8369

Diag. Cht. No. 5902-2.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. WCFP-05256 *Office No.* H-8369

LOCALITY

State Oregon

General locality Nehalem River

Locality Nehalem Bay and Vicinity

1956-57

CHIEF OF PARTY

H. G. Cenerly and A. L. Wardwall

LIBRARY & ARCHIVES

DATE March 12, 1958

COMM-DC 61300

8369

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- 8369

Field No. WCFP 05256

State OREGON

General locality NEHALEM RIVER

Locality NEHALEM BAY AND ~~RIVER NORTH TO LAT. 45° 44'~~ VICINITY

Scale 1:5000 Date of survey 23 Oct. - 6 Nov. 1956
2 July - 26 July 1957

Instructions dated 9 April 1956

Vessel Launch C.S. 160

Chief of party CDR. H.G. Conerly, CDR. A.L. Wardwell

Surveyed by CDR. H.G. Conerly, Ens. J.K. Richards

Soundings taken by fathometer, ~~graphic recorder, hand lead, wire~~ and pole

Fathograms scaled by A.W. Brain

Fathograms checked by Ens. J.K. Richards, Ens. V. Kiisk

Protracted by Ens. J.K. Richards

Soundings penciled by Ens. P.J. Taetz

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

REMARKS:

A.W.B.

U. S. GOVERNMENT PRINTING OFFICE 16—66520-1

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SURVEYS
H-8368 (WCFP 05156) and H-8369 (WCFP 05256)

NEHALEM RIVER, OREGON
PROJECT 13820

DATES OF SURVEYS: 1956 and 1957 SCALE OF SHEETS: 1:5000

WEST COAST FIELD PARTY

HORACE G. CONERLY, CHIEF OF PARTY (1956)
ARTHUR L. WARDWELL, CHIEF OF PARTY (1957)

SURVEYED BY: H.G. CONERLY, J.K. RICHARDS

PROJECT:

The project number is 13820. Instructions are by the Director, dated 9 April 1956. Pertinent data is also included in the supplemental instructions of 8 May 1957 by the Acting Director, and the letter of 31 August 1956 by the Assistant Director.

SURVEY LIMITS AND DATES:

The general locality of these surveys is the Nehalem River, Oregon. The hydrographic survey on sheet H-8368 (1957) extends from the bend in the river at lat. 45° 41.5', long. 123° 55.5' downstream to the entrance, including an area of development around the bar. The hydrography on sheet H-8369 (1956-57) includes Nehalem Bay and the river from the fork at lat. 45° 44.0', long. 123° 52.5' downstream to the junction with survey H-8368. (1957)

Field work commenced on survey H-8368 on 25 June 1957 and continued intermittently until 26 July 1957. The field work on sheet H-8369 began on 23 October 1956, but was discontinued after 6 November 1956. Hydrography resumed on 2 July 1957 and continued intermittantly until 26 July 1957.

Sheet H-8368 makes a junction with the offshore survey WCFP 1756, H-8346. Not applicable

VESSEL AND EQUIPMENT:

Launch no. C.S. 160 and a skiff were used for all sounding lines. The skiff was used for the hydrography in Nehalem Bay in 1956. All other sounding lines were run with the launch in 1957. All fathometer soundings were taken aboard the launch with an 808 J type

fathometer, no. 152 SPX, with an outboard accoustic unit mounted on the starboard side. All soundings taken from the skiff were pole soundings.

TIDE AND CURRENT STATIONS:

Portable tide gages were maintained at Brighton, Wheeler, and Nehalem, Oregon. The Brighton gage was used for all the tide reducers on sheet H-8368.(57) The Wheeler and Nehalem gages were used for the work on sheet H-8369.(54-57) For full information, see TIDE NOTE in this report. An abstract of smooth tide reducers is attached to this report.

No current stations were occupied.

SMOOTH SHEET:

The projection for each sheet was made by hand at the C&GS Ships' Base in Seattle, Washington.

The shoreline was transferred from advance blueline tracings. The shoreline and most of the topographic details were not inked on the sheets. *(See "Shoreline and Topography" below.)*

All positions were plotted with the three-arm protractor.

CONTROL STATIONS:

Ten control stations were previously-established triangulation stations, three signals were offset from triangulation stations and new G.P.'s computed, nine stations were located by the hydrographic party, and the rest of the signals were located from aerial photographs by the photogrammetry party. See LIST OF SIGNALS USED for details.

SHORELINE AND TOPOGRAPHY:

The shoreline was taken from manuscripts T-11457, T-11458, T-11459, T-11461, ~~and T-11462,~~ *Advance Manuscripts applied during processing. 1954 Reviewed Manuscripts applied during Verification.*

The major discrepancies between the topographic and hydrographic surveys are outlined below:

Sheet H-8368--

1. The rock jetties at the Nehalem River entrance were found to extend furthur offshore than shown on the manuscript. The ends of these jetties were located by sextant cuts at low tide, and are shown on the smooth sheet.
2. The northerly two piling of the group of three R.R. rail

Not applicable

piling at lat. 45° 40.45', long. 123° 55.45' are located incorrectly on manuscript T-11461. These piles were located by the hydrographic party, using 3-point sextant fixes with check angles. The correct positions of these piles are shown on the smooth sheet.

3. The offshore rows of piling in the vicinity of the Brighton tide station (lat. 45° 40.22', long. 123° 55.45') are not completely defined on the manuscript. A series of 3-point sextant fixes were used by the hydrographic party to locate the piling more completely.

