8346

Diag. Cht. No. 9502-2.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. WCFP-1756 *Office No.* H-8346

LOCALITY

State Oregon

General locality Pacific Ocean

Locality Vicinity of Nehalem Entrance

19~~4~~56

CHIEF OF PARTY

Horace G. Conerly

LIBRARY & ARCHIVES

DATE March 14, 1967

B-1870-1 (1)

8346

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- 8346

Field No. WCFP 1756

State Oregon

General locality ~~Oregon Coast~~ Pacific Ocean

Locality ~~Off~~ Vicinity of Nehalem River Entrance

Scale 1:10,000 Date of survey 26 Oct. - 8 Nov. 1956

Instructions dated 9 April 1956

Vessel Launch No. C.S. 160

Chief of party CDR. Horace G. Conerly

Surveyed by CDR. Horace G. Conerly

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

Fathograms scaled by A. W. Brain, H. D. Lantzy

Fathograms checked by CDR. H.G. Conerly, ENS. P.J. Taetz

Protracted by ENS. James K. Richards

Soundings penciled by ENS. James K. Richards

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

REMARKS:

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

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SURVEY

FIELD NO. 1756 - REGISTRY NO. H-8346

NEHALEM RIVER, OREGON

PROJECT 13820 SCALE: 1:10,000

WEST COAST FIELD PARTY

HORACE G. CONERLY, CHIEF OF PARTY

PURPOSE

The purpose of this survey is a new basic hydrographic survey along the outside coast off the Nehalem River Entrance, Oregon.

INSTRUCTIONS

The project number is 13820. Instructions are by the Director dated 9 April 1956.

SURVEY LIMITS AND DATES

The general locality of this survey is the Oregon Coast. The northern limit of the survey is latitude 45° 44' 00", the southern limit is latitude 45° 37' 30", the western limit is the 10-fathom curve, and the eastern limit is the shoreline (1-fathom curve), omitting the Nehalem River entrance.

This area was surveyed on 26 October, 7 November, and 8 November 1956.

VESSEL AND EQUIPMENT

Launch No. CS 160 was used for all soundings. All soundings were taken with an 808 J type fathometer, no. 152 SPX, with a keel-mounted accoustic unit, and an EDO Model 255, No. 203, with a fish mounted on the starboard side. The 808 fathometer was used in sounding the two inshore lines, and the EDO was used for all other lines.

METHODS

Standard hydrographic methods were used throughout the survey.

TIDE AND CURRENT STATIONS

A tide gage was maintained at Brighton, Oregon. See TIDAL NOTE in this report. An abstract of smooth tide reducers is attached to this report.

No current stations were occupied.

SMOOTH SHEET

The projection was made by Ensign James K. Richards in the office of the West Coast Field Party, Point Reyes Station, California.

CONTROL STATIONS

Four of the signals were previously established triangulation stations, two signals were located by sextant angle and distance, and the remainder were located by photo methods. See LIST OF SIGNALS USED for details.

SHORELINE AND TOPOGRAPHY

The shoreline is from T-11456, T-11459, T-11461, and T-11462. No discrepancies between the topographic and hydrographic surveys were found.

SOUNDINGS

Soundings were taken with the EDO Model 255 and 808 J type fathometers. The EDO transducer was mounted on the starboard side of the launch one foot below the surface and the initial set at one foot. The 808 accoustical units were mounted in the keel and the initial was set at 3 feet during the soundings.

An abstract of fathometer corrections is attached to this report. The fathometer corrections determined for project 13780 during the Summer of 1956 were also used for this project.

CONTROL OF HYDROGRAPHY

The positions of the launch was fixed by sextant angles on previously located objects ashore.

ADEQUACY OF SURVEY

This survey is considered adequate for charting purposes, and should supercede all previous surveys.

CROSSLINES

One crossline was run, which provided a comparison for all days of sounding. The crossline compared favorably with "b" and "c" days. The crossline did not check quite so well with "a" day, probably because of the rough water on "a" day.

