DESCRIPTIVE REPORT

Topographic Sheet No. 0-11 and 0-12

Hydrographic

State OREGON

LOCALITY

COLUMBIA RIVER

Lewis and Clark River

Younes Bay

1935

CHIEF OF PARTY

Robert W. Knox
The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 0-12

REGNo 5375

State OREGON

General locality Columbia River

Locality Youngs Bay

Scale 1:10,000 Date of survey July 7 to 31, 1935

Vessel chartered launch J-372

Chief of Party Robert M. Knox

Surveyed by R. J. Bipe

Protracted by K. McBean

Soundings penciled by KMoB

Soundings in feet

Plane of reference mean lower low water

Subdivision of wire dragged areas by

Inked by F.C. McKenny

Verified by D. Bloom, J.A.M. Carmack

Instructions dated February 26, 1935, 19

Remarks:
The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. O-ll

REGISTER NO. H5976

State: OREGON

General locality: Columbia River

Locality: Youngs River and Lewis & Clark Rivers

Scale: 1:10,000 Date of survey: July 9 to 22, 1935

Vessel: chartered launch J-372

Chief of Party: Robert W. Knox

Surveyed by: R. J. Sipe

Protracted by: K. McBean

Soundings penciled by: KMcB

Soundings in fathoms feet

Plane of reference: mean lower low water

Subdivision of wire dragged areas by

Inked by: George E. Jordan

Verified by: George E. Jordan

Instructions dated: February 26, 1935

Remarks: 
DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEETS

NOS. 0-11 & 0-12

Scale 1:10,000

COLUMBIA RIVER OREGON YOUNGS BAY AND YOUNGS
AND LEWIS & CLARK RIVERS

Instructions dated Feb. 26, 1935

Surveyed by R. J. Sipe

AREA, LIMITS, ETC. The hydrography of sheets 0-11 and 0-12 is a survey of the southern portion of Desdemona Sands, Youngs Bay and the Youngs and Lewis & Clark Rivers. The area sounded by the U. S. Engineers - the main ship channel - is excluded.

Both the Youngs and Lewis & Clark Rivers are navigable south of the limits of sheet 0-11. The former is used quite extensively all the way to the town of Olney, a distance of about 10 miles beyond the present limits. Tugs of 5 or 6 foot draft are said to navigate this portion of the river at half-tide. The Lewis & Clark River is not used as a means of navigation beyond the highway bridge at \( \Delta \) Peter.

Tucker Creek is diked off at \( \sigma \) Bar

The Walluski River is navigable for small tugs west of the limits of the sheet but is seldom used at the present time because of the absence of logging operations in that vicinity.

SURVEY METHODS: Standard survey methods were used. All soundings were taken with a 12 pound hand lead, and the usual type bronze centered mahogany tiller rope (Samson Cordage Co.) was used. The lines were carefully prepared and made and were re-marked when corrections threatened to become of such magnitude as to require corrections to the recorded soundings.

DANGERS: The dangers in the area covered by these sheets are of a temporary nature; so-called "snags" and "suckers", which are logs that have come adrift from rafts or booms. One end of a sinker settles to the bottom, while the other floats, just awash, rising and falling with the tide. From time to time these obstructions are removed by the logging companies.

Local knowledge is absolutely necessary to navigate all but the main ship channel.
CHANNELS:  Sheet 0-11 - Youngs River - The channel up the Youngs River is limited to a depth of about 7 feet at mean lower low water by the shoals between the railroad bridge over Youngs Bay and the highway bridge near a stack P&L, although 11 or 12 feet could be carried from the latter bridge to the Walluski River and about 6 feet to somewhat south of 4 Lundman.

Lewis & Clark River - Seven feet may be safely be carried to the highway bridge, from there south ½ feet is the limiting depth to about 4 Hansen. From this point to the highway bridge near 4 Peter the channel jumps from bank to bank with rapidly diminishing depths.

Sheet 0-12 - The main ship channel was not surveyed, as the U. S. Engineers sound out this portion of the river about twice a year.

ANCHORAGES:  None.

COMPARISON WITH PREVIOUS SURVEYS:  Sheet 0-11; Lewis & Clark River: The previous survey of this area was made in 1889, register No. 1931. This survey extends southward to signals Gur and Hod and a comparison of soundings shows the channel depths to be about the same, although there have been great changes in the shoaler depths, particularly on the west side of the river. Here the original survey shows depths of 6 or so feet, but the present survey party obtained soundings of -2 and -3 feet.

Youngs River: The previous survey, as noted above, extends to the vicinity of 4 Nurnberg. A comparison of the two surveys reveals that the channel depths have changes but little to about 4 Mid, and have shoaled an average of about 3 feet south of this point. The original survey shows relatively deep water from the center of the channel to the west bank of the river, whereas the present survey shows considerable shoaling in this area.