Not applicable

Sheet H-8369— (1956-57)

1. The fender of the swing bridge over the Nehalem River at lat. 45° 42.65' has been rebuilt since the photogrammetric manuscripts were compiled. The new fender is considerably shorter. Hydrographic signals VEL and JIM define the north and south end of the fender, respectively.
2. The location of some of the numerous piles and dolphins on this sheet was checked by the hydrographic party. In several areas there is a slight discrepancy between the topographic and hydrographic location of these details. In such cases, the same feature is shown both in blue (from the blueline print) and in pencil (hydrographic location) on the smooth sheet.

Several boat floats on both sheets were located by the hydrographic party and are shown in pencil. These floats are not indicated on the manuscripts. *Floats were shown on the survey where sufficient information was available.*

SOUNDINGS:

Soundings were taken with the fathometer and/or pole. The outboard accoustic unit was originally set one foot below the water surface, until excessive aeration required the unit to be lowered to two feet. Bar checks were taken with the "fish" at each depth. Furthur information can be found in the*fathometer report for project 13820, which has been forwarded to the Director. An abstract of echo corrections is attached to this report.

** See H-8368 Descriptive Report*

CONTROL OF HYDROGRAPHY:

The positions of the launch and skiff were fixed by sextant angles on previously located objects ashore.

ADEQUACY OF SURVEY:

These surveys are considered adequate for charting purposes, and should supersede all previous surveys.

A tracing was made of the soundings and depth curves at the junction of the two sheets. The hydrography done by the launch (1957) on sheet H-8369 (1956) compared favorably with the work on sheet H-8368; there were no excessive differences in soundings and the depth curves coincided. However, the soundings taken by the skiff on H-8369 did not agree with the launch hydrography on H-8368. Some of the skiff sounding lines may be slightly displaced because of weak fixes in this area. Since the skiff and launch work were done in two different seasons, the depths may have changed. A difference in tidal datums between the two seasons also probably caused some of the discrepancy.* (See CROSSLINES for more detail.)

* Choppy seas during 1957 work also contributed to this disagreement. By rescanning 1957 9-day fathogram, with due consideration to chop, a satisfactory junction was effected between H-8368 and H-8369. Channel depths in this area are deep and not critical.

CROSSLINES:

The soundings lines on sheet H-8368 include 7.5% crosslines. All crosslines appear satisfactory, especially the crossings in the river channel. A discrepancy of about 10%, however, occurs at several crossings of the north-south lines outside the entrance with the east-west lines between long. 123° 56.55' and long. 123° 56.95'. — Not applicable

Survey H-8369 contains 6.4% crosslines. All crosslines appear satisfactory, with the following exception: the lines run by the launch in 1957 between signals JAR and SOUTH, parallel with the channel, do not agree with the east-west lines run by the skiff in 1956. (The skiff work occurs north of lat. 45° 41.55'.) The 1957 hydrography is consistantly shoaler than the 1956 work. This discrepancy may be due in part to the fact that the channel is very changeable, and the depths probably changed somewhat between the fall of 1956 and the summer of 1957. Also, the MLLW value on the Wheeler tide staff was lowered from 3.2 feet in 1956 to 2.7 feet in 1957. (The staff remained in the same place between the two seasons.) This change in datum by the Tides Division resulted in shoaler depths for the 1957 work. Finally, the pole used in the skiff sounding may have been jabbed into the river bottom in soft places, resulting in an incorrect reading. — * See note above

COMPARISON WITH PRIOR SURVEYS:

A comparison of survey H-973, 1868, 1:5000 was made with sheet H-8368. The major difference is, of course, at the river entrance. The two rock jetties have changed the entrance and the bar considerably. See COMPARISON WITH CHART. — Not Applicable

There were no copies of old surveys in the area of survey H-8369 issued to the hydrographic party. There were no Corps of of Engineers surveys forwarded to the hydrographic party. PS Review.

COMPARISON WITH CHART:

The two surveys were compared with chart 6122, Nov. 1938. The major differences between the new surveys and the chart are listed below:

Sheet H-8368-- (1957)

1. The shoal area enclosed by the six-foot curve (extending southwest from the end of the north jetty on the chart) has deepened. A dangerous shoal now extends offshore from the south jetty. (See DANGERS AND SHOALS)
2. The hydrographic party verified the existence of Crab Rock (lat. 45° 39.58', long. 123° 55.82') and the rocks at lat. 45° 39.8', long. 123° 55.9' and lat. 45° 39.66', long. 123° 55.90'.
3. The 7-foot shoal sounding at lat. 45° 40.17', long. 123° 55.51' was investigated and verified by the hydrographer.
4. The face of the old dock at Brighton, immediately northeastward of the 7-foot shoal, is now just a row of piling in ruins. The daybeacon designated as "BN 2" on the chart has been destroyed.
5. The charted log boom in the river channel at lat. 45° 41' no longer exists.
6. The detached 6-foot shoal, shown on the chart at lat. 45° 41.58', long. 123° 55.53', was searched for by the hydrographer but was not found.
5. The recent survey shows that the river channel has shoaled between latitudes 45° 40.7' and 45° 41.5'. Otherwise, no great differences in depths occur inside the river entrance.

