

8651 8652  
8653

Diag'd. on diag. ch. No. 6153 & 6154

Form 504	
U. S. COAST AND GEODETIC SURVEY	
DEPARTMENT OF COMMERCE	
DESCRIPTIVE REPORT	
Type of Survey Planimetric, Air Photographic	
T-8651, T-8652	
Field No.	Office No. and T-8653
<i>Horiz. Accy. Test for T-8651</i>	
LOCALITY	
State	OREGON AND WASHINGTON
	Columbia Co., Oregon
General locality	Clark & Cowlitz Co., Wash.
Locality	St. Helens, Oregon
Austin Point & Lewis River, Washington	
194 7	
CHIEF OF PARTY	
R. A. Earle	
LIBRARY & ARCHIVES	
DATE	<i>Dec 16 - 1947</i>

8-1870-1 (1)



# RECORD SHEET

Div. of Photogrammetry  
Graphic Compilation Sect.

GENERAL LOCALITY Columbia County, Oregon

SHEET NO. T-8651

LOCALITY St. Helens, Oregon

PROJECT NO. CS-322

PHOTOS ORDERED Aug. 1945 REC'D 9-24, 26-45  
1-21-46

SCALE 1:8000

PROJECTION ORDERED June 1946 REC'D 7-29-46

Joins None Ck.....

## CONTROL:

COMPUTED Harris VERIFIED Bunce

PLOTTED Bunce VERIFIED Harris

## PHOTO PREPARATION:

CONTROL Harris, Bunce

AZIMUTHS Jensen

PASS POINTS Bunce, Davidson

TEMPLETS Elrod, Bunce VERIFIED Davidson

RADIAL PLOT: Davidson

PLOTTED BY Harris DATE 11-18-46

VERIFIED Deal DATE 11-19-46

## COMPILATION:

DETAIL POINTS Wiebe DATE 12-10-46

DETAIL BY Wiebe DATE 2-19-47

VERIFIED BY Barron DATE 2-21-47

DATE OF PHOTOS See reverse side

TIME OF PHOTOS "

STAGE OF TIDE "

## COMPARISON WITH PREVIOUS SURVEYS; TOPO., HYDRO., AND CHARTS:

Due to a scale difference only a visual comparison was made with the <sup>E</sup>USGS St. Helens, Oreg. - Wash., 15 min. quadrangle. In general, the planimetry which is common to the map manuscript and quadrangle map is in agreement. There have been many additions to the cultural features in the area since the quadrangle map was made. Comparison was made with a black line print on clear acetate of (over)

## REMARKS

All corrections and additions which were found during the field edit were applied to the map manuscript and a final compilation office review was then made.

FORWARDED TO Washington Office

DATE 13 March 1947

R. A. Earle  
Chief of Party

M-2305-12



# COMPARISONS (cont'd.)

Topographic Survey No. 6570a of October 1937, Scale: 1:10000 enlarged to a Scale: 1:8000. The shoreline of the Columbia River which is common to the survey and map manuscript is in agreement, except as follows:

Between Lat  $45^{\circ} 52' 35''$  and Lat.  $45^{\circ} 52' 55''$  the west shoreline of the Columbia River has eroded from 0 to 25 meters since the Topographic Survey was made.

At Lat.  $45^{\circ} 53'$  the west shoreline has eroded and is of a different shape than at the time the topographic survey was made.

Comparison was made with nautical chart no. 6153, Scale: 1:40000, by use of the vertical projector. The following discrepancies were noted:

The west shoreline of the Columbia River from Columbia City south to the east limits of the map manuscript as shown on the chart does not agree with that on the map manuscript, or with that on the 1937 topographic survey. The street systems in Columbia City and St. Helens are in error on this chart. The size of a pond at Lat.  $45^{\circ} 52' 35''$  and Long.  $128^{\circ} 48' 10''$ , as shown on the chart, is in error.

## PHOTOGRAPH DATA

Number	Date	Time	Scale	Stage of Tide
320 to 324 Inc.	6-30-45	9:50	1: 8000 ratio	11.9 ft. above M.L.W.
			1:17000 contact	
446 to 449 "	6-30-45	11:30	"	11.9 ft. " "
545 to 547 "	6-30-45	13:00	"	11.9 ft. " "
1382 to 1387 "	7-10-45	10:30	"	9.9 ft. " "
3511 to 3513 "	11-21-45	13:45	"	4.9 ft. " "



## DATA RECORD

T-8651

Quadrangle (II): St. Helens, Columbia Co., Ore. Project No. (II): CS-322  
(3 minute)

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

Compilation Office: Portland, Ore. Chief of Party: R. A. Earle

Instructions dated (II III): July 12, 1945  
Supplemental Instructions: Aug. 29, Sept. 10,  
Oct. 25, Nov. 30, and Dec. 6, 1945.

Copy filed in ~~Descriptive~~  
~~Report No. T-~~ (VI)  
*Div. Photogram. Office Files*

Completed survey received in office: *18 Mar. 1947*

Reported to Nautical Chart Section: ✓

Reviewed: *27 May 1947* Applied to chart No. Date:

Redrafting Completed: *7 Aug. 1947*

Registered: *DEC 3 1947*

Published: *1947*

Compilation Scale: 1:8000

Published Scale: *1:3600*

Scale Factor (III): None

Geographic Datum (III): N. A. 1927 Datum Plane (III): \* See below

Reference Station (III): SAINT (OREG.), 1937 r 1946.

Lat.: 45° 52' 18.975" (585.8m) Long.: 122° 48' 56.942" (1228.1m) Adjusted X  
Unadjusted

State Plane Coordinates (VI): *Oregon - North Zone*

X = *1, 410, 172.98 feet*

Y = *812, 450.86 feet*

Military Grid Zone (VI)

\* (M.H.W. = 6.29 ft. above Mean Sea Level) (M.L.W. = 1.29 ft. above Mean Sea Level).  
All elevations are on the Standard 1929 general adjustment of leveling in the U.S.A.

*gtw*



PHOTOGRAPHS (III)

<u>Number</u>	<u>Date</u>	<u>Time</u>	<u>Scale</u>	<u>Stage of Tide</u>
			1:17000 contact	
320 to 324 Inc.	6-30-45	9:50	1: 8000 ratio	11.9 ft. above M.L.W.
446 to 449 "	6-30-45	11:30	"	11.9 ft. "
545 to 547 "	6-30-45	13:00	"	11.9 ft. "
1382 to 1387 "	7-10-45	10:30	"	9.9 ft. "
3517 to 3513 "	11-21-45	13:45	"	4.9 ft. "

Daily readings of the U. S. Engineers tide gauge located at Government Moorings on the west shore of the Willamette River just south of St. Johns Bridge. The 0+00 of the gauge is Tide from (III): 1.29 ft. above Mean Sea Level.

Mean Range:

Spring Range:

Camera: (Kind or source) K 17, focal length 12 inches

Field Inspection by: See remarks, page 3

date:

Field Edit by: F. H. Elrod, Prin. Photo. Aid

date: Feb., 1947

Note: Date of Mean High-Water Line Location (III): Nov. 21, 1945  
According to supplemental instructions dated 10 September 1945, a high-water line of 5.0 ft. above Mean Low-Water is to be shown on the map manuscripts. Photographs made on 21 November 1945, were taken when the water level was 4.9 ft. above M.L.W.

Projection and Grids ruled by (III) Washington Office date: June, 1946

" " " checked by: Washington Office date: June, 1946

Control plotted by: Eda H. Bunce date: October, 1946

Control checked by: James L. Harris date: October, 1946

Radial Plot by: James L. Harris and Roy A. Davidson date: 11-8-46

Detailed by: Carita C. Wiebe date: 2-19-47

Reviewed in compilation office by: Ree H. Barron date: 2-21-47  
Corrections and changes after field edit by: Ree H. Barron date: 3-10-47  
Review after changes due to field edit by: J. E. Deal date: 3-11-47  
Elevations on Field Edit Sheet  
checked by: Charles Hanavich, Topo. Engr. date: Feb., 1947



STATISTICS (III)

Land Area (Sq. Statute Miles): 4.4

Shoreline (More than 200 meters to opposite shore): 1.5 statute miles

Shoreline (Less than 200 meters to opposite shore): None

Number of Recoverable Topographic Stations established: 3  
( all fixed aids to navigation)

Number of Temporary Hydrographic Stations located by radial  
plot: None

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:

Field Inspection by:	J. H. Winniford, Photo. Aid	date: June, 1946
Shoreline Inspection by:	J. C. LaJoye, Prin. Photo. Aid	date: May, 1946
Recovery of Horizontal Control by:	LaJoye, Winniford	date: July, 1946
Recovery of Vertical Control by:	J. Winniford	date: Oct., 1945
Investigation of Geographic Names and Civil Boundaries by:	L. E. Ervast, Photo. Aid	date: June, 1946



# RECORD SHEET

Div. of Photogrammetry  
Graphic Compilation Sect.

