

8250

Diag. Cht. No. 6002-2.

Form 504

U. S. COAST AND GEODETIC SURVEY  
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. WCSP-1155 Office No. H-8250

LOCALITY

State Washington

General locality Grays Harbor

Locality North Bay

194 55-56

CHIEF OF PARTY

H. G. Conerly

LIBRARY & ARCHIVES

DATE October 22, 1956

8250

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-8250

Field No. WCSP 1155

State Washington

General locality Grays Harbor

Locality North Bay

Scale 1:10,000 Date of survey May - June 1955  
June - July - August 1956

Instructions dated 18 February 1955

Vessel Launch No. GS 160

Chief of party Horace G. Conerly

Surveyed by H. G. Conerly, G. D. Upton, K. E. Taggart

Soundings taken by fathometer, graphic recorder, ~~and other means~~ and pole

Fathograms scaled by A. W. Brain

Fathograms checked by Various members of the party.

Protracted by P. J. Taets

Soundings penciled by P. J. Taets

Soundings in ~~fathoms~~ feet at ~~MLLW~~ MLLW

REMARKS:  
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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. W-8290

Field No. WOSP 1155

State Washington

General locality Greys Harbor

Locality North Bay

Scale 1:10,000 Date of survey May - June 1955  
June - July - August 1956

Instructions dated 18 February 1955

Vessel Launch No. CS 160

Chief of party Horace G. Conerly

Surveyed by H. G. Conerly, C. D. Upton, K. E. Taggart

Soundings taken by fathometer, graphic recorder, ~~hand level~~ pole

Fathograms scaled by A. W. Brain

Fathograms checked by Various members of the party.

Protracted by P. J. Taets

Soundings penciled by P. J. Taets

Soundings in ~~feet~~ feet at ~~MLLW~~ MLLW

REMARKS:  
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DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SURVEY

FIELD NO. WCSP 1155 - REGISTRY NO. H-8250

GRAYS HARBOR, WASHINGTON

PROJECT 13780

Scale: 1:10,000

WEST COAST SHORE PARTY; H. G. CONERLY, CHIEF OF PARTY

SURVEYED BY: H. G. CONERLY, C. D. UPHAM, K. E. TAGGART

PROJECT AND INSTRUCTIONS

This survey was executed in accordance with Director's instructions dated 18 February 1955.

SURVEY LIMITS AND DATES

The general locality of this survey is Grays Harbor. The survey covers an area which is bordered on the north, east, and west by the shore of North Bay and extends southward to a junction with Sheet WCSP 1255 at the Latitude of approximately  $46^{\circ} 58' 30''$ . H-8251

Field work commenced on 23 May 1955 and ceased on 21 June 1955. Work resumed on 6 June 1956 and continued intermittently until 16 August 1956.

VESSELS AND EQUIPMENT

C&GS Launch No. CS 160 and a skiff with outboard were used for all hydrographic work on this survey. Both types 808 J and EDO Model 255 graphic recording fathometers were used. The 808, numbers 152 SPX and 154 SPX were calibrated to 800 fm/sec. and used keel mounted acoustic units lying approximately 3 ft. below the water surface.

The EDO, No. 203 was calibrated to 800 fm/sec. and used an acoustic unit which was fish mounted at one foot below the water surface.

TIDE AND CURRENT STATIONS

One tide station was maintained for the purpose of obtaining tide reducers for this survey. It was located at Point Chehalis at Westhaven, Washington. See TIDE NOTE in this report. An abstract of tide reducers is attached to this report.

No current stations were observed.

## CROSSLINES

There are adequate crosslines to make comparisons on all days of soundings. The crosslines with several minor exceptions are satisfactory. ✓

Exception 1 is located in the approximate area of Latitude  $46^{\circ} 59.22'$  and Longitude  $124^{\circ} 04.2'$ . In this area the "g" day line which follows the channel did not agree too well with the crosslines of "h" day. However the bottom slope at this point is quite steep and a movement of the "h" day sounding line approximately 10 m. to the east would correct the situation. This error was probably introduced by a very slight inaccuracy in one of the sextant angles.

steep slope.  
Depth at crossings in adequate agreement

Exception 2 is located in the area enclosed by Latitude  $47^{\circ} 00' 00''$  and  $47^{\circ} 01' 00''$  and Longitude  $124^{\circ} 05' 00''$  and  $124^{\circ} 06' 00''$ . The "b" day sounding line in this area is a near swinger between positions 16 and 22 therefore it is possible that some error may exist in plotting. The crossings however seem to be satisfactory.

## COMPARISON WITH PRIOR SURVEYS

The only existing survey of this area was of a reconnaissance nature and is inadequate for comparison purposes. (H-15896, 1883)

P5 Review

## COMPARISON WITH CHART

The new survey in comparison with the chart shows that extensive changes have taken place in most of the area involving a relocation and in some cases the complete elimination of the charted channels.

P6 Review

## DANGERS AND SHOALS

There are a number of obstructions scattered throughout the surveyed area. These obstructions are all located on the sheet with the exception of those on a fairly large area surrounding the entrance to the Humptulips River where the obstructions which include mostly stumps and logs were too numerous to locate. Navigation is unsafe for any type vessel in this specific area.

$47^{\circ} 02'$   
 $124^{\circ} 03.5'$

Piles are located on the sheet. ✓

All shoal areas are indicated on the sheet. The island in the vicinity of Latitude  $46^{\circ} 59' 30''$  and Longitude  $124^{\circ} 05' 00''$  is constantly shifting and changing size. The location shown on the sheet was determined by topographic methods on 5 September 1956.

On 16 June 1956 at 2.2 ft. of tide the oystermans channel markers, called temporary posts on the sheet at pos. 24 and 25a, could not be seen. If they are still there they are under water at this tide.

Markers shown on smooth sheet.

$46^{\circ} 59.9'$   
 $124^{\circ} 03.7'$

AIDS TO NAVIGATION

The area enclosed on this sheet is used nearly exclusively by oyster-men who have placed several temporary posts as channel markers for their own use. There are no other permanent or temporary aids to navigation in the area.

LANDMARKS FOR CHARTS

No additional landmarks recommended.

VELOCITY CORRECTIONS

Velocity corrections were determined from bar checks and pole comparisons during hydrographic operations. Copies of the abstract of echo corrections are appended to this report.

CONTROL STATIONS

Triangulation control was from previously determined triangulation stations. No additional work was needed.

Photogrammetric locations of topographic stations were taken from manuscripts <sup>(1950-1956)</sup> T-9516 S and <sup>(1950-55)</sup> T-9515. Other topographic control was from previously determined topographic stations and from computations which are included in this report.

The origins of the hydrographic stations used are found on the LIST OF SIGNALS USED which is included in this report.

