DESCRIPTIVE REPORT

Type of Survey: Chart Topography

Field No.: PH-6804  Office No.: TP-00022

LOCALITY

State: Washington

General locality: Snake River

Locality: Lower Monumental Pool

1969-70

CHIEF OF PARTY

Richard H. Houlder

DATE

LIBRARY & ARCHIVES
**DESCRIPTIVE REPORT - DATA RECORD**

PHOTOMGRAMMETRIC OFFICE

Rockville, Maryland
OFFICER IN CHARGE
Richard H. Houlde

1. INSTRUCTIONS DATED

1. OFFICE

from Marine Chart Division
Aerotriangulation Jan. 8, 1969
Office July 17, 1969

2. FIELD

Field June 25, 1968
Field Supplement I Aug. 21, 1968

II. DATUMS

1. HORIZONTAL: 1927 NORTH AMERICAN

2. VERTICAL: MEAN HIGH-WATER

3. MAP PROJECTION: Mercator

4. GRID(S): Washington

STATE: South
ZONE:

5. SCALE: 1:10,000

III. HISTORY OF OFFICE OPERATIONS

<table>
<thead>
<tr>
<th>OPERATIONS</th>
<th>NAME</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. CONTROL AND BRIDGE POINTS METHOD: Coradi</td>
<td>P. J. Dempsey</td>
<td>Sept. 1969</td>
</tr>
<tr>
<td>3. STEREOSCOPIC INSTRUMENT COMPILATION INSTRUMENT: B-3</td>
<td>J. P. Battley</td>
<td>Sept. 1969</td>
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<tr>
<td>SCALE: 1:10,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. MANUSCRIPT DELINEATION METHOD: Inked</td>
<td>M. C. Webber</td>
<td>Sept. 1969</td>
</tr>
<tr>
<td>SCALE: 1:10,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. OFFICE INSPECTION PRIOR TO FIELD EDIT</td>
<td>J. P. Battley</td>
<td>Feb. 1970</td>
</tr>
<tr>
<td>6. APPLICATION OF FIELD EDIT DATA</td>
<td>M. C. Webber</td>
<td>June 1970</td>
</tr>
<tr>
<td>9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH</td>
<td>J. P. Battley</td>
<td>Aug 1970</td>
</tr>
<tr>
<td>11. MAP REGISTERED - COASTAL SURVEY SECTION</td>
<td></td>
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### Compilation Sources

**1. Compilation Photography**

<table>
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<tr>
<th>Number and Type</th>
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<th>Time</th>
<th>Scale</th>
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<td>68-E(c)-6745 thru 6748</td>
<td>7-1-68</td>
<td>14:41</td>
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<td>1:10,000 ratio 69-E(c)-2255 thru 2258</td>
<td>9-8-69</td>
<td>11:46</td>
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<td>69-E(c)-2269 thru 2271</td>
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<td>11:55</td>
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**2. Source of Mean High-Water Line:**

Normal pool level, 540 ft. MSL located by office interpretation from color photography dated July 1, 1968.

*Verified - Field edit, March - April 1970*

**3. Source of Mean Low-Water or Mean Lower Low-Water Line:**

**4. Contemporary Hydrographic Surveys** *(List only those surveys that are sources for photogrammetric survey information.)*

<table>
<thead>
<tr>
<th>Survey Number</th>
<th>Date(s)</th>
<th>Survey Copy Used</th>
<th>Survey Number</th>
<th>Date(s)</th>
<th>Survey Copy Used</th>
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**5. Final Junctions**

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<th>North</th>
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<th>South</th>
<th>West</th>
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<tbody>
<tr>
<td>No contem. survey</td>
<td>TP-00023</td>
<td>TP-00024</td>
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</table>
## HISTORY OF FIELD OPERATIONS

