

10421

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-10421

LOCALITY

State Washington

General locality Columbia River

Locality Pasco

1954-57

CHIEF OF PARTY

V.R.Sobieralski, Chief Of Party
R.B.Melby, Portland Photo, Office

LIBRARY & ARCHIVES

DATE May 1, 1962

USCOMM-DC 5087

10421

DESCRIPTIVE REPORT - DATA RECORD

T- 10421

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

Officer-in-Charge: V. Ralph Sobieralski

Instructions dated (II) (III): 26 March 1956
(Field and Office)

Copy filed in Division of
Photogrammetry (IV)

Method of Compilation (III): Graphic

Manuscript Scale (III): 1:15,000

Stereoscopic Plotting Instrument Scale (III):

Scale Factor (III): None

Date received in Washington Office (IV): OCT 16 1958

Date reported to Nautical Chart Branch (IV):

Applied to Chart No.

Date:

Date registered (IV): 28 May 1959

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): N.A. 1927

Vertical Datum (III):

Mean sea level except as follows:
Elevations shown as (25) refer to mean high water
Elevations shown as (6) refer to sounding datum -
i.e., mean low water or mean lower low water

For the McNary Dam Reservoir the
elevations refer to Normal Pool
Level of 340 ft. above M.S.L.

Reference Station (III): AINSWORTH(USE)1942

Lat.: 46° 12' 45.000"

Long.: 119° 02' 07.241"

Adjusted X

1389.4m (463.2m)

155.2m (1130.9m)

Unadjusted

Plane Coordinates (IV):

State:

Zone:

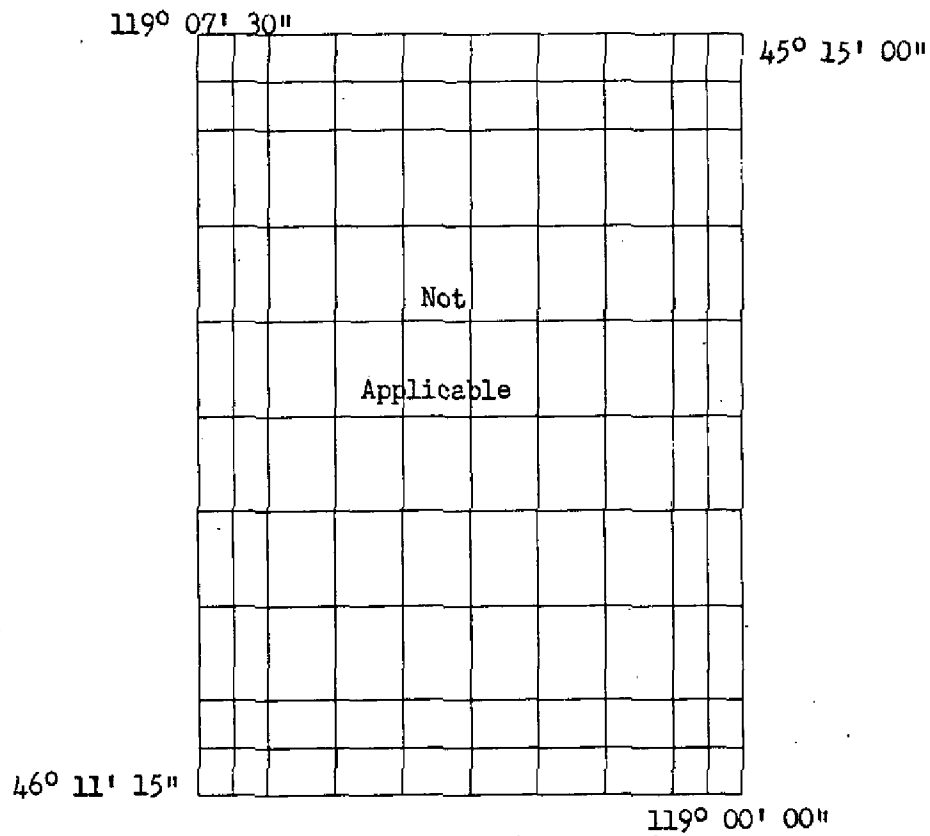
Y=

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.