Crossings "a" day are adequate See P 7a of Review.

COMPARISON WITH PRIOR SURVEYS

Comparison of this sheet with surveys H-4613, 1:20,000, 1926 and H-4614, 1:20,000, 1926 shows that the depth curves have maintained their same relative shapes, but have shifted somewhat.

COMPARISON WITH CHART

Chart 6122 (November 1938) has no differences from this survey other than those indicated by the prior surveys.

DANGERS AND SHOALS

All shoals and areas of breakers are shown on the sheet. No important uncharted dangers were found.

AIDS TO NAVIGATION

No fixed aids to navigation were located on this sheet.

The only floating aid in the area of this survey is the black Entrance Whistle Buoy **IN**, latitude 45° 38.98' longitude 123° 57.46', in 56 feet of water, located 8 November 1956 between positions 212 c and 213 c.

TABULATION OF APPLICABLE DATA

1. Tidal levels, marigrams, etc. forwarded to The Director 28 November 1956.
2. Field and office photographs will be held by the West Coast Field Party until the project is completed.
3. Blueline prints will be forwarded to the Portland Photogrammetric Office.
4. Special fathometer report was forwarded to The Director 17 October 1956. Abstract of corrections attached to this descriptive report.
5. Fathograms to be forwarded to The Director.
6. Sounding volumes to be forwarded to The Director.
7. Boat Sheet to be forwarded to The Director.

Respectfully Submitted

James K. Richards

James K. Richards
Ensign, C&GS

Approved and Forwarded

Arthur L. Wardwell

Arthur L. Wardwell
Commander, C&GS
OinC., West Coast Field Party

STATISTICS FOR HYDROGRAPHIC SURVEY

WCFP 1756 H-8346

LAUNCH CS 160 PROJECT 13820

Volume No.	Day Letter	Date	Number of Positions	Statute Miles of Sounding
1	a	26 October 1956	97	15.0
1 & 2	b	7 November 1956	164	31.5
2 & 3	c	8 November 1956	235	54.3
		Total:	496	100.8

Total Area = 7.3 square statute miles

TIDAL NOTE FOR HYDROGRAPHIC SURVEY

FIELD NO. WCFP 1756 REGISTRY NO. H-8346

For tide reducers in the area of this sheet, a tide gage was maintained at Brighton, Oregon (latitude 45° 40.22', longitude 123° 55.44'). The MLLW reading on the tide staff was 3.6 feet.

No corrections for time or height were applied to the observed tides.

LIST OF SIGNALS USED

FIELD NO. WCFP 1756 REGISTRY NO. H-8346

Hydrographic Name	Origin of Signal
ABE	Manuscript T-11459
DUN	See G. P. computation, this descriptive report
FLU	Manuscript T-11456
FRONT	NEHALEM RIVER ENTRANCE, RANGE 1, FRONT LIGHT, 1954
GAB	Manuscript T-11456
HAL	NEHALEM, 1926 - 1934 - 1936
KEL	Manuscript T-11462
LAKE	LAKE LYTLE, HOTEL, NORTH CHIMNEY, 1926 - 1934
RAG	Manuscript T-11456
RED	MANZANITA, RED HOUSE, WEST GABLE, 1954
RIG	Manuscript T-11461
SUN	Manuscript T-11461
TAN	See G. P. computation, this descriptive report
VIN	Manuscript T-11462

v 7H

COMBINED CORRECTIONS FOR 808 FATHOMETER 152 SPX

AS USED IN LAUNCH CS 160

PROJECT 13780 - SUMMER 1956

"A" Scale		"B" Scale	
Fathometer	Corr'n	Fathometer	Corr'n
3.6	- 0.6		
5.0	- 0.5		
7.8	- 0.4		
15.0	- 0.3		
24.0	- 0.2		
33.0	- 0.1	32.4	∠ 0.5
42.0	0.0	41.4	∠ 0.6
51.0	∠ 0.1	50.4	∠ 0.7
60.0	∠ 0.2	59.4	∠ 0.8
		68.4	∠ 0.9
		76.4	∠ 1.0
		85.4	∠ 1.1
		90.0	∠ 1.2

ABSTRACT OF SMOOTH TIDE REDUCERS

BRIGHTON TIDE GAGE DIRECT

SHEET WCFP 1756 REGISTRY NO. H-8346

"a" day, 26 Oct.

