11317

Diag. Cht. No. 6157 Inset

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Shoreline (Photogrammetric)

Field No. Ph-63 Office No. T-11317

LOCALITY

State Washington

General locality Columbia River

Locality The Butte

1954-57

CHIEF OF PARTY

V.R. Sobiersalski, Chief of Field Party
R.B. Melby, Portland Photo. Office

LIBRARY & ARCHIVES

DATE May 1, 1962

USCOM-DC 5087
DESCRIPTIVE REPORT - DATA RECORD

T - 11317

Project No. (II): Ph-63

Quadrangle Name (IV):

Field Office (II): Pasco, Washington

Chief of Party: V. Ralph Sobieralski

Photogrammetric Office (III): Portland, Oregon

Unit Chief: R. B. Melby

Instructions dated (II) (III): 20 March 1956

Officer-in-Charge:

(FIELD & OFFICE)

Method of Compilation (III): Graphic

Stereoscopic Plotting Instrument Scale (III):

Scale Factor (III):

Date received in Washington Office (IV): AUG 21

Date reported to Nautical Chart Branch (IV):

Applied to Chart No. Date: Date registered (IV): 18 Aug 1959

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): N.A. 1927

Vertical Datum (III):

Reference Station (III): THE BUTTE (USE) 1942 (WASH)

Lat.: 46° 06' 55.452"

Long.: 119° 01' 31.699"

1712.1m (140.4m) 680.7m (607.7m)

Adjusted

Unadjusted—

Plane Coordinates (IV):

State: Zone:

Y = X =

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

When entering names of personnel on this record give the surname and initials, not initials only.
Areas contoured by various personnel
(Show name within area)
(II) (III)

Not Applicable
Field Inspection by (II): R. E. Melby  
Date: Summer 1957

Planetable contouring by (II):  
Date:

Completion Surveys by (II):  
Date:

Mean High Water Location (III) (State date and method of location): Not applicable to this manuscript.

Projection and Grids ruled by (IV):  
Date:

Projection and Grids checked by (IV):  
Date:

Control plotted by (III): J. L. Harris  
Date: April 1957

Control checked by (III): J. E. Deal  
Date: April 1957

Radial Plot or Stereoscopic: J. L. Harris  
Date: 30 April 1957

Control extension by (III):  
Date:

Planimetry

Stereoscopic Instrument compilation (III):  
Contours  
Date:

Manuscript delineated by (III): L. L. Graves, Compilation  
L. L. Graves, Scribing  
C. C. Harris, Stick-up  
Date: 31 May 1957  
13 June 1957  
17 Sept. 1957

Photogrammetric Office Review by (III): J. E. Deal  
Date: October 1957

Elevations on Manuscript checked by (II) (III):  
Date:
DESCRIPTIVE REPORT - DATA RECORD

Camera (kind or source) (III): C&GS - 9 lens - Focal length 8.25 inches

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Water Level of Pool
340 ft. above M.S.T
340.4 ft. above M.S.T

Tide (III)

Reference Station: Not applicable
Subordinate Station:
Subordinate Station:
Washington Office Review by (IV):
Final Drafting by (IV):
Drafting verified for reproduction by (IV):

Proof Edit by (IV):

Land Area (Sq. Statute Miles) (III): 13
Shoreline (More than 200 meters to opposite shore) (III): None
Shoreline (Less than 200 meters to opposite shore) (III): None
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II): 2 Recovered: 2 Identified: 1
Number of BMs searched for (II): Recovered: Identified:
Number of Recoverable Photo Stations established (iii): None
Number of Temporary Photo Hydro Stations established (III): None

Remarks:
Summary
to accompany shoreline manuscript T-11317 and T-11318

Subject surveys are two of Shoreline Project PH-63 (27020). The project consists of 18 shoreline surveys and covers part of the Columbia River and adjacent land area from McNary Dam in Oregon northward to Pasco, Wash. T-11317 and T-11318 cover a relatively small land area west of the Columbia River and west and southwest of Wallula, Wash.

The project was assigned to the Portland Photogrammetric Office with instructions of March 1956 and purported to be in support of hydrographic surveys for the purpose of new nautical chart construction. The field work, radial plot, compilation and scribing were accomplished at that field office during 1957. Nine-lens photography used during field inspection, for radial plot and compilation were from Sept. 1954 and June 1956.

Subject area is covered by only one previous survey, a topographic quadrangle (Pasco, Wash.) at the scale of 1:125000 by the U. S. Geological Survey, from surveys of 1904 and 1914.

A cronar film positive at the compilation scale of 1:15000 of each and the Descriptive Report will be registered and filed in the Bureau Archives.