DESCRIPTIVE REPORT - DATA RECORD



Areas contoured by various personnel
(Show name within area)
(II) (III)

DESCRIPTIVE REPORT - DATA RECORD

Field Inspection by (II): R. B. Melby

Date: Summer 1957

Planetable contouring by (II):

Date:

Completion Surveys by (II): *Sacajawea Light located*

Date: *1958*

Mean High Water Location (III) (State date and method of location): Spot locations at intricate places were made in the field. For the most part the shoreline at normal pool level of 340 ft. Above M.S.L. was delineated in the office from photographs taken on 9-26-54 when the pool was at that level.

Projection and Grids ruled by (IV):

Date:

Projection and Grids checked by (IV):

Date:

Control plotted by (III): J. L. Harris

Date: 6-12-57

Control checked by (III): J. E. Deal

Date: 6-17-57

Radial Plot or Stereoscopic Control extension by (III): J. L. Harris

Date: 7-2-57

Stereoscopic Instrument compilation (III):
Planimetry
Contours

Date:

Date:

Manuscript delineated by (III): L. L. Graves (rough draft)
J. Amstutz (scribing)
C. C. Harris (stick-up)

Date: 9-17-57
4-3-58
4-18-58

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

Date: 8-15-58

Elevations on Manuscript checked by (II) (III):

Date:

-5-
DESCRIPTIVE REPORT - DATA RECORD

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

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

Number	Date	PHOTOGRAPHS (III)		Scale	Water level of pool
		Time			Report
46190 & 46191	9-26-54	13:50		1:15,000	340 ft. above M.S.L.
46198 & 46199	9-26-54	14:14		"	340 ft. above M.S.L.
54396 & 54397	6-11-56	08:37		"	340.4 ft. above M.S.L.
54412 & 54413	6-11-56	08:54		"	340.4 ft. above M.S.L.

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):

Ratio of Ranges	Mean Range	Spring Range

Date:

Date:

Date:

Date:

Land Area (Sq. Statute Miles) (III): 21

Shoreline (More than 200 meters to opposite shore) (III): 13 miles

Shoreline (Less than 200 meters to opposite shore) (III): 3 miles

Control Leveling - Miles (II):

Number of Triangulation Stations searched for (II): 20

Recovered: 14

Identified: 2

Number of BMs searched for (II):

Recovered:

Identified:

Number of Recoverable Photo Stations established (III): 9

Number of Temporary Photo Hydro Stations established (III): 10*

Remarks:

* These stations have Topo. names and are of topo. station accuracy. Forms 524 were not submitted in accordance with letter clarifying instructions.

Summary
to accompany shoreline manuscript T-10421

This is one of 18 shoreline surveys of Project PH-63 (27020). The project is located in the States of Washington and Oregon and covers that portion of the upper Columbia River and adjacent land area effected by the flooding of the McNary Reservoir. T-10421 falls in the northern portion of the project and is in the vicinity of Pasco and Kennewick in Washington.

The project, initiated in March 1956, was designed to support hydrographic surveys for the construction of new nautical charts.

The eighteen shoreline manuscripts were compiled and scribed in 1957 and 1958 from aerial photography of Sept. 1954 and June 1956 (nine-lens) and results of Summer 1957 field inspection at the Portland Photogrammetric Office.

There is no record of previously registered topographic surveys nor hydrographic surveys and small-scale maps (1:125000) of the U. S. Geological Survey from 1904 and 1914 of this area are obsolete.

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

May 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 DRIFT 1957, TARGET 1957 and WALLULA DEPOT, U.P.R.R. ELEVATED TANK 1957. These stations were necessary to fulfill photogrammetric requirements.

Stations PASCO, STATION KORD, RADIO MAST 1957 and PASCO, STATION KALE, RADIO MAST, CENTER ONE OF THREE 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. Woodland 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

water not normally influenced by McNary Pool are denoted as ponds.

