
Way	SKIPANON WATERWAY WEST LIGHT, 1951
West	U.S.E.
Youngs	YOUNGS 2, 1951

Copy ✓ ltr

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 — 30 Nov., 19 51

I recommend that the following objects which 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 D. E. Fisher

Horace G. Conerly
Chief of Party.

Applied to Chart Letter 10 (1952)

Applied to cht 6151 in Sept. 1952

STATE Oregon - Washington

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
915	Desdemona Sands Lt.	Sands	46 13	(885.2) 967.4	123-57	(988.8) 297.1	N.A. 1927	Triang.	1951	x			6151
916	Fort Stevens Wharf 26 Lt.	26 Lt.	46 12	(1003.1) 849.5	123-57	(1269.1) 17.2	"	"	"	x			"
917	Fort Stevens West Jetty Lt.	Jet	46 12	(1232.6) 619.9	123-56	(134.9) 1151.4	"	"	"	x			"
918	Fort Stevens East Jetty Lt.	East	46 12	(1285.6) 566.9	123-56	(207.3) 1079.0	"	"	"	x			"
920	Flavel Range Front 28 Lt.	Ran	46 11	(678.7) 1173.9	123-55	(482.9) 803.7	"	"	"	x			"
921	Flavel Range Rear Lt.	Rear	46 11	(616.2) 1236.3	123-55	(99.0) 1187.5	"	"	"	x			"
922	Lower Sands 31 Lt.	Low	46 11	(761.3) 1091.3	123-53	(594.0) 692.6	"	"	"	x			"
923	Tansy Point Range Front Lt.	--	46 11	(1264.9) 587.7	123-55	(827.0) 459.8	"	"	"	x			"
925	Cannery 36 Lt.	--	46 11	(807) 1046	123-50	(379) 908	"	Hydro	"	x			"
958	Skipanon Waterway Lt.	Fan	46 11	(1764.5) 88.0	123-54	(932.0) 354.9	"	Triang.	"	x			"
959	Skipanon Waterway West Lt.	Way	46 11	(1719.1) 133.4	123-54	(753.0) 533.8	"	"	"	x			"
960	Skipanon Waterway Range Front Lt.	--	46 10	(1817.3) 35.2	123-54	(186.7) 1100.5	"	Triang.	"	x			"
961	Skipanon Waterway Range Rear Lt.	--	46 09	(188.4) 1664.1	123-54	(109.0) 1178.3	"	"	"	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 be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

16—61606-1 U. S. GOVERNMENT PRINTING OFFICE

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, 30 Nov., 1951

I recommend that the following objects which have ~~been~~ 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 D. E. Fisher

Horace G. Conarly
Chief of Party.

STATE Oregon - Washington

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
962	Youngs Bay Entrance Lt.	Bay	46-10	(244.8) 1607.7	123-52	(378.1) 903.7	N.A. 1927	Triang.	1951	x			6151
963	Youngs Bay Lt.	Bat	46-10	(1737.9) 114.7	123-51	(792.0) 495.2	"	"	1951 1935	x			"
964	Desdemona Sands Upper Lt.	Up	46-12	(693.1) 1159.5	123-52	(774.3) 511.9	"	"	1951	x			"
966.3	Point Ellice Range Front Lt.	--	46-14	(1071.8) 780.8	123-52	(485.9) 799.6	"	"	"	x			"
973	Point Ellice Lt.	--	46-14	(970.9) 881.7	123-52	(809.3) 476.2	"	"	"	x			"
970.3	Sand Island Lower Dike Lt.	--	46-15	(643.3) 1209.3	124-00	(754.6) 530.4	"	USE	"	x			"
970.7	Sand Island Upper Dike Lt.	--	46-15	(1155.2) 697.4	123-58	(197.5) 1087.7	"	"	"	x			"
944.1	Baker Bay Jetty Lt	Baker	46-16	(1818.0) 34.6	124-02	(1070.6) 214.3	"	"	1941	x			"
944.2	Baker Bay West Channel Range Front 4 Lt.	Ran	46-16	(1273.1) 579.5	124-01	(350.7) 934.0	"	"	1949	x			"
944.3	Baker Bay West Channel Range Rear Lt.	Rear	46-16	(1103.4) 749.2	124-01	(430.4) 854.4	"	"	"	x			"
944.4	Baker Bay West Channel 6 Lt.	Bay	46-16	(828.4) 1024.2	124-01	(199.0) 1085.7	"	"	"	x			"
944.5	Baker Bay West Channel 8 Lt.	west	46-16	(417.3) 1435.3	124-02	(1129.2) 155.4	"	"	"	x			"
944.6	Baker Bay West Channel 12 Lt.	12 Lt.	46-16	(104.4) 1748.2	124-02	(400.0) 844.5	"	"	"	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 be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

16—51696-1 U. S. GOVERNMENT PRINTING OFFICE

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 — 30 Nov., 1951

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 D. B. Fisher

Horace G. Conerly
Chief of Party.