June 1959
FIELD INSPECTION REPORT
(1957 Season)

Map Manuscripts T-10386, T-10421 thru T-10424

and T-11317

Project Ph-63

2. Areal field Inspection:

The field inspection of this portion of the project was inspected on nine-lens photographs furnished by the Coast and Geodetic Survey. While some of the prints lack the desired amount of contrast, the photographs were of sufficient clarity to interpret and denote the images of the physical features. The inspection of the photographs was conducted from a motor vehicle when possible and by small boat or on foot where vehicular travel was unfeasible.

The area can be considered semi-arid. Near the northern limits of the project area, some of the land is under cultivation, watered by an extensive irrigation system.

The Columbia River flows southward through the area. Near the town of Umatilla, Oregon, is McNary Dam that impounds the Columbia River to form a reservoir. This reservoir will be referred to as McNary Pool, as an official name has not been designated for this feature. The area is served by a heavy duty two lane highway (U.S. 395/410) that extends north-south paralleling the Columbia River along its east shore. Three railroads, the Union Pacific Railroad, the Spokane, Portland and Seattle Railway and the Northern Pacific Railway operate through the area.

Tug and barge traffic as well as pleasure craft ply the waters of McNary Pool. Portions of the pool serve as State Game Range and Wildlife Management Areas.

Sacajawea State Park, situated on the east shore of McNary Pool at the mouth of the Snake River, near the town of Pasco is the only state park in the area. City parks in Pasco and Kennewick have been denoted on field photographs.

3. Horizontal Control:

Five new supplemental, horizontal control stations were established by triangulation methods, stations L.I.F.T 1957, TARGE 1957 and WELCOME L.B.C., U.P.R.R. Levated Tank 1957. These stations were necessary to fulfill photogrammetric requirements.
Stations 1ST, STATION 2ND, RADIUS WEST 1957 and EAGLE, STATION KAIL, RADIUS EAST, KAIL RADIUS EAST 1957 were also located as they are of landmark value. A systematic search was made for all listed horizontal control stations in the project area.

4. **Vertical Control:**

Vertical control for use by stereoscopic instruments was not required.

One bench mark, established by the Coast and Geodetic Survey was recovered and photo-identified to serve as a topographic station.

5. **Contours and Drainage:**

Contours not applicable. The drainage was indicated on field photographs. The drainage pattern is generally visible due to the lack of woodland cover. In some of the large canyons, the images of the dry, intermittent stream beds appear on the photographs. Except for the Columbia River, Snake River and the Walla Walla River the drainage in this area is mostly intermittent. The main trunk system of the irrigation canals, ditches and pipelines has been indicated on the field photographs.

6. **Soil and Cover:**

The area is almost devoid of woodland cover, with the exception of Willow, locust and similar deciduous trees that flourish in clumps along the rivers and irrigation canals. The rest of the uncultivated terrain is generally covered with sage brush and wild grasses adapted to this type of country.

7. **Shoreline and Alongshore Features:**

A water surface elevation of 340 feet above mean sea level was established by the Corps of Engineers and is maintained at the face of McNary Dam as the normal pool level. This is the level of the pool that appears on the nine-lens photography and is the accepted mean high-water line.

The low water line was not verified in the field. Due to the level of McNary Pool at the time of field inspection, this feature was flooded. The project instructions require this feature to be delineated from Corps of Engineers photography taken when the pool was at a lower surface level. Small bodies of water that connect to McNary Pool and whose water surface elevations are controlled by the McNary Pool have been termed pools, other small bodies of
The area normally influenced by Othello Pool are denoted as ponds.

The area south of the Walla Walla River near the Columbia River (Horsley Pool) is gently rolling, uncultivated lands, except near the community of West Richland where an irrigation project makes small farming possible. On the west side of the walla walla River, the precipitous bluffs meet the pool; proceeding northward the bluffs slowly recede from the pool's edge and give way to table, rolling lands, that farther inland from the vicinity of henna are cultivated. Water necessary for cultivation is supplied by an irrigation system.

There are few piers, wharves or landings along the pool. At walla walla Locks, there is a basin with wharves; at East Pasco on the Snake River upstream from the mouth are small wharves serving the petroleum and chemical storage tank sites. There are two chemical plants on the west side of the pool south of Kennewick. Grain elevators are located at Pasco and Kennewick with facilities to load or unload river barges or railroad cars.

There are five railroad bridges, three highway bridges and two power line crossings in the area. Clearances of the features will be described under item Lx, other Interior features.

8. Offshore Features:

Except for a few small islands and rocks, the area appears relatively free of offshore features.

9. Landmarks and Aids:

Significant landmarks for nautical charts will be described on form 567.

A system of lighted fixed aids, floating aids and daybeacons have been erected and are being maintained along the Columbia River (Horsley Pool). The fixed aids were located by either photogrammetric, triangulation or traverse methods.