From the mouth of the Walla Walla River northward, the area east of the Columbia River (McNary Pool) is gentle, rolling, uncultivated lands, except near the community of Burbank Heights, where an irrigation project makes mixed farming possible. On the west side of McNary Pool, opposite the mouth 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 gentle, rolling lands, that northward from the vicinity of Hover are cultivated. Water necessary for cultivation is supplied by an irrigation system.

There are few piers, wharves or landings along the Pool. At Wallula Depot, there is a basin with wharves; at East Pasco on the Snake River upstream from the mouth are small wharves serving the petroleum and aqua ammonia 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 12, 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 land marks 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 (McNary 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 marked by recoverable monuments. The three involved counties, Benton, Franklin and Walla Walla, share common boundaries formed by the Columbia and Snake Rivers.

11. Other Control:

Twenty one marked, recoverable topographic stations and twenty three un-monumented, recoverable photo-topo stations were established. All of the above stations are along the shores of the Columbia or Snake Rivers. One Corps of Engineers triangulation station and eleven Corps of Engineers Sedimentation Range stations 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 - BM X 2 RESET, OVER, SACAJAWEA LIGHT, SPAN, APEX, KEPR RADIO STATION MAST, CROW

T-10422 - DAYBEACON, JUNCTION LIGHT

T-10423 - BARB, ITEM, WORK, RANGE 1 FRONT LIGHT, RANGE 1 REAR LIGHT

T-10424 - RANGE 2 FRONT LIGHT, RANGE 2 REAR LIGHT, TEAL, B 336-2, CARP, HOVER LIGHT, GRIP

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 - open 67.5 feet
closed 13.5 feet

Snake River Highway Bridge, fixed span

Horizontal clearance, 426 feet

Vertical clearance, 62 feet

Old Pasco-Kennewick Highway Bridge, fixed span

Horizontal clearance, 421 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:

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

Respectfully submitted:

Robert B. Melby
Robert B. Melby
Carto. Survey Aid
Unit Chief

PHOTOGRAMMETRIC PLOT REPORT

Radial Plot "C"

Map Manuscripts T-9120,

T-10420 thru T-10423 and T-11316

21. Area Covered:

This radial plot covers the shorelines of the Columbia River to an interior depth of about 3 miles from Astoria, Washington upstream to Bateman Island and the shorelines of the Snake River to an interior depth of 3 miles from the Columbia River upstream to the Ice Harbor Dam. It comprises manuscripts T-9120, T-10420 thru T-10423 and T-11316.

22. Method:

The control extension was accomplished by the hand templet radial line plot method using acetate templates made from nine-lens photographs taken in 1954 and 1956. Photographs were prepared by the usual methods and master calibration templates 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, 75-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.

Six
Five 2' x 3' sheets of Mylar material, on each of which was ruled a polyconic projection of its area comprising 3 minutes - 45 seconds of latitude and 7 minutes - 30 seconds of longitude at a scale of 1:15,000 were furnished for work sheets. The Lambert State grids of Washington were also ruled on these sheets. The horizontal control stations falling on each of the respective manuscripts were plotted and verified. The five sheets were joined with clear cellulose tape. The templates were oriented to the identified control directly on the joined work sheets and fastened with masking tape. After all templates 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 Craftint 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 P.M.A. ratio prints were not needed to supplement the nine-lens photography.

Approved:

Respectfully submitted:

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

J. Edward Deal
Cartographer
C&GS

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
DESCRIPTIVE REPORT
CONTROL RECORD

