8809

Diag'd, on diag. ch. No. 6154

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey  Planimetric Air Photographic
Field No.  PH-134(L5)  Office No.  T-8809

LOCALITY

State  Oregon
General locality  Willamette River
Locality  Wilsonville  Boones Ferry

1947
CHIEF OF PARTY
R.A. Earle

LIBRARY & ARCHIVES
DATE  December 29, 1947
RECORD SHEET

GENERAL LOCALITY: Willamette River, Oregon
LOCALITY: Wilsonville

PHOTOS ORDERED: Dec. 1946; REC'D Jan. 1947
PROJECTION ORDERED: Dec. 1946; REC'D Jan. 1947

CONTROL:
COMPUTED: Harris. VERIFIED: Davidson
PLOTTED: Davidson. VERIFIED: Harris

PHOTO PREPARATION:
CONTROL: Harris
AZIMUTHS: Davidson
PASS POINTS: Harris & Davidson

TEMPLATES: Davidson. VERIFIED: Harris

RADIAL PLOT: Harris
PLOTTED BY: Davidson. DATE: 3-12-47
VERIFIED: Deal. DATE: 3-14-47

COMPILATION:
DETAIL POINTS: Davidson. DATE: 4-15-47
DETAIL BY: Davidson. DATE: 4-20-47 to 5-20-47
VERIFIED BY: Barton. DATE: 6-2-47

DATE OF PHOTOS: 2-9-46
TIME OF PHOTOS: Not listed

STAGE OF TIDE: Water Level is 52.48 ft. above Mean Sea Level

COMPARISON WITH PREVIOUS SURVEYS; TOPO., HYDRO., AND CHARTS:
Due to a scale difference only a visual comparison was made with the USGS Oregon City, Oregon and Tualatin, Oregon 15 minute quadrangles, Scale: 1:62500. The planimetry which is common to the map manuscript and quadrangle maps is in good agreement. The drainage pattern of the area as shown on the map manuscript is more complete than that shown on the quadrangle maps. Aurora Airport (over).

REMARKS: Complete planimetric detail along both shores of the Willamette River and within a zone averaging 300 meters in width on each side of the river has been compiled. Inshore from this area only skeleton planimetric details are shown.

FORWARDED TO: Washington Office
DATE: [signature]
R. A. Earle
Chief of Party
COMPARISON (continued)

is not shown on the quadrangle map.

Nautical charts for this part of the Willamette River have not been compiled.
DATA RECORD
T-8309

OREGON CITY, OREGON
Quadrangle (II): TUALATIN, OREGON (USGS) 15 minute
Project No. (II): Ph-13(46)

Field Office: Portland, Oregon Chief of Party: R. A. Earle

Instructions dated (II III): 8 October 1946 Copy filed in Descriptive
Supplemental Instructions: 4 November 1946 Report No. T—(VI)
Div. Phot. Office file

Completed survey received in office: 21 July 1947

Reported to Nautical Chart Section:
Reviewed: 29 August 1947 Applied to chart No. Date:
Redrafting Completed:
Registered: 12—X—1947 Published:
Compilation Scale: 1:10,000 Published Scale:
Scale Factor (III): None

Geographic Datum (III): N. A. 1927 Datum Plane (III): *See below
Reference Station (III): WILSONVILLE, 1946

Lat.: 45° 18' 10.877" (335.8m) Long.: 122° 46' 01.769" (38.5m) Adjusted
Unadjusted X

State Plane Coordinates (VI): OREGON NORTH ZONE (ruled in red on the
manuscript)

X = Y =

Military Grid Zone (VI)
Adopted Plane between Oregon City and Newberg is S2-6 ft. above Mean Sea Level.
All bench mark elevations are referenced to Mean Sea Level and are on the Standard
1929 general adjustment of leveling in the U. S. A.

See remarks - page 3
### Photographs (III)

<table>
<thead>
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<th>Number</th>
<th>Date</th>
<th>Time</th>
<th>Scale</th>
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</tbody>
</table>

Nine lens

17259 to 17263 Inc. 8-9-46 Not listed 1:10,000 52.78 ft. above M.S.L.

17274 to 17277 Inc. 8-9-46 " " " 52.78 ft. " "

Tide from (III): None

Mean Range: None  
Spring Range: None

Camera: (Kind or source) U.S. Coast & Geodetic Survey 9 lens,  
Focal length 8.25 inches

Field Inspection by: J. C. LaJoye (interior) date: November, 1946
J. C. LaJoye (shoreline) date: January, 1947
J. Winniford (geographic names) date: December, 1946

Field Edit by: None date:

Date of Mean High-Water Line Location (III): January, 1947

Projection and Grids ruled by (III) Washington Office date: January, 1947

" " " checked by: Washington Office date: January, 1947

Control plotted by: R. A. Davidson date: February, 1947

Control checked by: James L. Harris date: February, 1947

Radial Plot by: J. L. Harris & R. A. Davidson date: March 13, 1947

Detailed by: R. A. Davidson date: 4-15 to 5-20-47

Reviewed in compilation office by: Ree H. Barron date: 6-2-47

Elevations on Field Edit Sheet checked by: None date:
STATISTICS (III)

6.0 sq. miles (complete detail)

Land Area (Sq. Statute Miles): 24.0 sq. miles (skeleton detail)

Shoreline (More than 200 meters to opposite shore): 11.4 statute miles.

Shoreline (Less than 200 meters to opposite shore): 8.8 statute miles.

Number of Recoverable Topographic Stations established: 5

Number of Temporary Hydrographic Stations located by radial plot: 42.