Not applicable

Sheet H-8369-- (1956-57)

1. The charted log boom, shown on the south side of the river between longitudes 123° 54.23' and 123° 54.81', no longer exists. There are, however, many broken piles in this area.
2. Considerable shoaling has taken place in the channel between longitudes 123° 53.87' and 123° 55.2'. A continuous channel of six-foot depth or deeper no longer exists in this area.
3. A dike and bulkhead, now connecting Deans Point with the north end of Lazarus Island, have caused shoaling in the channel northwest of Lazarus Island and have caused a corresponding deepening in the main channel between lat. 45° 42.0' and long. 123° 53.87'.
4. The charted tidal lagoon and slough at lat. 45° 42.1', long. 123° 52.8' have been diked off from the river and are connected to the river by a tide gate.
5. Many uncharted rows of piling and dolphins now exist along the banks of the river in the vicinity of Wheeler and upstream to the project limits. These details are shown on the smooth sheet.

DANGERS AND SHOALS:

The most significant shoal that was found is the area enclosed by the 6-foot curve, just offshore from and south of the Nehalem River entrance. The least depth on this shoal is 3½ feet (one sounding before position 93e). There are usually heavy breakers in this area. This shoal makes the use of Range 1 hazardous to navigation.

Not applicable

No other important uncharted dangers were found in the area of these surveys. All piling and other obstructions of a permanent nature are shown on the smooth sheets. Many snags and logs become lodged in shoal areas and along the shoreline of the river, but they shift position with variations in the stage of the river. ✓
Snag and logs shown on reviewed photogrammetric sheets, unless disproved by the hydrographic survey, were transferred to the hydro sheet.

COAST PILOT INFORMATION:

The Nehalem River bar is best approached from the northwest, and Range 2 should be used in navigating the entrance channel. The controlling depth over the bar is 8 feet. There is also a controlling depth of 8 feet in the river channel up to the bend in the river at Fishery Point. Between this bend and Lazarus Island the channel is difficult to follow. A minimum depth of 3¼ feet occurs between longitudes 123° 54.1' and 123° 54.3'.

Not applicable

AIDS TO NAVIGATION:

The fixed aids to navigation in the area of these surveys were located by the topographic party in 1954. Form 567 was submitted at that time. ✓

There is a difference in the numbering system of the daybeacons between the chart and the topographic party, as shown below:

Triangulation Designation	Chart Desig.	Remarks
NEHALEM RIVER, DAYBEACON 1, 1954	BN "2"	Destroyed
NEHALEM RIVER, DAYBEACON 2, 1954	BN "3"	
NEHALEM RIVER, DAYBEACON 3, 1954	BN "5"	
NEHALEM RIVER, DAYBEACON 4, 1954	BN "6"	
NEHALEM RIVER, DAYBEACON 5, 1954	BN "8"	This daybeacon has been knocked about 6 meters out of position, and is shown on the sheet as hydro. signal TEX. *(Bn and structure was removed subsequent to the date of this survey.)*

Not applicable

HO Ltr to M 17 Nov 0

No overhead clearances of bridges and cables were determined by the hydrographic party. This data is listed in the descriptive report by the topographer, 1954. *Nehalem Swing Bridge not listed in Topo descriptive Report. However, clearance is shown on T-11459.*

There are no floating aids on these sheets.

There is a submarine cable on sheet H-8368, with termini at signal SIN and the inshore end of the south jetty. *Not applicable*

TABULATION OF APPLICABLE DATA:

1. Brighton Tide Station report forwarded to the Director 2 July 1957. Level data for installation of Brighton tide gage forwarded to the Director 2 July 1957. Level data for removal of gage forwarded 13 Aug. 1957. Marigrams 1 thru 8 for Brighton Tide Station were forwarded 6 Aug. 1957. *Not applicable*

   Wheeler Tide Station, 1956 installation: Tide station report forwarded 30 Nov. 1956. Level data for installation and removal was forwarded 3 Dec. 1956. Marigrams 1-9 sent 4 Dec. 1956. Wheeler Tide Station, 1957 installation: Tide station report forwarded 2 July 1957. Installation level data was forwarded 2 July 1957. Removal level data was forwarded 13 Aug. 1957. Marigrams 1 thru 8 forwarded 6 Aug. 1957.

   Nehalem Tide Station report forwarded 2 July 1957. Level data for installation of gage sent 2 July 1957. Level data for removal of gage forwarded 13 Aug. 1957. Marigrams 1 thru 8 forwarded 6 Aug. 1957.

2. Office and field photographs to be forwarded to the Director.

3. Photo manuscripts and blueline impressions to be forwarded to the Director.

4. Special fathometer report has been forwarded to the Director.

5. Fathograms to be forwarded to the Director.

6. Sounding volumes to be forwarded to the Director.

7. Boat sheets to be forwarded to the Director.

8. Copies of old surveys to be sent to the Director.

Respectfully Submitted,

James K. Richards

James K. Richards
Ensign, C&GS

APPROVAL SHEET

HYDROGRAPHIC SURVEYS ~~H-8368~~ and H-8369

This survey is complete and adequate for charting purposes, and no additional work is recommended. The Chiefs of Party kept close personal supervision over the work.

Philip J. Taetz
Ensign, C&GS

TIDE NOTE FOR HYDROGRAPHIC SURVEYS

~~H-8368 (WCFP 05156) and~~ H-8369 (WCFP 05256)

A portable tide gage at Brighton, Oregon (lat. 45° 40.22', long. 123° 55.45') was used for all tide reducers on survey H-8368. The MLLW value on the tide staff was 4.0 feet. No corrections for differences in time or height were applied to the observed tides. Not applicable

A portable tide gage was established near Wheeler, Oregon (lat. 45° 41.28', long 123° 53.49') in 1956, and was used for all the hydrography done on sheet H-8369 in that year. The MLLW value on the tide staff was 3.2 feet. No corrections for differences in time or height were applied to the observed tides.