MAP T-10421

PROJECT NO Ph-63

SCALE OF MAP 1:15,000

SCALE FACTOR None

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR μ -COORDINATE LONGITUDE OR x -COORDINATE		DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS		DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS		FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS	
NAVY 1946	G 6813	N.A.	46	15	16.409			506.7	(1345.9)		
	P 1127	1927	119	06	57.527			1232.2	(53.0)		
SACAJAWEA 2 1951	G 6813	"	46	13	05.992			185.0	(1667.6)		
	P 1123	"	119	01	27.324			585.7	(700.3)		
PASCO TANK, Elev. Wood, 1947	Wash.	"	46	13	10.370			320.2	(1532.4)		
	P 1246	"	119	04	22.219			476.2	(809.8)		
AINSWORTH(USE)1942	G 5257	"	46	12	45.000			1389.4	(463.2)		
		"	119	02	07.241			155.2	(1130.9)		
CHEV(USE)1950	P 1275	"	46	11	20.916			645.8	(1206.8)		
		"	119	03	14.878			319.1	(967.6)		
PASCO STATION KPW RADIO MAST 1947	Wash.	"	46	13	40.560			1252.3	(600.3)		
	1246	"	119	06	55.073			1180.2	(105.6)		
APPROACH(USE)1950	1275	"	46	13	16.210			500.5	(1352.1)		
		"	119	06	05.958			127.7	(1158.2)		
ABAN RESET(USE)1952	1281	"	46	12	42.954			1326.2	(526.4)		
		"	119	00	16.801			360.2	(925.9)		
FOURTEEN 1946	1127	"	46	14	02.537			78.3	(1774.3)		
		"	119	03	12.891			276.2	(1009.5)		
PASCO COURT HOUSE DOME 1942	585	"	46	14	13.93			430.1	(1422.5)		
		"	119	05	40.17			860.7	(424.9)		
BERRY(USE)1948	1281	"	46	13	44.556			1375.7	(476.9)		
		"	119	00	34.987			749.8	(536.0)		
PASCO MUNICIPAL TANK, E 1 of 2 1946	1129	"	46	14	10.225			315.7	(1536.9)		
		"	119	04	50.330			1078.4	(207.3)		

1 FT. = 3048006 METER

COMPUTED BY: J.L.H./L.L.G.

DATE 6-6-57/10-22-57

CHECKED BY: J.E.D.

DATE 6-17-57/10-22-57

CONM-DC-57843

SCALE FACTOR

1 FT. = 3048006 METER			
COMPUTED BY: L.L.G.	DATE: 10-22-57	CHECKED BY: J.E.D.	DATE: 10-22-57
COMM. DC. 57843			

COMPILATION REPORT

Map Manuscript T-10421

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" methods.
- (d) Scribing in negative of compiled details and projections.
- (e) Reproduction of scribed features on Cronarflex material 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 which is included in this Descriptive Report.

33. Supplemental Data:

Prints of maps and plans used to supplement the photographs and field inspection data are as follows:

- (a) City of Kennewick, Washington Scale 1 In. = $\frac{1}{4}$ Mi.
- (b) City of Kennewick, Washington Scale 1" = 1000'
- (c) City of Pasco, Washington Scale 1" = 1000'
- (d) Sacajawea State Park Base Map Scale 1" = 400'
- (e) General Highway Map, Benton Co., Washington
Scale 1 In. = 1 Mi.
- (f) General Highway Map, Franklin Co., Washington
Scale 1 In. = 1 Mi.
- (g) General Highway Map, Walla Walla Co., Washington
Scale 1 In. = 1 Mi.

33. Supplemental Data (cont.)

- (h) Benton County Road Map Scale 6 In. = 1 Mi.
- (i) Benton County Washington, County Road System Scale 4 In. = 1 Mi.
- (j) Walla Walla District, Corps of Engineers, No. 1, 1954
Scale 1" = 333.3' "Relocations and Section Corner Ties".

MDR-1-12/38	Sheet No. 37
MDR-1-12/34	" No. 38
MDR-1-12/35	" No. 42
MDR-1-12/36	" No. 43
MDR-1-12/39	" No. 44
MDR-1-12/40	" No. 45
MDR-1-12/42	" No. 54

Numerous points of planimetry that appear on T-10421 were located by triangulation ties during the survey listed under (j). Lambert Coordinates were furnished by the Corps of Engineers for these points and they were plotted on the manuscript. It was found that the graphically compiled planimetry is in excellent agreement with all planimetric detail located by triangulation ties by the Corps of Engineers.

34. Contours & 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 A longshore Details:

The shoreline of the nine-lens photographs taken on 9-26-54 when the pool level was 340 feet above mean sea level has been shown. Except where clarification was needed no field inspection was made of the shoreline.

The approximate low-water line was compiled from Corps of Engineers, U. S. Army photographs taken on 13 October 1953 when the water level of the pool was about 324 feet above mean sea level.