Leveling (to control contours) - miles:

Roman numerals indicate whether the item is to be entered by, (II) Field Party, (III) Compilation Party, or, (VI) the Washington Office.

When entering names of personnel on this record give the surname and initials (not initials only).

Remarks:

The adopted Water Plane is a point between the dam at Oregon City and the zero of the gage at Newberg, Oregon which is 52.0 ft. above M.S.L.
FIELD INSPECTION REPORT
Sheets 8809, 8810 and 8811
Project Ph-13(46)

R. A. Earle
Chief of Party
1. Description of the Area:

The area covered by this report lies along the Willamette River and extends from the vicinity of Canby Ferry, north of the town of Canby, to the southwest end of Ash Island near Newberg, Oregon.

Sheet 8809 and a small portion of sheet 8810 lie in Clackamas County. In the remaining portion of sheet 8810 and in all of 8811, the main river channel forms the boundary between Marion County on the south and Yamhill County on the north.

The river flows between wooded banks of varying heights. In places the bluffs rise as high as 100 feet, while in other places they are no more than 10 feet above the datum plane for this project.

Immediately back from and roughly parallel to the river, the ground levels off into a plain which varies in width from 100 meters to a mile and a half. Behind this plain, which is highly developed agriculturally, there is a pronounced river terrace about 100 feet high which roughly parallels the river. The top of this terrace levels off to form a second agricultural plain area.

This terrace and plain formation is broken by a ridge that runs roughly in a north and south direction on the north bank of the river in 8810 and is known as Farrett Mountain. An extension of this ridge, known as La Butte, is located on the south side of the river.

The drainage pattern is clearly defined in the hilly regions. In the lower levels, most of the drainage is taken care of by seepage. The majority of the streams that drain this area enter the Willamette River at a higher elevation than the datum plane for this project.

The principal streams that empty into the Willamette River in this area are Newland Creek, Boekman Creek, Corral Creek and Chehalis Creek on the north and the Molalla and Pudding Rivers on the south.

The banks of the river are covered by a growth of low brush and willows. These are backed by an area of large deciduous trees, which were left uncut to combat erosion during the freshest season. This growth in some spots is almost impassable. Back from the river and along the draws, there is a heavy growth of coniferous trees. Large portions of the inland area consist of orchards and filbert groves.

The low areas between the river bank and the river terraces, which are mentioned above, are subject to flooding during the freshests which occur between December and May. These areas are under cultivation during the rest of the year and are highly fertile.
The Willamette River is paralleled by a paved road from Wilsonville to Newberg on the north and by a secondary gravel road from Wilsonville to Butteville on the south. U. S. Highway 99W runs northeast and southwest through sheet 8811.

The principal towns in this area are Newberg and Wilsonville, which serve as trade centers for the surrounding agricultural areas. The principal industries of these two towns are lumber, pulp and paper.

2. Completeness of Field Inspection:

The field inspection for the clarification of details on the photographs, and the classification and identification of such features as roads, buildings, wooded areas, drainage, et cetera, was completed in accordance with the instructions for this project dated 8 October 1946 and the supplemental instructions dated 4 November 1946. Filed in Div. of Phot. Office File.

3. Interpretation of the Photographs:

A densely wooded area of hardwood (deciduous trees) invariably presents a more uniform appearance than a corresponding area of softwood (coniferous trees), since the latter are of second growth due to old logging operations in the coniferous areas. The deciduous trees are generally confined to the lower areas while the coniferous trees abound in the heights.

In general, a mottled tone of gray is indicative of a mixture of hardwood and softwood, the ratio varying with the predominance of the one type over the other. Solid light gray tones generally indicate deciduous brush.

In the lower areas and on Ash Island the mixture of brush and small willows presents a light pebbled effect. The darker areas in the low lands indicate intermittent ponds which are filled by rain, or the freshets, and drained by seepage or evaporation.

A completely white area on the river indicates a gravel bar on which brush has not yet taken root. Other bars that are sprinkled with small scattered willows have a dark speckled appearance.

4. Horizontal Control:

A thorough search has been made for all USC&GS stations established during prior surveys in this area. Additional control established by the Corps of Engineers was recovered and identified on the photographs only where it was needed to control the radial plot. No additional control was established in this area.

Recovery notes on Form 526 have been prepared for all old USC&GS stations which were recovered. Recovery notes on this form were not submitted for 1946 stations unless the original descriptions were found to be inadequate because of changes, additions, corrections, et cetera. This is in accordance with the supplemental instructions dated 4 November 1946.
Recovery notes were prepared for stations of other agencies only when they were recovered, identified and used to control the radial plot.

5. Vertical Control:

In accordance with instructions for this project, only USCGS bench marks were searched for and those recovered were spotted only when they fell within the area of complete detailing. This is in accordance with the supplemental instructions for this project.

Recovery notes on Form 685 have been prepared for all USCGS bench marks in the area.

6. Contours and Drainage:

No contouring is involved in this area. In the area of complete detailing, all drainage, except for minor ditches, was located and classified in the field. Only major drainage was located in the area of skeleton detail. This included ponds, lakes, sloughs, and marsh or wooded marsh areas. Drainage features, which were indistinguishable on the photographs, were located by field measurements, either by pacing or taping. In addition, the drainage pattern ascertained in the field was further checked under the stereoscope by the field inspector. In all questionable cases the classification of drainage was verified by local inquiry.

For additional information, see side headings 1 and 7.

