

11318

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-11318

LOCALITY

State Washington

General locality Columbia River

Locality Two miles west of Columbia River
and five miles north of Spau Canyon

1954-56

CHIEF OF PARTY

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

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DATE May 1, 1962

USCOMM-DC 5087

11318

DESCRIPTIVE REPORT - DATA RECORD

T - 11318

Project No. (II): Ph-63

Quadrangle Name (IV):

Field Office (II): Umatilla, Oregon

Chief of Party: V. Ralph Sobieralski

Photogrammetric Office (III): Portland, Oregon

Unit Chief, R. B. Melby

Officer-in-Charge:

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

Date received in Washington Office (IV):

AUG 21 1958

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):

~~Mean sea level except as follows:~~
~~Elevations shown as (25) refer to mean high water.~~
~~Elevations shown as (2) refer to sounding datum.~~
~~i.e., mean low water or mean lower low water.~~

Normal pool level of McNary Dam
(340 ft. above M.S.L.)

Reference Station (III): YELEPIT 1947 (Wash)

Lat.: 46° 02' 24.972"
771.0m(1081.5m)

Long.: 119° 02' 05.499"
118.2m(1171.9m)

Adjusted
Unadjusted

Plane Coordinates (IV):

State:

Zone:

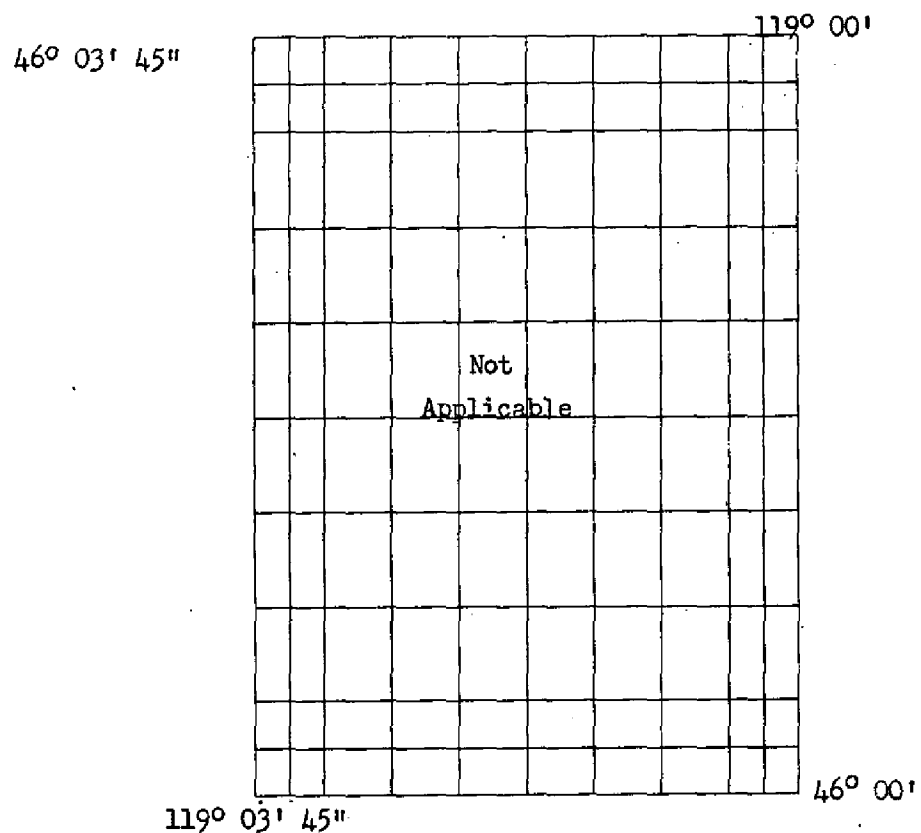
Y=

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.