Sheet 0-12; The previous survey in this area was executed in 1889, register No. 1930. A comparison of the two surveys shows many changes in the contour of the bottom, there are, in fact, few points of similarity.

a) The main ship channel has shifted northward.

b) The area between 4 Youngs Bay Entrance Light and 4 Gal has shoaled an average of about 3 feet.

c) Practically the entire area southeast of the railroad bridge has shoaled in varying amounts. The mud flats in latitude 46° 10.2', longitude 123° 51' now being 5 or 6 times their former size.

d) Between the railroad bridge and the Skipanon Waterway the 1 foot curve is about 400 at 500 meters farther off-shore than formerly, and the 2 foot curve a like amount.
Comparison with previous surveys, continued -

e) There is an area of fair agreement north of O Two.

f) North of the main ship channel the changes are even more pronounced; the former 30 foot curve falls in 10 - 12 feet of water; the 24 foot curve in 10 to 20; the 18 in 1 to 17 feet; the 12 in as little as 8 - 2 feet and the 6 foot curve in an average of 2 feet.

DISCREPANCIES:

The following discrepancies were noted in the plotting and reviewing of the sheets:

Sheet 0-11, H 5976

a) Positions la to 122b were erroneously inked in red rather than blue.

b) Stations Mark and Stik, in latitude 46° 07.5', longitude 123° 48.0', appear as topographic locations, but no such positions could be found on the topographic sheet (Y). Correspondence with the hydrographer, Lieut. R. J. Sipe, revealed the fact that he had requested additional signals in this arm of the river of the topographer. The two above named were afterwards furnished him. As the sounding lines show that the locations are reasonable accurate, no further investigation was made. The signals as appearing on the smooth sheet were scaled from the boat sheet, then signal was again on the top sheet which received from field.

c) Position 38g, latitude 46° 08.8', longitude 123° 48.8', a sounding of 16 feet appears between two 11's. This position cannot be satisfactorily moved offshore, and the discrepancy is apparently due to a 1 fathom error in reading the deadline. It is recommended the 16 foot sounding be rejected.

d) Position 1064, latitude 46° 10.3', longitude 123° 49.6', a sounding of 17 feet appears between a 25 and a 31. Apparently no explanation for this except as an error in reading or recording the sounding.

e) Position 69f, latitude 46° 08.3', longitude 123° 52.1', a 6 foot sounding appears between a 9 and an 11; the hydrographic party was apparently having a little difficulty in running this line, as laid down on the boat sheet, and it is possible that this position should be moved slightly eastward.

f) Positions 12 to 17f, latitude 46° 08.9', longitude 123° 51.7'; these soundings appear to cross other lines about 2 feet too shoal. The fixes are apparently correct, as are the tides.

Changes in light from positions 1 to 16 (since Jan. 1878) seemingly indicate agreement with these, since the range soundings increase.

g) Positions 22 to 25h, latitude 46° 08.3', longitude 123° 52.1'; as above.
Discrepancies, continued -

Sheet 0-12 - H-5975

a) Position 55 - 56d, latitude 46° 10.25', longitude 123° 51.75'; both fixes on red spar buoy No. 2, with an interval of about 1.7 hours between. Buoy spotted midway between.

b) Positions 1f to 5f; rejected by authority of note on boat sheet although there is no notation made in volume (No. 3, page 52) The positions do not plot according to depth. The soundings are not needed for adequate development.

c) Position 4b - 49a, latitude 46° 10.25', longitude 123° 50.7'; a 20 foot sounding between a 7 and an 8 is checked in the record book. This sounding is without time in volume, but is thought to be at regular interval and is so spaced on the smooth sheet.

d) Position 19a, 158b and 20a, latitude 46° 11.0', longitude 123° 54.0'; the crossings are not good, but the positions are very near edge of the dumping grounds for the dredged Skipanon Waterway channel.

e) Certain consistent variations in location of offshore lines between the boat and smooth sheets are probably due to distortion of the former, which is of considerable magnitude in certain directions.

GEOGRAPHIC NAMES: Geographic names are correct as they appear upon the published charts with the following additions:

a) Daggett Point a well established local name
b) Walluski River do
c) Tucker Creek do

GENERAL:

a) Depth curves were not drawn in area where they might obscure the soundings.

b) The hole off A Rail was caused by dredging operations in connection with the construction of the airport nearby.

Respectfully submitted:

[Signature]

Robert W. Knox, H. & G. Eng'r.
## STATISTICS

**SHIFT - 011**

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<th>Day letter</th>
<th>Volume</th>
<th>Number of soundings</th>
<th>Number of positions</th>
<th>Statute miles of sounding</th>
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<td>576</td>
<td>155</td>
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</tr>
<tr>
<td>12</td>
<td>d</td>
<td>2 &amp; 3</td>
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<td>235</td>
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<td>15</td>
<td>e</td>
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<td>184</td>
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<td>f</td>
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<td>g</td>
<td>3</td>
<td>151</td>
<td>40</td>
<td>3.4</td>
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Area in square statute miles - 3.45

## STATISTICS

**SHIFT 0-12**

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<td>c</td>
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<td>524</td>
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<td>23</td>
<td>e</td>
<td>3</td>
<td>927</td>
<td>251</td>
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<tr>
<td>24</td>
<td>f</td>
<td>3 &amp; 4</td>
<td>901</td>
<td>241</td>
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<tr>
<td>25</td>
<td>g</td>
<td>4</td>
<td>825</td>
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<tr>
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<td>664</td>
<td>186</td>
<td>18.5</td>
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<tr>
<td>31</td>
<td>j</td>
<td>5</td>
<td>415</td>
<td>108</td>
<td>9.0</td>
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<td><strong>TOTALS</strong></td>
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<td>6,870</td>
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Area in square statute miles - 8.0
APPROVAL OF CHIEF OF PARTY

Hydrographic sheets nos. 0-11 and 0-12 and accompanying records have been inspected and approved by me. The field work was done under my occasional supervision; the office work under my direct supervision. No additional work is considered necessary.