SHORELINE AND TOPOGRAPHY

The shoreline was transferred to the Boat Sheet and Smooth Sheet from blue-line prints T-9515, T-9516 S, T-9518 N and T-9519 N.  
(1950-55) (1950-55) (1950-56) (1950-56)

Other topography including the shoreline for Goose Island and the shifting island NW of Goose Island and the location of various piling was obtained from ~~plane-table~~ sheets T-9516 S and T-9518 N furnished by the Portland Photogrammetric Office. (1950-56) (1950-56)

METHODS

Standard hydrographic methods were used throughout.

## SOUNDINGS

Soundings were taken with type 808 J and EDO 225 fathometers. Soundings were corrected by fathometer comparisons with standard bar checks and pole soundings. An abstract of corrections is part of this report and a separate fathometer report will be forwarded to the Director.

## CONTROL OF HYDROGRAPHY

The position of the launch was fixed by sextant angles to previously located objects.

## ADEQUACY OF SURVEY

This survey is considered complete and adequate to supersede prior surveys for charting.

## ANCHORAGES

There are no recommended anchorages in the area except for small vessels.

## JUNCTION WITH CONTEMPORARY SURVEYS

Junction with Sheet WCSP 1255 is satisfactory.  
*H-8251*

## PRELIMINARY REVIEW

Nothing was mentioned in the preliminary review in the area of this sheet.

## MISCELLANEOUS

Additional development was attempted in the channel leading into the Humptulips River as requested in the letter of 1 August 1956 from Assistant Director, Robert W. Knox. This development was done during a period of high tide and at this time the water from the Humptulips River was observed to enter the North Bay by spreading out over a large area of mud flats all of which are above MLLW. There are many stumps and logs stuck in the mud which the water flows around.

The zero curve to the south of these mud flats was more accurately defined showing definite proof that no channel leads into the river.

TABULATION OF APPLICABLE DATA

1. Tidal levels, marigrams forwarded to the Director; Abstract of reducers appended to this report.
2. Field and office photographs transferred to Portland Photogrammetric Office.
3. Photo manuscripts to be forwarded to Seattle Processing Office.
4. Fathograms to be forwarded to Washington Office.
5. Blue-line prints to be forwarded to Seattle Processing Office.
6. Special fathometer report to be forwarded to Director, with abstract of corrections appended to this report. *H.G. Conerly 1955/139*  
*H.G. Conerly 1956/134*
7. Boat Sheet is to be forwarded to Director.
8. Sounding volumes to be forwarded to Director.

Respectfully Submitted

*Philip J. Taetz*  
Philip J. Taetz  
Ensign, C&GS

Approved and Forwarded

*Horace G. Conerly*  
Horace G. Conerly  
Commander, C&GS  
OinC., West Coast Field Party



APPROVAL SHEET

HYDROGRAPHIC SURVEY FIELD NO. WCSP 1155 - REGISTRY NO. H-8250

The survey was under the close supervision of the Chief of Party.  
The survey and records are approved.

*Horace G. Conerly*  
Horace G. Conerly  
Commander, C&GS  
OinC., West Coast  
Field Party

LIST OF SIGNALS USED

WEST COAST SHORE PARTY

HYDROGRAPHIC SURVEY FIELD NO. WCSP 1155 - REGISTRY NO. H-8250

Name Used In Hydro.	Origin of Signal
DUC	Tope. DUC, 1940 - 1951 - 1955 T-9515.
EGG	Recorded on page 2, volume 1.
GOS	Computed from theodolite cuts by WCSP 1955. Part of Descriptive Report Sheet WCSP 1255, Reg. No. H-8251. Lat. 46° 58' 1157.6m. (695.2 m) Long 125° 04' 363.9m. (904.3 m).
HEN ✓	CHENOIS, 1940 - 1955.
HOL ✓	HOLMAN, 1940 R.M.-2, 1955.
HOP	T-9516 S.
HUM	T-9516 S.
LOG	Recorded on page 2, volume 1.
MIN ✓	MINARD, 1940 - 1955.
MED	Peak of Meds Rock computed from theodolite cuts. Computations included in this report.
NEW	NEW (USE), 1951 - 1955.
FILE	Recorded on page 13, volume 5.
RAIN	RAIN, 1940 - 1955.
RAP	Traverse recorded page 2, volume 1, Computations included in this report.
ROD	T-9516 S.
SIL	T-9516 S.
TULIPS	TULIPS, 1940 - 1955.
WHITE	Recorded on page 13, volume 3.

TIDAL NOTE FOR HYDROGRAPHIC SURVEY

FIELD NO. WCSP 1155 - REGISTRY NO. H-8250

For tide reducers for the whole area a tide gage was maintained at Point Chehalis Latitude 46-54-34 Longitude 124-06-45. The staff reading of MLLW was 3.1 feet.

Due to the distance from the gage a time correction of plus 20 minutes was applied to all observations. The area is designated as tide zone "C".

ABSTRACT OF SMOOTH TIDE REDUCERS

POINT CHEHALIS TIDE GAGE

HYDROGRAPHIC SHEET FIELD NO. WCSP 1155 - REGISTRY NO. H-8250

TIDE ZONE "C"