STATE: Oregon - Washington

CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° '	LATITUDE D.M. METERS	POSITION LONGITUDE ° '	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
944.7	Baker Bay West Channel 14 Lt.	14 Lt.	46 17	(1835.2) 17.4	124 02	(259.1) 1025.4	N.A. 1927	USE	1949	x			6151
944.8	Fort Canby 15 Lt.	15 Lt.	46 17	(1607.4) 245.2	124 03	(1276.3) 8.1	"	"		x			6151
944.9	Baker Bay West Channel 17 Lt.	17 Lt.	46 17	(1181.7) 671.0	124 02	(59.5) 1224.8	"	"	1948	x			"
* 945.3	Baker Bay West Channel 22 Lt.	--	46 17	(186.2) 1666.5	124 02	(1025.3) 258.9	"	"	"	x			"
* 952	Baker Bay 23 Lt.	--	46 17	(706.3) 1146.3	124 01	(784.7) 499.5	"	"		x			"
* 951	Baker Bay 21 Lt.	--	46 17	(1042.1) 810.6	124 01	(1197.1) 87.2	"	"		x			"
* 950	Baker Bay 15 Lt.	--	46 16	(444.2) 1408.4	124 00	(994.5) 290.0	"	"		x			"
* 949	Baker Bay 13 Lt.	--	46 16	(818.0) 1034.6	123 59	(673.5) 611.2	"	"		x			"
* 948	Baker Bay 10 Lt.	--	46 16	(1122.6) 730.0	123 58	(408.6) 876.2	"	"		x			"
* 906	Sand Island Range Front Lt.	--	46 15	(75.3) 1777.3	123 59	(641.8) 643.1	"	"	1950	x			"

* U.S.E. position not verified by Coast Survey.

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 individual field survey sheets. Information under each column heading should be given.

16—51096-1 U. S. GOVERNMENT PRINTING OFFICE

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, 28 Nov., 1951

I recommend that the following objects which have ~~(not been)~~ 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 D. L. Wheeler

Horace C. Conerly
Chief of Party.

STATE Oregon - Wash.

CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION				DATUM	METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
			LATITUDE		LONGITUDE								
			° ′	D.M. METERS	° ′	D.P. METERS							
LOOKOUT TOWER	C.G. Lookout Tower-inshore end of south jetty	~~XXXXXXXX~~	46 13	1086.6	124 00	926.9	N.A. 1927	USE Triang.	1951	xx		x	5022, 6151, 5902, 6002
LOOKOUT TOWER Abandoned	Abandoned C.G. Lookout Tower at Fort Stevens	--	46 12	758.1	123 58	119.0	"	Triang.	1951	x			6151
TANK (Elevated)	Ft. Stevens Quartermaster Tank	--	46 11	1596.6	123 57	786.7	"	"	1951	x			6151
OBSERVATION TOWER	M-5 Fire Control Tower, Sand Island	--	46 15	1766.3	124 00	800.9	"	U.S.E. Triang.	1948	x			6151
OBSERVATION TOWER	M-4 Fire Control Tower, Sand Island	--						Radial Plot		x			6151
RADIO MAST	K.A.S.T. S.E. Radio Tower	--	46 10	929.0	123-50	1208.3	"	Triang.	1951	x			6151
RADIO MAST	K.A.S.T. ~~S.E.~~ N.W. Radio Tower	--	46 10	996.4	123-51	6.4	"	"	1951	x			6151
FLAG POLE	Steel Flagpole at Maritime Commission Headquarters		46 11	662.3	123-44	1165.1	"	Graphic Control HO-4-51	1951	x			6151

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 individual field survey sheets. Information under each column heading should be given.

16—51696-1 U. S. GOVERNMENT PRINTING OFFICE

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, 28 Nov., 1951

I recommend that the following objects which have *(beacon)* 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 E. L. Wheeler

H. G. Conerly
Chief of Party.

STATE Oregon - Wash.

CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION				DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
			LATITUDE		LONGITUDE								
			° ′	D.M. METERS	° ′	D.P. METERS							
MARKER	Tank Tower Beacon - inshore end of S Jetty	--	46 13	969.8	124 00	599.6	N.A. 1927	Triang.	1926	x	x	x	6151, 6002, 5902, 5022
LOOKOUT TOWER	C.C. Lookout Tower at Fort Stevens now abandoned	--	46 12	758.1	123 58	117.7	"	"	1935	x			6151
TANK (Elevated)	Elev. Water Tank at Ft. Stevens- gone	--	46 11	1573.9	123 57	777.6	"	"	1913	x			6151
HOUSE	Old Oil Works in Youngs Bay - gone	--	46 10	1565.5	123 53	891.6	"	"	1913	x			6151
RADIO TOWER	At Tongue Point Naval Station - very inconspicuous	--	46 12	597.0	123 45	1129.7	"	"	1947	x			6151
TANK	At Settlers Point - gone	--	46 10.5		123 40.3		"	unknown	unknown	x			6151, 615
TANK	On Sand Island - in ruins- inconspicuous	--	46 15	1384.2	123 55	547.0	"	Triang.	1935	x			6151

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 individual field survey sheets. Information under each column heading should be given.

16—51696-1 U. S. GOVERNMENT PRINTING OFFICE

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, 28 Jan., 1952

I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be charted on the charts indicated.

The positions given have been checked after listing by D. L. Wheeler

Horace G. Conerly
Chief of Party.

STATE / 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
	Lewis and Clark Buoy N4		46-10	(1718) 135	123-51	(382) 905	U.S.A. 1927	H-7940	1951	x			6151
	Lewis and Clark Buoy N6		46-09	(194) 1659	123-51	(690) 597	"	"	"	x			"
	Lewis and Clark Buoy 07		46-09	(365) 1488	123-51	(398) 389	"	"	"	x			"
	Lewis and Clark Buoy N8		46-09	(496) 1357	123-51	(877) 410	"	"	"	x			"
	Lewis and Clark Buoy 09		46-09	(612) 1241	123-51	(948) 339	"	"	"	x			"
	Middle Ground Buoy C33		46-11	(475) 1378	123-52	(1205) 83	"	"	"	x			"
	Middle Ground Buoy C35		46-11	(419) 1434	123-51	(1286) 20	"	"	"	x			"
	Bell Buoy Fl. W. "AC"		46-13	(1205) 648	123-51	(616) 670	"	"	"	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 be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

16—51696-1 U. S. GOVERNMENT PRINTING OFFICE

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, 28 Jan., 1952

I recommend that the following objects which 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 L. R. Whitney and D. L. Wheeler

Horace G. Conerly
Chief of Party.

STATE Washington

Light List ~~or Radio Beacon~~ No.	DESCRIPTION	SIGNAL NAME	POSITION				DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
			LATITUDE		LONGITUDE								
			° ′	D.M. METERS	° ′	D.P. METERS							
	Baker Bay West Channel Buoy No. 5 Black Can		46-16	(1076) 777	124-01	(233) 1052	N.A. 1927	H-7941	1951	x			6151
	Baker Bay West Channel Buoy No. 7 Black Can		46-16	(610) 1243	124-02	(1160) 125	"	"	"	x			"
	Baker Bay West Channel Buoy No. 10 Red Nun		46-16	(249) 1604	124-02	(769) 516	"	"	"	x			"
	Baker Bay West Channel Buoy No. 11 Black Can		46-16	(171) 1682	124-02	(405) 380	"	"	"	x			"
	Baker Bay West Channel Buoy No. 13 Black Can		46-16	(61) 1792	124-02	(253) 1032	"	"	"	x			"
914.5	Desdemona Lighted Buoy 25		46-12	(438) 1415	123-56	(248) 1038	"	H-7940	"	x			"
919	Middle Ground Lighted Buoy 27		46-11	(261) 1592	123-55	(1000) 207	"	"	"	x			"
921.5	Middle Ground Lighted Buoy 29		46-11	(570) 1283	123-54	(313) 474	"	"	"	x			"
	Skipanon Waterway Buoy 25		46-11	(1729) 124	123-54	(916) 371	"	"	"	x			"
	Skipanon Waterway Buoy N6		46-11	(1716) 137	123-54	(832) 455	"	"	"	x			"
	Skipanon Waterway Buoy N8		46-10	(82) 1771	123-54	(755) 532	"	"	"	x			"
	Skipanon Waterway Buoy N10		46-10	(355) 1498	123-54	(662) 625	"	"	"	x			"
	Skipanon Waterway Buoy N12		46-10	(709) 1144	123-54	(535) 752	"	"	"	x			"
	Lewis and Clark Buoy N2		46-10	(1401) 452	123-51	(357) 930	"	"	"	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 be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

16—51696-1 U. S. GOVERNMENT PRINTING OFFICE

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7940....