GENERAL LOCALITY Cowlitz County, Washington

SHEET NO. T-8652

LOCALITY Austin Point, Washington

PROJECT NO. CS-322

PHOTOS ORDERED Aug. 1945 REC'D 9-24, 26-45  
1-21-46

SCALE 1:8000

PROJECTION ORDERED June 1946 REC'D 7-29-46

Joins. None Ck. .....

## CONTROL:

COMPUTED Bunce VERIFIED Harris

PLOTTED Bunce VERIFIED Davidson

## PHOTO PREPARATION:

CONTROL Harris

AZIMUTHS Jensen

PASS POINTS Harris, Davidson  
Davidson

TEMPLATES Elrod VERIFIED Harris

RADIAL PLOT: Davidson

PLOTTED BY Harris DATE 11-18-46

VERIFIED Deal DATE 11-19-46

## COMPILATION:

DETAIL POINTS Randall DATE 1-15-47  
Turner

DETAIL BY Randall DATE 2-12-47

VERIFIED BY Deal DATE 2-12-47

Joins. T-8651 Ck. .....

Joins. T-8653 Ck. .....

Joins. T-8656 Ck. ✓

DATE OF PHOTOS See reverse side

TIME OF PHOTOS "

STAGE OF TIDE "

## COMPARISON WITH PREVIOUS SURVEYS; TOPO., HYDRO., AND CHARTS:

Due to a scale difference only a visual comparison was made with the US <sup>E</sup> St. Helens, Oreg.-Wash., 15 min. quadrangle, Scale: 1:62500. In general the planimetry which is common to the map manuscript and quadrangle map is in agreement. A submerged area shown as St. Helens Bar on the quadrangle map is shown as a tree covered island on the map manuscript. The name "St. Helens Bar" is (over)

## REMARKS

All corrections and additions which were found during the field edit were applied to the map manuscript and a final compilation office review was then made.

FORWARDED TO Washington Office

DATE 13 March 1947

R. A. Earle  
Chief of Party

M-2305-12

960



## COMPARISONS (cont'd.)

incorrectly indicated on the quadrangle map. This bar extends south to include the shoal area around an island to the south of the submerged area; however, a channel was dredged through the bar in 1945, and it now consists of two parts.

Comparison was made with black line prints on clear acetate of Topographic Surveys No's. 6570a and 6570b, October 1937, Scale: 1:10000 enlarged to a Scale: 1:8000. The map manuscript and surveys are in agreement except for the following:

The east shoreline of the Columbia River has eroded between Lat.  $45^{\circ} 52'15''$  and  $45^{\circ} 54'00''$  and between Lat.  $45^{\circ} 51' 30''$  and  $45^{\circ} 52'00''$ .

The shape of an island at Lat.  $45^{\circ} 53'$  has changed since the topographic surveys were made.

The shape of Austin Point has changed since the surveys were made.

A slough has cut through the southeast shoreline of the Lewis River at Lat.  $45^{\circ} 51' 10''$  since the surveys were made.

Comparison was made with Nautical Charts No's. 6153 and 6154 Scale: 1:40000 by use of the vertical projector. In general the planimetry which is common to the charts and map manuscript is in agreement; however, there were many minor differences noted, which were too numerous to list, and the planimetry as shown on the map manuscript should now supercede the planimetry shown on the charts.

## PHOTOGRAPH DATA

Number	Date	Time	Scale	Stage of Tide
642 to 647 Inc.	6-30-45	14:45	1: 8000 ratio	11.9 ft. above M.L.W
			1: 17000 contact	
684 & 685	7-1-45	10:15	"	11.7 ft. " "
3546 to 3549 Inc.	11-21-45	13:45	"	4.9 ft. " "
3552 to 3554 "	11-21-45	14:15	"	4.9 ft. " "



## DATA RECORD

T- 8652

Quadrangle (II): Austin Point, Cowlitz Co., Wash Project No. (II): CS-322  
(3 minute)

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

Compilation Office: Portland, Ore. Chief of Party: R. A. Earle

Instructions dated (II III): July 12, 1945  
Supplemental Instructions: Aug. 29, Sept. 10,  
Oct. 25, Nov. 30, & Dec. 6, 1945

Copy filed in Descriptive  
~~Report No. T-~~ (VI)  
Div. Photogram. office Files

Completed survey received in office: 18 Mar. 1947

Reported to Nautical Chart Section: ✓

Reviewed: 18 May, 1947 Applied to chart No. Date:

Redrafting Completed: 17 July, 1947

Registered: DEC 3 Nov. 1947

Published: 1947

Compilation Scale: 1:8000

Published Scale: 1:9600

Scale Factor (III): None

Geographic Datum (III): N. A. 1927

Datum Plane (III): \*See below

Reference Station (III): DALTON (OREG.), 1937 r 1946

Lat.:  $45^{\circ} 52' 28.618''$  (883.6m) Long.:  $122^{\circ} 47' 53.444''$  (1152.6m) Adjusted X  
Unadjusted

State Plane Coordinates (VI): Oregon - North Zone

X = 1,414,691.94 feet Y = 813,298.93 feet

\* Military Grid Zone (VI)  
\* (M.H.W. = 6.29 ft. above Mean Sea Level) (M.L.W. = 1.29 ft. above Mean Sea Level).  
All elevations are on the Standard 1929 general adjustment of leveling in the U.S.A.



PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
			1:17000 contact	
642 to 647 Inc.	6-30-45	14:45	1: 8000 ratio	11.9 ft. above M.L.W.*
684 to 685 "	7-1-45	10:15	"	11.9 ft. "
3546 to 3549 "	11-21-45	13:45	"	4.9 ft. "
3552 to 3554 "	11-21-45	14:15	"	4.9 ft. "

Daily readings of the U.S. Engineers tide gauge located at Government Moorings on the west shore of the Willamette River just south of St. Johns Bridge. The 0+00 of the Tide from (III): gauge is 1.29 ft. above Mean Sea Level.

Mean Range:

Spring Range:

Camera: (Kind or source)

K 17, focal length 12 inches

Field Inspection by: See remarks, page 3

date:

Field Edit by: F. H. Elrod, Prin. Photo. Aid

date: Feb., 1947

Note: Date of Mean High-Water Line Location (III): 21 Nov. 1945  
According to supplemental instructions dated 10 September 1945, a high-water line of 5.0 ft. above Mean Low-Water is to be shown on the map manuscripts. Photographs made on 21 November 1945, were taken when the water level was 4.9 ft. above M.L.W.

Projection and Grids ruled by (III) Washington Office date: June, 1946

" " " checked by: Washington Office date: June, 1946

Control plotted by: Eda H. Bunce date: October, 1946

Control checked by: Roy A. Davidson date: October, 1946

Radial Plot by: James L. Harris & Roy A. Davidson

(8)  
date: November, 1946

Detailed by: Clyde A. Randall, Albert G. Turner

date: 12 February 1947

Reviewed in compilation office by: J. E. Deal

date: 12 February 1947

Corrections and changes after field edit by: Ree H. Barron

date: 11 March 1947

Review after final edit by: J. E. Deal

date: 12 March 1947

Elevations on Field Edit Sheet

checked by: Charles Hanavich, Topo. Engr.

date: Feb., 1947



STATISTICS (III)

Land Area (Sq. Statute Miles): 5.0

Shoreline (More than 200 meters to opposite shore): 15.0 statute miles

Shoreline (Less than 200 meters to opposite shore): 4.0 statute miles

Number of Recoverable Topographic Stations established: 11  
(all fixed aids to navigation)

Number of Temporary Hydrographic Stations located by radial  
plot: None

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:

Field Inspection by:	W. J. Bushnell, Photo. Aid	date: May, 1946
Shoreline Inspection by:	J. C. LaJoye, Prin. Photo. Aid	date: May, 1946
Recovery of Horizontal Control by:	J. C. LaJoye	date: July, 1946
Recovery of Vertical Control by:	J. H. Winniford, Photo. Aid	date: Oct., 1945
Investigation of Geographic Names and Civil Boundaries by:	L. E. Ervast, Photo. Aid	date: July, 1946

# RECORD SHEET

Div. of Photogrammetry  
Graphic Compilation Sect.