7. River Shoreline at the Adopted Plane of Reference:

Where the shoreline was obscured by trees, field measurements were taken from the hydrographic signal sites and marked topographic stations to the shoreline at the adopted datum. The distances from the hydrographic signal sites were recorded in the sketch book which contain the descriptions of these sites. The distances from the established topographic stations were noted on Form 524 submitted for each of these stations. In some instances, it was found to be expedient because of terrain conditions, to determine these distances by sextant triangulation with a measured base inshore along the top of the bank, bluff, or ridge. In many places it was possible to see the shoreline between the overhanging trees on the photographs and with the aid of the stereoscope it was possible to identify the remaining shoreline between these gaps.

Where the mean high-water line identified in the field is not to some extent coincident with and defined by an appreciable bank, bluff or ridge, the changes in the shoreline are affected at various increasing stages of the water level above the datum plane. It may be noted, however, that in this area of the project the changes in the outline of the shoreline due to changes in the water level are less evident than in other areas. This is due to the numerous high banks and bluffs. During the flood stages the rivers and larger creeks will spill over the lower banks to flood the low lying areas.
The Willamette River upstream from the Willamette Falls is not influenced by tidal action. Although the water level in this area is variable, we have followed the accepted rule that the river shoreline should be that which is apparent at normal water level stages. The U. S. Engineers of the Portland District were consulted and the following facts and data were ascertained:

1) The water level in the Willamette River between Willamette Falls and Newberg, Oregon, is controlled directly by this dam and the first tier of sluice boards installed on top of it at an elevation of 51.6 feet above M.S.L.

Although this first tier of sluice boards are removable, they are considered as a fixture and the normal water table is maintained by the USE at this elevation which is 1.6 ft. above the 0 00 (USE Low-Water Plane) of the USE gage at the upper lock in Oregon City. The zero of this gage is 49.98 ft. above M.S. L. Additional tiers of removable sluice boards can be added; however, their utilization is only temporary.

2) In view of the above paragraph the Willamette River is a pool for a distance of about 29.5 miles between the dam at Oregon City and the zero of the USE gage at Newberg, Oregon, which is 52.0 ft. above M.S.L. This makes a difference in elevation of only 0.4 ft. between these two points.

3) The zero of each USE gage established along the Willamette River denotes the USE Low-Water Plane. The elevation of the zero of each gage above M.S.L. has been determined and is available.

4) The low-water plane at any one point between any two successive USE gages is determined by prorating the difference in elevation above M.S.L., between the zero of the gages.

5) The elevations of the zero of the gage at the upper lock in Oregon City, of the gage in Newberg, and of the remaining gages upstream from Newberg to Salem, are on the Standard 1929 general adjustment of leveling; however, there are several gages between the gage at the upper lock in Oregon City and the one in Newberg, which are on the 1924 adjustment of leveling.

6) A minimum depth of 3.5 ft. below the USE Low-Water Plane is maintained in the Willamette River upstream from the Willamette Falls area to the limits of navigation beyond Salem.

7) An ozalid sketch, which shows the USE Low-Water Plane in the Willamette River pool between Oregon City and Newberg, is attached to the back of this report.

8) A list of the elevations of the zeros of all gages above M.S. L. is attached to the back of this report. This list is for the gages established by the U. S. Corps of Engineers along the Willamette River from Newberg to Salem, Oregon.
In view of the aforesaid information, the determined plane for the shoreline is 51.6 feet above M.S.L. to the gage in Newberg. The shoreline as indicated in the Willamette River Pool, which extends to this gage, represents the water surface at the stage as controlled by the dam and the first tier of sluice boards at Willamette Falls. South of the gage in Newberg the determined plane is the U. S. Corps of Engineers Low-Water Plane (see item 4 above).

All existing gages in the Willamette River in the area of this project were either identified on the photographs or located by sextant fixes. The water level at the time the nine lens photographs were flown was at or close to the adopted plane used to identify the shoreline for this project.

3. **Low Water Line:**

Since there is no tidal action in the Willamette River upstream from the Willamette Falls, this side heading in the hydrographic terminology is not applicable. In general, only the approximate limits of shoal areas were indicated during the shoreline inspection. These were supplemented by a close study in the field of any under water lines or discolorations that may have been visible on the photographs.

9. **Wharves and Shoreline Structures:**

There were no wharves or shoreline structures in the area covered by this report, as the wide variation of the river level between the flood stages of the winter, and the comparatively dry summer makes any fixed structure impractical. In general, floats or log booms are used for mooring purposes.

10. **Details Offshore from the Adopted Shoreline Plane of Reference:**

There were no piling or dolphins visible offshore; however, several river gages, which were located as hydrographic signals, are attached to single piling. It is believed that there may be some underwater obstructions at the former sites of the old steamboat wharves or landings, but this could not be verified by the shoreline inspection party.

11. **Landmarks and Aids to Navigation:**

There were no aids to navigation found in the area covered by this report. Several landmarks were located by this party and were recommended for charting.

12. **Hydrographic Control:**

Since the primary purpose of this project was to obtain shoreline and control data for the hydrographic surveys, a sincere attempt was made to establish hydrographic signals. According to the supplemental instructions no instrument work was to be done by this party, but as many of the required hydrographic signals were to be established as possible.
Since the river in this area runs between steep wooded banks, it was almost impossible to identify natural objects which were visible from the river through the heavy vegetation. Instead, to satisfy the minimum requirements set forth in the Hydrographic Manual, it was necessary to establish some of the signals by the Substitute Station or Photogrammetric Station Method. Hydrographic signals were listed and numbered as prescribed by the instructions for this project. They were identified on the photographs and the information recorded in a sketch book.

Topographic stations were established at the approximate intervals of one mile as stipulated by the Hydrographic Manual. These were identified on the photographs and Form 524 was submitted for each station.

A list of the hydrographic signals sites established and a "Report for Hydrographic Party" are attached to the back of this report.