0900-0909	- 4.8 ft.
-0921	- 4.6
-0935	- 4.4
-0950	- 4.2
-1012	- 4.0
-1208	- 3.8
-1228	- 4.0
-1243	- 4.2
-1257	- 4.4
-1310	- 4.6
-1324	- 4.8
-1339	- 5.0
-1352	- 5.2

"b" day, 7 Nov.

1000-1010	- 3.2 ft.
-1030	- 3.4
-1045	- 3.6
-1100	- 3.8
-1111	- 4.0
-1123	- 4.2
-1136	- 4.4
-1149	- 4.6
- 1200	- 4.8
-1210	- 5.0
-1220	- 5.2
-1231	- 5.4
-1243	- 5.6
-1255	- 5.8
-1310	- 6.0
-1325	- 6.2
-1341	- 6.4
-1406	- 6.6
-1512	- 6.8
-1538	- 6.6
-1600	- 6.4

"c" day, 8 Nov.

1000-1042	- 3.2 ft.
-1113	- 3.4
-1136	- 3.6
-1155	- 3.8
-1213	- 4.0
-1230	- 4.2
-1244	- 4.4
-1258	- 4.6
-1310	- 4.8
-1323	- 5.0
-1338	- 5.2
-1354	- 5.4
-1411	- 5.6
-1432	- 5.8
-1500	- 6.0
-1611	- 6.2
-1634	- 6.0
-1651	- 5.8

