

4456

4456

Form 504
Rev. Dec. 1933
DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Topographic } Sheet No. 4456
~~Hydrographic~~

State VIRGINIA

LOCALITY

SOUTHERN CHESAPEAKE
BAY, LITTLE CREEK

1929

CHIEF OF PARTY

F. L. PEACOCK

~~Partially~~ applied to chart 3334

ORWittmann

10/20/49

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO NO. 11-DEM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

October 9, 1930.

SECTION OF FIELD RECORDS

Report on Topographic Sheet No. 4456

Surveyed in 1929

Instructions dated June 15, 1929

Chief of Party, F. L. Peacock

Surveyed and inked by E. C. Walker

This survey complies with both the general instructions and specific instructions.

The representation of cultivated areas is not customary, but no criticism of this detail is made in view of the fact that it was good practice for the student officers engaged upon the survey.

The representation of topographic details is very complete and the drafting is clearly and excellently done.

The descriptive report is most comprehensive. The descriptions of the marshes is interesting in view of the importance that this feature frequently assumes.

The junctions with the adjoining work are adequate and no further surveying is required.

Reviewed by E. P. Ellis, October, 1930.

Approved:

H. B. Green

Chief, Section of Field Records (Charts)

B. Borden

Chief, Section of Field Work (H. & T.)

L. O. Pollock
Chief, Division of Charts

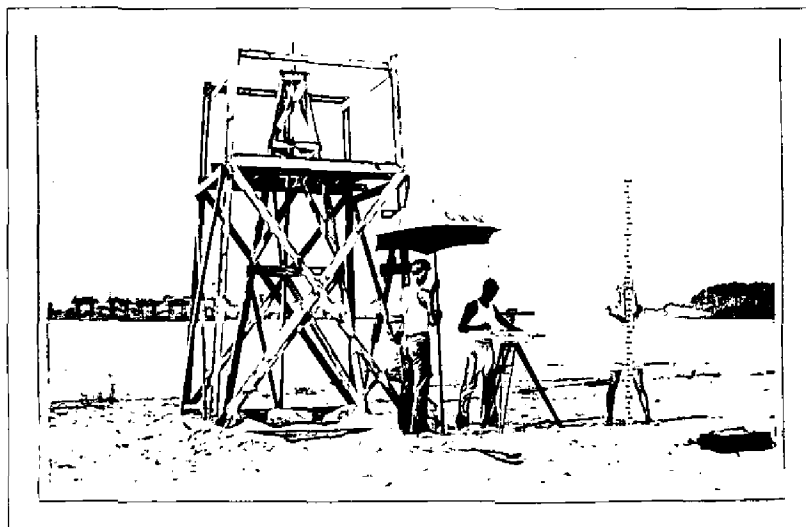
G. H. Hude
Chief, Div. of Hyd'y and Top'y

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

U. S. C. & G. S. LAUNCH MIKAWA
PROJECT NO. 39
1929

DESCRIPTIVE REPORT
TO
ACCOMPANY
TOPOGRAPHIC SHEET "LITTLE CREEK" 4456
VIRGINIA

FRED. L. PEACOCK, H. & G. E., C. & G. SURVEY
CHIEF OF PARTY



Topographic Party at Triangulation Station "Sand"

DESCRIPTIVE REPORT

TO ACCOMPANY

TOPOGRAPHIC SHEET "A" OF LITTLE CREEK VIRGINIA

4456

U. S. C. & G. S. LAUNCH "MIKAWA"

Fred. L. Peacock, H. & G. E., Chief of Party

July, August, September, 1929.