13. **Landing Fields and Aeronautical Aids:**

There is a small airport at Newberg which was noted during field inspection. There are no aeronautical aids in the area covered by this report.

14. **Road Classification:**

All through or connecting public highways, and roads leading from such highways and providing access to the water have been classified by the symbol "dfl" (double full lines), and minor access roads, where it was felt there was a lack of roads leading to the shore, were classified as "ddl" (double dashed lines). All other roads, such as private drives, dead end roads, or field roads were not classified and should not be shown.

U. S. and State Highway route numbers and names were obtained from posted road or street signs or from official local sources. These were noted on the photographs.

15. **Bridges:**

There are two bridges over the navigable waters in the area covered by this report. These bridges were named, and the vertical and horizontal clearances shown on the photographs at the adopted plane of reference.

16. **Buildings and Structures:**

A complete field inspection was made of all buildings and structures along the waterfront and within a zone averaging 300 meters in width on each side of the river. Inshore from this zone only skeleton details, which included public buildings, schools, churches, railroads, and other landmarks, were noted. All other buildings and structures should not be shown.

17. **Boundary Monuments and Lines:**

This side heading is not applicable to this project.
The investigation of geographic names in this area is the subject of a special report. The names of U. S. and State Highways, public roads, and buildings, schools, churches and railroads were obtained during the field inspection and are noted on the photographs.

19. **Power Transmission, Telephone and Telegraph Lines:**

The field inspection of this phase of the work was done in accordance with the supplemental instructions dated 4 February 1946.

All submarine and overhead cable crossings (including vertical clearances above the datum plane for this project) over navigable waterways have been indicated on the photographs. The vertical clearances were obtained in the field, and were verified by the U. S. Corps of Engineers.

20. **Field Photographs:**

After the field inspection was completed, the field photographs were checked for legibility of inked notes, for completeness of field inspection work, etc. No attempt was made to indicate the limits of each sheet on the photographs. The photographs used for field and shoreline inspection on each sheet are listed in the Data Record, Form No. T-1.

Inspected by:

Charles Hanavich
Topographic Engineer

Respectfully submitted:

John C. LaJoye
Prin. Photo. Aid

Approved by:

R. A. Earle
Chief of Party
PROJECT Ph-13(46)
Hydrographic Signals - 8809

0901 Blaze on leaning willow
0902 Double blaze on 20 inch willow
0903 Lone fir, downstream from abandoned orchard
0905 Point of trees on bank at U/S side of Newland Creek
0906 Leaning willow on D/S edge of cleared area, U/S from cleared space on bank and at the foot of a flume running off the bluff
0907 South, or water gable of yellow house on bluff
0908 Blazed fir
0909 Cupola on red barn — ✓
0910 Porch gable, yellow house — ✓
0911 Water gable, grey shingle house — ✓
0912 Top of square water tower — X
0913 Water gable, white frame barn — ✓
0914 Shore gable tin roofed barn — ✓
0915 Top of fir, U/S end of shed
0916 Ventilator, inshore end of hop house— ✓
0917 Stake at center of "Underwater Cable Crossing" sign
0918 Signal is cupola on barn— ✓
0919 Blazed cottonwood, largest of group
0919a River gage, Wilsonville
0920 South pier of bridge
0921 Middle pier of bridge
0922 North pier of bridge
0923 River gable of ruined barn
0924 Top of water tower — ✓
0925 Chimney on N. E. side of wing of house
0926 River gable of barn
0927 Chimney, most shoreward of four
0928 Center of bush, U/S of two
0929 Chimney, yellow and brown house
0930 East ventilator of two on new barn
0931 Gable of white house
0932 Shore gable of barn
0933 Chimney of yellow house
0934 Cupola on barn, north side of river
0935 Barn cupola, south side of river
0936 Tree on bluff in yard of house
0937 Water gable of house
0938 Water gable of house
0939 Corner of fence, at gate
0940 U/S end of bushes at bottom of bluff
0941 D/S gable silver roofed barn
0941a Base of lone fir
1001 Chimney center of house — /
1001a Corner of wooden retaining wall
1001b Chimney, center of house — /
1001c Water gable of barn — /
1002 Water gable of house — /
1003 Lone fir in clearing
1004 Main chimney "T" shaped house — /
1005 Cupola on rear of small red barn — /
1006 Water gable red barn — /
1007 D/S gable red barn — /
1008 White brick chimney of red house — /
1008a Chimney, center yellow house — /
1009 Weather vane on barn — /
1010 Center chimney, unpainted house — /
1011 Small white outhouse
1012 D/S gable of old barn —
1013 Tree bearing No. 73
1014 D/S gable of house shaped thus: — /
1015 D/S gable of white house — /
1016 Base of twin firs on curve of old road in quarry
1017 Lone willow bearing No. 17
1018 Cupola on red barn with white trim — /
1019 Tree marked by signal cloth
1020 Tallest fir, tops others by 40 feet
1021. Leaning blazed and kalsomined tree, U/S side of small creek
1022. Rag on downstream point of triangular brush patch,
1023. Cupola on unpainted barn
1024. Flagstaff on Memorial Bldg., Champoeg Park
1024a. Blazed kalsomined deciduous tree
1025. Lone fir
1026. Blazed and kalsomined tree
1026a. U/S gable of wing on prominent white house on bluff
1027. Kalsomined dead tree
1028. Signal cloth on rose bush in clearing
1029. Leaning tree, kalsomined and blazed
1030. Blazed and kalsomined tree
1031. Blazed and kalsomined tree at L. W. L.
1032. Blazed and kalsomined tree
1033. Station is blazed and kalsomined tree, offshore of three
1034. Blazed and kalsomined tree
1035. Blazed and kalsomined deciduous tree
1101. Blazed and kalsomined tree
1102. Blazed and kalsomined tree
1103. Kalsomined fir tree
1104. Northwest pier of bridge
1105. Downstream stack of three
1106. Deciduous tree, D/S side of washout
1107. Kalsomined and blazed fir
1108. Blazed and kalsomined deciduous tree on bank
1109. Blazed and kalsomined deciduous tree, corner of hop yard
1110. Black signal cloth on hazel bush
1111. D/S end of brush patch on gravel bar
1112. Outer D/S corner old gravel bunker
1113. Gin pole at new gravel bunker
1114. Black signal cloth on U/S end of brush on gravel bar
1115. Black rag on water bush
1116. Blazed and kalsomined tree
1117. Tree with white crossed boards
1118. U/S corner of unpainted barn — ✓
1118a. Short pile at mouth of small drain
1119. Center of two pole transmission line crossing on west side of river
1120. Center of two pole transmission line crossing on east side of river
1121. Black signal cloth on rose bush in clearing
1122. Rag on rose bush, D/S from large deciduous tree
1123. Rag on rose bush on top of twenty foot bank
1124 Black rag on small sapling
1125 Dead fir on bank
1126 Kalsomined blaze on small cottonwood tree
1127 Large lone fir on fence line
1128 Kalsomined cottonwood sapling, U/S of group
1129 River gable, small red barn —✓
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<th>STATION</th>
<th>SOURCE OF INFORMATION (INDEX)</th>
<th>DATUM</th>
<th>LATITUDE OR $\phi$-COORDINATE</th>
<th>DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS</th>
<th>DATUM CORRECTION</th>
<th>N.A. 1927-DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS</th>
<th>REMARKS</th>
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<td>545 1940, r 1945</td>
<td>N.A. 1927</td>
<td>45° 20' 34.125&quot;</td>
<td>1053.5 (798.8)</td>
<td>783.1 (523.2)</td>
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<td>N.A. 1927</td>
<td>45° 19' 00.601&quot;</td>
<td>18.6 (1833.7)</td>
<td>982.3 (324.6)</td>
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<td>Field Comp.</td>
<td>N.A. 1927</td>
<td>45° 17' 51.59&quot;</td>
<td>1605.0 (247.3)</td>
<td>538.2 (769.1)</td>
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<td>Peach, 1946</td>
<td>Field Comp.</td>
<td>N.A. 1927</td>
<td>45° 17' 18.714&quot;</td>
<td>577.7 (1274.6)</td>
<td>773.0 (534.6)</td>
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<td>Par (USE, 1936)</td>
<td>Field Comp.</td>
<td>N.A. 1927</td>
<td>45° 17' 01.45&quot;</td>
<td>44.8 (1807.5)</td>
<td>856.5 (451.2)</td>
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<td>Tank, Canby</td>
<td>Field Comp.</td>
<td>N.A. 1927</td>
<td>45° 15' 49.05&quot;</td>
<td>1514.2 (338.1)</td>
<td>1108.1 (200.2)</td>
<td>Unadjusted, E. of project - used in radial plot.</td>
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<td>Meridian, 1946</td>
<td>Field Comp.</td>
<td>N.A. 1927</td>
<td>45° 19' 04.379&quot;</td>
<td>135.2 (1717.1)</td>
<td>729.0 (577.9)</td>
<td>Unadjusted, used in radial plot.</td>
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<tr>
<td>Wilsonville, 1946</td>
<td>Field Comp.</td>
<td>N.A. 1927</td>
<td>45° 18' 10.877&quot;</td>
<td>335.8 (1516.5)</td>
<td>38.5 (1268.7)</td>
<td>Unadjusted, not used in radial plot.</td>
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<td>N.A. 1927</td>
<td>45° 18' 03.12&quot;</td>
<td>96.3 (1756.0)</td>
<td>477.9 (889.4)</td>
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1 FT. = 304.808 METER

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<th>DATUM</th>
<th>LATITUDE OR y-COORDINATE LONGITUDE OR x-COORDINATE</th>
<th>DISTANCE FROM GRID IN FEET OR PROJECTION LINE IN METERS</th>
<th>N.A. 1927 DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS</th>
<th>REMARKS</th>
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<td>OG1 (USE, 1935) re-computed 1927</td>
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<td>45° 16' 36.060&quot;</td>
<td>122 45 47.338</td>
<td>1112.2 (739.1)</td>
<td>Unadjusted Not used in rad.pl. Shown as As. Mk. for WALLACE. See letter to Director 13 Feb., 1947.</td>
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1 FT. = 30.48006 METER

COMPUTED BY: J. J. Harris DATE Feb., 1947
CHECKED BY: R. A. Davidson DATE Feb., 1947
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<th>Low Water</th>
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<th>Care</th>
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<td>68.39</td>
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<td>75.8</td>
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SYMBOL & COLOR SCHEME
Triangulation and Traverse Stations

Pricked direct
Substitute station
Reference ties (not recommended)

Topographic Stations

Pricked direct
Substitute station
Reference ties (not recommended)

Hydrographic Stations

Pricked direct (ties, if necessary)
Substitute station

Bench Marks - not used as a control station
Pricked direct or spotted (ties, if necessary)

STATION NAMES

Triangulation and Traverse

Landmark Stations

TANK,ELEV (Oregon Tank, 1946)
(Naut., Aero., or Int. landmark)

Fixed Aids to Navigation
Reeder Lt (Reed Lt., 1935) - light list name
(unused) - if abandoned.
Front Beacon, 1935
(N En No. 4) - indicate color of beacon.