36. Offshore Details:

None.

37. Landmarks and Aids:

Forms 567 are submitted for these features.

Floating Aids to Navigation have been located in accordance with "Instructions, Shoreline Mapping - Project Ph-63, McNary Pool, Oregon - Washington, Field and Office", Supplement 2 dated 24 April 1958. These were plotted from sextant angles furnished by the field unit.

38. Control for Future Surveys:

Nine Forms 524 are submitted for recoverable topographic stations.

Ten photo-hydro stations of recoverable topographic station accuracy were located. These are either objects or stations marked by drill holes or iron pipes.

Refer to Item 49. "Notes to the Hydrographer" for the list of names of the Recoverable Topographic Stations and for descriptions of the photo-hydro stations.

39. Junctions:

Satisfactory junctions have been made with T-10420, T-10422 and T-11316.

40. Horizontal and Vertical Accuracy:

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

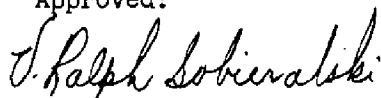
46. Comparison with Existing Maps:

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:

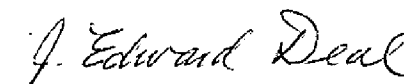
There are no nautical charts of the area. Recent hydrographic surveys by the Corps of Engineers were not available for comparison purposes.

Approved:



V. Ralph Sobieralski
Officer-in-Charge

Respectfully submitted:



J. Edward Deal
Cartographer

19

49. Notes to the Hydrographer:

The shoreline on this manuscript shown with a full line is at a water level of 340 feet above M.S.L. or normal pool level.

The approximate low-water pool level at 325 feet above M.S.L. is shown with a dotted line and was compiled from single lens and photographs taken in 1953 by Corps of Engineers when the pool level was 324 $\frac{1}{2}$ feet.

Forms 524 are submitted for recoverable topographic stations namely:

SACAJAWEA LIGHT 1958, JUNCTION LIGHT 1957, OVER 1957
B.M. X 2 RESET 1957, ELEVATOR, Grain N.W. Corner 1957,
APEX 1957, CROW 1957, SPAN 1957, TANK, Spherical, East
One of two 1957

Photo-hydro stations located with recoverable topographic station accuracy and for which Forms 524 were not required are:

<u>Name</u>	<u>Photo No.</u>	<u>Description</u>
Topo. 22	46197	Drill hole in top of 6 ft. high boulder, 141 ft. southeast of a railroad switch, "Topo 22" painted on riverside of boulder.
Topo. 23	46198	West corner of pumping plant. "Topo 23" painted on corner.
Topo. 24	54397	Center of a light brown wooden watch tower. "Topo 24" painted on riverside of tower.
Topo. 25	46199	Center of a 4 ft. x 6 ft. silver-colored corrugated sheet metal shed.
Topo. 26	46199	Center of a round green concrete pumping plant.
Topo. 123	46198	A section of $\frac{1}{2}$ in. pipe cemented in the boulders on the north shoulder of a dike. "Topo 123" scratched in the cement.
Topo. 200	54397	Center of a small brown N.P.R.R. phone booth, 149 ft. west of the west end of the R.R. bridge over the Snake River.

49. Notes to the Hydrographer (cont)

<u>Name</u>	<u>Photo. No.</u>	<u>Description</u>
Topo. 201	54397	The south corner of an abandoned concrete pumping plant. "Topo 201" painted on the corner.
Topo. 250	54397	Center of a brown phone booth, 28 ft. southeast of the southeast corner of the abutment of the N.P. Ry. over the Snake River.
Topo. 251	54397	Center of a 10 ft. x 11 ft. corrugated sheet metal pumping station.

T-10421

21

48. Geographic Names:

The geographic names shown on this manuscript are not final.
Refer to the Geographic Names Report, Project Ph-63, dated
6 June 1958.