COMBINED CORRECTIONS FOR EDO FATHOMETER # 203

AS USED IN LAUNCH CS 160

PROJECT 13780 - SUMMER 1956

Reading In Feet	Frequency in Cycles Per Second							
	60.75	60.50	60.25	60.00	59.75	59.50	59.25	59.00
A Scale								
5.0	- 0.4	- 0.4	- 0.4	- 0.4	- 0.4	- 0.4	- 0.4	- 0.3
8.4	- 0.4	- 0.3	- 0.3	- 0.3	- 0.3	- 0.3	- 0.2	- 0.2
11.5	- 0.3	- 0.3	- 0.2	- 0.2	- 0.2	- 0.1	- 0.1	0.0
14.8	- 0.3	- 0.2	- 0.2	- 0.1	0.0	0.0	± 0.1	± 0.1
17.8	- 0.2	- 0.1	- 0.1	0.0	± 0.1	± 0.1	± 0.2	± 0.3
21.1	- 0.1	- 0.1	0.0	± 0.1	± 0.2	- 0.3	± 0.3	± 0.4
24.4	- 0.1	0.0	± 0.1	± 0.2	± 0.3	± 0.4	± 0.5	± 0.6
27.5	0.0	± 0.1	± 0.2	± 0.3	± 0.4	± 0.5	± 0.6	± 0.7
30.7	0.0	± 0.2	± 0.3	± 0.4	± 0.5	± 0.6	± 0.8	± 0.9
34.0	± 0.1	± 0.2	± 0.4	± 0.5	± 0.6	± 0.8	± 0.9	± 1.0
37.0	± 0.2	± 0.3	± 0.5	± 0.6	± 0.7	± 0.9	± 1.0	± 1.2
40.3	± 0.2	± 0.4	± 0.5	± 0.7	± 0.9	± 1.0	± 1.2	± 1.4
43.4	± 0.3	± 0.5	± 0.6	± 0.8	± 1.0	± 1.1	± 1.3	± 1.5
46.6	± 0.3	± 0.5	± 0.7	± 0.9	± 1.1	± 1.3	± 1.5	± 1.6
49.8	± 0.4	± 0.6	± 0.8	± 1.0	± 1.2	± 1.4	± 1.6	± 1.8
53.0	± 0.5	± 0.7	± 0.9	± 1.1	± 1.3	± 1.5	± 1.7	± 1.9
56.2	± 0.5	± 0.8	± 1.0	± 1.2	± 1.4	± 1.7	± 1.9	± 2.1
59.4	± 0.6	± 0.8	± 1.1	± 1.3	± 1.5	± 1.8	± 2.0	± 2.2
62.6	± 0.6	± 0.9	± 1.2	± 1.4	± 1.7	± 1.9	± 2.1	± 2.4
65.7	± 0.7	± 1.0	± 1.2	± 1.5	± 1.8	± 2.0	± 2.3	± 2.6
68.5	± 0.8	± 1.0	± 1.3	± 1.6	± 1.9	± 2.2	± 2.4	± 2.7
71.9	± 0.8	± 1.1	± 1.4	± 1.7	± 2.0	± 2.3	± 2.6	± 2.9
75.0	± 0.9	± 1.2	± 1.5	± 1.8	± 2.1	± 2.4	± 2.7	± 3.0
78.1	± 1.0	± 1.3	± 1.6	± 1.9	± 2.2	± 2.5	± 2.8	± 3.2
81.3	± 1.0	± 1.3	± 1.7	± 2.0	± 2.3	± 2.7	± 3.0	± 3.3
84.5	± 1.0	± 1.4	± 1.8	± 2.1	± 2.4	± 2.8	± 3.1	± 3.5
87.8	± 1.1	± 1.5	± 1.8	± 2.2	± 2.6	± 2.9	± 3.3	± 3.6
91.0	± 1.1	± 1.5	± 1.9	± 2.3	± 2.7	± 3.1	± 3.4	± 3.8
B Scale								
53.7	- 0.2	0.0	± 0.2	± 0.4	± 0.6	± 0.8	± 1.0	± 1.2
56.9	- 0.2	± 0.1	± 0.3	± 0.5	± 0.7	± 1.0	± 1.2	± 1.4
60.1	- 0.1	± 0.1	± 0.4	± 0.6	± 0.8	± 1.1	± 1.3	± 1.5
63.3	- 0.1	± 0.2	± 0.5	± 0.7	± 1.0	± 1.2	± 1.4	± 1.7
66.4	0.0	± 0.3	± 0.5	± 0.8	± 1.1	± 1.3	± 1.6	± 1.9
69.2	± 0.1	± 0.3	± 0.6	± 0.9	± 1.2	± 1.5	± 1.7	± 2.0
72.6	± 0.1	± 0.4	± 0.7	± 1.0	± 1.3	± 1.6	± 1.9	± 2.2
75.7	± 0.2	± 0.5	± 0.8	± 1.1	± 1.4	± 1.7	± 2.0	± 2.3
78.8	± 0.3	± 0.6	± 0.9	± 1.2	± 1.5	± 1.8	± 2.1	± 2.5
82.0	± 0.3	± 0.6	± 1.0	± 1.3	± 1.6	± 2.0	± 2.3	± 2.6
85.2	± 0.3	± 0.7	± 1.1	± 1.4	± 1.7	± 2.1	± 2.4	± 2.8
88.5	± 0.4	± 0.8	± 1.1	± 1.5	± 1.9	± 2.2	± 2.6	± 2.9
91.7	± 0.4	± 0.8	± 1.2	± 1.6	± 2.0	± 2.4	± 2.7	± 3.1

APPROVAL SHEET

HYDROGRAPHIC SURVEY WCFP 1756, H-8346

This survey is complete and adequate for charting purposes, and no additional work is recommended. Since the former Chief of Party was in charge of the hydrographic party, it is evident that he had continuous personal supervision of all the work.