10. Boundaries, Monuments and Lines:

Only one state, Washington, is involved in this area.

The boundaries of Sacajawea State Park were not determined as the limits of the park was not fixed by recoverable monuments. The three involved counties, Benton, Franklin and Walla Walla, share common boundaries formed by the Columbia and Snake rivers.
Twenty-one marked, recoverable topographic stations and twenty-one un-monumented, recoverable photo-topo stations were estab-
lished. All of the above stations are along the shores of the Col-
umbia and Snake Rivers. One Corps of Engineers triangulation sta-
tion and eleven Corps of Engineers photo-topo stations or were recovered to serve for control of hydrographic surveys in the
delta of the Walla Walla River.

The following are the marked, recoverable topographic stations
established:

T-10386 - None

T-10421 - 1/2 X 2 RAIL, CURV, BENCHMARK, LIGHT, SPAN,
AM-1, BEND RADIO STATION MAST, CHOW

T-10422 - DAYBEACON, JUNCTION LIGHT

T-10423 - BARB, TOW, MORN, RANGE 1 FRONT LIGHT, RANGE
1 REAR LIGHT

T-10424 - RANGE 2 FRONT LIGHT, RANGE 2 REAR LIGHT, TEAL,
B 336-2, CURT, THREE LIGHT, GRIFF

T-11317 - None

The names of the un-monumented photo-topo stations will be
listed under notes to the hydrographer.

12. other interior features:

Highway and roads were classified on field photographs as
described under section 5411, Topographic Manual. Railroads were
denoted on the field photographs.

Clearances for bridges and power line crossings are listed
below:

Snake River railroad bridge, swing bridge

Horizontal clearance, 152 feet
Vertical clearance - span 67.5 feet
closed 12.5 feet

Snake River highway bridge, fixed span

Horizontal clearance, 40 feet
Vertical clearance, 62 feet
Old Pasco-Kennewick Highway Bridge, fixed span

Horizontal clearance, 4.1 feet
Vertical clearance, 52 feet

Northern Pacific railway Bridge, over Columbia River, lift span

Horizontal clearance, 293 feet
Vertical clearance - open, 68 feet
closed, 15.8 feet

Union Pacific railroad Bridge, over Columbia River, swing bridge

Horizontal clearance, 122 feet
Vertical clearance - open, 68 feet
closed, 11 feet

Railroad Bridge, near south end of Burbank Slough, fixed span

Horizontal clearance, 33 feet
Vertical clearance 10.8 feet

Highway Bridge, near south end of Burbank Slough, fixed span

Horizontal clearance, 17.8 feet
Vertical clearance, 13 feet

Railroad Bridge, near Zangar Junction, over Walla Walla River, fixed span

Horizontal clearance, 92 feet
Vertical clearance, 49 feet

Power Line Crossing, over Columbia River near Sacajawea State Park

Vertical clearance, 103 feet

Power Line Crossing over Columbia River at Clover Island

Vertical clearance, 52 feet

Approved:

Respectfully submitted:

V. Ralph Sobieralski
LCDR, C&GS
Officer-in-Charge

Robert B. Melby
Carto. Survey Aid
Unit Chief
21. Area Covered:

This radial plot covers the shorelines of the Columbia River to an interior depth of about 3 miles, from the Washington-Oregon boundary upstream to Attalia, and the shorelines of the Walla Walla River to an interior depth of one mile, from the Columbia River upstream to the Northern Pacific railroad bridge. It comprises map manuscripts T-10424, T-10425, T-10386, T-11317 and T-11318.

22. Method:

The control extension was accomplished by the hand templater radial line plot method using acetate templets made from nine-inch photographs taken in 1954 and 1956. Photographs were prepared by the usual methods and master calibration templets No. 43497 and No. 48340 were used respectively for the 1954 and 1956 photography when correcting for transforming errors and paper distortion. Refer to letter, 73-mkl dated 9 August 1956, subject: "Compilation - Projects 27260, Charleston, S. C. and 27020, Upper Columbia River, Oregon", relative to the use of calibration templet No. 48340 (1955) for 1956 photography.

For each of the five manuscripts in this radial plot a polyconic projection was furnished of the respective areas ruled on 2' x 3' sheets of Mylar material. Each of the polyconic projections for T-10424 and T-10425 covered 3 minutes 45 seconds of latitude and 7 minutes 30 seconds of longitude. For T-10386, T-11317 and T-11318 each covered 3 minutes 45 seconds of latitude and longitude. The Lambert State grids of Oregon and Washington were also ruled on T-10424 and T-10425. For T-10386, T-11317 and T-11318 the Lambert State grid of Washington only was added. The horizontal control stations falling on each of the respective manuscripts were plotted and verified. The five sheets were joined together by matching at the meet line junctions and then fastened with clear cellulose tape. The templets were oriented to the identified control directly on the joined work sheets and fastened with masking tape. After all templets were satisfactorily oriented and fastened the entire radial plot was turned face down and the locations of pass points and principal points were pricked and indicated by circles on the reverse sides of the work sheets using Graftint No. 111 red plastic ink. The plot was then turned face
up and the templates were dismantled. The photogrammetric points falling in the margins at the junctions of adjoining sheets were transferred and then the joined work sheets were dismantled.