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 1956

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

Date: 30 April 1957

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

Planimetry

Date:

Stereoscopic Instrument compilation (III):

Contours

Date:

Manuscript delineated by (III): L. L. Graves, Compilation
L. L. Graves, Scribing
C. C. Harris, Stick-up

Date: 9 May 1957
20 June 1957
12 Sept. 1957

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

Date: October 1957

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

Date:

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DESCRIPTIVE REPORT - DATA RECORD

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

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

Number	Date	PHOTOGRAPHS (III)		Scale	Water level of pool
		Time			Stage of Tide
46180	9-26-54	13:32		1:15,000	340 ft. above M.S.L.
54392 & 54393	6-11-56	08:56		1:15,000	340.4 ft. above M.S.L.

Tide (III)

Reference Station: Not applicable
Subordinate Station:
Subordinate Station:

Ratio of Ranges	Mean Range	Spring Range

Washington Office Review by (IV):

Date:

Final Drafting by (IV):

Date:

Drafting verified for reproduction by (IV):

Date:

Proof Edit by (IV):

Date:

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

(1956 Season)

Map Manuscripts T-10425 thru T-10432 and T-11318

Project 27020

2. Aerial Field Inspection:

The field inspection of this portion of the project was inspected on the nine-lens photographs furnished by the Coast and Geodetic Survey. While some of the prints lack a desired amount of contrast the photos were considered suitable for mapping purposes. The physical inspection of both photographs and the terrain was conducted from a motor vehicle where roads permitted, and by small boat and foot where vehicular travel was prohibitive.

The area can be considered semi-arid. Near the west limits of the project some of the lands along the river are irrigated, but the major portion of cultivated land is tilled by dry land farming.

The Columbia River flows east-west through this area. Near the town of Umatilla, Oregon, is the McNary dam; this impounds the river to form a reservoir that is referred to as McNary Pool as an official name has not been designated. The area is served by a heavy duty two lane highway (U.S. Highway 395) that runs east-west, paralleling the river along the south shore. Three railroads, the Union Pacific Railroad, The Spokane, Portland and Seattle Railway, and the Northern Pacific Railway, operate through this area on tracks that run along both sides of the Columbia River.

Hot Rock State Park, situated on the south bank of McNary Pool, about nine miles east of Umatilla, Oregon, and Wallula State Park at the mouth of the Walla Walla River are two state parks found in the area.

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

McNary Dam maintains the pool at a navigable depth and produces hydro-electric power. It includes a navigation lock, and two fish ladders to permit passage of anadromous fish.

3. Horizontal Control:

Two new supplemental horizontal control stations were established by triangulation methods, stations JINGLE 1956 and PEARSON 1956. Third

order accuracy was obtained. These stations were needed to fulfill photogrammetric requirements.

Horizontal control station STRAUB 1947, a required station for control of compilation, was not identified because it was beyond the limits of adequate photo coverage.

Triangulation station VACA REBET 1950 (USC) was found in the general position as described for station VACA (USC) 1942. Correspondence with the Office of the District Engineer, Corps of Engineers, U. S. Army, Walla Walla, Washington produced a letter, dated 17 August 1956, a copy of which is attached to this report

4. Vertical Control:

Vertical control for use by stereoscopic instruments was not required.

Twenty-one bench marks established by the Coast and Geodetic Survey and the Corps of Engineers were recovered. Five were identified to serve as topographic stations.

5. Contours and Drainage:

Contours not applicable. Drainage was indicated on field photographs. The drainage pattern was generally visible due to the lack of woodland cover. In some canyons the images of the dry intermittent stream beds appear on the photographs.

6. Woodland Cover:

The area is almost devoid of woodland cover. With the exceptions of willow, locust and similar deciduous trees that flourish in clumps along the river and irrigation canals, the rest of the un-cultivated land is generally covered with sage brush and wild grasses that are adapted to the semi-arid terrain.

Shoreline and Alongshore Features:

A water surface elevation of 340 feet above mean sea level was established by the U. S. 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 photographs 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 photographs. Small bodies of water that connect to McNary Pool and whose water surface elevations are controlled by the larger pool

have been termed pools. Other small bodies of water not normally influenced by the large McNary Pool are denoted as ponds.