GENERAL LOCALITY Clark County, Washington  
LOCALITY Lewis River  
PHOTOS ORDERED Aug. 1945 9-24, 26-45  
REC'D 1-21-46

SHEET NO. T-8653  
PROJECT NO. CS-322  
SCALE 1:8000

PROJECTION ORDERED June 1946 REC'D 7-29-46

## CONTROL:

COMPUTED Harris VERIFIED Bunce

PLOTTED Davidson VERIFIED Bunce

## PHOTO PREPARATION:

CONTROL Harris, Bunce

AZIMUTHS Jensen

PASS POINTS Harris

TEMPLATES Eliot Davidson VERIFIED Bunce

RADIAL PLOT: Davidson

PLOTTED BY Harris DATE 11-18-46

VERIFIED Deal DATE 11-19-46

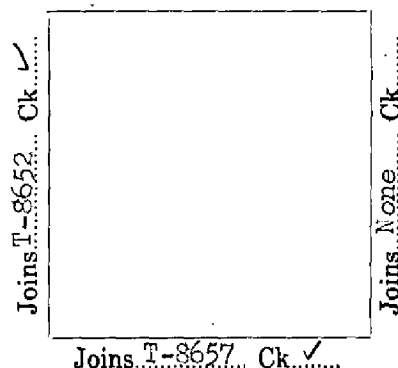
## COMPILATION:

DETAIL POINTS Foster DATE 12-12-46

DETAIL BY Foster DATE 12-21-46

VERIFIED BY Barron DATE 1-28-47

Joins None Ck.....



DATE OF PHOTOS See reverse side

TIME OF PHOTOS "

STAGE OF TIDE "

## COMPARISON WITH PREVIOUS SURVEYS; TOPO., HYDRO., AND CHARTS:

Due to a scale difference only a visual comparison was made with the USGS La-Center, Wash., 15 min. quadrangle, Scale: 1:62500. In general the planimetry, which is common to the map manuscript and quadrangle map is in agreement. Comparison was made with Nautical Chart No. 6153 Scale: 1:40000, by use of the vertical projector. In general the shoreline of the map manuscript and chart is (over)

## REMARKS

All corrections and additions which were found during the field edit were applied to the map manuscript and a final compilation office review was then made.

FORWARDED TO Washington Office DATE 13 March 1947

R. A. Earle  
Chief of Party

M-2305-12



# COMPARISONS (cont'd.)

in agreement. At a point beginning 0.5 mile southeast of Woodland, Wash. and running northwest for 0.5 mile, the Lewis River has been straightened by dredging a new channel and closing off a half circle turn in the river with the construction of a 15 foot riprapped bank. The planimetry on the map manuscript has been extended approximately 0.<sup>85</sup> mile north of the project limits so that data will be available for chart corrections in this area. Roads inshore from the Lewis River, as shown on the chart, do not agree with existing conditions.

## PHOTOGRAPH DATA

Number		Date	Time	Scale	Stage of Tide
				1: 8000 ratio	
455 to 460	Inc.	6-30-45	12:00	1:17000 contact	11.9 ft. Above M.L.W.
681 to 685	"	7-1-45	10:15	"	11.7 ft. "
839 to 843	"	7-1-45	12:50	"	11.7 ft. "
3550 & 3551	"	11-21-45	14:15	"	4.9 ft. "
3587 & 3588	"	11-21-45	14:15	"	4.9 ft. "



## DATA RECORD

T- 8653

Quadrangle (II): Lewis River, Clark Co., Wash. Project No. (II): CS-322  
(3 minute)

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

Compilation Office: Portland, Ore. Chief of Party: R. A. Earle

Instructions dated (II III): July 12, 1945 Copy filed in ~~Descriptive~~  
Supplemental Instructions: Aug. 29, Sept. 10, Oct. ~~Report No. T-~~ (VI)  
25, Nov. 30 & Dec. 6, 1945 *Div. Photg. Office Files*

Completed survey received in office: *18 Mar. 1947*

Reported to Nautical Chart Section: ✓

Reviewed: *13 May, 1947* Applied to chart No. Date:

Redrafting Completed: *29 July, 1947*

Registered: *DEC. 4 Nov. 1947*

Published: *1947*

Compilation Scale: 1:8000

Published Scale: *1:9600*

Scale Factor (III): None

Geographic Datum (III): N.A. 1927

Datum Plane (III): \* See below

Reference Station (III): LEWIS RIVER HILLS 2 (WASH.) 1937 r 1946.

Lat.:  $45^{\circ} 53' 08.412''$  (259.7m) Long.:  $122^{\circ} 43' 07.395''$  (159.5m) Adjusted X  
Unadjusted

State Plane Coordinates (VI):

(Not available)

X =

Y =

Military Grid Zone (VI)

\* (M.H.W. = 6.29 ft. above Mean Sea Level) (M.L.W. = 1.29 ft. above Mean Sea Level).  
All elevations are on the Standard 1929 general adjustment of leveling in the U.S.A.

*gnd*



PHOTOGRAPHS (III)

<u>Number</u>	<u>Date</u>	<u>Time</u>	<u>Scale</u>	<u>Stage of Tide</u>
455 to 460 Inc.	6-30-45	12:00	1:17000 contact	11.9 ft. above M.L.W.*
681 to 685 "	7-1-45	10:15	1: 8000 ratio	11.7 ft. "
839 to 843 "	7-1-45	12:50	"	11.7 ft. "
3550 & 3551	11-21-45	14:15	"	4.9 ft. "
587 & 3588	11-21-45	14:15	"	4.9 ft... "

Daily readings of the U. S. Engineer tide gauge located at Government Moorings on the west shore of the Willamette River just south of St. Johns Bridge. The 0+00 of the gauge is Tide from (III): M.L.W., Columbia River, which is 1.29 ft. above Mean Sea Level.

Mean Range:

Spring Range:

Camera: (Kind or source) K 17, focal length 12 inches

Field Inspection by: See remarks, page 3

date:

Field Edit by: J. H. Winniford, Photo. Aid

date: Feb., 1947

Date of Mean High-Water Line Location (III): 21 November 1945

Note: According to supplemental instructions dated 10 September 1945, a high-water line of 5.0 ft. above Mean Low-Water is to be shown on the map manuscripts. Photographs made on 21 November 1945, were taken when the water level was at 4.9 ft. above M.L.W.

Projection and Grids ruled by (III) Washington Office date: July, 1946

" " " checked by: Washington Office date: July, 1946

Control plotted by: Roy A. Davidson date: Oct., 1946

Control checked by: Eda H. Bunce date: Oct., 1946

Radial Plot by: J. L. Harris and R. A. Davidson date: 18 Nov. 1946

Detailed by: Richard Foster date: 21 Dec. 1946

Reviewed in compilation office by: Ree H. Barron date: 28 Jan. 1947

Corrections and changes after field edit by: Ree H. Barron date: 11 March 1947

Review after changes due to field edit by: J. E. Deal date: 12 March 1947

Elevations on Field Edit Sheet checked by: Charles Hanavich, Topo. Engr. date: Feb., 1947



STATISTICS (III)

Land Area (Sq. Statute Miles): 5.5

Shoreline (More than 200 meters to opposite shore): 3.0 statute miles

Shoreline (Less than 200 meters to opposite shore): 6.5 statute miles

Number of Recoverable Topographic Stations established: 4  
(1 section corner and 3 topographic stations)

Number of Temporary Hydrographic Stations located by radial  
plot: None

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:

Field Inspection by:	W. J. Bushnell, Photo. Aid	date: May, 1946
Shoreline Inspection by:	J. C. LaJoye, Prin. Photo. Aid	date: May, 1946
Recovery of Horizontal Control:	J. C. LaJoye,	date: July, 1945
Recovery of Vertical Control By:	J. H. Winniford, Photo. Aid	date: Oct., 1945
Investigation of Geographic Names and Civil Boundaries by:	L. E. Ervast, Photo. Aid	date: July, 1946

FIELD INSPECTION REPORT  
T-8651 to T-8653 inclusive  
Project CS-322

1 to 25: All the information that is applicable to these side headings is given in the "Field Inspection Report, Project CS-322, Area of the Fourth Radial Plot", which was enclosed with the Descriptive Report for Quadrangles T-8669 and T-8670. This Descriptive Report has been submitted.