"a" day 23 May 1955	"b" day 6 June 1955	"e" day 6 June 1956
0924 - 0931 / 1.4	1144 - 1154 -4.2	0924 - 0934 - 5.6
0938 / 1.2	1204 - 4.4	0944 - 5.8
0944 / 1.0	1211 - 4.6	0954 - 6.0
0951 / 0.8	1220 - 4.8	1005 - 6.2
0957 / 0.6	1229 - 5.0	1016 - 6.4
1002 / 0.4	1239 - 5.2	1029 - 6.6
1009 / 0.2	1249 - 5.4	1044 - 6.8
1016 0.0	1257 - 5.6	1106 - 7.0
1020 - 0.2	1308 - 5.8	1220 - 7.2
1026 - 0.4	1320 - 6.0	
1032 - 0.6	1332 - 6.2	"f" day 7 June 1956
1038 - 0.8	1350 - 6.4	0959 - 1008 - 5.6
1044 - 1.0	1520 - 6.6	1016 - 5.8
1050 - 1.2		1026 - 6.0
1056 - 1.4	"c" day 20 June 1955	1036 - 6.2
1101 - 1.6	1131 - 1133 - 5.2	1047 - 6.4
1106 - 1.8	1140 - 5.4	1058 - 6.6
1111 - 2.0	1146 - 5.6	1110 - 6.8
1117 - 2.2	1154 - 5.8	1123 - 7.0
1123 - 2.4	1203 - 6.0	1134 - 7.2
1129 - 2.6	1212 - 6.2	1150 - 7.4
1135 - 2.8	1220 - 6.4	1211 - 7.6
1140 - 3.0	1230 - 6.6	1255 - 7.8
1146 - 3.2	1240 - 6.8	1312 - 7.6
1153 - 3.4	1253 - 7.0	1326 - 7.4
1158 - 3.6	1305 - 7.2	1337 - 7.2
1204 - 3.8	1320 - 7.4	1348 - 7.0
1210 - 4.0	1340 - 7.6	1358 - 6.8
1217 - 4.2	1430 - 7.8	1407 - 6.6
1223 - 4.4	1442 - 7.6	1417 - 6.4
1230 - 4.6	1451 - 7.4	
1235 - 4.8	1500 - 7.2	"g" day 11 June 1956
1242 - 5.0		0923 - 0932 / 1.8
1249 - 5.2	"d" day 21 June 1955	0942 / 1.6
1256 - 5.4	1220 - 1225 - 5.4	0951 / 1.4
1304 - 5.6	1231 - 5.6	0959 / 1.2
1311 - 5.8	1238 - 5.8	1007 / 1.0
1320 - 6.0	1245 - 6.0	1015 / 0.8
1328 - 6.2	1251 - 6.2	1020 / 0.6
1336 - 6.4	1259 - 6.4	1027 / 0.4
1346 - 6.6	1306 - 6.6	1033 / 0.2
1356 - 6.8	1315 - 6.8	1039 0.0
1407 - 7.0	1325 - 7.0	1045 - 0.2
1420 - 7.2	1334 - 7.2	1051 - 0.4
1444 - 7.4	1345 - 7.4	1057 - 0.6
1538 - 7.6	1356 - 7.6	1103 - 0.8
1555 - 7.4	1413 - 7.8	1109 - 1.0
	1527 - 8.0	1115 - 1.2

"g" day continued on next page.

ABSTRACT OF SMOOTH TIDE REDUCERS  
(CONTINUATION)

"g" day (contd)		"j" day 13 June 1956		"n" day (contd)	
1120	- 1.4	1103 - 1116	≠ 0.4	1313	- 6.6
1125	- 1.6	1125	≠ 0.2	1325	- 6.4
1131	- 1.8	1134	0.0	1332	- 6.2
1137	- 2.0	1141	- 0.2	1343	- 6.0
1142	- 2.2	1149	- 0.4	1354	- 5.8
1148	- 2.4			1404	- 5.6
1154	- 2.6	"k" day 15 June 1956		1415	- 5.4
1200	- 2.8	1039 - 1050	- 2.0	1425	- 5.2
1206	- 3.0	1101	- 1.8	"p" day 21 June 1956	
1211	- 3.2	1115	- 1.6	1029 - 1037	- 5.2
1329 - 1336	- 6.0	1132	- 1.4	1048	- 5.4
1343	- 6.2	1304 - 1317	- 1.6	1058	- 5.6
1349	- 6.4	1327	- 1.8	1108	- 5.8
1357	- 6.6	1337	- 2.0	1120	- 6.0
1404	- 6.8	"l" day 18 June 1956		1133	- 6.2
1412	- 7.0	0920 - 0933	- 6.6	1150	- 6.4
1420	- 7.2	1046	- 6.8	1208	- 6.6
1428	- 7.4	1110	- 6.6	1233	- 6.8
1438	- 7.6	1128	- 6.4	1327	- 7.0
1448	- 7.8	1245 - 1258	- 4.8	1345	- 6.8
1500	- 8.0	1312	- 4.6	1358	- 6.6
1518	- 8.2	1325	- 4.4	1408	- 6.4
1620	- 8.4	1342	- 4.2	1418	- 6.2
"h" day 12 June 1956		1359	- 4.0	"q" day 22 June 1956	
0905 - 0920	≠ 1.6	1420	- 3.8	1053 - 1100	- 5.2
0953	≠ 1.8	1609	- 3.6	1110	- 5.4
1013	≠ 1.6	"m" day 19 June 1956		1120	- 5.6
1026	≠ 1.4	0902 - 0917	- 5.8	1130	- 5.8
1037	≠ 1.2	0929	- 6.0	1140	- 6.0
1045	≠ 1.0	0942	- 6.2	1150	- 6.2
1053	≠ 0.8	0955	- 6.4	1202	- 6.4
1240 - 1246	- 2.8	1012	- 6.6	1215	- 6.6
1252	- 3.0	1031	- 6.8	1235	- 6.8
1340 - 1347	- 4.8	1137	- 7.0	1304	- 7.0
1353	- 5.0	1203	- 6.8	1342	- 7.2
1359	- 5.2	"n" day 20 June 1956		1410	- 7.0
1406	- 5.4	0920 - 0930	- 5.0	1426	- 6.8
1412	- 5.6	0941	- 5.2	1438	- 6.6
1420	- 5.8	0952	- 5.4	1449	- 6.4
1426	- 6.0	1003	- 5.6	1458	- 6.2
1432	- 6.2	1015	- 5.8	1507	- 6.0
1439	- 6.4	1025	- 6.0	1515	- 5.8
1446	- 6.6	1037	- 6.2		
1453	- 6.8	1048	- 6.4		
1501	- 7.0	1102	- 6.6		
1509	- 7.2	1120	- 6.8		
1517	- 7.4	1241	- 7.0		
1528	- 7.6	1259	- 6.8		
1540	- 7.8				
1554	- 8.0				

ABSTRACT OF SMOOTH TIDE REDUCERS

(CONTINUATION)

