6497

Form 504
Rev. Dec. 1933

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Topographic } *Sheet No.* C T6497
~~*Hydrographic*~~ }

State Pennsylvania and New Jersey

LOCALITY

Delaware River

~~Vicinity of Andalusia, Beverly,~~

~~and~~ Burlington to
Andalusia

1935

CHIEF OF PARTY

E. B. Roberts

U. S. GOVERNMENT PRINTING OFFICE: 1934

6497

Graphic Control

Form 537a
Ed. Nov. 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. C

REGISTER NO. T6497

State Pennsylvania and New Jersey

General locality Delaware River

Locality ~~Andalusia, Beverly, and Burlington~~ to Andalusia

Scale 1/10,000 Date of survey July - August, 1935

Vessel Party No. 8

Chief of party E. B. Roberts

Surveyed by W. K. Doolittle

Inked by W. K. Doolittle

Heights in feet above ..... to ground to tops of trees

Contour, Approximate contour, Form line interval ..... feet

Instructions dated 22 April, 1935

Remarks: Photo-Topo Control Sheet

GPO

DESCRIPTIVE REPORT
TO ACCOMPANY TOPOGRAPHIC SHEET C
H T 202
DELAWARE RIVER
Vicinity of Andalusia, Beverly, Burlington.

E. B. Roberts, H & G Engr., Chief of Party.
W. K. Doolittle, Surveyor, Topographer.

Instructions dated 22 April, 1935

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General description of the coast.

This sheet covers the Delaware River from Andalusia to the outskirts of Bristol on the Pennsylvania side, and from a point 1-1/2 miles below Beverly to Burlington on the New Jersey side.

At Andalusia and as far northeast as Enterprise range front light the high water line is largely defined by concrete river walls. The marsh is narrow, and gives way in places to sand and gravel beach. West of Neshaminy Creek mouth there is a large spoil dump. To the eastward there is a natural high water line, with some marsh. From College Point east there are wide marshes, partially bounded by dikes atthe high water line, otherwise having the beginning of heavy brush at the high water line. From station Maple to the east limit, the marsh is narrow.

On the New Jersey side, from Edgewater range lights to a point 700 meters east of station Ferguson 2 there are terraced banks, with masonry river walls, outside which is a narrow sand and gravel beach. Near Bald 2 there is some grass growth and the tidal flat area widens. East of Ferguson 2 the gravel beach gradually gives way to broad marsh with heavy brush at the high water line, extending to the power plant at Burlington, where the ground is cinder-filled. East of the power plant is a marsh now being filled by dumping. Near the east extremity of the sheet is a section of wooden bulkhead opposite a foundry.

None of the shores are high except the lawns at Edgewater Park (Beverly), and a short stretch near Gun, where the land is about 20 ft above M H W.

The characteristic feature of the marsh areas is a 5-meter strip of sand and mud which bares outside the vegetation at low water stages.

Landmarks.

Following are brief descriptions of the main objects of value as landmarks:

The towers of the Burlington-Bristol toll bridge are visible for long distances in all directions.

The group of stacks at the Public Service power plant in Burlington is very noticeable. The westernmost (downstream) stack is reported for charting.

The Schutte and Koerting Co. stack and tank, in Andalusia, are prominent and easily identified.

The Rohm and Haas Co. tank, Bristol, is very prominent,

being tall and black.

The Bristol Municipal tank, a very high elevated squat aluminum colored tank, is unmistakable.

The fixed aids to navigation are easily recognized.

A complete report on landmarks, consisting of a list on form 567 and a set of chart sections, is separately rendered for the area covered by this sheet. Chart letter 909 (1935)

Character of control used.

Immediate triangulation control was used throughout, consisting of the following:

1. Adjusted intersection points of 1933 1st-order triangulation.
2. Main scheme and intersection points of 1935 2nd-order triangulation, unadjusted field computation on 1927 N.A. datum.

Closing errors of traverses and how adjusted.