Approved by:

*Robert A. Earle*  
Robert A. Earle  
Chief of Party

Respectfully submitted:

*Charles Hanavich*  
Charles Hanavich  
Topographic Engineer



Amendment to File Data

Since project CS-322 was reviewed and registered, it was decided that a Completion Report for each project would be written and filed in the Bureau of Archives. This Completion Report should include all special reports, correspondence of probable future interest or importance, a project layout, a photo index, and a copy of the initial and supplementary project instructions.

A special file has been set up in the library for Division of Photogrammetry projects. The Completion Report and other special reports will be filed under the project number, and these will be arranged in numerical order.

The following reports and records for project CS-322 are now filed in the Bureau Archives, rather than according to the red notes in the Descriptive Reports:

- A. Special Reports:
- |   | Access No.     |
|---|----------------|
| 1. Investigation of Boundary Monuments and Land Lines for Radial Plots 1, 2, 3, and 4 | CS-322 Rept. 1 |
| 2. Radial Plots 1, 2, 3, and 4  | " " 2          |
| 3. Legal descriptions of boundaries   | " " 3          |
| 4. Field Inspection for plots 1, 2, 3, and 4  | " " 4          |
- B. Computations: Triangulation and Traverse 943/GTZ G-6785
- C. Field records:
- |  |                        |              |
|--|------------------------|--------------|
| 1. Horizontal Angles (form 250) 12 vol.              | 943/GH                 | G-7082       |
| 2. Traverse Measurements (form 590) 9 vol.           | 943/GB                 | G-7083       |
| 3. Descriptions (form 525) and recoveries (form 526) | 943/GA                 | G-6786       |
| 4. Pricking cards (form M-982-1) for tri. and Trav.  | Div. of Photogrammetry | General File |
| 5. Recoverable Topographic stations (form 524)       | Div. of Photogrammetry | General File |
- D. Recovery of bench marks (form 585) Filed in Leveling Sec.
- E. Supplemental data: maps, plans  
These were transferred to the Map Section (Mr. Stanley, Chief), Division of Charts, to be selectively filed or discarded.

January 1951

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COMPILATION REPORT  
T-8651, T-8652 and T-8653  
Project CS-322

26. Control:

At the time this project was started there were sixty-seven horizontal control stations in the area of these three map manuscripts. Twenty were recovered and eighteen of these were identified for use in the radial plot.

In the area of Map Manuscript T-8653, the field unit established one temporary traverse station for use during the running of the radial plot.

A complete tabulation of the horizontal control stations which were originally in the area of these <sup>three</sup> map manuscripts is attached to the "Field Inspection Report, Project CS-322, Area of the Fourth Radial Plot". This report was included with the descriptive report for Map Manuscripts T-8669 and T-8670, which was forwarded on 8 January 1947.  
*→ Filed in Div. Photogram. General Files under "Special Reports."*

The supplemental horizontal control stations which were established in this area are listed in a tabulation attached to a special report, "Third-Order Triangulation and Traverse, Project CS-322, Area of the Fourth Radial Plot", which has been forwarded.

*→ Filed in Library & Archives under G-6785*

27. Radial Plot:

The facts concerning the radial plot for the area of these three map manuscripts have been fully covered in the "Descriptive Report, Fourth Radial Plot, Project CS-322". This radial plot report was included with the descriptive report for Map Manuscripts T-8669 and T-8670, which was submitted to the Washington Office on 8 January 1947.

*→ Filed in Div. Photogram. General Files under "Special Reports."*

28. Detailing:

Compilation was done in accordance with instructions for Project CS-322 and special instructions applicable to planimetric mapping.

The photography was adequate. The re-flight photographs made on 21 November 1945, were helpful in determining the high-water line and other shoreline details. During the running of the radial plot, for this part of the project, it was found necessary to substitute re-flight photographs for many of the original photographs which were found to be tilted. Though the detail on these re-flight photographs was not as sharp and clear as that on the original photographs, it was possible to select and radially plot enough pass points, which were common to both sets of photographs to enable the compiler to satisfactorily detail the map manuscripts. Where the detail on the re-flight photographs was not clear the tilted photographs were used for interpreting the planimetry which has been shown on the map manuscripts.



In some cases it was difficult to delineate from the ratio print, the correct shape and size of buildings. This was attributed to the loss of sharpness when the contact prints were enlarged.

When any item relative to the field inspection data was doubtful, it could be clarified by consultation with the field man who had done the inspection work. It was, therefore, unnecessary to make discrepancy overlays for the field edit work.

The classification symbols for tree or brush areas are placed on the inside of the curled line which denotes the limits of said areas. These curled lines and the letter symbols are in green acid ink.

All boundary and land claim lines are shown by appropriate symbols in red acid ink. A legend shown in the margin of each map manuscript identifies these lines.

Pertinent notes, relative to various items, have been lettered in the margins of the map manuscripts.

29. Supplemental Data:

True copies of the legal descriptions for the boundaries of the Cities of St. Helens and Columbia City, Oregon are being forwarded with the map manuscripts. *Filed in Div. Photogram. General Files under "Proj. CS-322."*

30. Mean High-Water Line:

The mean high-water line was detailed from information submitted by the field parties and from stereoscopic examination of the photographs. Most of the shoreline data is shown on field photographs taken on 21 November 1945. The mean high-water line, bordering firm ground, is shown by a continuous heavy-weight black acid ink line, at a plane five feet above the U. S. Engineers low-water datum, which is 1.29 feet above mean sea level. The mean high-water line bordering marsh or mud is shown with a continuous light-weight black acid ink line at the same plane.

31. Low-Water and Shoal Lines:

The field inspection unit indicated several small areas which bare at low-water. They have been shown inclosed in a dotted black acid ink line and appropriately noted. The field inspection unit did not indicate any shoal areas.

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

There are no details offshore from the mean high-water line.

33. Wharves and Shoreline Structures:

Piers, wharves, dolphins, dikes, etc., have been shown.



34. Landmarks and Aids to Navigation:

In the area of Map Manuscript T-8651 copies of Forms 567 are being submitted for the following fixed aids to navigation:

COLUMBIA CITY LIGHT  
COLUMBIA CITY RANGE REAR LIGHT      COLUMBIA CITY RANGE FRONT LIGHT

In the area of Map Manuscript T-8652, copies of Forms 567 are being submitted for the following fixed aids to navigation and landmarks:

LEMONT'S LIGHT	ST. HELENS TANK (Tri. Sta.)
ST. HELENS JETTY 3 LIGHT	WOODLAND AVIATION (Tri. Sta.)
ST. HELENS JUNCTION LIGHT	WARRIOR ROCK RANGE REAR LIGHT
ST. HELENS BAR DIKE 1 LIGHT	WARRIOR ROCK RANGE FRONT LIGHT
ST. HELENS BAR DIKE 3 LIGHT	ST. HELENS BAR RANGE FRONT
ST. HELENS BAR DIKE 4 LIGHT	ST. HELENS BAR RANGE REAR (Tri. Sta.)
ST. HELENS BAR DIKE 5 LIGHT	ST. HELENS COLUMBIA COUNTY COURT HOUSE
ST. HELENS JETTY LOWER LIGHT	CUPOIA (Tri. Sta.)

For deletion:

ST. HELENS LUMBER CO. NORTH STACK, (Tri. Sta.)

35. Hydrographic Control:

No additional hydrographic stations were established along the Columbia River as a sufficient number of existing horizontal control stations and fixed aids to navigation had been recovered or located to comply with the instructions. Three recoverable topographic stations were established along the Lewis River for use during future hydrographic surveys.

36. Landing Fields and Aeronautical Aids:

There are no landing fields within the limits of these three map manuscripts. Forms 567 are being submitted for the retention of WOODLAND AVIATION BEACON as an aeronautical aid.