The same tide gage and staff was used in 1957 for all the hydrography in the river on sheet H-8369 downstream from the north end of the island at latitude 45° 42.1'. The MLLW value on the staff at this time was 2.7 feet. No range or height corrections were applied to the observed tides.

A portable tide gage and staff was maintained near Nehalem, Oregon (Lat. 45° 42.67', long. 123° 53.41'), and was used for all the hydrography on sheet H-8369 upstream from the north end of the island at latitude 45° 42.1'. The MLLW value on the staff was 2.7 feet. No corrections for differences in time or height were applied to the observed tides.

COMBINED CORRECTIONS FOR FATHOMETER 152 SPX
when being used in Launch CS 160, Summer 1957

Project 13820 Nehalem River, Oregon

"A" scale only

Fish at 1.0 ft.
Initial 1.0 ft.

Fath. Reading (ft.)	Correction to sounding (ft.)
0 to 17.0	-0.2
17.1 to 35.0	0.0

Use these corrections for sheet 05156 "a" day & "b" day to pos. 41 only.

"A" scale only

Fish at 2.0 ft.
Initial 2.0 ft.

Fath. Reading (ft.)	Correction to sounding (ft.)
0 to 10.6	-0.6
10.7 to 21.7	-0.4
21.8 to 43.0	-0.2

See H-8368 for Fathometer Report.

LIST OF SIGNALS USED

FIELD NO. WCFP 05256 REGISTRY NO. H- 8369 (1956-57)

Hydrographic Name		Origin of Signal
ART		Manuscript T- 11459 (Photo-hydro pt. 5905)
BEN		Manuscript T- 11459
BOP		Manuscript T- 11457 (Ph.-Hy. Pt. 5703)
BUS	*Hydro*	Sextant Cuts, "f" day, Vol. 2, page 70
CAB		Manuscript T- 11457 (Ph.-Hy. Pt. 5711)
CIN		Manuscript T- 11459 (" 5901)
CUT		Manuscript T- 11457
DAY	△	NEHALEM RIVER, DAYBEACON 3, 1954
DEL	△	NEHALEM RIVER, DELL GURTIS MOORAGE , WEST GABLE, 1954
DOL		Manuscript T- 11459 (Ph.-Hy. Pt. 5911)
DON	*Hydro*	Sextant Cuts, "f" day, Vol. 2, pages 70 & 71
DUC		Manuscript T- 11457
END		Manuscript T- 11459 (Photo-Hydro Pt. 5935)
FAT		Manuscript T- 11459 (" 5933)
FIL		Manuscript T- 11459
FIR		Manuscript T- 11459 (" 5934)
FLY		Manuscript T- 11458 (" 5824)
FRO		Manuscript T- 11459
GAB		Manuscript T- 11461 (" 5925)
GAL		Manuscript T- 11459 (" 5927)
HAY		Manuscript T- 11457 (" 5717)
HER		Manuscript T- 11457
HIM		Manuscript T- 11457

LIST OF SIGNALS USED

FIELD NO. WCFP 05256 REGISTRY NO. H- 8369 (1956-57)

Hydrographic Name	Origin of Signal
HIT	Manuscript T- 11459 (Photo-Hydro Pt. 5930)
HOT	See G.P. this descriptive report
JAR	Manuscript T- 11459 (Hydrographic Signal)
JIM	Hydro Sextant Cuts, "g" day, Vol. 3, pages 27 & 28
JOY	Manuscript T- 11457 (Photo-Hydro Pt. 5716)
LAG	Manuscript T- 11459 (" 5914)
MOO	Manuscript T- 11459 (" 5902)
NAG	Manuscript T- 11457 (" 5710)
NOT	Manuscript T- 11457 (" 5707)
ONE	Manuscript T- 11459 (" 5906)
PAD	Manuscript T- 11459 (" 5924)
POD	Manuscript T- 11458
RAG	Manuscript T- 11459 (Hydrographic Signal)
ROW	Manuscript T- 11459 (Photo-Hydro Pt. 5907)
SAM	Manuscript T- 11459 (" 5923)
SIG	Hydro 3 pt. fix, "g" day, Vol. 3, page 27
SIL	△ NEHALEM BAY, WHITE SILO, 1954
SOUTH	△ SOUTH, 1954
SUE	Manuscript T- 11457 (Photo-Hydro Pt. 5715)
SUP	Manuscript T- 11457
TAR	Manuscript T- 11459
TEX	Hydro Sextant Cuts, "f" day, Vol. 2, pages 70 & 71
TIN	Manuscript T- 11459 (Photo-Hydro Pt. 5932)

STATISTICS FOR HYDROGRAPHIC SURVEY

FIELD NO. WCFP 05256 - REGISTRY NO. H-8369 (1956-57)

LAUNCH CS 160 - PROJECT 13820

Vol.No.	Day Letter	Date	No.Pos.	H.L.& Pole Sdgs.	Stat.Miles	Method
1	a	23 October	66	173	1.7	S
1	b	1 November	121	356	4.7	S.
1	c	2 "	129	449	6.3	S.
1 & 2	d	5 "	100	381	4.6	S
2	e	6 "	237	901	11.4	S.
2 & 3	f	2 July	126	12	11.3	L.
3 & 4	g	9 "	245	85	16.8	L.
4	h	11 "	108	1	9.1	L.
4	j	15 "	47	2	3.1	L.
4	k	18 "	58	58	0	S.
4 & 5	l	22 "	89	75	0	S W.
5	m	23 "	110	107	0	S.
5	n	24 "	76	75	0	S.
5	p	26 "	4	13	0	S.
			1516	2688	69.0	