[Signature]

Robert W. Knox, Chief of Party.
DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY  

LANDMARKS FOR CHARTS  

_Astoria, Oregon._  
March 27, 1936

**Robert H. Knox,** Chief of Party.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>POSITION</th>
<th>METHOD OF DETERMINATION</th>
<th>CHARTS AFFECTED</th>
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<tr>
<td>(Tank USE)</td>
<td>46 13</td>
<td>966 121 00 600 NA27</td>
<td>tri</td>
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<tr>
<td>(TOWER BN)</td>
<td>46 12</td>
<td>754 123 58 118 do</td>
<td>do</td>
</tr>
<tr>
<td>(Coast Guard L.O. Tow LOOKOUT TOWER)</td>
<td>46 11</td>
<td>1570 123 57 778 do</td>
<td>do</td>
</tr>
<tr>
<td>(Water Tank Ft Stew) Tank (ELEVATED)</td>
<td>46 11</td>
<td>1478 123 58 606 do</td>
<td>do</td>
</tr>
<tr>
<td>(Naval Radio Compass) N. R. C. Radio Masts</td>
<td>46 11</td>
<td>1103 123 58 583 do</td>
<td>do</td>
</tr>
<tr>
<td>(wreck)</td>
<td>46 14</td>
<td>887 124 01 632 do</td>
<td>topo</td>
</tr>
<tr>
<td>(wreck)</td>
<td>46 10</td>
<td>1318 123 58 1021 do</td>
<td>do</td>
</tr>
<tr>
<td></td>
<td></td>
<td>delete</td>
<td></td>
</tr>
<tr>
<td>(wreck)</td>
<td>46 12</td>
<td>58.4 123 58.4</td>
<td>dismantled</td>
</tr>
<tr>
<td>(Index Warrenton) Tank (ELEVATED)</td>
<td>46 10</td>
<td>603 123 54 1121</td>
<td>tri</td>
</tr>
<tr>
<td>( radio Towers Nos. 1)</td>
<td>46 09</td>
<td>190 123 51 674 do</td>
<td>topo</td>
</tr>
<tr>
<td>(Radio Towers 2, 3 &amp; 4)</td>
<td>46 09</td>
<td>297 123 49 641 do</td>
<td>tri</td>
</tr>
</tbody>
</table>

A list of objects carefully selected because of their value as landmarks as determined from seaward, together with individual descriptions, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report.

The selection, determination, and description of these points are an important factor in the value of the chart. Landmarks selected at appropriate intervals can be clearly charted. However, when none is outstanding, a group of two or three objects may by their interrelationship provide positive identification. A group so selected should be indicated.

The description of each object should be short, but such as will clearly identify it; for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc. Assign numerals to landmarks to indicate: (1) Offshore, (2) inshore, (3) harbor. 1, 2, 3 would be a mark useful on all charts. Generally, flagstaffs and like objects are not sufficiently permanent to chart.
LANDMARKS FOR CHARTS

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>POSITION</th>
<th>METHOD OF DETERMINATION</th>
<th>CHARTS AFFECTED</th>
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<tr>
<td><strong>RADIO TOWERS</strong></td>
<td>16 09 127 123 46 774 M27 tri</td>
<td>6151, 5902</td>
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<tr>
<td><strong>STACK</strong></td>
<td>16 09 177 123 46 688 do do</td>
<td>6151, 5902</td>
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</tr>
<tr>
<td><strong>STACK</strong></td>
<td>16 09 328 123 46 792 do do</td>
<td>6151, 5902</td>
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<tr>
<td><strong>STACK</strong></td>
<td>16 10 561 123 50 771 do do</td>
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<td></td>
</tr>
<tr>
<td><strong>STACK</strong></td>
<td>16 11 448 123 51 536 do do</td>
<td>6151</td>
<td></td>
</tr>
<tr>
<td><strong>STACK</strong></td>
<td>16 11 570 123 49 690 do do</td>
<td>6151</td>
<td></td>
</tr>
<tr>
<td><strong>HOUSE</strong></td>
<td>16 10 1553 123 53 884 do tope</td>
<td>6151</td>
<td></td>
</tr>
<tr>
<td><strong>STACK</strong></td>
<td>16 11 602 123 50 314 do tri</td>
<td>6151</td>
<td></td>
</tr>
<tr>
<td><strong>SPIRE</strong></td>
<td>16 11.3 123 50.2</td>
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<td><strong>STEPELE</strong></td>
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<td></td>
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<tr>
<td><strong>ASTOR COLUMN</strong></td>
<td>16 10 123 48 1260 do tri</td>
<td>6151, 5902</td>
<td></td>
</tr>
<tr>
<td><strong>TANK</strong></td>
<td>16 11.5 123 55.5 not conspicuous</td>
<td></td>
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</tr>
<tr>
<td><strong>STACK</strong></td>
<td>16 10.9 123 53.7 stacks gone</td>
<td>6151</td>
<td></td>
</tr>
</tbody>
</table>