37. Geographic Names:

Only undisputed geographic names are shown on the map manuscripts. Geographic names are the subject of a special report, "Investigation of Geographic Names, Project CS-322, Area of the Fourth Radial Plot", which was forwarded on 8 January 1947.

→ Filed in Geographic Names Section, Div. of Charts.

38. Recoverable Topographic Stations:

In the area of Map Manuscript T-8651, copies of Forms 524 are being submitted for the three aids to navigation listed in Paragraph 34 of this report.

In the area of Map Manuscript T-8652, copies of Forms 524 are being submitted for the eleven aids to navigation and landmarks, which are not triangulation stations, listed in Paragraph 34 of this report.



Area of the Fourth Radial Plot.

Filed in Div. Photogram. General Files under "Spl. Repts."



In the area of Map Manuscript T-8653, copies of Forms 524 are being submitted for the following:

WEST GABLE BARN, 1947 SOUTH ABUTMENT BRIDGE, 1946 SILO, 1946  
WILLAMETTE MERIDIAN, T 5N R 1E-1W, Sec. Corner 25-30-31-36, 1946

39. Junctions:

Complete and satisfactory junctions have been made between Map Manuscripts T-8651, T-8652 and T-8653 and with adjoining map manuscripts.

40. Bench Marks:

T-8651 - 20 BM recov; 10 plotted  
T-8652                      3 "  
T-8653                      2 "

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

47. Donation Land Claim and Section Lines:

Filed with map manuscript

Donation land claim and section lines were located on ozalid prints of the map manuscripts after the initial compilation had been completed. These lines, with pertinent explanatory notes, were placed on the prints in red and purple ink respectively, by the field party, and were then traced on the map manuscripts by the compilers. The ozalid prints containing these lines are being forwarded.

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

See record sheet which accompanies each map manuscript.

45. Comparison with Nautical Charts:

See record sheet which accompanies each map manuscript.

Approved and forwarded:

John H Earle

Robert A. Earle  
Chief of Party

Respectfully submitted:  
10 March 1947

J. Edward Deal Jr.

J. Edward Deal, Jr.  
Photogrammetric Engineer



FIELD EDIT REPORT  
T-8651 to T-8653 Inclusive  
Project CS-322

46. Methods:

These map manuscripts were field edited in accordance with the Field Edit Instructions dated 24 August 1945. All corrections and additions have been made accurately on the field edit prints in colored ink, or the place where a correction or addition is to be made has been indicated by a note which refers to a field photograph. All features which are to be deleted have been crossed out in colored ink.

New buildings were located either by pacing or taping and are shown on the field edit prints. A legend on each of these prints will furnish a key to all the symbols and to the different colored inks used.

47. Adequacy of the Compilation:

The planimetry as delineated on the map manuscripts may be considered as complete and adequate with respect to the corresponding ground detail. Except for the deletions, corrections, additions, and notations made on the field edit prints, it is accurate, also in regard to relative position.

Any omissions or drafting of detail that seemed to be questionable was called to the attention of the Compilation Office by appropriate notes on the field edit sheets. Additional names of roads and public buildings were first obtained from signs and then verified by reliable authorities. Planetable methods were used in some instances to locate new cultural detail.

All shoreline and offshore detail was carefully checked. Several dolphins and pile areas were added during the field edit and cross referenced between the field photographs and the field edit prints and supplemented by pertinent notes. The drainage features prevalent in this area are thoroughly discussed in the "Field Inspection Report, Area of the Fourth Radial Plot, Project CS-322". Any changes or corrections in the drainage are noted on the field edit original prints. Other minor changes, corrections, or omissions were noted and corrected.

In accordance with the Field Edit Instructions, these map manuscripts were examined for completeness and accuracy in regard to geographic names, boundaries, public land lines, and detail by Mr. D. C. Slaght, City and County Engineer, St. Helens, Oregon, and by Mr. Bernard Morris, County Surveyor of Clark County, Vancouver, Washington. The geographic names in this area have been reviewed by Mr. Lewis A. McArthur, Collaborator for the U. S. Coast and Geodetic Survey. 814 ✓

16. Methods:

These map manuscripts were field edited in accordance with the field edit instructions dated 21 August 1945. All corrections and additions have been made accurately on the field edit prints in colored ink, or the place where a correction or addition is to be made has been indicated by a note which refers to a field photograph. All features which are to be deleted have been crossed out in colored ink.

New buildings were located either by means of maps and are shown on the field edit prints. A legend on each of these prints will furnish a key to all the symbols and to the different colored inks used.

*Special Report: Investigation of Boundary Monuments & Land Lines ...  
Area at the Fourth Radial Plot*

*Filed in Div. Photogram General Files under "Sp'l. Rpt's"*

As complete and adequate with respect to the corresponding ground features. Except for the deletions, corrections, additions, and notations made on the field edit prints, it is accurate, also in regard to relative position.

Any omissions or drafting of detail that seemed to be questionable was called to the attention of the Compilation Office by supplementary notes on the field edit sheets. Additional names of roads and public buildings were first obtained from signs and then verified by reliable authorities. Immediate methods were used in some instances to locate new features of detail.

All shoreline and offshore detail was carefully checked. Several buildings and pile areas were added during the field edit and cross-referenced between the field photographs and the field edit prints and supplemented by pertinent notes. The drainage features prevalent in this area are thoroughly discussed in the "Field Inspection Report, Area of the Fourth Radial Plot, Project CS-312". Any changes or corrections in the drainage are noted on the field edit sheets. Other minor changes, corrections, or omissions were noted and corrected.

In accordance with the field edit instructions, these map manuscripts were examined for completeness and accuracy in regard to geographic names, boundaries, public land lines, and details by Mr. D. C. Stahle, City and County Engineer, St. Helens, Oregon, and by Mr. Bernard Morris, County Surveyor of Clark County, Vancouver, Washington. The geographic names in this area have been reviewed by Mr. Lewis A. McArthur, Geographer for the U. S. Coast and Geodetic Survey.



48. Accuracy Tests:

Results of the horizontal accuracy test on T-8651 are attached to the back of this report. For data on this traverse refer to "Special Report Third-Order Traverse, HEDGES, 1946 - WARREN, 1903, Quadrangles T-8651, T-8654 and T-8655, Project CS-322".

*> Filed in Library & Archives under G-6785*

These maps are believed to comply with the standard map accuracy requirements.

49. Bench Mark Elevations:

The elevations of the bench marks shown on these sheets have been checked. Some of the elevations at the USC & GS bench marks are unadjusted elevations and are subject to correction when adjusted.

50. Donation Land Claims and Section Lines:

*Filed with map manuscript.*

Donation land claims and section lines were located on additional ozalid prints of the map manuscripts by a special field party after the initial compilation had been completed. These lines were indicated in red and purple ink, respectively, and supplemented, if necessary, by explanatory notes. These additional ozalid prints will be submitted with the field edit sheets.

Field Edit reviewed by:

*Charles Hanavich*  
Charles Hanavich  
Topographic Engineer

Field Edit by:

*Frank H Elrod*  
F. H. Elrod  
Prin. Photo. Aid  
(T-8651 & T-8652)

Approved by:

*R. A. Earle*  
R. A. Earle  
Chief of Party

J. H. Winniford  
Photo. Aid  
(T-8653)



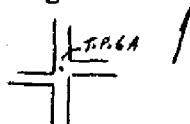
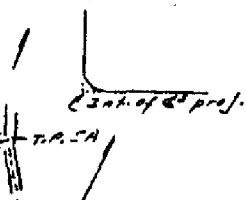
HORIZONTAL ACCURACY TEST  
Map Manuscript T-8651  
Project CS-322

This test consists of a check traverse between triangulation stations HEDGES, 1946 and WARREN, 1903. The traverse is 6.0 statute miles in length and the probable error is one part in 9,400. There are 45 test points available and 16 of them are within the limits of this map manuscript.

In the tabulation, the geographic position from the traverse computations is referred to as T.P. No., and the scaled position from the map manuscript is referred to as M.M. No.