Records accompanying survey:

Boat sheets None..; sounding vols. 15...; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 8 Env..;

special reports, etc. 1 Smooth Sheet; Descriptive Report; (Smooth sheet plotted during progress of work) ....

....

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

Number of positions on sheet		3985
Number of positions checked		240 (about 70 out 1-2 mm in flat area and not revised)
Number of positions revised		32
Number of soundings revised (refers to depth only)		120
Number of soundings erroneously spaced		158
Number of signals erroneously plotted or transferred		None.
Topographic details	Time	None.
Junctions	Time	None.
Verification of soundings from graphic record	Time	30 hrs

Verification by Chester A. Kupiec ... Total time 435 .. Date March 11, 1953

Reviewed by J. A. Dinsmore .... Time 32 .... Date 30 Mar. 1953

Stirni - 12 hrs.

M-2232-1

GEOGRAPHIC NAMES

Survey No. H-7940

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	K U. S. Light List	
Oregon									B. & N.	1
Washington									"	2
Columbia River									"	3
										4
Hammond										5
Warrenton										6
Skipanon Waterway										7
Desdamona Sands										8
Youngs Bay										9
Lewis and Clark River										10
Astoria										11
Smith Point										12
										13
				Names underlined in						14
				red are approved.						15
										16
		(See chart 6151 for placement of names, after sheet is inked)								17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

3-18-52
L. Heck

M 234

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7940 FIELD NO. HO-1851

Oregon-Washington; Columbia River; Warrenton, Oregon

Project No. CS-339

Surveyed - September-October 1951 Scale 1:10,000

Soundings:

808 Fathometer
Hand lead
Pole

Control:

Sextant fixes on shore signals

Chief of Party - H. G. Conerly
Surveyed by - A. M. Legako & D. L. Wheeler
Protracted by - L. R. Whitney
Soundings plotted by - D. E. Fisher
Verified and inked by - C. F. Kupiec
Reviewed by - T. A. Dinsmore, 30 March 1953
Inspected by - R. H. Carstens

1. Shoreline and Signals

Application of the shoreline is deferred until air-photographic compilations are available for this area.

The origin of the control signals is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at sounding line crossings are in very good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated. The low-water line was determined where practicable.

The bottom, particularly through the main river channel, is relatively smooth. Minor irregularities in several localities are attributed to shifting shoals and channels from strong current action. Desdemona Sands which uncovers from 1 - 4 ft. at M.L.L.W. is the most prominent feature in the area.

4. Junctions with Contemporary Surveys

The junction between the present survey and H-7941 (1951) on the west will be considered in the review of that survey. Project surveys on the north and east have not yet been received in this office.

At the project limits on the southeast, butt junctions were made with H-5976 (1935). In the overlapping area, H-5976 is superseded by the present survey.

5. Comparison with Prior Surveys

a. H-250 (1850) 1:20,000
H-273 (1850) 1:20,000
H-336 (1852) 1:20,000
H-1018 (1868) 1:20,000
H-1930 (1889) 1:10,000
H-4733 (1927) 1:10,000

These early surveys have been compared with and were superseded by the surveys of 1935-37 which are discussed in the succeeding paragraph. Further consideration of these early surveys is, therefore, deemed unnecessary in the present review.

b. H-5975 (1935) 1:10,000
H-5976 (1935) 1:10,000
H-6178 (1936) 1:10,000
H-6179 (1936-37) 1:10,000
H-6180 (1936-37) 1:10,000

These prior surveys taken together cover the area of the present survey. A comparison of the prior and present surveys reveals extensive bottom changes. Filling-in is noted in the deeper parts of the main river channel. Prior maximum depths of 64 ft. in lat. 46°11.63', long. 123°51.00', and 54 ft. in lat. 46°12.70', long. 123°57.15', are now superseded by depths of 53 and 40 ft., respectively. A westward shifting of Desdemona Sands is exemplified in lat. 46°12.0', long. 123°54.5', where the present low-water curve has extended about a mile and one-fourth westward from its prior position. Further evidence of this trend is noted at the eastern end of the Sands where the low-water curve has receded about one-half mile in a westerly direction.