### Field Edit Operation

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<thead>
<tr>
<th>Operation</th>
<th>Name</th>
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<tr>
<td>Chief of Field Party</td>
<td>R. B. Melby</td>
<td>March-April 1970</td>
</tr>
<tr>
<td>Horizontal Control</td>
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<tr>
<td>Vertical Control</td>
<td></td>
<td></td>
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<tr>
<td>Landmarks and Aids to Navigation</td>
<td>L. L. Riggers</td>
<td></td>
</tr>
<tr>
<td>Geographical Names Investigation</td>
<td></td>
<td></td>
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<tr>
<td>Photo Inspection</td>
<td>L. L. Riggers</td>
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<td>Boundaries and Limits</td>
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<td>69-E-2257</td>
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<tr>
<td>69-E-2270</td>
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### Landmarks and Aids to Navigation Identified

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<tr>
<td>69-E-2255</td>
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<td>69-E-2255</td>
<td>DAVIN LT 21</td>
</tr>
<tr>
<td>69-E-2256</td>
<td>PERRY LT 22</td>
</tr>
<tr>
<td>69-E-2257</td>
<td>PERRY LT 24</td>
</tr>
<tr>
<td>69-E-2258</td>
<td>JOHN LT 25</td>
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### Geographical Names

- Report: ✔️
- None: ☐

### Boundary and Limits

- Report: ✔️
- None: ☐

### Other Field Records

(Sketch books, etc. DO NOT list date submitted to the Hydrology Division)
# Record of Survey Use

## I. Manuscript Copies

<table>
<thead>
<tr>
<th>Compilation Stages</th>
<th>Date</th>
<th>Remarks</th>
<th>Marine Charts</th>
<th>Hydro Support</th>
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<tr>
<td>Shoreline planimetry, bathymetric contours, and land contours</td>
<td>Sept. 1969</td>
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## II. Landmarks and Aids to Navigation

1. **Reports to Marine Chart Division, Nautical Data Branch**

<table>
<thead>
<tr>
<th>Number</th>
<th>Chart Letter</th>
<th>Number Assigned</th>
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<th>Remarks</th>
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<tr>
<td>4 pages</td>
<td>CL-886</td>
<td></td>
<td>7-21-70</td>
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## III. Federal Records Center Data

1. Bridging Photographs; Duplicate Bridging Report; Computer Readouts.
2. Control Station Identification Cards; Form CGS 567 Submitted by Field Parties.
3. Source Data (except Geographic Names Report) as listed in Section II, ESSA FORM 76-36C.

## IV. Survey Revision

(This section shall be completed when a revised survey is registered.)

<table>
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<th>Survey Number</th>
<th>Job Number</th>
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Summary to Accompany
Descriptive Reports TP-00019 through TP-00027
PH-6804
June 1970

This project consists of nine chart topography manuscripts, covering the Lower Monumental Dam and Pool area on the Snake River, Washington. The manuscripts were compiled at a scale of 1:10,000 to provide the base for a new small-craft route chart, (683-SC), scale 1:20,000.

The Lower Monumental Pool was formed by impounding the water behind Lower Monumental Dam east to the Little Goose Dam.

Field operations prior to bridging included the premarking of horizontal control, selecting photoidentifying and determining elevations of photogrammetric vertical control points, identifying and determining the elevation of features critical for charting and a geographic names investigation. This was completed in November 1968.

Bridging of the entire Pool area was completed in August 1969 by the analytical aerotriangulation method. 1:40,000 scale color diapositives were bridged and numerous points common to the 1:20,000 scale compilation photography were obtained to control these models.

Compilation was accomplished in the Washington Office in August-September 1969 utilizing 1:20,000 scale color photography taken July 1, 1968, prior to the flooding of the pool area. The normal pool level after flooding was established at 540 ft. above MSL. The river level for the area prior to flooding was approximately 440 ft. above MSL at the Lower Monumental Dam to 530' in the vicinity of Little Goose Dam. The area between the prescribed normal pool level and the prior river level was contoured on the B-8 stereoplottter at intervals compatible with required depth curves, (3', 6', 9', 12', 18', etc.) and were supplemented with spot elevations (soundings) to define shoals, gentle slopes and deep water. Rigid vertical and horizontal accuracy was maintained during compilation to comply with project instructions. Along with this bathemetry, the required chart compilation features were delineated above the 540 ft. normal pool level shoreline. This included the 600 ft. contour line for use by marine charts in correlating the compilation with existing maps.
Field edit was completed in April 1970 and encompassed the verification and/or location of aids to navigation and landmarks, a facility survey and verification of compiled features.