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DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

DIRECTOR, U.S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted:

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>POSITION</th>
<th>METHOD OF DETERMINATION</th>
<th>CHARTS AFFECTED</th>
</tr>
</thead>
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<tr>
<td>DOLPHIN</td>
<td>46 09.1</td>
<td>Gone</td>
<td>6151</td>
</tr>
<tr>
<td>DOLPHIN</td>
<td>46 09.7</td>
<td>Gone</td>
<td>6151</td>
</tr>
<tr>
<td>CROSS</td>
<td>46 11.5</td>
<td>Moved to new location</td>
<td>6151</td>
</tr>
<tr>
<td>TANK</td>
<td>46 11.4</td>
<td>Gone</td>
<td>6151</td>
</tr>
<tr>
<td>CUP</td>
<td>46 11.5</td>
<td>Gone</td>
<td>6151</td>
</tr>
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</table>

To accompany chart section No. 3

delete

CUP

46 11.7 123 46.8 Gone

The above position, on pages 1, 2 & 3, have been verified in accordance with paragraph 4 of the instructions for preparation and submission of form 587.

Robert W. Knox,
Chief of Party.

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LANDMARKS FOR CHARTS

Astoria, Oregon,

March 27, 1936

DIRECTOR, U.S. COAST AND GEODETIC SURVEY:

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Robert W. Knox,
Chief of Party.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>POSITION</th>
<th>METHOD OF DETERMINATION</th>
<th>CHARTS AFFECTED</th>
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<td>LATITUDE</td>
<td>LONGITUDE</td>
<td>DATUM</td>
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<tr>
<td></td>
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<td>D.P. METERS</td>
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<td>Permanent aids to navigation</td>
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<td>46 13</td>
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<td>124 00</td>
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<td>DESDEMONA SANDS LT</td>
<td>46 13</td>
<td>963</td>
<td>123 57</td>
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<tr>
<td>FORT STEVENS SHARP LT</td>
<td>46 12</td>
<td>936</td>
<td>123 57</td>
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<tr>
<td>FLAEL FRONT RANGE</td>
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<td>YOUNGS BAY LT</td>
<td>46 10</td>
<td>112</td>
<td>123 51</td>
</tr>
</tbody>
</table>

A list of objects carefully selected because of their value as landmarks as determined from seaward, together with individual descriptions, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report.

The selection, determination, and description of these points are an important factor in the value of the chart. Landmarks selected at appropriate intervals can be clearly charted. However, when none is outstanding, a group of two or three objects may by their interrelationship provide positive indentification. A group so selected should be indicated.

The description of each object should be short, but such as will clearly identify it; for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc. Assign numerals to landmarks to indicate: (1) Offshore, (2) shore, (3) harbor. 1, 2, 3 would be a mark useful on all charts. Generally, flagstaffs and like objects are not sufficiently permanent to chart.

U.S. GOVERNMENT PRINTING OFFICE: 1936 23679
DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

DIRECTOR, U.S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted:

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>POSITION</th>
<th>METHOD OF DETERMINATION</th>
<th>CHARTS AFFECTED</th>
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<tr>
<td></td>
<td>LATITUDE</td>
<td>LONGITUDE</td>
<td>DATUM</td>
</tr>
<tr>
<td></td>
<td>°</td>
<td>D.M. METERS</td>
<td>°</td>
</tr>
<tr>
<td>Permanent aids to navigation, continued</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UPPER SANDS LT</td>
<td>46 12</td>
<td>1162</td>
<td>123 52</td>
</tr>
<tr>
<td>TONGUE PT LT</td>
<td>46 12</td>
<td>880</td>
<td>123 46</td>
</tr>
</tbody>
</table>

The above positions, on pages 1& 2, have been verified in accordance with paragraph 4 of the instructions for preparation and submission of form 567

Robert W. Knox,
Chief of Party.

A list of objects carefully selected because of their value as landmarks as determined from seaward, together with individual descriptions, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report.

The selection, determination, and description of these points are an important factor in the value of the chart. Landmarks selected at appropriate intervals can be clearly charted. However, when none is outstanding, a group of two or three objects may by their interrelationship provide positive identification. A group so selected should be indicated.

The description of each object should be short, but such as will clearly identify it; for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc. Assign numerals to landmarks to indicate: (1) Offshore, (2) inshore, (3) harbor, 1, 2, 3 would be a mark useful on all charts. Generally, flagstaffs and like objects are not sufficiently permanent to chart.

Records: Records are satisfactory except that revised soundings are entered in each pencil by field party.

Drafting: Drafting is excellent. Field draftsman was over ambitious, however, when he transferred low water line and buoys from the hydros sheet to the tops sheet.

Control: Shoreline and topographic signals are from T-5461.

Junctions: This sheet is joined on the south by H-.5976. Junction is satisfactory.