Arthur L. Wardwell

Arthur L. Wardwell
Commander, C&GS
OinC., West Coast
Field Party

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

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

		°	′	″			°	′	″
α	2 NEDONNA, 1954 to 3 NEHALEM, 1926	185	52	06.1	α	3 to 2			
2d ∠	&	+ 94	30	15.4	3d ∠	&	−		
α	2 NEDONNA, 1954 to 1 R.M. 2	280	22	21.5	α	3 to 1			
Δα					Δα				
		180	00	00.0			180	00	00.0
α′	1 NEDONNA, 1954 to 2 Dun	100	22	21.5	α′	1 to 3			

First Angle of Triangle

	°	′	meters			°	′	meters	°	′	″		°	′	″
φ	45	38	1097.1	2 NEDONNA, 1954	λ	123	56	494.4	φ			3	λ		
Δφ			+ 2.5		Δλ			+ 13.8	Δφ				Δλ		
φ′	45	38	1099.6	1 Dun	λ′	123	56	508.2	φ′			1	λ′		

	Logarithms	Values in ~~seconds~~ meters
s	1.14767	s = 46.1′ = 14.05 m
Cos α	9.25539	
B		
h	0.40306	1st term + 2.52
s^2	2.29534	
$\sin^2\alpha$	8.47934	
C		
	10.77468	2d term +
h^2		
D		
		3d term +
		−Δφ

	°	′	″	Logarithms	Values in ~~seconds~~ meters
½(φ+φ′)					
s				1.14767	
Sin α				9.99284	
A′					
Sec φ′					
Δλ				1.14051	+ 13.8
$\sin\frac{1}{2}(\phi+\phi')$					
−Δα					

	Logarithms	Values in seconds
s		
Cos α		
B		
h		1st term ″
s^2		
$\sin^2\alpha$		
C		
		2d term +
h^2		
D		
		3d term +
		−Δφ

	°	′	″	Logarithms	Values in seconds
½(φ+φ′)					
s					
Sin α					
A′					
Sec φ′					″
Δλ					
$\sin\frac{1}{2}(\phi+\phi')$					
−Δα					

See sketch opposite page 2, Volume I

Dun: Lat. 45° 38′ 30″ 173.4 (752.8) m.
Long. 123° 56′ 00″ 508.2 (141.5) m.

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

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

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

		°	′	″
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 MANZANITA, 1926 to 2 Hot	240	50	
3d ∠	&	− 86	41	
α	3 MANZANITA to 1 Tan	154	09	
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			+ 00.017		Δλ			+ 00.182
φ′	45	42	02.942	1 Hot	λ′	123	55	23.156

	°	′	meters			°	′	meters
φ	45	41	1363.8	3 MANZANITA, 1926	λ	123	56	238.2
Δφ			+ 72.3		Δλ			+ 35.0
φ′	45	41	1436.1	1 Tan	λ′	123	56	273.2

	Logarithms
s	0.59791
Cos α	9.11342
B	8.51041
h	18.22174
s²	1.19582
Sin²α	19.99258
C	1.41455
	2.60295
h²	36.44348
D	2.39250
	8.83598

Values in seconds
s = 13′ = 3.692 m

1st term	− 0.01664	″
2d term	+ −	
3d term	+ −	
−Δφ	−0.01664	

	°	′	″
½(φ+φ′)	45	42	02.934

	Logarithms	Values in seconds
s	0.59791	
Sin α	9.99629	
A′	8.50897	
Sec φ′	0.15688	
Δλ	19.26005	+ 0.18199
Sin ½(φ+φ′)	9.85473	
−Δα	29.11478	0.13025

	Logarithms
s	1.905094
Cos α	9.954213
B	
h	1.859307
s²	
Sin²α	
C	
h²	
D	

Values in ~~seconds~~ meters
s = 263.7′ = 80.37 m

1st term	− 72.328
2d term	+
3d term	+
−Δφ	

	°	′	″
½(φ+φ′)			

	Logarithms	Values in ~~seconds~~ meters
s	1.905094	
Sin α	9.639503	
A′		
Sec φ′		
Δλ	1.544597	+ 35.042
Sin ½(φ+φ′)		
−Δα		