Total area, square statute miles = 1.1

L Launch

S Skiff

W Walking shoreline

LIST OF SIGNALS USED

FIELD NO. WCFP 05256 REGISTRY NO. H- 8369 (1956-57)

Hydrographic Name	Origin of Signal
TOD	Manuscript T- 11459
TREE	Hydro 3 pt. fix, Vol. 1, Index
VEL	Hydro Sextant Cuts, "g" day, Vol. 3, pages 27 & 28
WET	Manuscript T- 11459 (Photo-Hydro Pt. 5913)
ZOO	Mamuscript T- 11459

ABSTRACT OF SMOOTH TIDE REDUCERS

WHEELER, OREGON TIDE GAGE

SHEET WCFP 05256 REGISTRY NO. H- 8369 (1956-57)

"a" day, 23 Oct.

1300-1311	- 7.6 ft.
-1322	- 7.8
-1337	- 8.0
-1355	- 8.2
-1455	- 8.4
-1513	- 8.2
-1527	- 8.0
-1538	- 7.8
-1548	- 7.6
-1557	- 7.4

"b" day, 1 Nov.

1000-1008	- 8.8
-1021	- 9.0
-1041	- 9.2
-1131	- 9.4
-1155	- 9.2
-1208	- 9.0
-1220	- 8.8
-1230	- 8.6
-1240	- 8.4
-1248	- 8.2
-1256	- 8.0
-1303	- 7.8
-1310	- 7.6
-1318	- 7.4
-1325	- 7.2
-1333	- 7.0
-1340	- 6.8
-1346	- 6.6
-1354	- 6.4
-1400	- 6.2
-1407	- 6.0
-1413	- 5.8
-1421	- 5.6
-1428	- 5.4
-1434	- 5.2
-1442	- 5.0
-1450	- 4.8
-1457	- 4.6
-1505	- 4.4
-1513	- 4.2

"b" day, 1 Nov.

1513-1522	- 4.0 ft.
-1530	- 3.8
-1540	- 3.6
-1550	- 3.4
-1600	- 3.2

"c" day, 2 Nov.

0800-0807	- 3.4
-0814	- 3.6
-0822	- 3.8
-0830	- 4.0
-0837	- 4.2
-0844	- 4.4
-0851	- 4.6
-0858	- 4.8
-0906	- 5.0
-0912	- 5.2
-0920	- 5.4
-0927	- 5.6
-0935	- 5.8
-0942	- 6.0
-0949	- 6.2
-0956	- 6.4
-1003	- 6.6
-1010	- 6.8
-1018	- 7.0
-1025	- 7.2
-1034	- 7.4
-1042	- 7.6
-1053	- 7.8
-1104	- 8.0
-1118	- 8.2
-1135	- 8.4
-1221	- 8.6
-1240	- 8.4
-1254	- 8.2
-1305	- 8.0
-1316	- 7.8
-1325	- 7.6
-1333	- 7.4
-1341	- 7.2
-1348	- 7.0

"c" day, 2 Nov.

1348-1356	- 6.8 ft.
-1403	- 6.6
-1409	- 6.4
-1416	- 6.2
-1422	- 6.0
-1429	- 5.8
-1436	- 5.6
-1443	- 5.4
-1450	- 5.2
-1457	- 5.0
-1504	- 4.8
-1512	- 4.6
-1520	- 4.4
-1528	- 4.2
-1535	- 4.0
-1544	- 3.8
-1553	- 3.6
-1603	- 3.4

"d" day, 5 Nov.

0925-0938	- 3.4
-0949	- 3.6
-0958	- 3.8
-1007	- 4.0
-1014	- 4.2
-1023	- 4.4
-1030	- 4.6
-1039	- 4.8
-1047	- 5.0
-1056	- 5.2
-1105	- 5.4
-1113	- 5.6
-1122	- 5.8
-1131	- 6.0
-1140	- 6.2
-1150	- 6.4
-1200	- 6.6

ABSTRACT OF SMOOTH TIDE REDUCERS

WHEELER, OREGON TIDE GAGE

SHEET WCFP 05256 REGISTRY NO. H- 8369 (1956-57)

"e" day, 6 Nov.

1048-1058	- 4.4 ft.
-1108	- 4.6
-1118	- 4.8
-1128	- 5.0
-1138	- 5.2
-1148	- 5.4
-1158	- 5.6
-1208	- 5.8
-1219	- 6.0
-1231	- 6.2
-1245	- 6.4
-1300	- 6.6
-1324	- 6.8
-1438	- 7.0
-1500	- 6.8
-1514	- 6.6
-1527	- 6.4
-1538	- 6.2
-1548	- 6.0
-1556	- 5.8
-1605	- 5.6
-1614	- 5.4

"f" day, 2 July

1004-1121	≠ 0.6
1314-1320	- 2.6
-1327	- 2.8
-1334	- 3.0
-1340	- 3.2
-1347	- 3.4
-1353	- 3.6
-1400	- 3.8
-1406	- 4.0
-1413	- 4.2
-1419	- 4.4
-1426	- 4.6
-1433	- 4.8
-1440	- 5.0
-1446	- 5.2
-1453	- 5.4
-1500	- 5.6
-1509	- 5.8
-1517	- 6.0
-1525	- 6.2