The wealth of available triangulation points permitted resection and graphical control throughout, position accuracy being maintained at a high order without the need for traverses.

Auxiliary Surveying methods.

No departures from normal planetable methods were used.

A close development of the high water line was made because of the highly developed and valuable character of abutting property. The low water line was delineated where possible, but it is thought that in general a hydrographic development of this line is to be desired.

Examination and measurement of detail in the vicinity of control points was separately made by a field inspection party, whose notes are submitted as such. Additional graphic control points, beyond easy reach of planetable operations, were established by the inspection party. These, generally consisting of three-point sextant fixes, were carefully checked when made, and are accompanied by sketches. Filed in the Air Photo Unit under "Field Inspection Data"

Laying down range lines.

Points determined by field inspection to lie exactly on distant prolongations of the range lines, were located by usual field methods, the lines then being laid down on the sheet. In the case of Mud Island range, the line extends over parts of this and sheet B, in which case a temporary projection to cover the full extent of the range line was used, after which the portions of the line on each of the sheets was then transferred. The azimuths of the range lines were carefully scaled and read as facing the lights. The azimuths, furthermore, were closely checked by computations based upon the triangulation positions of the lights.

Form lines.

No form lines were applied.

Changes in objects previously shown.

No changes not conclusively indicated by the sheet and the air photos, or covered by the notes on landmarks, are involved.

Future changes.

Extensive changes in shore lines, areas of disposal banks, etc., are to be expected as a result of river improvement works in progress or projected by the U. S. E. D. Some are predictable on the basis of plans of the U. S. E. D.; others are unpredictable. The surveys of the U. S. E. D. will be the only guide.

Work incomplete or unreliable.

No calibration of the declinatoire used was made, owing to the confusion attendant upon sudden cessation of work.

In view of the intended use of this as a graphic control sheet, the exact locations of all rodded points havebeen preserved as dots surrounded by pencilled circles. Lines, except where precisely fixed, have been left dashed.

In a few places, where the fixed points were near but not on the lines they fixed, paced offset distances have been employed. No appreciable error results therefrom.

The low water line, where shown, when within 30 meters of shore, has been estimated according to the best information available. (see auxiliary surveying methods)

At a point on the New Jersey shore near long. 74-56 ~~the~~ the impassable nature of the undergrowth so obscured the location of the high water line that it could not readily be fixed. It is a marshy location, hence the shoreline here is shown as degenerating into marsh.

Deviations from standard practice.

No deviations, except as explained above, were made.

Discrepancies in joining previous work.

No discrepancies were noted.

List of new names.

No new names are involved.

List of planetable positions, and recoverable topographic stations.

No lists are submitted because:

Triangulation locations were made for all fixed aids to navigation, all monumented U.S.E.D. and other stations, and for all prominent objects not previously located by acceptable triangulation.

There is a wealth of triangulation points in such

profusion of numbers and distribution that the recording of additional points is quite unnecessary.

The few topographic points shown on the sheet are of doubtful permanence. They would be an aid to future hydrographic parties, which, however, could readily determine these and others at will without recourse to the theodolite or planetable. In any event there is substantially adequate hydrographic control available at all times in the existing triangulation.

Photographs obtained.

No photographs are available except the air photos.

Changes in coast line.

Changes have been minor except where disposal areas have been established. The sheet and the air photos are conclusive regarding such changes.

Character of marshed covered by high water.

See the general description of the shore. The marshes are all covered by high water, but a large part of the vegetation is visible at high water.

General statement.

This being a graphic control sheet, certain of the details ordinarily pertaining to topographic sheets have not been covered herein or on the sheet. Such omissions, however, are balanced by the work performed by the field inspection party, whose records are separately rendered. Filed in "Air photo Unit under "Field Inspection Data."

The area is a highly developed industrial and residential region. The work has accordingly been done with the idea of maintaining as high an order of accuracy as possible. The shoreline was covered with more than the usual attention to detail for such sheets. The low water line has been indicated where readily possible; however a hydrographic development of this line is really necessary.