See sketch opposite page 2, Volume I

Hot: Lat. 45° 42′ 00″ 90.8 (835.4) m
Long. 123° 55′ 00″ 500.2 (148.8) m

Signal Hot not used on sheet 1756

See sketch opposite page 2, Volume I

Tan: Lat. 45° 41′ 30″ 509.9 (416.3) m
Long. 123° 56′ 00″ 273.2 (375.8) m

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

RHC

Form 712
(11-30-55)

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens: 10 April 1957

Plane of reference approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 8346

Locality Nehalem River, Oregon

Chief of Party: H. G. Conerly in 1956

Plane of reference is mean lower low water, reading

3.6 ft. on tide staff at Brighton

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

Height of mean high water above plane of reference is 7.1 feet.

Condition of records satisfactory except as noted below:

William Shafer

Signature

Chief, Tides Branch

Comm-DC 34330

GEOGRAPHIC NAMES

Survey No. H-8346

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Manhattan Beach										1
Manzanita Beach										2
Nehalem Beach										3
Nehalem River										4
Nehalem River Entrance										5
Sunset Beach										6
					4-9-57			ajw		7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8346

Records accompanying survey:

Boat sheets 1; sounding vols. 3; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 1-Envelope

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

sheet.

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

Number of positions on sheet		~~496~~
Number of positions checked		6
Number of positions revised		0
Number of soundings revised (refers to depth only)		8
Number of soundings erroneously spaced		0
Number of signals erroneously plotted or transferred		0
Topographic details	Time	2
Junctions	Time	0
Verification of soundings from graphic record	Time	2

Verification by O. Svendsen Total time 63 hrs Date 2-6-58

Reviewed by [signature] Time 36 Date 2-27-58

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION-NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8346 FIELD NO. WCFP-1756

Oregon, Pacific Ocean, Vicinity of Nehalem River Entrance

Surveyed Oct.-Nov. 1956 Scale 1:10,000

Project No. CS 13820

Soundings:

808 Depth Recorder
Edo Echo Sounder

Control:

Sextant fixes on shore signals

Chief of Party - H. G. Conerly
Surveyed by - H. G. Conerly
Protracted by J. K. Richards
Soundings plotted by - J. K. Richards
Verified and inked by - O. Svendsen
Reviewed by - I. M. Zeskind
Inspected by - R. H. Carstens

Date: 2-27-58

1. Shoreline and Control

The shoreline originates with unreviewed air-photographic surveys T-11456, T-11459, T-11461 and T-11462 of 1954-55.

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

2. Sounding Line Crossings

Depths at crossings are in adequate agreement. (See paragraphs 7c and 8).

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated, except that breakers prevented development to the low-water line.

The bottom is fairly irregular in depths less than 24 ft., and generally smooth in greater depths. Shoals and sections of sand ridges parallel to the coast are found inshore.

4. Junctions with Contemporary Surveys

The project survey which joins the present survey at the entrance to Nehalem River has not yet been received in the Washington Office. The present survey extends to the project limits on the north, west and south where adequate junctions with the charted hydrography were made.

5. Comparison with Prior Surveys

A. H-402 (1853), 1-375,000
H-1722(1885-87), 1-40,000

H-402 is a reconnaissance survey consisting of a single line of soundings which parallels the shore and whose depths range from 15-25 ft. Survey H-1722 covers the area of the present survey. A comparison between the prior and present surveys reveals the bottom at the entrance to Nehalem River and along the coast in depths of less than 24 ft. to be of a changeable character. A submarine ridge which formerly ran parallel to and about 1/2 mile from shore and extended from approximate lat. 45°40.8', to lat. 45°43.0', is in the process of disintegration. The remaining portion of the ridge has shifted inshore about 100 meters with the resultant changes in depths, as for example, in lat. 45°41.42', long. 123°56.66', where the present 9- to 11- ft. ridge falls in prior depths of 24 ft. Elsewhere in depths greater than 30 ft., the bottom has shoaled as much as 10 ft. Changes in shoreline have also taken place. The north shore of the entrance to Nehalem River has accreted about 200 meters southward and the south shore has accreted about 400 meters northwestward. The present survey is adequate to supersede the prior surveys within the common area.