"g" day, 9 July

0845-0853	- 3.0 ft.
-0900	- 3.2
-0909	- 3.4
-0918	- 3.6
-0926	- 3.8
-0934	- 4.0
-0942	- 4.2
-0950	- 4.4
-0959	- 4.6
-1009	- 4.8
-1020	- 5.0
-1031	- 5.2
-1043	- 5.4
-1056	- 5.6
-1114	- 5.8
-1144	- 6.0
-1214	- 6.2
-1243	- 6.0
-1300	- 5.8
-1317	- 5.6
-1330	- 5.4
-1341	- 5.2
-1354	- 5.0
-1405	- 4.8
-1417	- 4.6
-1429	- 4.4
-1442	- 4.2
-1455	- 4.0
-1509	- 3.8
-1522	- 3.6
-1535	- 3.4
-1548	- 3.2
-1600	- 3.0

"j" day, 15 July

1357-1406	- 6.0
-1415	- 6.2
-1427	- 6.4
-1440	- 6.6
-1500	- 6.8
-1600	- 7.0
-1620	- 6.8

"k" day, 18 July

1320-1330	- 3.2 ft.
-1340	- 3.4
-1350	- 3.6
-1400	- 3.8
-1410	- 4.0
-1420	- 4.2
-1430	- 4.4
-1440	- 4.6
-1450	- 4.8
-1458	- 5.0

"l" day, 22 July

0900-1000	- 4.8
-1023	- 4.6
-1042	- 4.4
-1100	- 4.2
-1117	- 4.0
-1140	- 3.8
-1200	- 3.6
-1222	- 3.4
-1245	- 3.2
-1315	- 3.0
-1432	- 2.8
-1457	- 3.0

"m" day, 23 July

1000-1100	- 5.0

"p" day, 26 July

1008-1015	- 3.2

ABSTRACT OF SMOOTH TIDE REDUCERS

NEHALEM, OREGON TIDE GAGE

SHEET WCFP 05256 REGISTRY NO. H- 8369 (1956-57)

"g" day, 9 July

Wheeler T.G. ∠ 0.4 ft. ht. corr.

1335-1350	- 5.4 ft.
-1403	- 5.2
-1416	- 5.0
-1429	- 4.8
-1442	- 4.6
-1454	- 4.4
-1508	- 4.2
-1522	- 4.0
-1537	- 3.8
-1552	- 3.6

"h" day, 11 July

1255-1412	- 6.8
-1426	- 6.6
-1438	- 6.4
-1449	- 6.2
-1500	- 6.0
-1510	- 5.8
-1521	- 5.6
-1532	- 5.4
-1543	- 5.2
-1556	- 5.0

"j" day, 15 July

1500-1622	- 7.0

"l" day, 22 July

1423-1449	- 3.0 ft.

"m" day, 23 July

1000-1048	- 5.0
-1114	- 4.8
-1134	- 4.6
-1150	- 4.4
-1207	- 4.2
-1225	- 4.0
-1242	- 3.8
-1300	- 3.6
-1317	- 3.4
-1334	- 3.2
-1354	- 3.0
-1419	- 2.8
-1444	- 2.6

"n" day, 24 July

1012-1026	- 5.2
-1045	- 5.4
-1200	- 5.6
-1219	- 5.4
-1233	- 5.2
-1246	- 5.0
-1258	- 4.8
-1309	- 4.6
-1322	- 4.4

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 27
Ed. April 1945

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

Signal "Hot"

		°	′	″
α	2 Crest, 1954 to 3 Dean Point, 1954	276	22	09.4
2d ∠	&	+ 1	06	31
α	2 Crest, 1954 to 1 R.M.2	277	28	40.4
Δα				
		180	00	00.0
α′	1 Crest, 1954 to 2 Hot	97	28	40.4

		°	′	″
α	3 to 2			
3d ∠	&	−		
α	3 to 1			
Δα				
		180	00	00.0
α′	1 to 3			

First Angle of Triangle

	°	′	″			°	′	″
φ	45	42	02.925	2 Crest 1954	λ	123	55	22.974
Δφ	+ 0	00	00.017		Δλ	+ 0	00	00.182
φ′	45	42	02.942	1 Hot	λ′	123	55	23.156

	Logarithms	Values in seconds
s	0.59791	
Cos α	9.11342	
B	8.51041	
h	18.22174	1st term − 0.01664 ″
s²		
Sin² α		
C		
		2d term +
h³		
D		
		3d term +
		−Δφ 0.01664

½(φ+φ′) = ° ′ ″

	Logarithms	Values in seconds
s	0.59791	
Sin α	9.99629	
A′	8.50897	
Sec φ′	0.15688	
Δλ	19.26005	+ 0.18193 ″
Sin ½(φ+φ′)		
−Δα		

	Logarithms	Values in seconds
s		
Cos α		
B		
h		1st term ″
s²		
Sin² α		
C		
		2d term +
h³		
D		
		3d term +
		−Δφ

½(φ+φ′) = ° ′ ″

	Logarithms	Values in seconds
s		
Sin α		
A′		
Sec φ′		″
Δλ		
Sin ½(φ+φ′)		
−Δα		

See sketch opposite page 2, volume 1

16—44238-1 U. S. GOVERNMENT PRINTING OFFICE

GEOGRAPHIC NAMES

Survey No. H-8369 (1956-57)

Name on Survey	On Chart No. 6112 A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Oregon			(for title)							1
Nehalem River									BGN	2
Nehalem Bay									"	3
Fishery Point										4
Wheeler			(tide station)							5
Lazarus Island			(							6
Deans Point									"	7
Nehalem			(tide station)							8
North Fork										9
										10
			Names approved 4-30-58							11
			L. Heck							12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ...8369 (1956-57)

Records accompanying survey:

Boat sheets ..1..; sounding vols. ..5..; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls .2-Envelopes

special reports, etc. ..1-Smooth sheet and 1-Descriptive report

.....