The verified and recommended names are:

<u>AINSWORTH JUNCTION</u>	
<u>BURBANK</u>	
<u>BURBANK HEIGHTS</u>	
<u>BURBANK SLOUGH</u>	
<u>CLOVER ISLAND</u>	
<u>COLUMBIA RIVER</u>	
<u>COLUMBIA IRRIGATION DISTRICT CANAL</u>	
<u>EAST PASCO</u>	
<u>KENNEWICK</u>	<u>Kennewick Yacht Basin</u>
<u>MENARY NATIONAL WILDLIFE MANAGEMENT AREA</u>	
<u>NORTHERN PACIFIC</u>	
<u>PASCO</u>	<u>Pasco Yacht Basin</u>
<u>PASCO - KAHLOTUS ROAD</u>	
<u>SACAJAWEA STATE PARK</u>	
<u>SOUTH HIGHLANDS</u>	<u>Lake Walluk</u>
<u>SNAKE RIVER</u>	
<u>SPOKANE PORTLAND AND SEATTLE</u>	
<u>STRAWBERRY ISLAND</u>	
<u>UNION PACIFIC</u>	

Names approved 5-14-59
L. Heck

Review Report of
Shoreline Manuscript T-10421
May 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 topographic quadrangle, surveyed in 1904 and 1914 is the only coverage of subject area, and, because of the great time interval is obsolete.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

None!

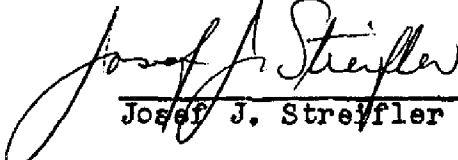
65. COMPARISON WITH NAUTICAL CHARTS:

None!

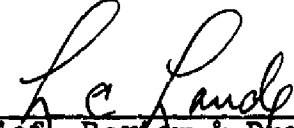
66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

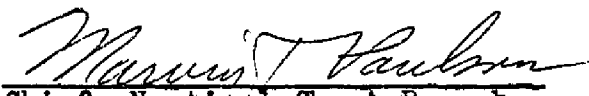
T-10421 meets the requirements for adequacy and accuracy of this type of survey for nautical charting purposes.

Reviewed by

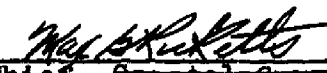

Josef J. Streyfler

Approved by:


Chief, Review & Drafting Section
Photogrammetry Division


Chief, Nautical Chart ~~Branch~~
~~Charts~~ Division

 7/11/62
Chief, Photogrammetry Division


Chief, Coastal Surveys Division
Operations

T-10421

PORTLAND PHOTOGRAMMETRIC OFFICE
405 Custom House
Portland 9, Oregon

15 September 1958

To: Chief, Photogrammetry Division
Coast and Geodetic Survey
Department of Commerce
Washington 25, D. C.

Subject: Sacajawea Light, Project Ph-63,
Upper Columbia River, Washington

Sacajawea Light (#1487 Pacific Coast Light List 1958) has been rebuilt since the date of 1957 field inspection. The location shown on Advance Manuscript T-10421 which was recently forwarded to Washington is incorrect.

The 1958 field unit furnished a sextant fix location on the new structure which has been plotted on the rough draft manuscript and the scribed manuscript.

The scaled position of the 1958 location is:

Lat. 46° 11' 53.50" (1652 meters)
Long. 119° 02' 18.61" (399 meters)

It is requested that the above location be plotted on the advance manuscript. The enclosed type stick-up may be used to change the date of the light from 1957 to 1958.

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

Replotted during Review JRS

Encl.
JED/bpo

MONTHLY MEDICATOR LANDMARKS FOR CHARTS

Portland, Oregon 11 Sept. 1958

The positions given have been checked after listing by J. E. Deal

V. Ralph Sobieralski, 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.

STRIKE OUT ONE

NONFLOATING AIDS OR IDENTIFIERS FOR CHARTS

Portland, Oregon 11 Sept. 1958

I recommend that the following objects which have ~~(inspected)~~ been inspected from seaward to determine their value as landmarks be charted on ~~(charts)~~ the charts indicated.

The positions given have been checked after listing by J. E. Deal

V. Ralph Sobieralski, *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.

NAUTICAL CHARTS BRANCH

SURVEY NO. 10421

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.