B. H-4613 (1926), 1-20,000
H-4614 (1926), 1-20,000

The prior surveys cover the area of the present survey. A comparison between the prior and present surveys reveals that the same conditions of bottom changeability exist as mentioned in paragraph A above. An off-lying submarine ridge paralleling the shore has moved shoreward from 100 to 200 meters and shows disintegration with resultant changes in depths. The bottom in depths greater than 30 ft. has generally shoaled, as for example, in lat. 45°38.68', long. 123°57.27' where present depths of 31 ft. falls in prior depths of 42 ft. The north shore of the entrance to Nehalem River has accreted southeastward about 100 meters.

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

6. Comparison with Chart 5902 (Latest print date 10-24-55)
6122 (Latest print date 1-27-58)

A. Hydrography

The charted hydrography originates principally with the prior surveys previously discussed which need no further consideration, with a few critical soundings from the present survey prior to verification and review and from the boat sheet of a more recent survey, and with the U. S. Corps of Engineers surveys accomplished subsequent to 1936. Differences of as much as 14 ft. between the charted and present survey depths are noted. These differences in depth occur principally at the entrance to Nehalem River and on the charted ridge which parallels the coast. The 7 ft. sounding charted in lat. 45°42.65', long. 123°56.82', from H-4613 (1926) is in error. The sounding should actually be 17 ft. → falls in depths of 23-27 ft. NWB 11/14/60

The present survey is adequate to supersede the charted information except off the Nehalem River entrance where soundings are charted from our survey of 1957.

B. Aids to Navigation

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 accurately done.

c. Only one crossline was run on the present survey. This amounted to only 1% of the regular system of lines rather than the 8-10% specified in the Project Instructions.

8. Compliance with Project Instructions

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

9. Additional Field Work Recommended

The survey is considered basic and no additional field work is recommended.