Hydrography
OREGON, 1946 - underline the first four letters
or all if less than four.

Topographic

Landmark Stations

CUPOLA (Hunt Club), 1946
(Naut., Aero., or Int. landmark)

Fixed Aids to Navigation
Reeder Lt - Light list name
Reeder Lt. (unused) - if abandoned
B En No. 4 - indicate color of beacon

N.B.: Indicate a permanent (steel or masonry) and an abandoned light structure as a nautical landmark.

Shoreline Control for Ship

Hydrography
Swan, 1946 - a marked station
Kelley (Tidal EM 4), 1946
Swan (EM 53, USGS), 1946

Interior Marked Stations
Oregon Az. Mk, 1946; EM L 104, 1946
PTS 77 (USGS, 1910), 1946 - control less than
third-order.

Hydrographic Station
Shoreline Control
1401 - first signal site in T-3871; describe
in sketchbook

N.B.: New triangulation stations are given names of 5 or more letters; topo., station
4 letters; however, descriptive, geographic, or personal names are preferred to
arbitrary ones.
SYMBOLS AND COLORS

DRAINAGE
  Perennial stream
  Intermittent stream
  Intermittent pond

SHORELINE
  Mean highwater line - fast land
  Definite low water line
  Indefinite low water line
  Definite off-shore limits of marsh
  Inshore limits of scattered offshore (indefinite) limits of marsh
  Rock(s) awash (1 ft. at Proj. Dat.)
  Sunken Rock(s) (at Proj. Dat.)
  Bare Rock(s) (1 ft. above Proj. Dat.)
  Foul, wreckage, pile, obstr., etc. area
  Indefinite limits of shoal or submerged ledge or reef area

BUILDINGS
  Circle buildings not obscured
  Obscured buildings inked as shaped and circled, if necessary

TICK MARK
  To denote change in stream or shoreline classification, etc.

DELETIONS

NOTES ON PHOTOS
  All notes are to be in red unless indicated otherwise.

N.B.: The photogrammetric party should establish at least 75% of the required hydrographic signals spaced so that additional hydrographic sites may be conveniently located.
### Abbreviations for Field Inspection

<table>
<thead>
<tr>
<th>SHORELINE</th>
<th>BUILDINGS</th>
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REPORT FOR THE HYDROGRAPHIC PARTY
Sheets 8809, 8810 & 8811
Project Ph-13 (46)

It is intended that this report shall be a guide to the hydrographic condition of the river in so far as it was explored by the shoreline inspection party.

From the point slightly west of the old Canby Ferry Landing, (where sheet 8809 begins) to Newberg, the river is bordered by heavily wooded banks and there is little identifiable detail clearly visible from the water. In this area it was necessary to identify some of the natural objects behind the row of trees bordering the river. When the deciduous trees, which block these identifiable points from the water, have shed their leaves, these points may be seen; however, during the summer season it may be necessary to project these points by instrument to the water line. In addition to those points mentioned above, some of the hydrographic signals were located by the photogrammetric station or substitute station method.

From Newberg to the extreme southwest edge of sheet 8811, the pool formed by the dam at Oregon City has little effect on the river. Bars and islands, which were visible to the shoreline inspection party, were inspected.

The Molalla River in the eastern portion of 8809 is the principal stream in this area, but is not navigable and no topographic or hydrographic signals were established. The slough behind Ash Island in the central portion of 8811 was inspected but since the upstream end of the river is closed by a pile dam, it is not navigable, and no signals were established.

There is little current in the pool from the Canby Ferry Landing to the town of Newberg, but upstream from Newberg, in the channel between Ash Island and the southeast shore, a current of as much as 5 knots was experienced.

No rocks were visible to the shoreline inspection party.

Inspected by: Charles Hanavich
Charles Hanavich
Topographic Engineer

Respectfully submitted: John C. LaJoye
John C. LaJoye
Prin. Photo. Aid

Approved by: R. A. Earle
R. A. Earle
Chief of Party
26. Control:

Of the fourteen horizontal control stations which fell in the area of
this map manuscript, five USGS triangulation stations, and two USE
traverse stations which were relocated by the geodetic party in 1946,
were recovered. Of this number four triangulation stations and one
traverse station were identified for use in the radial plot. No effort was
made to recover the other seven stations, four of which were USE traverse
stations established in 1935, and three of which were USGS traverse sta-
tions established in 1911. In addition to the above six additional hori-
zontal control stations, located to the north and east of this area, were
identified by the field inspection party for use in running the radial
plot.

Three of the seven unrecovered stations are shown on the map manuscript.
These were plotted in the following manner:

PTS 13 (USGS) as a benchmark. Its position was plotted from
data contained on Form 526 for triangulation station "MERIDIAN,
1946".

ATE (USE), 1935, was radially plotted as the recoverable topo-
graphic station "BOON, 1947".

KOT (USE), 1935, was radially plotted as the azimuth mark for
triangulation station "WILSONVILLE, 1946".

Although the scaled positions, as determined by the radial plot for the
two USE stations listed above, are in close agreement with their posi-
tions as published by the U. S. Engineers, they were not shown on the map
manuscript as traverse stations because some slight difference in result-
ing position was noted when the USGS tied into other USE traverse sta-
tions in this vicinity in 1946.

A complete tabulation of the horizontal control stations for this map manu-
script is shown on two sheets of Form M-2388-12, which are attached to this
descriptive report.

27. Radial Plot:

This map manuscript is part of Radial Plot No. 1, Project Ph-13(46), which
includes Map Manuscripts T-8309, T-8310, and T-8311.