"r" day 27 June 1956	"s" day (contd)	"v" day 6 July 1956
0935 - 0958 / 0.2	1320 - 1330 - 3.8	0929 - 0935 - 4.6
1013 0.0	1340 - 4.0	0943 - 4.8
1025 - 0.2	1349 - 4.2	0950 - 5.0
1035 - 0.4	1358 - 4.4	0959 - 5.2
1046 - 0.6	1407 - 4.6	1007 - 5.4
1056 - 0.8	1415 - 4.8	1015 - 5.6
1105 - 1.0	1425 - 5.0	1026 - 5.8
1114 - 1.2	1435 - 5.2	1039 - 6.0
1123 - 1.4	1445 - 5.4	1051 - 6.2
1132 - 1.6	"t" day 29 June 1956	1102 - 6.4
1140 - 1.8	0919 - 0937 - 0.8	1117 - 6.6
1149 - 2.0	1003 - 0.6	1133 - 6.8
1158 - 2.2	1058 - 0.4	1158 - 7.0
1205 - 2.4	1124 - 0.6	1242 - 7.2
1213 - 2.6	1140 - 0.8	1301 - 7.0
1220 - 2.8	1153 - 1.0	1315 - 6.8
1229 - 3.0	1204 - 1.2	1324 - 6.6
1236 - 3.2	1302 - 1312 - 2.6	1334 - 6.4
1244 - 3.4	1320 - 2.8	"w" day 16 August 1956
1252 - 3.6	1330 - 3.0	0912 - 0940 - 6.0
1300 - 3.8	1339 - 3.2	1130 - 6.2
1307 - 4.0	1348 - 3.4	1149 - 6.0
1314 - 4.2	1357 - 3.6	1205 - 5.8
1320 - 4.4	1404 - 3.8	1220 - 5.6
1330 - 4.6	1413 - 4.0	
1339 - 4.8	1420 - 4.2	
1347 - 5.0	1430 - 4.4	
1355 - 5.2	1439 - 4.6	
1404 - 5.4	1448 - 4.8	
1414 - 5.6	1457 - 5.0	
1423 - 5.8	1507 - 5.2	
1433 - 6.0	1517 - 5.4	
1441 - 6.2	"u" day 5 July 1956	
1455 - 6.4	1030 - 1203 - 6.6	
1508 - 6.6	1225 - 6.4	
1520 - 6.8	1236 - 6.2	
"s" day 28 June 1956	1247 - 6.0	
0929 - 1025 - 0.0	1258 - 5.8	
1044 - 0.2	1306 - 5.6	
1058 - 0.4	1316 - 5.4	
1110 - 0.6	1324 - 5.2	
1120 - 0.8	1335 - 5.0	
1130 - 1.0	1347 - 4.8	
1140 - 1.2	1400 - 4.6	
1150 - 1.4	1413 - 4.4	
1159 - 1.6	1425 - 4.2	
1208 - 1.8	1440 - 4.0	
1216 - 2.0	1455 - 3.8	
1224 - 2.2	1513 - 3.6	
1232 - 2.4		

COMBINED CORRECTIONS FOR FATHOMETER 152 SPK

WHEN BEING USED IN LAUNCH CS 160

SEASON 1955 - PROJECT 13780 AND 13790

"A" Scale		"B" Scale		"C" Scale		"D" Scale	
Fathometer Reading	Corr'n	Fathometer Reading	Corr'n	Fathometer Reading	Corr'n	Fathometer Reading	Corr'n
2.6 - 5.2	- 0.6						
8.6	- 0.4						
17.7	-0.2						
34.7	0.0						
40.0	✓ 0.2	39.1	✓ 1.1				
45.0	✓ 0.4	44.1	✓ 1.3				
47.9	✓ 0.6	47.0	✓ 1.5				
50.1	✓ 0.8	49.2	✓ 1.7				
52.2	✓ 1.0	51.3	✓ 1.9				
54.0	✓ 1.2	53.1	✓ 2.1				
55.9	✓ 1.4	55.0	✓ 2.3				
57.5	✓ 1.6	56.6	✓ 2.5				
59.6	✓ 1.8	58.7	✓ 2.7				
		61.2	✓ 2.9				
		63.7	✓ 3.1				
		66.7	✓ 3.3				
		70.1	✓ 3.5	72.1	✓ 1.5		
		73.5	✓ 3.7	75.5	✓ 1.7		
		77.3	✓ 3.9	79.5	✓ 1.9		
		81.9	✓ 4.1	83.9	✓ 2.1		
		85.9	✓ 4.3	87.9	✓ 2.3		
		91.0	✓ 4.5	93.0	✓ 2.5		
				98.3	✓ 2.7		
				133.6	✓ 2.9	136.8	- 0.3
						164.3	- 0.1

COMBINED CORRECTIONS WHEN SOUNDING IN FATHOMS WITH INITIAL SET AT 0.0 FMS.

"A" Scale	
Fathometer Reading (Fms)	Corr'n (ft)
14.5 - 15.3	✓ 6.6
16.6	✓ 6.8
22.1	✓ 7.0
30.0	✓ 7.2

COMBINED CORRECTIONS FOR FATHOMETER 154 SPX

WHEN BEING USED LAUNCH CS 160

SEASON 1955 - PROJECT 13780 AND 13790

"A" Scale		"B" Scale		"C" Scale		"D" Scale	
Fathometer Reading	Corr'n	Fathometer Reading	Corr'n	Fathometer Reading	Corr'n	Fathometer Reading	Corr'n
3.9 - 6.3	- 0.8						
9.4	- 0.6						
21.4	- 0.4						
31.4	- 0.2						
40.0	0.0	39.4	+ 0.6				
45.0	+ 0.2	44.4	+ 0.8				
50.3	+ 0.4	49.7	+ 1.0				
53.1	+ 0.6	52.5	+ 1.2				
55.8	+ 0.8	55.2	+ 1.4				
57.5	+ 1.0	56.9	+ 1.6				
59.9	+ 1.2	59.3	+ 1.8				
		61.5	+ 2.0				
		63.4	+ 2.2				
		65.5	+ 2.4				
		68.6	+ 2.6	70.3	+ 0.9		
		71.7	+ 2.8	73.4	+ 1.1		
		77.3	+ 3.0	79.0	+ 1.3		
		81.3	+ 3.2	83.0	+ 1.5		
		86.3	+ 3.4	88.0	+ 1.7		
		92.4	+ 3.6	94.1	+ 1.9		
				112.9	+ 2.1	114.5	+ 0.5
				161.1	+ 2.3	162.7	+ 0.7

COMBINED CORRECTIONS WHEN SOUNDING IN FATHOMS WITH INITIAL SET AT 0.0 FMS.