From Umatilla, Oregon, to the mouth of the Walla Walla River both sides of the Columbia River are lined with precipitous bluffs that appear to be of a basaltic composition. From the river they rise in a stair step fashion. Observed from a distance they give the illusion of giant terraces. At intervals the bluffs are gashed by canyons and dry washes. The tops of the bluffs on both sides of the river give way to high, rolling plateaus that are generally cultivated as dry land grain fields.

There are few piers, wharves or landings along the river. Below McNary Dam and up stream at Fort Kelly there are grain elevators and storage tanks with conveyors to load cargo vessels for shipment to other river points.

There are five highway and three railroad bridges, one navigation lock and one power line crossing in the area. Clearances will be described under Item 12, Other Interior Features.

8. Offshore Features:

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

9. Land Marks and Aids:

Significant land marks for nautical charts will be described on form 567.

A system of lighted fixed aids, floating aids and day beacons have been erected and are being maintained along the Columbia River and McNary Pool. Photo identification was made of the fixed aids to navigation.

10. Boundaries, Monuments and Lines:

Two states, Washington and Oregon, are involved in the areal survey. They share a common east-west boundary that follows along the main channel of the Columbia River then eastward, overland, along or near the 46th Parallel. Along U. S. Highway 395 a white, wooden, state boundary marker was photo-identified to aid in determining the boundary in this area.

Below, are excerpts from a letter from the Oregon State Engineer

"The tentative agreed upon coordinates of the Oregon-Washington boundary in the vicinity of McNary Dam are as follows."

<u>Point Number</u>	<u>North Latitude</u>	<u>West Latitude</u>	<u>Description of Location</u>
175	45° 55' 03.1"	119° 26' 57.35"	a point on the center line of the Umatilla Bridge at the center of north main span of said bridge.
176	45° 55' 18.1"	119° 21' 48.12"	
177	45° 55' 51.37"	119° 19' 52.71"	
178	45° 55' 54.48"	119° 19' 39.28"	
179	45° 55' 59.59"	119° 19' 17.2"	a point on the axis of McNary Dam at the north face of the south non-over flow section.
180	45° 56' 10.26"	119° 17' 47.6"	
181	45° 56' 15.24"	119° 17' 05.76"	questionable! determine cor. lat. 46 of point set on boundary, then easterly along or near the 46° par. following line mon. in 1864 to center of Snake River.
182	45° 56' 24.05"	119° 15' 21.40"	
183	45° 55' 58.60"	119° 13' 28.22"	
184	45° 55' 40.97"	119° 11' 39.82"	
185	45° 55' 40.26"	119° 10' 05.04"	
186	45° 55' 58.55"	119° 07' 30.72"	
187	45° 56' 34.25"	119° 05' 27.12"	
188	45° 57' 31.28"	119° 03' 37.36"	
189	45° 58' 09.33"	119° 01' 33.95"	
190	45° 58' 45.73"	119° 00' 27.12"	
191	46° 00' 01.38"	118° 59' 10.12"	

11. Other Control:

Thirty-one marked, recoverable topographic stations and thirty-eight un-monumented photo-topo stations were established, all stations being along the McNary Pool to furnish control for future use in hydrographic surveys.

The following are the marked, recoverable topographic stations established:

- T-10425 - ILL, Walla Walla River Light, MYKE
- T-10426 - K 338 (USK), McNary Dam Upper Entrance Light, Mile 89-90 Range Rear Light, Mile 89-90 Range Front Light
- T-10427 - None
- T-10428 - BABS, Beavert Daybeacon No. 1, Beavert Light, Beavert Daybeacon No. 3, TOP (USK), Juniper Light

T-10429 - CAJON (U.S.), Bull Run Light
 T-10430 - LONG, IRIO, RUC 41/84.0, BATH, SHED, PETS, CLMO
 T-10431 - EM C 378 1943, EM S 378 1943, EM F 27 1927, Hat Rock
 Light
 T-10432 - DORA, NORA
 T-11318 - None
 T-10430, west of - DILL, CLEM

Corps of Engineers stations TOP and CAJON were recovered and identified as topographic stations as no information could be found in the horizontal control data concerning these stations.