The photographs were prepared in the following manner:

(1) Conjugate centers were transferred to overlapping photographs.

(2) Azimuth and cross azimuth lines were plotted on all photographs.

(3) All horizontal control stations or the substitute stations,
which were identified by the field inspection unit, were
pricked on all photographs on which they appeared.
(4) Well defined pass points, which would be cut in during the running of the radial plot, were then selected and pricked on the office photographs.

Templets were then made on sheets of clear acetate in accordance with Photogrammetry Instructions No. 11, dated 2-28-47, "Correction to Radial Directions on Nine Lens Photographs for Radial Plotting". Inks of various colors were used to designate the azimuth and cross azimuth lines and the radial lines to horizontal control stations, topographic stations and pass points.

Three polyconic projections of five minutes of latitude and nine minutes of longitude, ruled with black ink in one minute grids on acetate, were furnished this office. Imposed on the projections were 5000 ft. grids of Oregon State (north zone) ruled in red ink. Each horizontal control station which was recovered and its substitute station, if it was identified, was plotted on its respective map manuscript. Triangulation stations and permanent traverse stations of third order accuracy or better, of all agencies, are indicated with the usual 2.0 mm triangulation symbol in black acid ink. The substitute stations are indicated by 2.0 mm circles in red acid ink, drawn on the reverse side of the map manuscript. The pass points which had been established along the western limits of quadrangle T-8708 in Project O²-322 and which fell along the eastern limits of T-8809 in Project Ph-13(46), were transferred to T-8809 for use in making a junction between the two projects.

After all plotting was completed and checked the three map manuscripts were laid on the large radial plot table and joined together by matching common meridians and parallels. Clear cellulose tape was used to fasten the three sheets together.

The templets were oriented directly on the three joined map manuscripts. Those which contained several well distributed horizontal control stations and which could be held rigidly, were the first to be oriented. Some pass points could then be cut-in and used in orienting templets of inadequately controlled photographs. The azimuth lines also held strongly and were of great assistance in orienting the templets. None of the photographs were tilted to a sufficient degree to have any noticeable influence on the radials. The intersections, which established the exact position of the pass points, were good.

When the plot was satisfactorily completed and all of the templets were securely fastened to the three joined map manuscripts, it was turned over so that the templets were face down on the radial plot table. The locations of all pass points and photograph centers were carefully pricked and indicated directly on the reverse sides of the three map manuscripts by double circles in blue ink.

It is believed that excellent results were obtained in this radial plot and that accurate map manuscripts may be compiled which will be well within the limits of accuracy for the project.
28. **Detailing:**

Compilation was done in accordance with instructions for Project Ph-13 (46). Special care was taken to see that the requirements of paragraph 34 of the instructions were met.

The transforming printer at the Washington Office was not in proper adjustment at the time the photographs were printed and they could not be oriented in their entirety at the compilation table when radially plotting various types of pass points. Enough pass points had, however, been established during the radial plot so that each chamber of each photograph could be separately oriented. For at least two of the chambers on each photograph, it was found necessary to de-center the photograph radially, to or from the chamber being oriented, so that the radials to the pass points and horizontal control stations in the chamber would pass through their positions on the map manuscript.

Due to shadows and overhanging trees along the banks of the rivers, it was often impossible to get more than a two radial intersection on some of the detail pass points which were used to compile the shorelines. These two radial intersection points have been shown with a small circle in green ink on the reverse side of the map manuscript.

The photograph coverage was adequate and very little trouble was encountered in interpreting the planimetric details.

All planimetric features have been compiled, within a zone averaging 300 meters in width, along both shores of the Willamette River. Inshore from this zone only skeleton planimetric details have been shown. The detailing limits of the map manuscript were taken from the index map furnished the compilation office and are shown with a light full line in green acid ink.

This map manuscript is relatively a smooth drawing and all symbols have been drafted to conform with samples furnished the compilation office or with symbols shown on similar planimetric maps which have recently been published by the U. S. Coast & Geodetic Survey.

The heights of bluffs only, were indicated by the field inspector. Their location was interpreted by the compiler with the aid of the stereoscope. Shoreline features and drainage were also delineated by extensive use of the stereoscope, however, it was often necessary to detail the field inspector's interpretation of drainage through thickly wooded areas. This was done only when it was impossible to determine the location of drainage by stereoscopic examination of the photographs.

The water line of two small portions of the Molalla River, one just west of the Southern Pacific R. R. and the other just east of the Willamette River, were not field inspected. As this river is not navigable the areas were delineated by comparison with field inspection of nearby areas and with the use of the stereoscope.
29. Supplemental Data:

No supplemental data was used in the area of this map manuscript.

30. Mean High-Water Line: (River shoreline at the adopted plane of reference)

A complete discussion of this feature may be found in paragraph 7 of the Field Inspection Report, Sheets 8809, 8810, and 8811, Project Ph-13(46).

The mean high-water line (River shoreline at the adopted plane of reference) is shown by a continuous black acid ink line, .008" in thickness, at a plane 51.6 ft. above Mean Sea Level. There are no marsh areas immediately bordering the shoreline.

31. Low-Water and Shoal Lines:

The field inspection unit did not indicate any low-water or shoal lines within the area of this map manuscript.

32. Details Offshore from the Mean High-Water Line:

The remains of some old pilings are the only detail lying offshore from the river shoreline.

33. Wharves and Shoreline Structures:

The ferry landings for Boones Ferry are the only shoreline structures within the limits of this map manuscript.

34. Landmarks and Aids to Navigation:

There were no aids to navigation within the area of this map manuscript. Form 567 is being submitted recommending the charting of "CHIMNEY", which is also topographic station "KING, 1947", as a nautical landmark.