Channels were surveyed by the U.S. Engineers.

Remarks:

Attention is called to the fact that tie reductions are in even feet. Better delineation of depth curves might have been obtained in places by using 1/10 foot reductions.

June 6, 1936.

Submitted,

J.A. McCormick.
Field Records Section (Charts).

HYDROGRAPHIC SHEET NO. H5975

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

Number of positions on sheet ........................................... 1847
Number of positions checked ........................................... 9
Number of positions revised ........................................... 0
Number of soundings recorded ........................................... 6370
Number of soundings revised ........................................... 13
Number of signals erroneously plotted or transferred .......... 0

Date: June 6, 1936
Verification by ... F.C. Mc Kenney .......................... Time: 10:45 hr.
Review by ... F.J. Christmas .......................... Time: 14 hr.
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<th>Quantity</th>
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<td>Smooth Sheet</td>
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</tr>
<tr>
<td>Boat Sheet</td>
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</tr>
<tr>
<td>Sounding Records</td>
<td>5 Vols.</td>
</tr>
<tr>
<td>Descriptive Report</td>
<td>one report for H5975 &amp; H5976</td>
</tr>
<tr>
<td>Title Sheet</td>
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</tr>
<tr>
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<td>Vol 1</td>
</tr>
<tr>
<td>Landmarks for Charts (Form 567)</td>
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</tr>
<tr>
<td>Statistics</td>
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</tr>
<tr>
<td>Approved by Chief of Party</td>
<td>yes</td>
</tr>
<tr>
<td>Recoverable Station Cards (Form 524)</td>
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</tr>
<tr>
<td>Special Chart for Lighthouse Service</td>
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</tr>
<tr>
<td>(Circular Nov. 30, 1933)</td>
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</tr>
<tr>
<td>Remarks</td>
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</tr>
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<td>Remarks</td>
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</tr>
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<td>Name on Survey</td>
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</tr>
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<tr>
<td><strong>H5975</strong></td>
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<tr>
<td>Youngs Bay (Redacted)</td>
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<tr>
<td>Desdemone Sands (Redacted)</td>
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</tr>
<tr>
<td><strong>H5976</strong></td>
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</tr>
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</tr>
<tr>
<td>Daggett Pt.</td>
<td>✓</td>
</tr>
<tr>
<td>Lewis &amp; Clark River</td>
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<tr>
<td>Youngs River</td>
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<tr>
<td>Walluski River</td>
<td>✓</td>
</tr>
<tr>
<td>Tucker Creek</td>
<td>✓</td>
</tr>
</tbody>
</table>

Names underlined in red approved by "<signature>
4/28/36"
MEMORANDUM
IMMEDIATE ATTENTION

SURVEY DESCRIPTIVE REPORT
PHOTOGRAPHS OF

5975 No. H 5976
No. 1

received April 13, 1936
registered April 23, 1936
verified reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

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<th>Attention called to</th>
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</table>

RETURN TO
82
TIDE NOTE FOR HYDROGRAPHIC SHEET

Division of Hydrography and Topography: May 20, 1936.

Division of Charts: Attention: Mr. E. P. Ellis

Tide Reducers are approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 5975

Locality Youngs Bay, Columbia River, Oregon.

Chief of Party: Robert W. Knox in 1935
Plane of reference is mean lower low water reading
-0.2 ft. on tide staff at Youngs Bay
16.5 ft. below B.M.p.1

Height of mean high water above plane of reference is 7.9 feet.

Condition of records satisfactory except as noted below:

[Signature]
Chief, Division of Tides and Currents.
TIDE NOTE FOR HYDROGRAPHIC SHEET

Division of Hydrography and Topography: May 20, 1936.

Division of Charts: Attention: Mr. E. P. Ellis

Tide Reducers are approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 5976

Locality Youngs and Lewis and Clark Rivers, Columbia River, Oregon.

Chief of Party: Robert W. Knox in 1935
Plane of reference is mean lower low water reading
-0.2 ft. on tide staff at Youngs Bay
16.6 ft. below B.M. P-1
3.2 ft. on tide staff at Youngs River
23.9 ft. below B.M. 1
2.4 ft. on tide staff at Lewis & Clark River
11.0 ft. below B.M. 1

Height of mean high water above plane of reference is 7.9 feet at
Youngs Bay; 8.0 feet at Youngs River and Lewis and Clark Rivers.

Condition of records satisfactory except as noted below:

[Signature]

Chief, Division of Tides and Currents.
To: Lieutenant R. W. Knox,
U. S. Coast and Geodetic Survey,
P. O. Box 805,
Astoria, Oregon.

From: The Director,
U. S. Coast and Geodetic Survey.

Subject: Hydrographic Survey H-5976.

Enclosed are three tracings of sections of your hydrographic survey H-5976 (1936), Field No. "O-11". Indicated in blue on the tracings are several signals which fall in the water area.

Indicated in blue on tracing No. 1 are two charted features (an abandoned trestle and old hull), which are not shown on your survey.

Please furnish such information as will permit the proper charting of these objects.

(Signed) PAUL C. WHITNEY

Acting Director.