INSTRUCTIONS:-

The topography on this sheet is a part of Project No. 39, the instructions for which are dated June 15, 1929. (*Mikawa*)

EXTENT:-

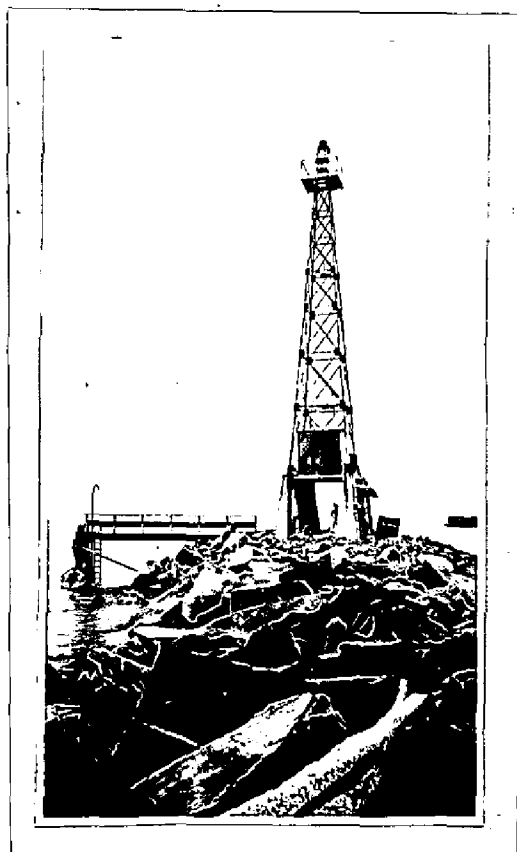
The topography shown on this sheet includes the area adjacent to Little Creek to the limits of its tide water tributaries; the shore line of Chesapeake Bay to a point 2.2 statute miles westerly and a point 1.7 statute miles easterly from the Little Creek dredged channel; portions of fresh water lakes immediately adjoining the tide water tributaries of Little Creek; that part of the new Ocean View-Cape Henry concrete highway which crosses this area; and the Pennsylvania R. R. terminal yards S. S. W'y to their junction with the Norfolk and Southern R. R.

SURVEY METHODS:-

A standard Coast and Geodetic Survey plane-table and Alidade No. 191 were used. The usual topographic methods were followed throughout the work. The very adequate control was used to best advantage. At no time was it necessary to employ any other than plane-table methods. Three point fixes and resections gave excellent checks on the work as it proceeded. The work was executed on a scale of 1 to 10,000 except the intricate detail of the Pennsylvania R. R. terminal yards which was executed on a scale of 1 to 5,000. A 21 ft. whale boat was used for transportation except to those points which were reached more easily by walking. The field party consisted of the topographer, two rodmen, and an umbrella man. During the first part of the work an extra man assisted as boatman.

PERSONNEL:-

The work was executed entirely by deck officers attached to the Training Section. Harry C. Walker as topographer was in charge under the direction of the Chief of Party. J. C. Ellerbe, Jr., J. C. Tribble, Jr., and O. B. Hartzog, Jr., acted alternately in the capacity of rodmen and umbrella man. During the first part of the survey, E. B. Brown, Jr., and J. C. Tison, Jr., assisted alternately as part of the whale-boat crew and alternate rodmen and umbrella man.



Little Creek Light

Each of the officers was thus enabled to observe and become familiar with the methods used and gain considerable knowledge of the requirements for a good rodman.

CONTROL:-

The topography in this area was controlled by a strong third order scheme of triangulation. The main scheme stations and intersection stations in the vicinity of Little Creek proper were so frequent that the control was unusually rigid. The further extensions of the tidal tributaries however required closed traverses of moderate length, never exceeding three miles. A few short spurs extending one or two set-up stations distant from rigid control were required to reach desired minor detail. Also the traverse S. S. W'ly through the railroad yards was without distance check at its further extremity. Invariably in the absence of rigid control for each set-up of the plane-table, especial care was exercised to check every azimuth and distance observed. The details of the closed traverses and spurs are given in succeeding paragraphs.

TRAVERSE DETAILS:-

Two traverses were run along the shore line of Chesapeake Bay, one of them beginning at a three point fix on the west side of Little Creek dredged channel and

closing on triangulation station "Garrett" without error. The other began at a three point fix on the east side of the channel and closed on triangulation station "East" without error.

In the vicinity of Little Creek proper the control was so adequate that the topographic detail was run in from control stations and strong three point fixes.