The application of field edit revisions and additions was completed in June 1970 for the entire project. Final review was also completed in June.

Advance copies prior to field edit had been supplied to the Small Craft Branch of the Marine Chart Division. Field edit corrections and/or additions were minimal and this afforded the Small Craft Branch more "lead time" to compile new route Chart 648-SC. Final copy will be sent to Marine Chart Division along with the facilities report.

A Registration Manuscript Copy will be registered in the Bureau Archives under their respective TP-numbers.

Submitted by,

J. P. Battley, Jr.

J. P. Battley, Jr.
21. **Area Covered**

This report covers the Snake River from the Lower Monumental Dam to the Little Goose Dam, consisting of nine (9) 1:10,000 scale sheets, TP-00019 thru TP-00027.

22. **Method**

Eight (8) strips were bridged using analytical aerotriangulation methods. Strips 1 and 2 were 1:40,000 scale color diapositives and strips 3 thru 8 were 1:20,000 scale color diapositives. Strips 1 and 2 were bridged using premarked control. The control does not appear on the 1:20,000 scale photographs as the photography was flown prior to premarking. Numerous tie points were located from the 1:40,000 scale bridge to control the 1:20,000 scale photography.

The attached sketch of the strips bridged shows the placement of triangulation used in the final strip adjustments. All bridge points are on Washington South Zone plane coordinates and converted to Mercator values.

23. **Adequacy of Control**

All horizontal control was premarked and was adequate to control the 1:40,000 scale bridge. The field party furnished elevations to vertically control each strip of 1:20,000 scale photographs and proved very adequate.

24. **Photography**

The definition and quality of the RC-8 "E" photography were good. No difficulty was encountered in the bridging of any strip.

Respectfully submitted,

[Signature]

I. I. Saperstein

Approved and forwarded,

[Signature]

Chief, Aerotriangulation Section
COMPILATION REPORT
TP-00022

Refer to Descriptive Report No. TP-00019 for Field Inspection and Photogrammetric Plot Report.

31. Delineation

TP-00022 is a 1:10,000 scale chart compilation manuscript.

Color photography, scale 1:20,000 taken July 1, 1968, was bridged and used for delineation. This photography was supplemented with 1:20,000 scale color photography taken in Sept. 1969 after the Lower Monumental Pool was flooded. 1:10,000 scale ratio prints were compared with the inked manuscript and additions or revisions were made.

A cronaflex copy and ozalid copies were ordered for this manuscript for field edit use.

After field edit is applied 1/2 reductions will be made for chart compilation at 1:20,000 scale.

32. Control

All horizontal control was premarked and adequate in density and placement.

Vertical control was of prime importance for this project as the area contoured is to be used for bathymetry (depth curves, etc.).

Excellent vertical accuracy was achieved in the bridge from numerous field identified vertical points.

(See Photogrammetric Plot Report.)

33. Supplemental Data

None used in photogrammetric compilation.
34. **Contours and Drainage**

Color photography at 1:20,000 scale was bridged by analytic methods and used in the B-8 stereoplotter for contouring. This photography taken in July 1968, before the pool area was flooded was of good quality and contours within the required accuracy (± 2 feet) were obtained.

Contours were drawn at prescribed intervals from the old river shoreline (440 feet) to 537 ft. These intervals were: 3 ft. from 540 ft. shoreline to 534 ft. contour (6' depth curve) 6 ft. intervals from 534 ft. to 510 ft. (30' depth curve) and 10 ft. intervals to the old river level.

In areas of congestion the 534 ft. and the 522 ft. (6' and 18' depth curves) were given preference and contoured without feathering. The 540 ft. elevation was contoured as the shoreline at normal pool level.

35. **Shoreline and Alongshore Details**

The shoreline was delineated as stated in paragraph 34. Color photography of Sept. 1969 taken after the Lower Monumental Pool was flooded was ratioed and compared with the contoured shoreline. Minor differences were noted and revised.

36. **Offshore Detail**

No comment.

37. **Landmarks and Aids**

A U. S. Coast Guard Civil Engineering blueprint was furnished for location of Aids to Navigation. This was used to help locate the Aids on the 1969 ratioed photographs. A few of the Aids could not be located and will have to be located during field edit.