Enclosures.
Verifier's Report on N-5976 (1935)

1. This survey makes a junction with N-5975 (1935). A triangular weld in the junction is left unexplained at Lat 54°10.2', Long 123°52.3'.

2. Control is obtained from T-64812, T-64820 and T-6482 (1935). Comparison was made and detail transferred to this survey. Explanatory information in ink on the topographic sheet was grossly omitted.

3. The following notes regarding the sounding records:
   a. K & Q checked himself on side reducers and soundings—see #4 stamp. accepted
   b. Soundings reduced in colored pencil.
   c. Tidal data—#14 stamp—data collected.
   d. Reducers entered in even feet—better contours would have resulted in 1/2 ft reducers.

4. Except for omission of practically all detail on topographic and boat sheets, no other changes were made. Soundings were well executed.

5. Remarks:
   a. No check fixes were obtained for the four buoys in Youngs Bay, however, the position was recorded agree with the positions shown on the map.
   b. Hydrographic signal "pile" has been assumed by the verifier to be a pile, although no description of the signal is given. Lat 46°06.1', Long 123°51.5'.
   c. No check fix was obtained on this signal.
   d. No notes were made of passing features. Special attention is called to Pos 982 at lat 46°06.1', Long 123°51.5'. The line running south from this position diagonally crosses the row of piling. The energy of this feature is not evident on any chart.
   e. A system of sounding lines rather than development of deep water and shoal areas is evident from numerous broken contours. Explanatory remarks in the records would also have assisted in more clearly defining the extent of these features.
   f. No description of bridges is to be found on the Hydrographic and Topographic sheets or in the report for the same.
   g. The following is a list of unexplained hydrographic features:
   h. Descriptive Report, Page 3, A(c). The left sounding falls outside the line of (11c) and is considered to be on a steep slope.
   i. Descriptive Report, Page 3, A(c). The presence of left soundings eastward is in opposition to moving the left sounding position eastward. The left sounding is believed to be on the west bank. Replotting of Pos 159 places the line 159-160 running northeasterly on line 23-247. Running southerly. Shoreboard sounding on each line may account for the 2ft difference in depth on a steep slope.
   j. Descriptive Report, Page 3, A(g). See explanation under (h).

Respectfully Submitted,

[Signature]

June 6, 1936
Field Records Section (Charts)

HYDROGRAPHIC SHEET No. H5976

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

- Number of positions on sheet: 1193
- Number of positions checked: 35
- Number of positions revised: 2
- Number of soundings recorded: 4445
- Number of soundings revised: 40
- Number of signals erroneously plotted or transferred: 0

Date: June 6, 1936
Verification by George F. Jordan
Review by Harold W. Murray

Time: 36 Hrs.
Time: 20 "
To: The Director,  
U. S. Coast and Geodetic Survey,  
Washington, D. C.

From: Lieut. Robert W. Knox,  
U. S. Coast and Geodetic Survey.

Subject: Hydrographic Survey H-5976

Reference: Director's letter of September 1st; 82-LGF

Department of Commerce  
U. S. Coast and Geodetic Survey

September 11, 1936.

There is returned herewith three tracings of sections of the above-mentioned survey with notes thereon relative to the character of several signals falling in the water area.

A field inspection showed that the old hull and abandoned trestle — as sketched in blue ink on section 1 — are extant. The trestle is now in total ruins, a few piling marking its location. The second hull, shown normal to the beach on sheet T-4265, has been converted into a gravel pier and is now attached to the shore line, as indicated on the 1935 survey. From a close inspection, but without actually recovering signals and plotting fixes, it is believed the trestle and hull are shown very near their correct positions.

Robert W. Knox,  
Chief of Party.

Note: Features of topo signals As, Hic and Egg referred to in Rev. of H-5976 (1933) (par. 1c) and as indicated on the tracings are pile, dolphin, and pile respectively. These have been noted on the affected hydro and topo sheets and the tracings destroyed. H.W.M. 10/1/36,
Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5975 (1935) FIELD NO. 12

Youngs Bay, Columbia River, Oregon
Surveyed in July 1935
Instructions dated February 26, 1935 (R. W. Knox)

Hand Lead Soundings. 3 Point fixes on shore signals.

Chief of Party - R. W. Knox
Surveyed by - R. J. Sipe
Protracted by - K. McBean
Soundings penciled by - K. McBean
Verified and inked by - D. Bloom, J. A. McCormick, F. C. McKenney


The records are neat and legible and conform to the requirements of the Hydrographic Manual except that no reference triangulation station was shown on the smooth sheet. This has been added in the office.

The Descriptive Report is complete except that it does not "explain in detail all junctions made with surveys of the U. S. Engineers" (par. 8 of the Instructions); but satisfactorily covers other items of importance.

2. Compliance with Instructions for the Project.

The plan, character and extent of the development are in accordance with the instructions for the project.


The shoreline and the topographic signals are derived from plane table survey T-6481 a and b (1935). A comparison of the topographic survey with H-5975 (1935) and H-5976 (1935) shows that the low water lines and bucys were, contrary to standard practice, transferred from the hydrographic to the topographic survey.