"A" Scale	
Fathometer Reading (fms)	Corr'n (ft)
15.0 - 18.7	+ 6.2
30.0	+ 6.4



COMBINED CORRECTIONS FOR EDO PATHOMETER #203

AS USED IN LAUNCH CS 160 - SEASON 1955 Project 1378 + 1379

Reading In Feet	Frequency in Cycles per second										
	60.50	60.25	60.00	59.75	59.50	59.25	59.00	58.75	58.50	58.25	58.00
<b>A Scale</b>											
13.3	- 0.7	- 0.6	- 0.6	- 0.6	- 0.5	- 0.5	- 0.5	- 0.4	- 0.4	- 0.4	- 0.3
-18.1	- 0.5	- 0.5	- 0.4	- 0.3	- 0.3	- 0.2	- 0.2	- 0.1	0.0	0.0	+0.1
-22.6	- 0.4	- 0.3	- 0.2	- 0.1	0.0	+0.1	+0.2	+0.3	+0.4	+0.5	+0.5
-28.2	- 0.2	- 0.1	0.0	+0.1	+0.2	+0.3	+0.4	+0.6	+0.7	+0.8	+0.9
-37.5	- 0.1	+0.1	+0.2	+0.3	+0.5	+0.6	+0.8	+0.9	+1.0	+1.2	+1.3
-46.7	0.0	+0.2	+0.4	+0.6	+0.8	+0.9	+1.1	+1.3	+1.5	+1.7	+1.8
53.3	+0.2	+0.4	+0.6	+0.8	+1.0	+1.2	+1.4	+1.6	+1.9	+2.1	+2.3
61.5	+0.3	+0.6	+0.8	+1.0	+1.3	+1.5	+1.8	+2.0	+2.3	+2.6	+2.8
68.9	+0.4	+0.7	+1.0	+1.3	+1.6	+1.8	+2.1	+2.4	+2.7	+3.0	+3.2
76.5	+0.6	+0.9	+1.2	+1.5	+1.8	+2.1	+2.4	+2.7	+3.1	+3.4	+3.7
84.2	+0.7	+1.1	+1.4	+1.7	+2.1	+2.4	+2.8	+3.1	+3.5	+3.9	+4.2
92.1	+0.8	+1.2	+1.6	+2.0	+2.4	+2.7	+3.1	+3.5	+3.9	+4.3	+4.6
99.0	+1.0	+1.4	+1.8	+2.2	+2.6	+3.0	+3.4	+3.8	+4.3	+4.7	+5.1
107.0	+1.1	+1.6	+2.0	+2.4	+2.9	+3.3	+3.8	+4.2	+4.7	+5.1	+5.6
114.2	+1.2	+1.7	+2.2	+2.7	+3.2	+3.6	+4.1	+4.6	+5.1	+5.6	+6.0
121.6	+1.4	+1.9	+2.4	+2.9	+3.4	+3.9	+4.4	+4.9	+5.4	+5.9	+6.5
128.8	+1.5	+2.1	+2.6	+3.1	+3.2	+4.2	+4.8	+5.3	+5.8	+6.4	+6.9
136.2	+1.6	+2.2	+2.8	+3.4	+4.0	+4.5	+5.1	+5.7	+6.3	+6.8	+7.4
144.3	+1.8	+2.4	+3.0	+3.6	+4.2	+4.8	+5.4	+6.0	+6.6	+7.2	+7.8
151.3	+1.9	+2.6	+3.2	+3.8	+4.4	+5.1	+5.7	+6.4	+7.0	+7.6	+8.3
159.0	+2.1	+2.7	+3.4	+4.1	+4.7	+5.4	+6.0	+6.7	+7.4	+8.0	+8.7
160.0	+2.2	+2.9	+3.6	+4.3	+5.0	+5.7	+6.4	+7.1	+7.8	+8.5	+9.1
<b>Scale</b>											
54.0	- 0.5	- 0.3	- 0.1	+ 0.1	+ 0.3	+ 0.5	+ 0.7	+ 0.9	+1.2	+1.4	+1.6
62.2	- 0.4	- 0.1	+ 0.1	+ 0.3	+ 0.6	+ 0.8	+ 1.1	+ 1.3	+1.6	+1.9	+2.1
69.6	- 0.3	0.0	+ 0.3	+ 0.6	+ 0.9	+ 1.1	+ 1.4	+ 1.7	+2.0	+2.3	+2.5
77.2	- 0.1	+ 0.2	+ 0.5	+ 0.8	+ 1.1	+ 1.4	+ 1.7	+ 2.0	+2.4	+2.7	+3.0
84.9	0.0	+ 0.4	+ 0.7	+ 1.0	+ 1.4	+ 1.7	+ 2.1	+ 2.4	+2.8	+3.2	+3.5
92.8	+ 0.1	+ 0.5	+ 0.9	+ 1.3	+ 1.7	+ 2.0	+ 2.4	+ 2.8	+3.2	+3.6	+3.9
99.7	+ 0.3	+ 0.7	+ 1.1	+ 1.5	+ 1.9	+ 2.3	+ 2.7	+ 3.1	+3.6	+4.0	+4.4
107.7	+ 0.4	+ 0.9	+ 1.3	+ 1.7	+ 2.2	+ 2.6	+ 3.1	+ 3.5	+4.0	+4.4	+4.9
114.9	+ 0.5	+ 1.0	+ 1.5	+ 2.0	+ 2.5	+ 2.9	+ 3.4	+ 3.9	+4.4	+4.9	+5.3
122.3	+ 0.7	+ 1.2	+ 1.7	+ 2.2	+ 2.7	+ 3.2	+ 3.7	+ 4.2	+4.7	+5.2	+5.8
129.5	+ 0.8	+ 1.4	+ 1.9	+ 2.4	+ 3.0	+ 3.5	+ 4.1	+ 4.6	+5.1	+5.7	+6.2
136.9	+ 0.9	+ 1.5	+ 2.1	+ 2.7	+ 3.3	+ 3.8	+ 4.4	+ 5.0	+5.6	+6.1	+6.7
<b>C Scale</b>											
120.2	+2.8	+3.3	+3.8	+4.3	+4.8	+5.3	+5.8	+6.3	+6.8	+7.3	+7.9
127.4	+2.9	+3.5	+4.0	+4.5	+5.1	+5.6	+6.2	+6.7	+7.2	+7.8	+8.3
134.8	+3.0	+3.6	+4.2	+4.8	+5.4	+5.9	+6.5	+7.1	+7.7	+8.2	+8.8
142.9	+3.2	+3.8	+4.4	+5.0	+5.6	+6.2	+6.8	+7.4	+8.0	+8.6	+9.2
149.9	+3.3	+4.0	+4.6	+5.2	+5.8	+6.5	+7.1	+7.8	+8.4	+9.0	+9.7
157.6	+3.5	+4.1	+4.8	+5.5	+6.1	+6.8	+7.4	+8.1	+8.8	+9.4	+10.1
158.6	+3.6	+4.3	+5.0	+5.7	+6.4	+7.1	+7.8	+8.5	+9.2	+9.9	+10.5

COMBINED CORRECTIONS FOR EDO FATHOMETER #203

AS USED IN LAUNCH GS 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
<b>A Scale</b>								
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>B Scale</b>								
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

v4

STATISTICS FOR HYDROGRAPHIC SURVEY

FIELD NO. WCSP 1155 - REGISTRY NO. H-8250

Vol. No.	Day Letter	Date	H.L.Sdgs	No. Pos.	Stat. Miles Sdg.
1	a	23 May 1955	1	128	15.4
1 & 2	b	6 June 1955	18	88	13.3
2	c	20 June 1955	2	104	17.4
2 & 3	d	21 June 1955	27	67	10.9
3	e	6 June 1956	3	81	10.6
3 & 4	f	7 June "	58	134	16.0
4	g	11 June "	75	158	16.7
4 & 5	h	12 June "	75	97	10.9
5	j	13 June "	20	20	0.8
5	k	15 June "	51	53	1.9
5 & 6	l	18 June "	422	288	15.5
6	m	19 June "	63	93	13.5
6 & 6 <sup>1</sup>	n	20 June "	131	159	22.5
7	p	21 June "	121	127	13.0
7 & 8	q	22 June "	132	146	12.7
8	r	27 June "	120	176	14.2
8 & 9	s	28 June "	90	139	7.8
9	t	29 June "	77	107	6.3
9	u	5 July "	85	132	11.2
9 & 10	v	6 July "	25	130	15.9
10	w	16 August 1956	367	121	6.9
			<u>1,963</u>	<u>2,548</u>	<u>253.4</u>