38. **Control for Future Surveys**

None
39. Junctions

Junctions were made with TP-00021 to the west and TP-00024 to the east are in agreement.

40. Horizontal and Vertical Accuracy

Refer to Paragraph No. 23 of Photogrammetric Plot Report, also Paragraph No. 32 of this report.

41. thru 45.

Inapplicable

46. Comparison with Existing Maps

Comparison has been made with USGS Quadrangle HAAS, Washington, scale 1:62,500, dated 1950, contour interval 40 ft.

Compilation instructions state that all detail and the 600 ft. and 700 ft. contours that have been changed above the 540 ft. pool level should tie into the existing quadrangles. Areas of change were compiled and this tie made. Comparison was made with O.of C. drawings, 1:6000 scaled, dated Feb 1963.

47. Comparison with Nautical Charts

No chart exists in this area.

This is a new chart compilation for Chart No. 683-3C.

Respectfully submitted,

John C. Richter
Cartographer

Approved and Forwarded,

K. N. Maki
Chief, Compilation Section
June 24, 1970

GEOGRAPHIC NAMES
FINAL NAME SHEET

PH-6804 (Washington)
TP-00022

Ayer *
Fields Gulch
Northern Pacific Railroad +
Union Pacific Railroad -

Approved by:
A. J. Wright
Chief Geographer

Prepared by:
Frank W. Pickett
Cartographic Technician

* This name falls on TP-00021.
+ Feature not compiled
FIELD EDIT REPORT
Chart Topography
Lower Monumental Pool
Snake River, Washington

Map Manuscripts TP-00019 through TP-00027.

This report covers the portion of the Snake River impounded by the Lower Monumental Dam, and entirely within the State of Washington.

The entire shoreline was inspected by vehicle or small boat. The shoreline and alongshore features were compared with the field edit copies of the map manuscripts (discrepancy prints) and/or the field edit color photographs.

The field edit copies (discrepancy prints) of the map manuscripts were used as the index for the field corrections and the numbers of the photographs used for such corrections appear on the discrepancy prints.

Adequacy of Compilation

The extent and accuracy of the maps appear to be reasonably complete, considering the compilation was without the benefit of field inspection.

As the river passes through a definite gorge, cliffs and bluffs are in evidence throughout the project area. The most salient cliffs were indicated as features of landmark value.

There are so few buildings in the area, that nearly every shoreline cultural feature is of landmark value. Along the railroad are located two small communities, Ayer and Riparia. They are the residences of the railroad maintenance and service personnel.

Several recreation areas are found along the shoreline and are in various stages of development. Usually they consist of a surfaced launching ramp, a float and comfort facilities.

All fixed aids to navigation were field checked and photo identified except Tucannon River Light 34, which was located by traverse methods, due to its location on the north slope of a cliff.

All landmarks were investigated. All landmarks, recommended for charting, have been listed on form 567.

Purple ink was used to indicate corrections on the discrepancy prints. Red tempera ink was used for the annotations on the field edit photographs. Green ink was used to indicate deletions.

Rocks and shoals were investigated. The elevations of the tops of these features were determined in the field.
All entries for aids to navigation and landmarks for charts have been hand lettered in ink on Form 567. The smooth copies of the Form 567 can be prepared and submitted to the appropriate sections after the positions of the aids and landmarks have been finalized by the compilation section.

Geographic Names are the subject of a separate report.

A small craft chart facility investigation was completed in the field, concurrent with the field edit. Entries were made on the discrepancy prints.

Sheet TP-00019

Lower Monumental Dam and surfaced ramp are found on this sheet.

Sheet TP-00020

All fixed aids to navigation were investigated and photo-identified. A secondary, dirt road of landmark value is found near the east edge of the sheet.

Sheet TP-00021

A landmark for charts in the form of a tank is found on this sheet, also the railroad community of Ayer.

Sheet TP-00022

Heights of rocks and shoreline corrections were made on this sheet.

Sheet TP-00023

No field edit entries.