Examples of conspicuous changes in bottom are given in the following comparison:

Latitude	Longitude	Prior Depth	Present Depth
46°13.20'	123°57.00'	5	23
12.72'	56.37'	6	23
12.80'	55.90'	7	0
12.00'	54.50'	12	0
13.40'	53.80'	14	1
12.87'	52.60'	31	16
12.40'	52.00'	9	-1
13.33'	51.70'	15	31
12.25'	50.55'	12	-1 ?
13.28'	51.15'	23	9

Portions of the main river channel are dredged periodically by the Corps of Engineers and the spoil is dumped in the shoal areas. This, together with the spring freshets which cause an appreciable shifting of the bottom, are the principal factors contributing to the changes that have taken place in the area.

The present survey is adequate to supersede the prior surveys within the common area.

6. Comparison with Chart 6151 (Latest print date 2/16/53)

A. Hydrography

Charted hydrography originates principally with the previously discussed surveys together with various surveys by the Corps of Engineers, the latest of which is blueprint 48744 (1952).

The present survey supersedes all charted information except that originating with sources subsequent to the present survey.

B. Dredged Channels

The project depth in the portions of the dredged channel covered by the present survey is 35 feet. The present survey shows numerous soundings ranging in depth from 31 to 34 ft. within the limits of the marked channel. An after-dredging survey (Bp. 48744, 1952) by the Corps of Engineers indicates the project depth has been restored.

C. Aids to Navigation

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

b. The smooth plotting was generally good, except that haste in plotting positions directly on the smooth sheet while the sounding lines were run, was indicated by 100 positions found to be plotted from 1 - 3 millimeters from their correct positions. In some instances, soundings were not plotted in accordance with the recorded time but were evenly spaced between positions.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

The survey is considered to be basic for the area covered and no additional field work is recommended. This is a highly changeable area over which the Corps of Engineers makes periodic channel surveys.

Examined and approved:

H. R. Edmonston
Chief, Nautical Chart Branch

H. Arnold Karo
Chief, Division of Charts

G. R. Fish
Chief, Section of Hydrography

Earl O. Heaton
Chief, Division of Coastal Surveys

RHC

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~ 10 April 1952

Division of Charts: R. H. Carstens

Plane of reference approved in 15
volumes of sounding records for

HYDROGRAPHIC SHEET 7940

Locality Astoria Channel, Columbia River, Oregon

Chief of Party: H. G. Conerly in 1951
Plane of reference is mean lower low water, reading
-0.2 ft. on tide staff at Fort Stevens
11.8 ft. below B. M. 4 (1940)

3.4 ft. on tide staff at Astoria (Port Docks)
16.3 ft. below B. M. E 31 (1920)