TABULATION OF TEST POINTS

Description of Point	Test Point Number	Latitude	Longitude	Displacement in mm
Bench Mark spotted	B-204(USC&GS)-T.P.	45 51 1520.5	122 50 434.2	
	-M.M.	1523.1	432.8	.30
Bench Mark spotted	A-204(USC&GS)-T.P.	45 51 862.4	122 49 754.6	
	-M.M.	865.9	758.1	.49
Center of School Bldg.	T.P.No. 1	45 51 1381.0	122 50 848.2	
	M.M.No. 1	1382.0	846.0	.24
Inter. of T-rd., 90 degrees	T.P.No. 1A	45 51 1454.2	122 50 631.2	
	M.M.No. 1A	1455.2	629.4	.20
Ditto	T.P.No. 1B	45 51 1547.4	122 50 314.1	
	M.M.No. 1B	1546.8	310.4	.37
Overhead Power line Crossing	T.P.No. 2	45 51 1332.2	122 50 192.0	
	M.M.No. 2	1335.0	190.3	.10
	T.P.No. 3	45 51 1286.8	122 50 166.3	
	M.M.No. 3	Private Dr. -	not compiled	
Inter. of T-rd., 90 degrees	T.P.No. 4	45 51 1071.0	122 50 43.8	
	M.M.No. 4	1071.8	44.0	.08
	T.P.No. 5	45 51 1010.8	122 50 9.5	
	M.M.No. 5	1012.0	9.6	.12
	T.P.No. 5A	45 51 1152.2	122 49 956.7	
	M.M.No. 5A	1154.1	957.5	.21
Inter. of T-rd., 80 degrees	T.P.No. 6	45 51 1100.3	122 49 922.0	
	M.M.No. 6	1102.9	922.3	.26
	T.P.No. 6A	45 51 878.4	122 49 756.3	
	M.M.No. 6A	879.1	760.2	.40
Inter. of T-rd., 90 degrees	T.P.No. 6B	45 51 695.9	122 49 641.4	
	M.M.No. 6B	697.5	643.1	.23



Inter. of T-rd., 50 degrees	T.P.No. 7 M.M.No. 7	45 51 575.8 577.8	122 49 563.3 565.0	. .26
Center of Church Bldg.	T.P.No. 8 M.M.No. 8	45 51 356.9 358.7	122 49 750.8 752.3	. .23
Inter. of T-rd., 90 degrees	T.P.No. 9 M.M.No. 9	45 51 113.0 115.2	122 49 890.2 893.4	. .39

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Bench marks B-204(USC&GS) and A-204(USC&GS) were established as marked traverse stations; they were used as test points and were scaled as such prior to submitting the geographic positions for them to the Compilation Office for plotting. These stations and test points 1, 2, and 8 are less well defined. The remaining points are well defined. The map manuscript is believed to be well within the accuracy requirements since none of the test points exceeded .5 mm.

Approved by:

*R. A. Earle*  
R. A. Earle  
Chief of Party

Respectfully submitted:

*Charles Hanavich*  
Charles Hanavich  
Topo. Engr.



Division of Photogrammetry  
Review Report of  
Planimetric Map Manuscript T-8651

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

26. Control.

Three triangulation stations shown on this map manuscript were not included in the Tabulation of Horizontal Control Stations - Area of the Fourth Radial Plot. They have been added to the tabulation by the reviewer.

Three lights, in the vicinity of Columbia City, have been deleted from the above tabulation as they have been rebuilt since they were located by triangulation. These stations are shown on the manuscript as recoverable topographic stations and descriptions of them on Form 524 cards are filed in the Division of Photogrammetry.

28. Detailing.

Corrections made to the manuscript during review are shown in brown acid ink.

The detailed area of this manuscript follows the irregular pattern indicated on the project layout. Donation Land Claims and Section Corners have been shown beyond the detail limits in order to complete the land line scheme of the area.

29. Supplemental Data.

Legal descriptions for the boundaries of the Cities of St. Helens and Columbia City, Oregon were used to verify the positions of these lines on the manuscript.

41. Donation Land Claim and Section Lines.

Major changes were made to four Donation Land Claims as evidenced on the manuscript. Two claims, which are questioned as original claims, are shown on an ozalid print in red crayon for verification by the Portland Office. --- *Accepted. Correspondence attached hereto.*



44. Comparison with Existing Topographic Surveys.

Comparisons were made with the following, (A) Previous Surveys and (B) Quadrangles, and the planimetry in all common areas is superseded by T-8651:

A. Previous Surveys

T-1563	1:10,000	1880
T-6570	1:10,000	1937

B. Quadrangles

<del>U.S.G.S.</del> , St. Helens, Oreg.-Wash.	15', 1:62,500
U.S.E. St. Helens, Oreg.-Wash.	15', 1:62,500

An adequate description of these comparisons appears on the Record Sheet attached to this Descriptive Report.

45. Comparison with Nautical Charts.

Comparison was made with the following nautical charts:

6153	1:40,000	1947
6154	1:40,000	1945

This manuscript has not been applied to nautical charts.

48. Accuracy Tests.

The results of the horizontal accuracy test on this map manuscript have been checked, with all sixteen test points falling within the limits required. It is believed, therefore, that this map manuscript complies with the standard map accuracy requirements.

Reviewed by:

Reviewed under direction of:

Harold R. Brooks  
Harold R. Brooks  
Photogrammetrist  
27 May 1947

S. V. Griffith  
S. V. Griffith  
Chief, Review Section

APPROVED BY:

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

A. Battenburg  
Chief, Nautical Chart Br.  
Division of Charts

K.T. Adams  
Chief, Div. of Photogrammetry

Chief, Div. of Coastal Surveys



Division of Photogrammetry  
Review Report of  
Planimetric Map Manuscript T-8652

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

26. Control.

In the Tabulation of Horizontal Control Stations - Area of the Fourth Radial Plot, one triangulation station has been changed to a recoverable topographic station. A note appears on the manuscript that the station was radially plotted, since a geographic position was not available.

28. Detailing.

Corrections made to the manuscript, during review, are shown in brown acid ink.

Detail, shown on the manuscript, north of the project limits is to be used to correct nautical charts. A note has been added, by the reviewer, instructing the smooth draftsman to disregard this additional information.

41. Donation Land Claim and Section Lines.

Donation Land Claim No. 187 for W. H. Topham is questioned as an original claim. The claim has been indicated on an ozalid print so that the Portland Office might verify its status. Major changes were made to four Donation Land Claims, as evidenced on the manuscript.

Section lines were adjusted approximately to the positions they occupied on the General Land Office plats.

44. Comparison with Existing Topographic Surveys.

Comparisons were made with the following, (A) Previous Surveys and (B) Quadrangles, and the planimetry in all common areas is superseded by T-8652:

A. Previous Surveys

T-1563	1:10,000	1880
T-6570	1:10,000	1937

B. Quadrangles

~~U.S.G.S., St. Helens, Oreg.-Wash.,  
15', 1:62,500~~

U.S.E., St. Helens, Oreg.-Wash.,  
15', 1:62,500

An adequate description of these comparisons appears on the Record Sheet attached to this Descriptive Report.

45. Comparison with Nautical Charts.

Comparison was made with the following nautical charts:

6153	1:40,000	1947
6154	1:40,000	1945

This manuscript has not been applied to nautical charts, but when it is, the detail compiled on the manuscript, north of the project limits, should be utilized for chart correction.

Reviewed by:

Reviewed under direction of:

Harold R. Brooks  
Harold R. Brooks  
Photogrammetrist 5/18/47

S. V. Griffith  
S. V. Griffith  
Chief, Review Section

APPROVED:

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

K. T. Adams  
Chief, Div. of Photogrammetry

J. E. Stentz  
Chief, Nautical Chart Br.  
Division of Charts

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



Division of Photogrammetry

Review Report of

Planimetric Map Manuscript T-8653

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

28. Detailing.

Corrections made to the manuscript during review are shown in brown acid ink.

According to the project layout, the northern limit of the project follows the parallel  $45^{\circ}54'$  N. Detailing on this manuscript has been extended approximately one half mile north of this line with an appended note indicating that it is to be used as an aid in the revision of nautical chart No. 6153. The reviewer has added a second note instructing the smooth draftsman to follow the original layout.

The offshore limits of wooded marsh have been changed from a dashed line to a <sup>fine</sup> solid line.

41. Donation Land Claim and Section Lines.

Corrections made to the section lines consisted of a relegation to a position approximating their original layout on the General Land Office plats.