There were more than an adequate number of identified horizontal control stations available and all were satisfactorily held in this radial plot. The results were excellent and well within the limits of horizontal accuracy requirements.

23. Adequacy of Control:

The identification of horizontal control stations was satisfactory and more than an adequate number were available.

24. Supplemental Data:

There were topographic maps, compiled by the Corps of Engineers, U. S. Army, Walla Walla District, available which covered the area of this radial plot. These were not needed to supplement the identified horizontal control stations, but they were used during the compilation of planimetric details for verification of certain features for which state coordinate positions of the U. S. Engineers were available.

25. Photography:

The photography was adequate. The H.M.A. ratio prints were not needed to supplement the nine-lens photography.

Approved:  Respectfully submitted:

V. Ralph Sobiersalski  J. Edward Deal
LCER, C&GS  Cartographer
Officer-in-Charge  C&GS
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<th>LONGITUDE OR X-COORDINATE</th>
<th>DISTANCE FROM GRID IN FEET OR PROJECTION LINE IN METERS</th>
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1 FT. = 0.3048006 METER

COMPUTED BY: J.L.H.    DATE: 4-16-57
CHECKED BY: D.N.W.    DATE: 4-16-57
COMPILATION REPORT
Map Manuscript T-11317
Project Ph-63

31. Delineation:
The compilation and drafting were accomplished as follows:
(a) Graphic compilation in ink on work sheets having projections ruled in Washington.
(b) Office review.
(c) Transfer of compiled planimetry and projections to yellow coated scribe sheet by "Watercote" method.
(d) Scribing in negative of compiled details and projections.
(e) Reproduction of scribed features on Van Dyke grained positive.
(f) Stick-up of symbols and type.
(g) Final office review and inspections by Officer-in-Charge.

32. Control:
Refer to Items 22 and 23 of the Photogrammetric Plot Report, a copy of which is included in this Descriptive Report.

33. Supplemental Data:
None.

34. Contours and Drainage:
Contours are not applicable. Drainage was delineated by field inspection and refined by office examination of the photographs supplemented by reference to the U. S. Geological Survey quadrangles of the area.

35. Shoreline and Alongshore Details:
Not applicable.

36. Offshore Details:
Not applicable.
37. **Landmarks and Aids:**

    None.

38. **Control for Future Surveys:**

    None.

39. **Junctions:**

    Satisfactory junctions have been made with T-11318, T-10422, and T-10424.

40. **Horizontal and Vertical Accuracy:**

    There are no areas believed to be of sub-normal horizontal accuracy. Vertical accuracy is not applicable.

46. **Comparison with Existing Maps:**

    The U.S. Geological Survey quadrangle maps of the area are obsolete for comparison with this shoreline manuscript because they were made previous to the flooding of the McNary Pool.

47. **Comparison with Nautical Charts:**

    There are no nautical charts of the area. Recent hydrographic surveys by the Corps of Engineers were not available for comparison purposes.

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**Approved:**

[V. Ralph Sobieralski]
LCDR, C&GS
Officer-in-Charge

**Respectfully submitted:**

[J. Edward Deal]
Cartographer
C&GS
48. Geographic Names:

The geographic names shown on this manuscript are not final. They were obtained from the geographic name inspection made by the field unit. The verified and recommended names shown are:

The Butte.

Name approved 5-14-59
L. Heck
Review Report of
Shoreline Manuscripts T-11317 and T-11318
June 1959

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

There are no registered topographic surveys of this area.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

PASCO, WASH., 1:125000, Edition of 1917,
U. S. Geological Survey

This quadrangle of surveys from 1904 and 1914 is inadequate
for a detailed comparison.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

None!

65. COMPARISON WITH NAUTICAL CHARTS:

Not applicable!

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

Subject manuscripts are sufficiently adequate and
accurate for this type of survey.

Reviewed by:

[Signature]

Joseph J. Streitler

Approved by:

[Signature]

La Lande
Chief, Review & Drafting Section
Photogrammetry Division

[Signature]

Marvin T. Paulson
Chief, Nautical Chart Branch
Charts Division

[Signature]

J. D. Walker 7/11/62
Chief, Photogrammetry Division

[Signature]

M. J. Kelly
Chief, Coastal Surveys Division
Operations
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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.