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

Number of positions on sheet		1279
Number of positions checked		205
Number of positions revised		0
Number of soundings revised (refers to depth only)		0
Number of soundings erroneously spaced		1
Number of signals erroneously plotted or transferred		1
Topographic details	Time	3hrs.
Junctions	Time	2 hrs.
Verification of soundings from graphic record	Time	6hrs.

Verification by L.L. Van Zant .....Total time 128 hrs. Date 8Nov 60

Reviewed by. Donald L. Engle ..... Time .7 1/2 hrs. Date 7 Mar 61

M-2232-1

OFFICE OF CARTOGRAPHY

REVIEW SECTION -- NAUTICAL CHART DIVISION

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8369 FIELD NO. WCFP-05256

Oregon, Nehalem River, Nehalem Bay and Vicinity

SURVEYED: Oct. - Nov. 1956, July 1957 SCALE: 1:5,000

PROJECT NO. 13820

SOUNDINGS: 808 Depth Recorder
Pole

CONTROL: Sextant fixes on shore signals

Chief of Party ---------- H. G. Conerly; A. L. Wardwell
Surveyed by ---------- H. G. Conerly; J. K. Richards
Protracted by ---------- J. K. Richards
Soundings plotted by -------- P. J. Taetz
Verified and inked by ------- L. L. VanZant
Reviewed by ---------- D. R. Engle DATE 3-7-61
Inspected by ---------- R. H. Carstens

1. Shoreline and Signals

The shoreline originates with reviewed photogrammetric surveys T-11457, T-11458, T-11459 and T-11461 of 1954.

The bridge fender on Nehalem highway bridge was rebuilt subsequent to the date of the above photogrammetric surveys. The new fender is considerably shorter, as delineated on the smooth sheet.

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

2. Sounding Line Crossings

Sounding line crossings are in adequate agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated. The 3-ft. curve was added to delineate the river channel.

4. Junctions with Contemporary Surveys

An adequate junction was effected with H-8368 (1957) on the south. There is no hydrographic survey adjoining this one on the north.

5. Comparison with Prior Surveys

There are no prior surveys by the Coast & Geodetic Survey in this area.

6. Comparison with Chart 6122 (Latest print date 12-26-60)

A. Hydrography

Charted hydrography originates from House or Representatives Document No. 1455 of 1914 in the area between the town of Nehalem and Nehalem Bay, from an undetermined source prior to 1891 in the area just north and east of Fishery Point, and from partial application of the present survey before verification and review in the remaining areas. Minor revisions in position and depth were made during smooth plotting and verification. Therefore survey depths may vary as much as 1 foot from boat sheet depths.

In areas where the present survey has not been applied, the following differences exist:

(1) The charted hydrography from the town of Nehalem to Dean Point is generally about 2 feet deeper than the present survey.

(2) The charted hydrography in the vicinity of the town of Wheeler is generally 2- to 5-feet shoaler than the present survey.

(3) The charted hydrography just north and east of Fishery Point, inshore of the channel, is 1 to 6 feet deeper than the present survey.

(4) The high-water line has changed considerably at Lat. 45°42.1', Long. 123°52.8' where the charted tidal lagoon and slough have been diked and are connected to the river only by a tide gate.

Attention is called to the following:

(5) The log boom, charted on the south side of the river between Long. 123°54.23' and 123°54.81', is no longer in existence and should be removed from the chart. There are, however, broken piles in this area.

(6) Numerous uncharted piles, dolphins and snags along both sides of the river are located on the present survey.

The present survey is adequate to supersede the charted information in the common area.

B. Aids to Navigation

The aids to navigation located on the present survey are in agreement with the charted aids and adequately mark the features intended with the following exceptions:

(1) The white daybeacon "8" located on the present survey at Lat. 45°41.7', Long. 123°52.83', including the structure on which it was situated, was removed subsequent to the date of the survey.

7. Condition of Survey

The field work, records and reports were adequate and conform to the requirements of the Hydrographic Manual.

8. Compliance with Project Instructions

The survey adequately complies with Project Instructions.

9. Additional Field Work

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

Examined and Approved:

Chief, 8/1/61
Nautical Chart Division

Assistant Director,
Office of Cartography

Projects Officer,
Operations Division

Assistant Director,
Office of Oceanography

R+C

Form 712
(11-30-55)

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

2 April 1958

Chart Division: R. H. Carstens

Plane of reference approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 8369 (1956-57)

Locality Nehalem River, Oregon

Chief of Party: A. L. Wardwell & H. G. Conerly in 1956-7

Plane of reference is mean lower low water, reading

2.7 ft. on tide staff at Wheeler

21.5 ft. below B.M. J 97 (1934)

2.7 ft. on tide staff at Nehalem

23.6 ft. below B.M. 1 (1933)

Height of mean high water above plane of reference is:

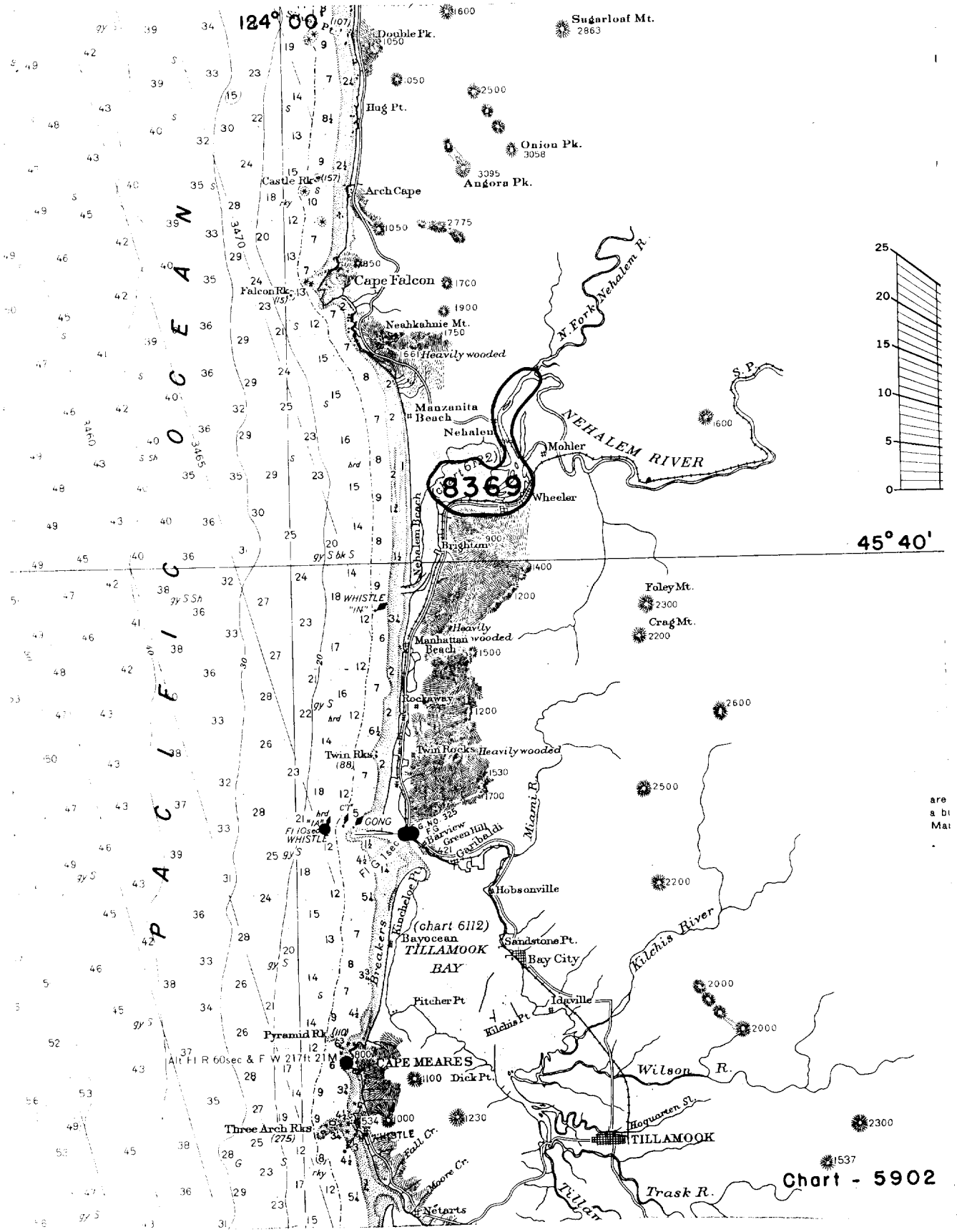
Wheeler	5.9 ft.
Nehalem	6.5 ft.

Condition of records satisfactory except as noted below:

William Thofus
Signature

Chief, Tides Branch

Comm-DC 34330


124° 00'
45° 40'
PACIFIC OCEAN
Sugarloaf Mt.
2863
Double Pk.
1050
Hug Pt.
Onion Pk.
3058
Angora Pk.
3095
Castle Rk.
Arch Cape
Cape Falcon
1700
Falcon Rk.
Neahkahnie Mt.
1750
Heavily wooded
Manzanita Beach
Nehalem
Mohler
Wheeler
8369
N. Fork Nehalem R.
NEHALEM RIVER
S.P.
Nehalem Beach
Brighton
Foley Mt.
2300
Crag Mt.
2200
Heavily wooded
Manhattan Beach
Rockaway
Twin Rks.
Twin Rocks
Heavily wooded
WHISTLE
GONG
Fl 10sec WHISTLE
Bayview
Green Hill
Garibaldi
Miami R.
Hobsonville
Sandstone Pt.
Bay City
Kilchis River
(chart 6112)
Bayocean
TILLAMOOK BAY
Pitcher Pt
Idaville
Kilchis Pt
Findlelot Pt
Breakers
Pyramid Rk
Alt Fl R 60sec & F W 217ft 21M
CAPE MEARES
Dick Pt.
Three Arch Rks
Wilson R.
Hoquarten Sl.
TILLAMOOK
Trask R.
Tillamook
Netarts
Hall Cr.
Moore Cr.
Chart - 5902

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8369 (1956-57)

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
6/3/59	6122	A.J. Hoffman	Before ~~After~~ Verification and Review (5) Applied three critical endgs.
11/61	6122 Reconstr.	R Scarcella	~~Before~~ After Verification and Review Fully 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
			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.