Minor corrections only were made to the Donation Land Claims, excepting the Samuel Lishon Claim. The G.L.O. plat indicated his property as extending east of the Lewis River. The property to the west of the river, on the plat, bears no name. The reviewer has deleted this claim, west of the river, from the manuscript. South of the Lishon Claim, on the plat, is a claim under the name of C. H. Fairchild. This claim has been shown on an ozalid print for the purpose of verification as an original claim by the Portland Office.

42. Bridges.

Several discrepancies in bridge clearances were noted, as follows, during the comparison of the manuscript with the List of Bridges over the Navigable Waters of the United States and with nautical chart No. 6153:

Bridge	Manuscript		Bridge List		Nautical Chart	
	H.C.	V.C.	H.C.	V.C.	H.C.	V.C.
Ridgefield (RR)	100.0	18.0	100.0	16.0	100	
Lewis River, East Fork	145.0	35.8	145.0	18.0		
Woodland (Lower)	214.6	24.8	214.6	11.6	214 $\frac{1}{2}$	11 $\frac{1}{2}$
Woodland (Upper)	214.0	33.0	155.75	32.33	155 $\frac{1}{2}$	32

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

A. Comparison was made with the following previous survey and the planimetry in all common areas is superseded by T-8653:

T-1563                      1:10,000                      1880

B. Comparison was made with the following quadrangles and the planimetry in all common areas is superseded by T-8653:

U.S.G.S., La Center, Wash., 15', 1:62,500  
U.S.E., La Center, Wash., 15', 1:62,500

#### 45. Comparison with Nautical Charts.

Comparison was made with the following nautical charts:

6153                      1:40,000                      1947  
6154                      1:40,000                      1945

This manuscript has not been applied to nautical charts, but when it is, the detail north of the project limits, as compiled on the manuscript, should be utilized for chart correction.

Reviewed by:

Reviewed under direction of:

Harold R. Brooks  
Harold R. Brooks  
Photogrammetrist 5/13/47

S. V. Griffith  
S. V. Griffith  
Chief, Review Section



APPROVED BY:

~~xxx~~ *B. G. Jones*

Technical Assistant to the  
Chief, Div. of Photogrammetry

*K. H. Hurling*

Chief, Nautical Chart Br.  
Division of Charts

*K. T. Adams*

Chief, Div. of Photogrammetry

*C. K. Green*

Chief, Div. of Coastal  
Surveys

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

Project CS-322  
T-8651

## NONFLOATING AIDS OR LANDMARKS FOR CHARTS

**STRIKE OUT ONE**

~~TO BE DELETED~~  
The following aids to navigation

no following him to my location  
I recommend that the following objects which have ~~(there not)~~ been inspected ~~front seaward to determine their value as landmarks, but~~  
started on ~~(detected from)~~ the charts indicated. 119

The positions given have been checked after listing by W. D. Seal

Portland, Oregon

1947

H. A. Earle

Chief of Party.

[illegible]

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *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.



DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

Project CS-322  
T-8652

NONFLOATING AIDS OR LANDMARKS FOR CHARTS Page -1-

~~TO BE CHARTED~~  
~~TO BE DELETED~~

STRIKE OUT ONE

Portland, Oregon 5 March 1947

The following aids to navigation and landmarks have ~~been~~ been inspected from seaward to determine their value as land marks to be charted on (deleted from) the charts indicated.

The positions given have been checked after listing by *Johnal*

R. A. Earle

Chief of Party.

STATE OREGON AND WASHINGTON			POSITION				METHOD OF LOCATION AND SURVEY No. -			DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
CHARTING NAME	DESCRIPTION	SIGNAL NAME	LATITUDE		LONGITUDE		DATUM	METHOD OF LOCATION AND SURVEY No. -	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED	
			°	'	D-M. METERS	°								'
LIGHT	WARRIOR ROCK RANGE FRONT	LIGHT	45	51	(1583.2)	122	46	(222.8)	N.A. 1927		X		6754	
LIGHT	WARRIOR ROCK RANGE REAR	LIGHT	45	51	(1258.7)	122	46	(352.8)	"		X		6753	
LIGHT	ST. HELENS BAR DIKE 5	LIGHT	45	51	(593.8)	122	46	(947.7)	"				6754	
LIGHT	ST. HELENS BAR DIKE 4	LIGHT	45	51	(629.6)	122	47	(816.0)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	51	(1222.8)	122	47	(478.3)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	51	(356.6)	122	47	(944.0)	"		X		6753	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	51	(1295.8)	122	47	(350.4)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	51	(132.7)	122	47	(658.0)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	51	(1779.8)	122	47	(636.3)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	52	(1414.8)	122	47	(1236.8)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	52	(437.7)	122	47	(57.3)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	52	(1081.5)	122	47	(180.0)	Theodo- 1112-		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	52	(777.0)	122	47	(1114.0)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	52	(1051.4)	122	47	(445.6)	Radial Plot		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	52	(801.1)	122	47	(848.4)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	52	(325.7)	122	47	(270.0)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	52	(1526.8)	122	47	(1023.9)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	53	(1703.2)	122	47	(416.6)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	53	(749.3)	122	47	(877.2)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	53	(1622.5)	122	46	(259.4)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	53	(230.0)	122	46	(1034.3)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	51	(496.4)	122	46	(326.8)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	51	(1356.0)	122	46	(967.5)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	51	(738.4)	122	46	(283.2)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	51	(1714.1)	122	47	(1011.2)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	51	(132.8)	122	46	(125.7)	"		X		"	
LIGHT	ST. HELENS BAR DIKE 3	LIGHT	45	51	(1719.7)	122	46	(1168.5)	"		X		"	

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and 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 individual field survey sheets. Information under each column heading should be given.

~~charted on (deleted from) the charts indicated.~~

Chief of Party.

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *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.



# GEOGRAPHIC NAMES

Survey No. T3651-52-53

1	Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K
	(each sheet listed separately)									1
	T-8651:									2
✓	<u>Oregon</u>									3
✓	<u>Columbia County</u>									4
✓	<u>Washington</u>									5
✓	<u>Cowlitz County</u>									6
✓	<u>Columbia River</u>									7
✓	<u>St. Helens</u>									8
✓	<u>Spokane Portland and Seattle</u>									9
✓	<u>U.S. No. 30</u> ✓ <u>Columbia River Highway</u>									10
✓	<u>First Standard Parallel North</u>									11
✓	<u>Bonneville Power Administration Transmission Line</u>									12
✓	<u>Kester Road</u>									13
✓	<u>Old Portland Road</u>									14
✓	<u>Milton Creek</u>									15
✓	<u>St. Helens High School</u>									16
✓	<u>Lemont Hill</u>									17
✓	<u>Columbia City</u>									18
✓	<u>Columbia City School</u>									19
✓	<u>Columbia City Light</u>									20
✓	<u>Columbia City Range Front Light</u>									21
✓	<u>Columbia City Range Rear Light</u>									22
✓	<u>Columbia City P.O.</u>									23
✓	<u>McBride School</u>									24
✓	<u>Mt. Zion Baptist Church</u>									25
✓	<u>Seventh Day Adventist Church</u>									26
✓	<u>West St. Helens</u>									27

# GEOGRAPHIC NAMES

Survey No.

T-8651-52-53

2	Name on Survey	A	B	C	D	E	F	G	H	K	
	<u>T-8651 (continued):</u>										1
✓	<u>St. Helens Vernonia Highway</u>										2
✓	<u>Hankey Road</u>										3
✓	<u>Columbia Heights School</u>										4
✓	<u>St. Helens Reservoir</u>										5
✓	<u>Bachelor Flat Road</u>										6
	<del>There is apparently a numbered list for the various churches and buildings in St. Helens, but it is not shown on the manuscript copy checked by me).</del>										7
											8
✓	<u>Sykes Road</u>										9
											10
											11
	<u>T-8652:</u>										12
✓	<u>Oregon</u>										13
✓	<u>Columbia County</u>										14
✓	<u>Washington</u>										15
✓	<u>Clark County</u>										16
✓	<u>Cowlitz County</u>										17
✓	<u>Columbia River</u>										18
✓	<u>Lewis River</u>										19
✓	<u>Multnomah Channel</u>										20
✓	<u>Spokane Portland and Seattle</u>										21
✓	<u>Northern Pacific</u>										22
✓	<u>Northern Pacific R.R. Bridge</u>										23
✓	<u>First Standard Parallel North</u>										24
✓	<u>Lancaster Lake</u>										25
											(in SE corner of sheet, not shown in detail on manuscript)
✓	<u>Austin Point</u>										26
✓	<u>Warrior Point</u>										27

M 234



# GEOGRAPHIC NAMES

Survey No. T-8651-52-53

3

Name on Survey

On Chart  
No.