Total area, square statute miles 25.9

COMBINED CORRECTIONS FOR 808 FATHOMETER 152 SPK

AS USED IN LAUNCH GS 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

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

$\alpha$	2	HOLMAN	to 3	CHEMUIS	144	12	47.3												
$2d L$			$\delta$		+179	41	49.5												
$\alpha$	2		to 1		323	54	36.8												
$\Delta\alpha$					180	00	00.0												
$\alpha'$	1		to 2																

FIRST ANGLE OF TRIANGLE

$\phi$	47	00	40.5763	Holman, 1940	124	01	00.530												
$\Delta\phi$	-	00	00.160	6.110 m	-		00.170												
$\phi'$	47	00	40.7363	Holman, 1940	124	01	00.360												

s	Logarithms	Values in seconds	$\frac{1}{2}(\phi+\phi')$		s	Logarithms	Values in seconds	$\frac{1}{2}(\phi+\phi')$	Logarithms	Values in seconds
			Logarithms	Values in seconds						
+	0.785 330	124.5	0.785 330	124	0.537 819	52.248	0.537 819	52	0.537 819	52.248
+	9.907 462	(605.8)	9.999 962	+	9.999 962	00.112	9.999 962	+	9.999 962	00.112
B	8.510 313		8.508 939	-7.4	8.510 315	3.450 m	8.510 315		8.510 315	3.450 m
h	9.203 105	0.1594	9.770 154	(1257.9)	9.048 096	52.411	9.048 096		9.048 096	52.411
$s^2$			A'							
$\text{Sin}^2 \alpha$			Sec $\phi'$							
C			$\Delta\lambda$	9.230 731	0.1701					
			$\text{Sin} \frac{1}{2}(\phi+\phi')$							
			$-\Delta\alpha$							
			2d term	+						
			3d term	+						
			$-\Delta\phi$	0.1596						

Comp CPU

Comp: CPU

COMPUTATION OF TRIANGLES

State: Washington

	STATION	OBSERVED ANGLE	CORR'N	SPHER'L ANGLE	SPHER'L EXCESS	PLANE ANGLE AND DISTANCE	LOGARITHM	
	2-3						3.962 1100 -	
	1 Neds Rock peak	(54 20 - 58)					0.090 1302 -	
	2 Steavns 3	79 - 57 - 08					9.993 2874 -	
	3 Grays Harbour E. Base 2	45 - 41 - 54					9.854 7143 -	
	1-3						4.045 5276 -	
	1-2						3.906 9545 -	
		180 00 00						
	2-3							
	1							
	2							
	3	See Descriptive Report Sheet WCP						
	1-3	1255 Fur Lists of Directions						
	1-2	H-8251						
	2-3							
	1							
	2							
	3							
	1-3							
	1-2							
	2-3							
	1							
	2							
	3							
	1-3							
	1-2							

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

$\alpha$	2	to 3	76	02	06	$\alpha$	3	to 2	255	56	59
2d L		&	+ 79	57	08	3d L		&	- 45	41	54
$\alpha$	2	to 1	155	59	14	$\alpha$	3	to 1	210	15	05
$\Delta\alpha$						$\Delta\alpha$					
$\alpha'$	1	to 2	180	00	00.0	$\alpha'$	1	to 3	180	00	00.0

FIRST ANGLE OF TRIANGLE      54 - 20 - 58

$\phi$	46	55	22.600	2	Seconds	3					
$\Delta\phi$	7	03	58730			$\lambda$	123	58	02	54206	
$\phi'$	46	59	21.330	1	Nods	Rock	$\lambda'$	124	01	29.643	

$s$	39069545	Logarithms	$\frac{1}{2}(\phi+\phi')$	Logarithms	Values in seconds	$s$	40455276	Logarithms	$\frac{1}{2}(\phi+\phi')$	Logarithms	Values in seconds
$\text{Cos}\alpha$	99606870					$\text{Cos}\alpha$	99364249				
B	85103194	1st term	238760			B	85103208	1st term	310651		
$h$	23779609					$h$	24922733				
$s^2$	78139					$s^2$	80910				
$\text{Sin}^2\alpha$	922190		267.7			$\text{Sin}^2\alpha$	94044				
C	1.4330	2d term	+0.029			C	1.4326	2d term	+0.085		
$h^2$	47559					$h^2$	49845				
D	23917	3d term	+0.001			D	23918	3d term	+0.002		
	21476	- $\Delta\phi$	238.730				23763	- $\Delta\phi$	310.564		

2.260

12.679

21.320

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

0.6000000  
9.8339458  
0.1660542

$\alpha$	2 Marsh to 3 Chenois	232	12	3 00	$\alpha$	3	to 2				
2d L	&	+226	44	47	3d L		&				
$\alpha$	2 Marsh to 1 RMY	98	57	17	$\alpha$	3	to 1	273	48		
$\Delta\alpha$		180	00	00.0	$\Delta\alpha$			180	00	00.0	
$\alpha'$	1 to 2				$\alpha'$	1	to 3				

FIRST ANGLE OF TRIANGLE

$\phi$	46 58	48.055	2 MARSH 1911	$\lambda$	124	08	17760	$\phi$	46 58	48.105	8 RM 44	$\lambda$	124	08	18224
$\Delta\phi$	+ 00	.050	9.937 M.	$\Delta\lambda$	+ 00	.464		$\phi'$	46 58	.025	12.0 M.	$\Delta\lambda$	-	0.566	
$\phi'$	46 58	48.105	1 RM 44	$\lambda'$	124	08	18224	$\phi'$	46 58	48.080	1 RM 44	$\lambda'$	124	08	17658

s	Logarithms	Values in seconds	$\frac{1}{2}(\phi+\phi')$		s	Logarithms	Values in seconds	$\frac{1}{2}(\phi+\phi')$	
			Logarithms	Values in seconds				Logarithms	Values in seconds
0.997255			0.997255		1.079181		1.079181		
9.192160			9.994674		8.821342		8.821342		
8.510815			8.508939		8.510815		8.510815		
8.699730	1st term	0.50087	8.508939		8.410938	1st term	1025754		
1.994510			0.166054		2.158362				
9.989348			9.666922		9.998088				
1.43384			0.46443		1.43384				
9.989348					9.998088				
3.417698	2d term	+			3.590290	2d term	+		
7.399460					6.821676				
2.3917					2.3917				
9.791160	3d term	+			9.213376	3d term	+		
	$-\Delta\phi$	-0.50087				$-\Delta\phi$	0.25754		