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

12. Other Interior Features:

Highways and roads were classified on photographs as described under Section 5441, Topographic Manual.

The area along the river from Umatilla eastward to the mouth of the Walla Walla River is generally barren with little alongshore culture or habitation.

Clearances for bridges, power lines and navigation locks are listed below.

Umatilla County Toll Bridge over Columbia River

Vertical Clearance 90 feet with Columbia River datum at 247.7 feet

Horizontal clearance - north span 335 feet
 south span 335 feet

B. P. and L. Power line crossing east of Umatilla Bridge

Vertical clearance 78 feet

Umatilla River railroad bridge, fixed span

Vertical clearance 32.5 feet

Horizontal clearance, east shore to center support 126 feet
 west shore to center support 46 feet

Umatilla River highway bridge, fixed span

Vertical clearance, center of span 56 feet

Horizontal clearance, east span 40 feet
 center span 103 feet
 west span 0 feet

Juniper Canyon railroad bridge

Vertical clearance, 7 feet
 Horizontal clearance, west span 64 feet
 center span 77 feet
 east span 64 feet

Juniper Canyon highway bridge

Vertical clearance, 2 feet
 Horizontal clearance, west span, 64 feet - center span, 77 feet
 east span, 64 feet

The clearances at Juniper Canyon were taken when the McNary Pool was normal level.

McNary navigation lock

Vertical clearance, unrestricted
 Horizontal clearance, 86 feet
 Length, 675 feet

Above figures taken from U. S. Engineers Operational Manual.

McNary Dam double leaf Bascule Bridge

Vertical clearance, open, unrestricted
 closed, 15 feet
 Horizontal clearance, 86 feet

Mouth of Walla Walla River railroad bridge fixed span

Vertical clearance, 37 feet (12 Dec. 1956, 13:30 hours)
 Horizontal clearance, 117 feet

Mouth of Walla Walla River highway bridge fixed span

Vertical clearance, 30 feet (12 Dec. 1956, 13:30 hours)
 Horizontal clearance, 112 feet

Mouth of Walla Walla River old highway bridge (Center span has been removed)

Vertical clearance, unimpaired
 Horizontal clearance, 122.4 feet (12 Dec. 1956, 13:30 hours)

Approved:

Respectfully submitted:

V. Ralph Sobieralski
 LCDR CAG Survey
 Officer-in-Charge

Robert B. Melby
 Cartographic Survey Aid
 CAGS

PHOTOGRAMMETRIC PLOT REPORT

Radial Plot "B"

Map Manuscripts T-10424, T-10425,

T-10386, T-11317 and T-11318

Project Ph-63

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 template radial line plot method using acetate templates made from nine-beam 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, 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 template 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 templates were oriented to the identified central 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 templots 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 Schieralski
LCDR, CAGS
Officer-in-Charge

J. Edward Deal
Cartographer
CAGS

COMPILATION REPORT

Map Manuscript T-11318

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-11317, T-10425 and T-10428.

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

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

Respectfully submitted:

J. Edward Deal

J. Edward Deal
Cartographer
C&GS

T-11318

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48. Geographic Names:

There are none within the detail limits of this manuscript.

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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!

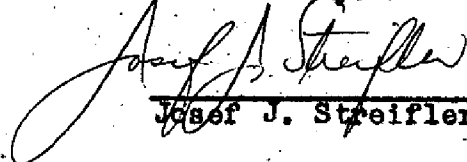
65. COMPARISON WITH NAUTICAL CHARTS:

Not applicable!


66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:


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

Reviewed by:



Josef J. Streifler

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

NAUTICAL CHARTS BRANCH

SURVEY NO. T-11318

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.