A

B

C

D

E

F

G

H

K

On previous survey  
No.

On U. S. quadrangle  
Maps

From local  
information

On local Maps

P. O. Guide or Map

Rand McNally Atlas

U. S. Light List

T-8652 (continued):

Warrior Rock

Warrior Rock Range Front Light

Warrior Rock Range Rear Light

St. Helens Bar Range Front Light

St. Helens Bar Range Rear Light

St. Helens Jetty 3 Light

St. Helens Bar Dike 1 Light

St. Helens Bar Dike 3 Light

St. Helens Bar Dike 4 Light

St. Helens Bar Dike 5 Light

St. Helens

Columbia County Courthouse

Pope and Talbot Co. Dock

Lemonts Light

St. Helens Junction Light

St. Helens Jetty Lower Light

St. Helens Bar

Woodland Aviation Beacon

Robertson Road

Whalen Road

Woodland (really off limits of this sheet)

Union Oil Company

(Buildings, churches, etc, in this section of St. Helens shown by numbers, not listed on manuscript checked by me)

# GEOGRAPHIC NAMES

Survey No.

T-8651-52-53

4	Name on Survey	A	B	C	D	E	F	G	H	K	
	<u>T-8653:</u>										1
✓	<u>Washington</u>										2
✓	<u>Clark County</u>										3
✓	<u>Cowlitz County</u>										4
✓	<u>First Standard Parallel North</u>										5
✓	<u>Willamette Meridian</u>										6
✓	<u>U.S. 99 and 830</u>	(also Washington State No. 1)									7
✓	<u>Lewis River</u>										8
✓	<u>Lancaster Lake</u>										9
✓	<u>C.D. Hale Road</u>										10
✓	<u>East Fork Lewis River</u>										11
✓	<u>East Fork Lewis River Highway Bridge</u>										12
✓	<u>Lewis River Highway Bridge</u>										13
✓	<u>Northern Pacific</u>										14
✓	<u>Northern Pacific R.R. Bridge</u>										15
✓	<u>Wyman Road</u>										16
✓	<u>Whalen Road</u>										17
✓	<u>Old Channel of Lewis River</u>										18
✓	<u>Wyman Lumber Co.</u>										19
✓	<u>Woodland</u>	(numbered) (see list on manuscript of other buildings here)									20
✓	<u>Woodland Fire Department</u>										21
✓	<u>Pekin</u>	omit this name									22
✓	<u>Allen Canyon Road</u>										23
✓	<u>Farm Market Road No. 22</u>										24
✓	<u>Farm Market Road No. 25</u>										25
✓	<u>ELECTRIC Northwestern Power Company Power Line</u>										26
✓	<u>Washington No. 1S</u>	Keep north side of channel, if it is to be shown									27



# GEOGRAPHIC NAMES

Survey No.

T-8651-52-53

5	Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K
	T-8653 (continued):									1
	<u>Canyon Road</u>				(central part of north edge of road--not on manuscript)					2
										3
										4
										5
										6
										7
										8
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										10
										11
										12
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										23
										24
										25
										26
										27

Names underlined in red approved  
by K. Heck at 5/2/11

## NAUTICAL CHARTS BRANCH

SURVEY NO. T8651-2-3

### Record of Application to Charts

[illegible]

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
c/o Swan Island Postal Station  
Portland 18, Oregon

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

24 June 1947

To: Chief, Division of Photogrammetry  
U. S. Coast & Geodetic Survey  
Washington 25, D. C.

From: Lt. Comdr. R. A. Earle

Subject: Review of Map Manuscript T-8651

Reference: Your Letter, 78-RCR, dated 3 June 1947  
Your Letter, 78-ear, dated 29 May 1947

In accordance with the above references, changes made in land line data on Map Manuscript T-8651 in the Washington Office, have been verified or disproved by this office and the results of our investigation have been applied to both the map manuscript and the finished drawing. Notes relative to these changes have also been placed on the ozalid prints.

Attention is called to the following points which were verified or changed:

The S. Frantz D.L.C. and the Kerno D.L.C., which were originally omitted, have been added as the Susan Frantz D.L.C. and the James A. Kerns D.L.C. to the map manuscript and on an ozalid print of T-8651. The names are to be added to the smooth draft sheet in the Washington Office by use of stick-up.

The west line of the Francis Lemont D.L.C. is correct as originally shown on the map manuscript. The line has been restored to its original position on the map manuscript and drafted in that location on the smooth draft sheet. Notes of explanation have been shown in green crayon on the ozalid print.

As the results of the reinvestigation, the Aaron Broyle D.L.C. was again revised. The lines have been slightly altered and are now in good agreement with the G.L.O. plats and records in the office of the assessor for Columbia County, Oregon. The changes have been made on the map manuscript and on the smooth draft map. They are also shown in green crayon on the ozalid print.

The south line of the Francis Perry D.L.C. is correct as originally shown on the map manuscript. The line has been restored on the map manuscript and drafted on the smooth draft sheet.





70KTA  
78

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
c/o Swan Island Postal Station  
Portland 18, Oregon



POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

*[Signature]*  
24 June 1947

To: Chief, Division of Photogrammetry  
U. S. Coast & Geodetic Survey  
Washington 25, D. C.

From: Lt. Comdr. R. A. Earle

Subject: Review of Map Manuscript T-8652

Reference: Your Letter, 78-RCR, dated 23 May 1947

The land line changes, which were recommended in the above reference, were minor and in most cases a matter of choice between the data on the G.L.O. plats and that believed correct from the results of the field investigation. As the changes do not conflict with any of the planimetry of the published map they have been accepted and are shown on the smooth draft sheet as recommended by the Washington Office review.

This office has verified the fact that the W. H. Topham tract is a donation land claim. It has been added to the map manuscript and the limits placed on the smooth draft drawing. The name should be added to this drawing by using stick-up.

The ozalid print which you furnished is attached herewith. All other data is being forwarded under separate cover.

*[Signature]*

R. A. Earle  
Chief of Party

RAE/gw

70 KTA  
78

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY  
c/o Swan Island Postal Station  
Portland 18, Oregon

199



POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

24 June 1947

To: Chief, Division of Photogrammetry  
U. S. Coast & Geodetic Survey  
Washington 25, D. C.

From: Lt. Comdr. R. A. Earle

Subject: Review of Map Manuscript T-8653

Reference: Your Letter, 78-RCR, dated 23 May 1947 and  
Other Data

It is noted that the Willamette Meridian was changed to agree with G.L.O. plat data in the vicinity of the Lewis River. This Meridian had been fixed, by the Compilation Office, to agree with existing ground conditions, however, as the recommendations of your office are in accordance with G.L.O. plat data, and as this line is not mentioned in deeds in the area, the change is acceptable.

The minor changes, to the south and east lines of the Wm. Bratton, D.L.C., to the east line of the A. Lee Lewis D.L.C., and to the west line of the Allen Gilson, D.L.C., have been accepted and applied to the smooth draft sheet.

The C. H. Fairchild D.L.C. has been added to the map manuscript and to the smooth draft sheet. It has also been shown on an ozalid print of T-8653.

The east line of the O. W. Bozarth D.L.C. was correct as originally shown on the map manuscript. It has been restored to its original position on the map manuscript and so drafted on the smooth draft sheets. Notes of explanation have been shown on the ozalid print in green crayon pencil.

The width of the graded portion of U.S. Highway #99 and #830 along the east side of the road has been shown with a dashed line on the smooth draft sheet. This part of the road is graded but not used by vehicles. The paved part of the road has been shown by a Class 1 road symbol.

The ozalid print of the map manuscript are returned herewith. The map manuscript and smooth draft drawing are being forwarded under separate cover.

*R. A. Earle*  
R. A. Earle  
Chief of Party