4. Sounding Line Crossings.

The sounding line crossings are satisfactory, the depths agreeing generally within 1 foot. Some of the larger differences are probably due to the use of 1 foot tide reducers instead of the usual 1/2 foot reducers.

5. Depth Curves.

Within the area covered by the survey the usual depth curves can be satisfactorily drawn.
6. Junction with Contemporary Surveys.
   a. The junction with H-5976 (1935) to the south is satisfactory.
   b. There are no contemporary surveys to the north, east and west.
   c. A tracing showing satisfactory junction with U. S. Engineers' survey B-4-37/21 of Feb. 1936 was submitted by the field party. A copy of this survey has not yet been received in the office.

7. Comparison with Prior Surveys.
      These surveys on scale 1:20,000, 1:20,000 and 1:375,000, respectively, are in the nature of reconnaissances showing both hydrography and topography. They contain no information that has not been adequately covered by later surveys and they need not be considered in future charting.
   b. H-1018 (1868).
      This survey on a scale of 1:20,000 embraces the entire area of the present survey. A general comparison shows that many changes have taken place since the 1868 survey was made, but a detailed listing of the changes would serve no useful cartographic purpose. Because of the many changes that have taken place during the years since the survey was made and because the present survey is on a larger scale and adequately covers the area, H-5975 (1935) should supersede the above survey for charting purposes.
   c. H-1930 (1889).
      This survey on a scale of 1:10,000 covers the larger part of the area of the present survey. The area is very changeable and a considerable shifting in the relative positions of the shoal areas is noted. Because of the changeable nature of the area, the lapse of time since the survey was made and the close development on the present survey, H-5975 (1935) should supersede the above survey for charting.

8. Comparison with Chart 6151 (New Print dated April 16, 1936).
   a. Hydrography.
      Within the area of the present survey the chart is based mainly on U. S. Engineer's surveys. The area northward of the railway bridge being taken from BP 26,617 (1932) and the area south of the railway bridge from BP 16,144 (1916). Later U. S. Engineer surveys of the improved channels slightly overlap the area developed on the present survey.
A comparison of all these surveys with the present survey shows that a continual change is taking place and only the latest survey should be used in charting and all blueprints with date prior to that of H-5975 (1935) should be superseded. Note that BP 29,469 (1938) and the survey mentioned in par. 6c of this review are subsequent to the present survey.

b. Aids to Navigation.

The charted aids to navigation are in agreement with the positions on the present survey.


The field plotting was very satisfactory.

10. Additional Field Work Recommended.

The survey is satisfactory and no further work is required. Attention is directed to the statement that the U. S. Engineers sound the main ship channel about twice a year (Desc. Rep. page 2, par. 3).

11. Superseding Old Surveys.

Within the area covered the present survey supersedes the following surveys for charting purposes:

H - 260 (1851) in part
H - 273 (1851) " "
H - 402 (1856) " "
H -1018 (1868) " "
H -1930 (1889) " "


Inspected by - E. P. Ellis, August 25, 1936.

Examined and approved:

C. K. Green,  
Chief, Section of Field Records.

Fred. L. Peacock  
Chief, Section of Field Work.

W. D. Whitelaw  
Chief, Division of Charts.

Chief, Division of H. & T.
Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5976 (1935) FIELD NO. 0-11

Youngs and Lewis & Clark Rivers, Columbia River, Oregon
Surveyed in 1935
Instructions dated February 26, 1935 (K.W. Knox)

Hand Lead Soundings.

3 Point fixes on shore signals.

Chief of Party - K. W. Knox.
Surveyed by - R. J. Sipe.
Protracted by - K. McBean.
Soundings plotted by - K. McBean.
Verified and inked by - G. F. Jordan.


The records are neat and legible and conform to the requirements of the Hydrographic Manual except as follows:

a. The duplicate of the chart forwarded to the Lighthouse Bureau containing objects for locating Aids to Navigation was not received by this office.

b. Topographic detail such as docks, piles, small islands, etc., were not consistently shown on the smooth sheet. This was accomplished in the office.

c. Reduced soundings were entered in the records in colored pencil. The usual practice is to make such entries with a reasonably hard graphite pencil. In addition, corrections to reduced soundings due to changes in tide reducers were made directly over the original reductions, the result being illegibility of both reductions.

d. Descriptive notes describing docks, piles, etc., were not consistently entered in the records when sounding lines were run close by these features. (Par. 75b).

e. Topographic signals "AS" (Lat. 46° 07.1', Long. 123° 52.5') "HIC" (Lat. 46° 10.3', Long. 123° 50.1') and "EGG" (Lat. 46° 08.6', Long. 123° 45.4') fall outside the high water line. The features on which these signals are located are not indicated on the present survey. This matter has been referred to the field party.

f. Dates of establishment of triangulation stations were not consistently shown. These were added in the office.
The Descriptive Report is clear and comprehensive and satisfactorily covers all items of importance, except that the span and clearances of bridges were not listed in the report of this survey nor in that of the contemporary topographic surveys.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey conform to the instructions for the project except as follows:

a. An adequate examination should have been made of the 17 foot sounding discussed in the Descriptive Report (page 3, par. d), (See paragraph 10 of this review.).

b. The small gap existing between the present survey and H-5975 (1935) in Lat. 46° 10.2', Long. 123° 52.3' should have been covered. However, this area probably bares at low water and no further consideration is necessary.