35. Hydrographic Control:

A complete discussion of this subject can be found in paragraph 12 of the Field Inspection Report, Sheets 8809, 8810, and 8811, Project Ph-13(46).

It is believed that the field unit, in an attempt to satisfy the minimum hydrographic control requirements for this project, may have selected a few temporary signals that were of doubtful identity on the photographs or located them by methods which were not too strong. The compiler has radially plotted or otherwise located all of the signals recommended for hydrographic control, by the field unit, for this map manuscript. The compilation office is confident that the signals, which were easily identified on the photographs, are accurately located but, should the hydrographic party encounter some difficulty with a particular signal it should be discarded. In any event, there has been a sufficient number of well located signals established, which may be used by the hydrographic party for establishing additional signals at the time the hydrographic survey is made.
A list of forty-two hydrographic signal sites, which fall in the area of this map manuscript, is attached to the Field Inspection Report, Sheets 8809, 8810 and 8811, Project Ph-13(46).

36. **Landing Fields and Aeronautical Aids:**

There are no landing fields or aeronautical aids within the limits of this map manuscript.

37. **Geographic Names:**

Geographic names are the subject of a special report, Investigation of Geographic Names, Sheets 8809, 8810 and 8811, Project Ph-13(46), which has been submitted. All undisputed and recommended geographic names have been shown on the map manuscript.

38. **Recoverable Topographic Stations:**

Copies of Forms 524 are being submitted for the following:

- BOON (ATE, USE, 1935), 1947
- CARP, 1947
- DARE, 1947
- KING, 1947
- RED SIL, 1947

39. **Junctions:**

Complete and satisfactory junctions have been made between Map Manuscripts T-8809 and T-8810 and with the planimetry which is common to Project Ph-13 (46) and Project GS-322.

40. **Bench Marks:**

Bench marks have been detailed as identified by the field inspection units. Each bench mark shown is indicated by a black acid ink cross with the name and elevation to the nearest 1/10 foot lettered nearby.

44. **Comparison with Existing Topographic Surveys:**

See record sheet which accompanies each map manuscript.

45. **Comparison with Nautical Charts:**

There are no nautical charts of the area.

Approved and forwarded:

Robert A. Earle
Chief of Party

Respectfully submitted:

3 July 1947

J. Edward Deal, Jr.
Photo. Engineer
Division of Photogrammetry

Review Report of

Shoreline Map Manuscript T-6809

Subject numbers not used in this report have been adequately covered in other parts of the descriptive report.


The shoreline of the Willamette River at the easterly limits of the manuscript was recompiled by the reviewer, to junction with T-8708, Project C5-322.

Additional passpoints were located in this area and several of the original pass points were relocated. These new pass points are believed to be more nearly correct, as they show a uniform scale displacement at water level.

The field inspection shoreline was applied to the office photographs and then transferred to the map manuscript. This new shoreline is shown in red ink and is in agreement with the shoreline on map manuscript T-8708, Project 322. A sketch of this change, copied from the map manuscript, is included in the descriptive report.

35. Hydrographic Control.

The majority of the topographic and hydrographic stations were recut and found to be in order.

Signals located by use of sub-stations could not be checked as the angles and distances were not available at the time of review.

39. Junctions

Satisfactory junctions to the east, with map manuscripts T-8706 and T-8708, Project 322 were afforded after the shoreline corrections were made.

44. Comparison with Existing Topographic Surveys.

Tualatin, Oregon, U.S.G.S., 1:62,500, 1914
Tualatin, Oregon, U.S.E., 1:62,500, 1938-39
Oregon City, U.S.G.S., 1:62,500, 1911-12
Oregon City, U.S.E., 1:62,500, 1938-39

45. Comparison with Nautical Charts.

There are no nautical charts in the area of this map manuscript.
Reviewed by:

K. N. Maki
Photogrammetrist
3-29-47

Reviewed under direction of:

S. V. Griffith
Chief, Review Section

APPROVED BY:

B. J. Jones 12/47
Technical Assistant to the
Chief, Div. of Photogrammetry

C. W. Green
Chief, Div. of Coastal Surveys

K. T. Adams
Chief, Div. of Photogrammetry

Chief, Nautical Chart Br.
Division of Charts
Copy of original SL as submitted by Portland Comp. Office. Changed in W.O. (rediscorrect)
I recommend that the following objects which have \textit{(have not)} been inspected from seaward to determine their value as landmarks, be charted on \textit{(deleted from)} the charts indicated.

The positions given have been checked after listing by \textit{X}.

\begin{tabular}{|l|l|l|l|l|l|l|l|}
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\textbf{STATE} & \textbf{OREGON} & & & & & & \\
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\textbf{CHARTING NAME} & \textbf{DESCRIPTION} & \textbf{SIGNAL NAME} & \textbf{LATITUDE} & \textbf{LONGITUDE} & \textbf{DATUM} & \textbf{METHOD OF LOCATION AND SURVEY NO.} & \textbf{DATE OF LOCATION} & \textbf{CHARTS AFFECTED} \\
\hline
CHIMNEY & Main chimney of the dwelling of the F. W. King residence. & KING, 1947 & 45.17 & 1652.1 & 122.42 & 315.7 & 1927 & Radial & Area not charted \\
\hline
\end{tabular}

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and \textit{nonfloating aids} to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.
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*Note: (it would appear that this name is used for this road only north of the river)*

*Note: (this name is applied to the sheets concerned in the vicinity of Portland: also here?)*

*Note: (according to names report, not Kruse Creek)*
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Names underlined in red are approved. 2/15/48

L. Wink