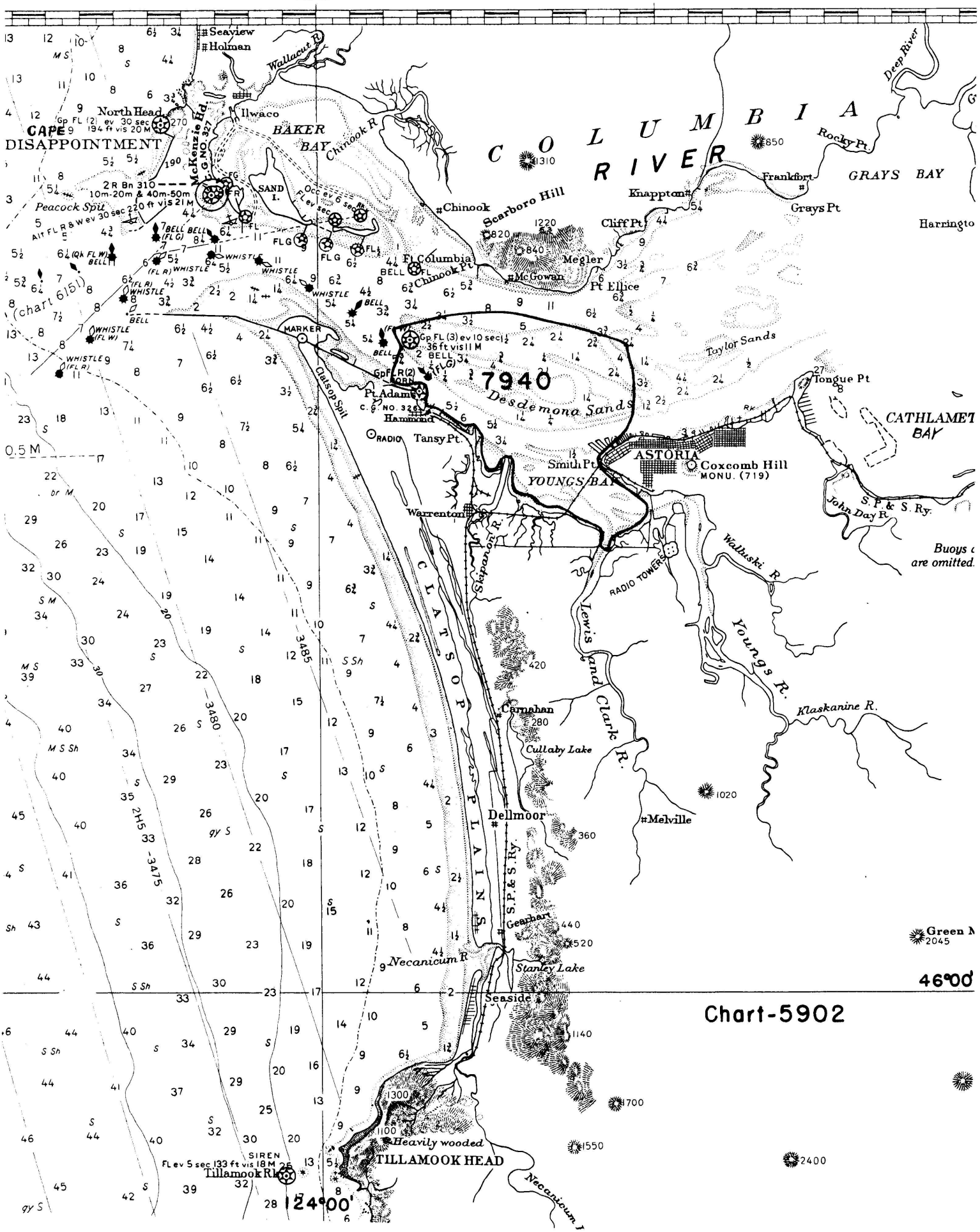
Height of mean high water above plane of reference is as follows:

Fort Stevens = 7.6 feet
Astoria (Port Docks) = 7.2 feet

Condition of records satisfactory except as noted below:

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

U. S. GOVERNMENT PRINTING OFFICE 154827


#Seaview
#Holman
Wallacut R.
North Head
Ilwaco
CAPE DISAPPOINTMENT
McKenzie Hd.
BAKER BAY
Chinook R.
COLUMBIA RIVER
Deep River
Rocky Pt.
Frankfort
GRAYS BAY
Grays Pt
Harrington
Knappton
#Chinook
Scarboro Hill
Cliff Pt.
Megler
Ft Columbia
Chinook Pt.
#McGowan
Pt Ellice
Peacock Spit
SAND I.
Taylor Sands
Tongue Pt
CATHLAMET BAY
MARKER
Clatsop Spit
Pt Adams
Hammond
RADIO
Tansy Pt.
Desdemona Sands
7940
ASTORIA
Coxcomb Hill
MONU. (719)
Smith Pt
YOUNGS BAY
S. P. & S. Ry.
John Day R.
Warrenton
Skipanon R.
RADIO TOWERS
Walluski R.
Youngs R.
Lewis and Clark R.
Klaskanine R.
CLATSOP PLAINS
Carnahan
Cullaby Lake
Dellmoor
#Melville
S.P.& S. Ry.
Gearhart
Necanicum R.
Stanley Lake
Seaside
Green N
2045
46°00'
Chart-5902
Heavily wooded
TILLAMOOK HEAD
SIREN
Tillamook Rk
Necanicum R.
124°00'
(chart 6151)
0.5 M

NAUTICAL CHARTS BRANCH

SURVEY NOH-7940

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
9/4/52	6002	H.W Burgoyne	Before ~~After~~ Verification and Review Partially Applied
9/30/52	6151	H.W Burgoyne	Before " " " Partially Applied
12/2/53	6151	H.W Burgoyne	~~Before~~ After Verification and Review Completely Applied
			Before After Verification and Review
2/18/57	6002	S A McGann	All soundings removed from chart.
			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.