Shoreline and signals are from plane table surveys T-6481a (1935), T-6481b (1935) and T-6482 (1935). Several signals located by sextant cuts were also used. These are recorded in the sounding records.

4. Sounding Line Crossings.

Such cross lines as were run or result from the work are satisfactory. Several discrepancies were noted by the field party in the Descriptive Report (page 3). These were smoothed out in the office, the more important being the 17 foot sounding (par. d) in Lat. 46° 10.3', Long. 123° 49.6' which has been retained.

5. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn, including portions of the low water, 6, 12, 18 and 30 foot curves.

6. Junctions with Contemporary Surveys.

a. The junction on the north with H-5975 (1935) is satisfactory except that the small gap existing between the two surveys in Lat. 46° 10.2', Long. 123° 52.3' should have been covered.

b. The southern and eastern limits of the present survey represent the limit of hydrography in this area.
7. Comparison with Prior Surveys.

a. H-250 (1861), H-273 (1861) and H-402 (1863).

These are reconnaissance surveys containing both hydrography and topography. The 1851 surveys are on a scale of 1 to 20,000 and the 1853 survey is on a scale of 1 to 375,000. They contain no hydrographic information not adequately covered by H-5976 (1935) and within the area covered should be completely superseded by the present survey for charting purposes.

b. H-1018 (1868).

A small portion of this 1 to 20,000 scale survey falls within the limits of the present survey in the vicinity of Youngs Bay. Depths in a few areas are in close agreement, however, considerable changes are noted in others and a detailed comparison will serve no useful cartographic purpose. The close development on the present survey should within the area covered, completely supersede the 1868 survey for charting purposes.


These surveys are on a scale of 1 to 10,000. The former overlaps the present survey in the area north of Lat. $46^\circ\ 09.5'$ and the latter falls entirely within the limits of the present survey in the area between Lat. $46^\circ\ 08.3'$ and Lat. $46^\circ\ 09.8'$. Comparison of soundings indicates close agreement in some areas but considerable changes in depths in others, depths on the present survey being 1 to 12 feet shoaler in some cases and 6 to 18 feet deeper in others. These differences are probably due to alluvial deposits and shifting in position of main channels.

8. Comparison with Chart 6151 (New Print dated April 16, 1936) and Chart 5902 (New Print dated Nov. 7, 1935).

a. Hydrography.

Information shown on the chart originates with surveys discussed in preceding paragraphs of this review and several U.S. Army Engineers' surveys, the more important being a survey of 1916 (Sp. 16146) which covers a small portion of the present survey in the vicinity of Lat. $46^\circ\ 10.2'$, Long. $128^\circ\ 50.1'$. Comparison of soundings indicates considerable changes in depths and a detailed comparison will serve no useful cartographic purpose. Within the area covered, the present survey should completely supersede the Engineers' survey for charting purposes.
The sunken wreck and abandoned trestle (both charted) in the vicinity of Lat. 46° 10.4', Long. 123° 49.7' are not shown on the present survey. These have been discussed in paragraph 9 of the review of T-6481b (1935). Information regarding these features has been requested from the field party.

b. Aids to Navigation.

In Youngs Bay, red buoys S4, S6 and the lighted beacon were located on the present survey in substantially the same positions as charted. Red buoy S8 and black buoys S1 and S3 were located on the present survey in positions varying 50 to 150 m. eastward of their charted positions. The charted position of S3 originates with M. to M. 47 (1927) and S1 and S8 originate with M. to M. 21 (1923). These positions are probably based in relation to the charted channel which channel as shown on the present survey has shifted as much as 110 m. to the eastward.

The positions as located on the present survey satisfactorily mark the features intended except black buoys S1 and S3 which are in the middle of the channel. Better locations would be approximately 35 m. northeast and eastward, respectively. This matter has been referred to the Lighthouse Bureau.


Field protracting and plotting were accurate and conform to the requirements of the Hydrographic Manual.

10. Additional Field Work Recommended.

This survey is complete and no additional work is required. However, an adequate examination should have been made of the 17 foot sounding discussed in the Descriptive Report (page 3, par. d.). (See par. 2a of this review.)

11. Note to Compiler.

Attention is called to an overhead cable shown on the smooth sheet in Lat. 46° 07.6', Long. 123° 52.5' which has been plotted from information contained in the sounding records. This feature is not shown on T-6482 (1935).

12. Superseding Previous Surveys.

Within the area covered, the present survey supersedes the following surveys for charting purposes:
H-250 (1851) contains topography In part
H-275 (1851) " " " "
H-402 (1853) " " " "
H-1018 (1888) " "
H-1930 (1889) contains topography " "
H-1931 (1889) Entirely


Inspected by - E. P. Ellis, August 25, 1936.

Examined and approved:

C. K. Green, Chief, Section of Field Records.

L. O. Dobert, Chief, Division of Charts.

Fred L. Peacock, Chief, Section of Field Work.

(Handwritten signatures)

Chief, Division of H. & T.