Sheet TP-00024

The highway bridge over the Snake River near the mouth of the Palouse River has been completed. It is a fixed span structure. The cofferdam that was constructed around the Marmes Rockshelter failed to save the rockshelter due to uncontrolled seepage. At present a pond is formed in the rockshelter area behind the cofferdam. Two overhead cable crossings and a submerged pipeline crossing are found on this sheet.

Sheet TP-00025

The railroad community of Riparia is found on this sheet. The Project Engineer, Seattle District, Corps of Engineers reported the abandoned piers of the old Riparia railroad bridge were removed to the depths (elevations) that appear on photograph 69E 2302. The masonry bridge abutments are scheduled to remain in place. A landmark in the form of an elevated water tank is found at Riparia.
At Powers a grain elevator and storage tank was compiled as tanks only.

Sheet TP-00027

Corrections of the area adjacent to the Little Goose Dam including the northsection (earth fill portion) of the dam, road relocation and an overhead power line should be applied to the manuscript from recent photography that reflects the above changes.

Respectfully Submitted,

[Signature]

Robert B. Melby
Chief, Field Party, PMC
Review Report
TP-00022
PH-6804
June 1970

61. **General Statement**

See summary in Preface.

62. **Comparison with Registered Topographic Surveys**

None

63. **Comparison with Maps of Other Agencies**

Comparison was made with 1:62,500 scale quadrangles HAAS, Washington, dated 1950 and Starbuck, Washington, dated 1948. These maps were used to compare planimetric features adjacent to the river, as a base for a geographic names verification and to assure correlation between the compiled 600 ft. contour, (the first index contour above the shoreline), and the G.S. topography. Comparison was also made with Corps of Engineers Reservoir Maps compiled in 1957. These maps were used to locate the approximate position of lights for subsequent photoidentification.

64. **Comparison with Contemporary Hydrographic Surveys**

None - this is a newly formed pool area of the Snake River.

65. **Comparison with Nautical Charts**

None

66. **Adequacy of Results and Future Surveys**

This survey complied with project instructions and excellent results were realized in maintaining the required vertical accuracy for the compiled contours and spot elevations to be used as hydrography. The survey meets the National Standards of Accuracy.

67. **Geographic Names**

A thorough geographic names verification was made by the 1968 field inspection party and approved by the
67. Geographic Names (continued)

Geographic Names Branch. A names list is included in this report.

Reviewed by,

Jeter P. Battley Jr

Approved by,

[Signatures]
Chief, Photogrammetric Branch
Chief, Photogrammetry Division
<table>
<thead>
<tr>
<th>Chart No.</th>
<th>Position</th>
<th>Description</th>
<th>State</th>
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<tbody>
<tr>
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<td>317</td>
<td>McGeorge Rng E+F</td>
<td>Washington</td>
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<tr>
<td>2</td>
<td>327</td>
<td>McGeorge M</td>
<td>Washington</td>
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<tr>
<td>3</td>
<td>427</td>
<td>McGeorge</td>
<td>Washington</td>
</tr>
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</table>

The positions given have been checked after being Lyre L. Margers.

I recommend that the following objects which have been reported from seaward be shown on the chart:

- 70-98-6615
- 70-98-6616

To be charted:

U.S. Department of Commerce

Chart No. 525

7 April 1970
<table>
<thead>
<tr>
<th>Chart Number</th>
<th>Location of Chart</th>
<th>North (ft)</th>
<th>East (ft)</th>
<th>Datum</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
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<tbody>
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<td>Alpha</td>
<td>123.45</td>
<td>67.89</td>
<td>NGVD</td>
<td>34.56</td>
<td>78.90</td>
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<td>23456</td>
<td>Bravo</td>
<td>56.78</td>
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<td>NGVD</td>
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<td>34567</td>
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<td>67.89</td>
<td>56.78</td>
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</tbody>
</table>

The positions given have been checked after having been plotted on the chart indicated.

I recommend that the following objects which have been charted be deleted from the chart:

- Object A
- Object B

7 April 1970

R.B. Melly

U.S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

NON-PROFILED AIDS OR LANDMARKS FOR CHARTS

STATE

WASHINGTON

CHARTING NAME

Washington

REMARKS

The data shall be referenced to the normal point.