LIST OF SIGNALS USED

WEST COAST SHORE PARTY

HYDROGRAPHIC SURVEY FIELD NO. WCSP 1155 - REGISTRY NO. H-8250

Name Used In Hydro.	Origin of Signal
DUC	Topo. DUC, 1940 - 1951 - 1955 T-9515.
EGG	Recorded on page 2, volume 1.
GOS	Computed from theodolite cuts by WCSP 1955. Part of Descriptive Report Sheet WCSP 1255, Reg. No. H-8251. Lat. $46^{\circ} 58'$ 1157.6m. (695.2 m) Long $125^{\circ} 04'$ 363.9m. (904.3 m).
HEN	CHENOIS, 1940 - 1955.
HOL	HOLMAN, 1940 R.M.-2, 1955.
HOP	T-9516 S.
HUM	T-9516 S.
LOG	Recorded on page 2, volume 1.
MIN	MINARD, 1940 - 1955.
NED	Peak of Neds Rock computed from theodolite cuts. Computations included in this report.
NEW	NEW (USE), 1951 - 1955.
PILE	Recorded on page 13, volume 5.
RAIN	RAIN, 1940 - 1955.
RAP	Traverse recorded page 2, volume 1, Computations included in this report.
ROD	T-9516 S.
SIL	T-9516 S.
TULIPS	TULIPS, 1940 - 1955.
WHITE	Recorded on page 13, volume 3.

LIST OF SIGNALS USED

WEST COAST SHORE PARTY

HYDROGRAPHIC SURVEY FIELD NO. WCSP 1155 - REGISTRY NO. H-8250

Name Used In Hydro.	Origin of Signal
DUC	Tops. DUC, 1940 - 1951 - 1955 T-9515.
BOG	Recorded on page 2, volume 1.
GOS	Computed from theodolite cuts by WCSP 1955. Part of Descriptive Report Sheet WCSP 1255, Reg. No. H-8251, Lat. $46^{\circ} 58' 11.57''$ (695.2 m) Long $125^{\circ} 04' 36.9''$ (904.3 m).
HEN	CHENNOIS, 1940 - 1955.
HOL	HOLMAN, 1940 R.M.-2, 1955.
HOP	T-9516 S.
HUM	T-9516 S.
LOG	Recorded on page 2, volume 1.
MIN	MINARD, 1940 - 1955.
HED	Peak of Heds Rock computed from theodolite cuts. Computations included in this report.
NEW	NEW (USE), 1951 - 1955.
PILE	Recorded on page 13, volume 3.
RAIN	RAIN, 1940 - 1955.
RAP	Traverse recorded page 2, volume 1. Computations included in this report.
ROD	T-9516 S.
SIL	T-9516 S.
TULIPS	TULIPS, 1940 - 1955.
WHITE	Recorded on page 13, volume 3.

GEOGRAPHIC NAMES

Survey No. H-8250

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
Washington			(for title)								1
Grays Harbor			"	"							2
North Bay			"	"							3
Goose Island											4
Brackenridge Bluff											5
Point New											6
Grass Creek											7
Chenois Creek											8
Gillis Slough											9
<del>Slough</del> J. ssie Slough											10
Humptulips River									BGN		11
Campbell Slough											12
Kurtz Slough											13
Also channels as shown on chart 6195:											14
Chenois Creek Channel											15
East Channel of Humptulips River											16
Humptulips River Channel											17
Campbell Slough Channel											18
Oyhut Channel											19
Neds Rock					Names approved 10-26-56 L. Heck						20
											21
Wethaven, Point Chehalis				(tide station)						22	
											23
											24
											25
											26
											27

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8250....

Records accompanying survey:

Boat sheets ..1...; sounding vols. .10...; wire drag vols. ....; bomb vols. ....; graphic recorder rolls 6-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	.....	2548	
Number of positions checked	.....	30	
Number of positions revised	.....	10	
Number of soundings revised (refers to depth only)	.....	8	
Number of soundings erroneously spaced	.....	0	
Number of signals erroneously plotted or transferred	.....	0	
Revisions by P.G. Ater Topographic details	Time .....	43	H.W.L. revision
Junctions	Time .....	0	
Verification of soundings from graphic record P.G. Ater	Time .....	62	
Verification by... O. Svendsen... Total time	.....	129	Date Aug. 5 '57
Reviewed by... <i>J. Jeskind</i> .....	Time .....	33	Date 10-3-57

**TIDE NOTE FOR HYDROGRAPHIC SHEET**

Chart Division: R. H. Carstens:

9 November 1956

Plane of reference approved in  
10 volumes of sounding records for

HYDROGRAPHIC SHEET 8250

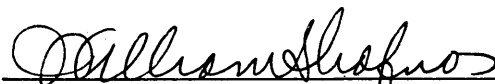
Locality Grays Harbor, Washington

Chief of Party: H. G. Conerly in 1955-56

Plane of reference is mean lower low water, reading  
3.1 ft. on tide staff at Point Chehalis  
16.4 ft. below B.M. 2 RESET (1952)

Height of mean high water above plane of reference is 8.3 feet.

Condition of records satisfactory except as noted below:



Signature

Chief, Tides Branch

DIVISION OF CHARTS  
REVIEW SECTION - NAUTICAL CHART BRANCH  
REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8250

FIELD NO. WCSP-1155

Washington, Grays Harbor, North Bay

Surveyed May 1955 - Aug. 1956

Scale 1:10,000

Project No. 13780

Soundings:

808 Fathometer  
Edo Fathometer  
Pole

Control:

Sextant fixes on shore  
signals

Chief of Party - H. G. Conerly  
Surveyed by - H. G. Conerly, C. D. Upham and K. E. Taggart  
Protracted by - P. J. Taetz  
Soundings plotted by - P. J. Taetz  
Verified and inked by - O. Svendsen  
Reviewed by - I. M. Zeskind  
Inspected by - R. H. Carstens

Date: 6/18/58

1. Shoreline and Control

The shoreline originates with reviewed air-photographic surveys T-9515 (1950-55), T-9516 S (1950-56), T-9517 (1950-55) and T-9518 N (1950-56) and unreviewed air-photographic survey T-9519 (1950-56).

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

2. Sounding Line Crossings

The sounding line crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated, except the low-water line which in several areas has been transferred from the boat sheet. The 3-ft. curve has been drawn to better delineate the bottom configuration in the channels.