Respectfully submitted,

E B Roberts

for W. K. Doolittle,
Surveyor.

Inspected and approved,

E B Roberts

E. B. Roberts,
Chief of Party.

	Remarks	Decisions
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M 234		

GEOGRAPHIC NAMES

Survey No. T6497

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Burlington										1
College Point										2
Andalusia										3
Delaware River										4
Beverly										5
Edgewater Park										6
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M 234

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
[redacted]

No. T-6497

Graphic Control

received Oct. 31, 1936
registered Nov. 12, 1936
verified
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
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RETURN TO

82	C. K. Green ✓

REVIEW OF TOPOGRAPHIC SURVEY No. 6497 Field letter "C"

Title (Par. 56) Burlington to Andalusia, Delaware River, Pennsylvania - New Jersey

Chief of Party E.B. Roberts Surveyed by W.K. Doolittle Inked by W.K. Doolittle

Ship Party No. 8 Instructions dated April 22, 1935 Surveyed in July-Aug. 1935.

1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 7, 8, 9, 13, 16.) ✓

2. The character and scope of the survey satisfy the instructions. ✓

3. The control and closures of traverses were adequate. (Par. 12, 29.) ✓

4. The amount of vertical control that the Manual specifies for -contours-formlines- was accomplished. (Par. 18, 19, 20, 21, 22, 23.) No vertical control was accomplished.

5. The delineation of -contours-formlines- is satisfactory. (Par. 49, 50.) No contours or formlines are shown.

6. There is sufficient control on maps from other sources that were transmitted by the field party to enable their application to the charts. (Par. 28.) air photos and field inspection notes, etc. are filed in the Air Photo Unit under "Field Inspection Data".

7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, 44.) ✓

8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.) The low water line is approximate only, see D.R. page 2.

9. Rocks and other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27.) ✓

10. The span, draw and clearance of bridges are not shown. (Par. 16c.)

11. ~~Locations and elevations of summits are given. (Par. 19, 51.)~~

12. ~~The tree line was shown on mountains. (Par. 16g.)~~

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.

R-317

a comparison with prior surveys shows a few changes in shoreline in the nature of improvements. More extensive changes in shoreline, areas of disposal banks, etc. are to be expected from work now in progress, see Desc. Rep. page 3, par. 3.

The information (shoreline, etc.,) on the present survey should supersede similar information on the prior surveys for charting purposes.

Prior surveys, portions of which fall within the limits of the present survey, are T-167 (1843-4) and T-3377 (1912).

Chart 296.

13. The descriptive report covers all details listed in the Manual, in so far as they apply to this survey. (Par. 64, 65, 66, 67.) ✓

14. The descriptive report also contains additional information required in aero-topography relative to type of photographs, method of compilation and type of ground control.

15. No descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 57, 67 except scaling of DMs and DPs, 68.) See D.R. page 3.

16. A list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.) Chart Letter 909 (1935)

17. The magnetic meridian was shown ~~and declination was checked~~. (Par. 17, 52.) but the declinatoire was not checked.

18. The geographic datum of the sheet is North American 1927 and the reference station is correctly noted. (Par. 34.) ✓

19. Junctions with contemporary surveys are adequate. ✓

20. Geographic names are shown on the sheet and are covered by the Descriptive report. (Par. 64, 66k.) ✓

21. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 50.) ✓

22. No additional surveying is recommended. ✓

23. The Chief of Party inspected and approved the sheet and the descriptive report. ~~after review by~~ ✓

24. Remarks: This survey was made as a graphic control survey but no air photo compilation is contemplated at the present time. The field inspection notes, etc., are filed in the Air Photo Unit under "Field Inspection Data".

Reviewed in office by R.J. Christman, Jan. 12, 1937

Examined and approved:

C. K. Green
Chief, Section of Field Records

Fred. L. Peacock
Chief, Section of Field Work

L.O. Colbert
Chief, Division of Charts

G Rude
Chief, Division of Hyd. and Top.

R-317