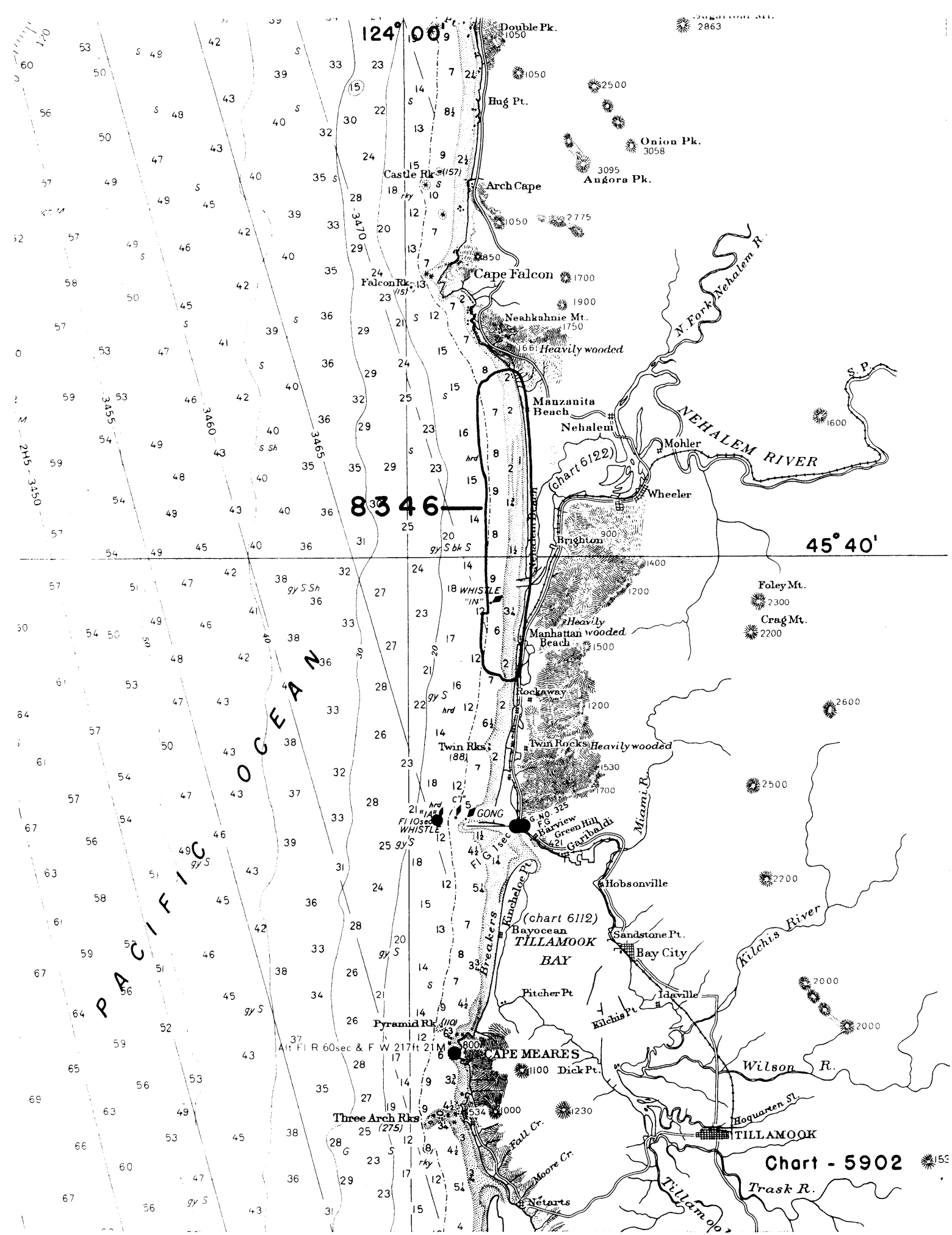
Examined and approved:

Max G. Ricketts
Chief, Nautical Chart Branch

Charles A. Schanck
Chief, Division of Charts

Karl B. Jeffers
Chief, Hydrography Branch

Samuel B. Grenell
Chief, Division of Coastal Surveys


124° 00'
45° 40'
8346
Double Pk.
1050
Hug Pt.
Onion Pk.
3058
Angora Pk.
3095
Castle Rk. (157)
Arch Cape
Cape Falcon
1700
Falcon Rk. (15)
Neahkahnie Mt.
1750
Heavily wooded
Manzanita Beach
Nehalem
Mohler
Wheeler
Brighton
Foley Mt.
2300
Crag Mt.
2200
Manhattan Beach
Heavily wooded
Rockaway
Twin Rks. (88)
Twin Rocks
Heavily wooded
GONG
WHISTLE
Barview
Green Hill
Garibaldi
Miami R.
Hobsonville
(chart 6112)
Bayocean
TILLAMOOK BAY
Sandstone Pt.
Bay City
Kilchis River
Pitcher Pt
Idaville
Kilchis Pt
Pyramid Rk (110)
Alt Fl R 60sec & F W 217ft 21M
CAPE MEARES
Dick Pt.
Wilson R.
Three Arch Rks (275)
Fall Cr.
Moore Cr.
Netarts
Hoquarten Sl.
TILLAMOOK
Trask R.
Tillamook
Chart - 5902
N. Fork Nehalem R.
NEHALEM RIVER
S. P.
(chart 6122)
Breakers
Kincheloe Pt
PACIFIC OCEAN

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8346

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
12/6/57	6122	—	Before ~~After~~ Verification and Review
			Part. applied 12/6/57
			Before After Verification and Review
6/17/58	5902	Sam	Examined.
			Before After Verification and Review
11/64	6122 Reconstruction	F.R. Scarcella	~~Before~~ After Verification and Review Fully applied
7/22/91	18526	RWINKFIELD	~~Before~~ After Verification and Review thru 18558
		W J. Ohms	
			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.