The area covered by the present survey consists principally of mud flats which are exposed at the lower stages of the tide and which are crossed by natural channels and sloughs.

4. Junctions with Contemporary Surveys

The project survey which joins the present survey on the south has not yet been received in the Washington Office.

5. Comparison with Prior Surveys

H-1589b (1883), 1-20,000

The present survey falls within the area of the prior survey. This is a reconnaissance survey which is considered to be too inadequately developed to make a reliable comparison with the present survey.

6. Comparison with Chart 6195 (Latest print date 1/20/58)

A. Hydrography

The charted hydrography originates with the present survey prior to completion of review. There is no disagreement between the charted and present survey depths.

B. Shoreline

The shoreline originates with advance prints of air-photographic surveys. The shoreline was revised on final air-photographic surveys to fall further offshore. This revision has not been applied to the chart.

The present survey is adequate to supersede the charted hydrography.

C. Aids to Navigation

There are no aids to navigation within the limits of the present survey.

7. Condition of Survey

- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth-plotting was accurately done.
- c. Numerous stumps and logs are scattered throughout a large area surrounding the entrance to Humptulips River. These obstructions which are covered at high tide, were not located during the present survey. Navigation is unsafe for any type of vessel in this area. (See paragraph "Dangers and Shoals" in the Descriptive Report.)

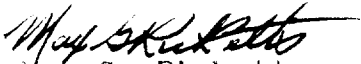
8. Compliance with Project Instructions

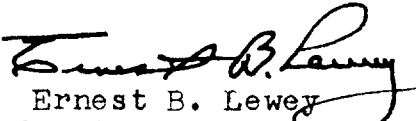
This survey adequately complies with the Project Instructions.

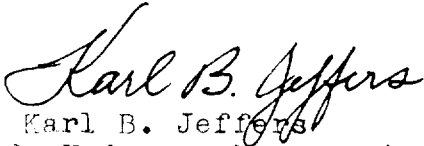
9. Additional Field Work Recommended

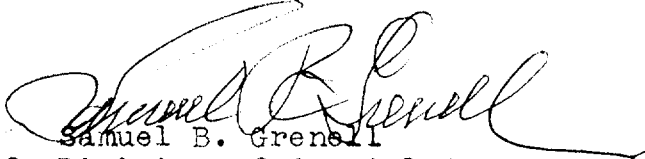
This survey is considered basic and no additional field work is recommended.

Examined and approved:

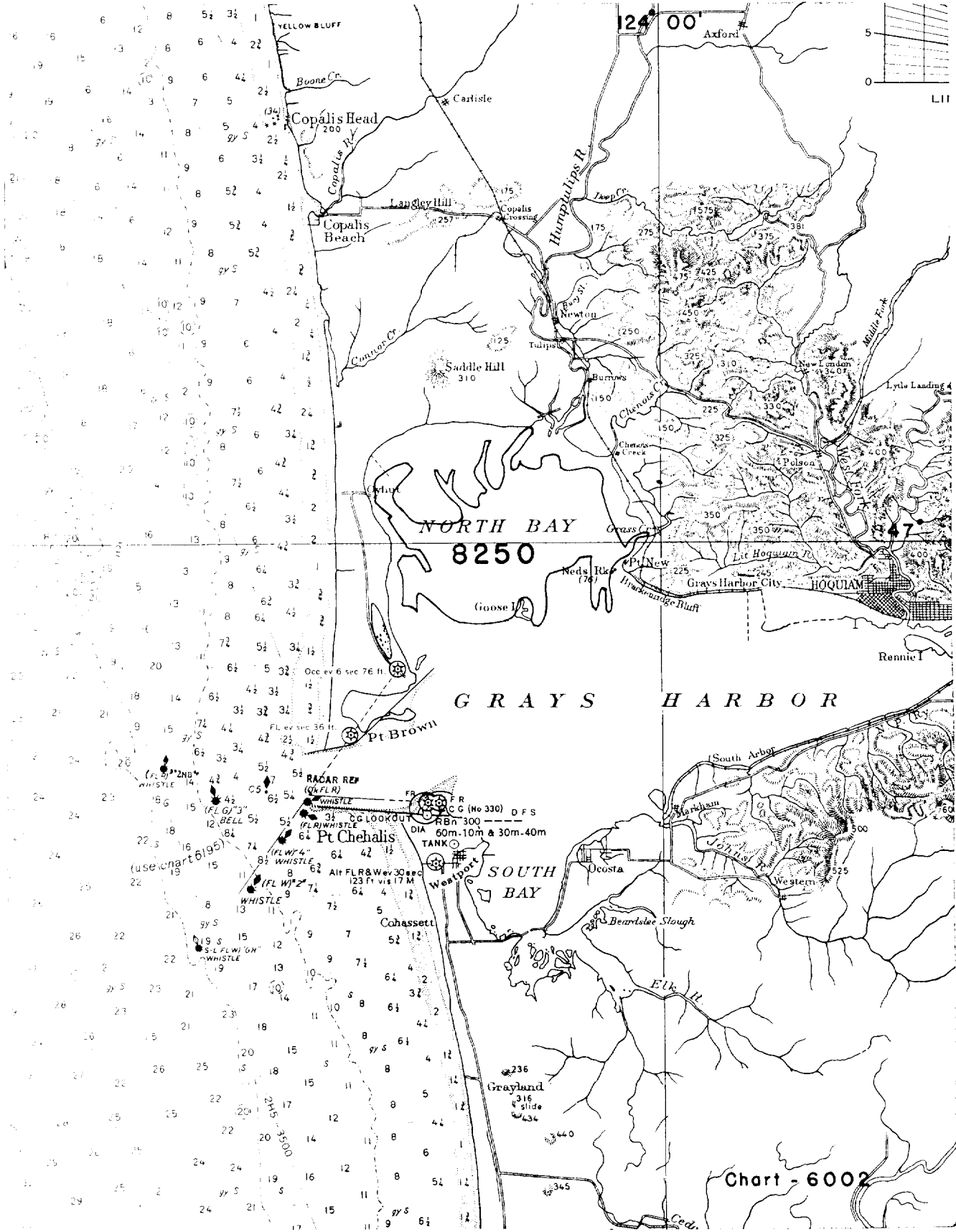
  
Max G. Ricketts  
Chief, Nautical Chart Branch

  
Ernest B. Lewey  
Chief, Division of Charts

  
Karl B. Jeffers  
Chief, Hydrography Branch

  
Samuel B. Grenell  
Chief, Division of Coastal Surveys





LII

Chart - 6002

# NAUTICAL CHARTS BRANCH

SURVEY NO. H-8250

## Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
10-23-57	6195	R. K. de Landin	<del>Before</del> After Verification and Review. - Sheet not inspected and review not typed. <span style="float:right">PMA</span>
			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
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			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.