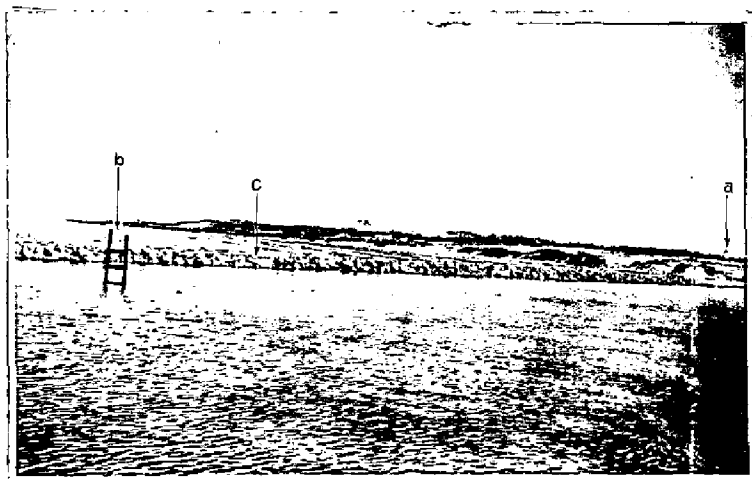
The traverse beginning at triangulation station "Knoll" was run to the head of Northeast Arm and continued on to triangulation station "East". The distance checked without error. There was an error of 8 meters in azimuth which was adjusted as specified in the topographic manual.

Three traverses were begun at triangulation station "Mud", numbers 1 and 2 closing on each other forming a loop around Southeast Arm. There was an error of 6 meters in distance and 1 meter in azimuth. Both errors were thrown on one long sight of traverse No. 2 which had been made under poor conditions of seeing. Numbers 2 and 3 closed on each other forming a loop around the area between Southeast Arm and the new Ocean-View-Cape Henry highway to the eastward of triangulation station "Mud". Traverse No. 3 closed without error on traverse No. 2 as adjusted above.

The Pennsylvania R. R. terminal yards traverse

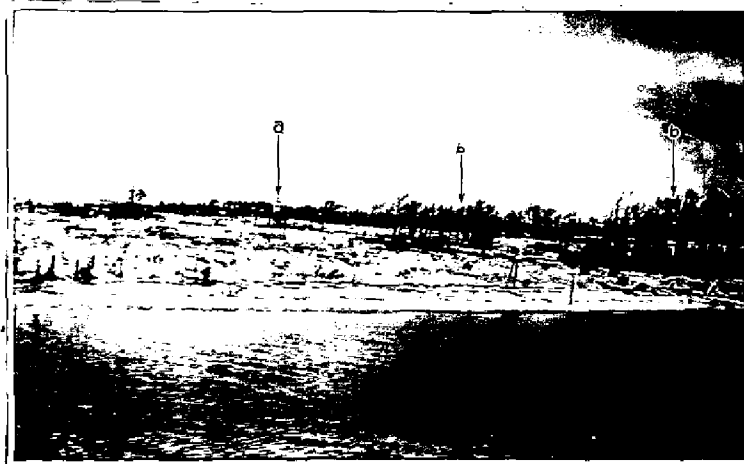
was started at a three point fix near triangulation station "Flood" and run S. S. W'ly through the yards to the $36^{\circ}-53'-30''$ parallel. The azimuth and distance as far as triangulation station "Black" checked without error. Beyond that point the azimuth was checked on triangulation station "Black" but the distances were checked only by forward and back rod readings. From the $36^{\circ}-53'-30''$ parallel, the distance to the junction of the Pennsylvania R. R. with the Norfolk and Southern R. R. was paced both ways. The pacing was checked and corrected by pacing known distances, all of it being done by the topographer.

The Ocean View-Cape Henry highway traverse branched off from the closed traverse between Little Creek dredged channel and triangulation station "Garret" at a point about midway between the two. It followed the highway in the direction of Cape Henry. Checks were made by three point fixes or resections at the points where the highway crossed Long Arm, passes between Southwest Arm and Lake Whitehurst, and crosses the viaduct over the Pennsylvania R. R. terminal yards. It closed without error on traverse No. 3 from triangulation station "Mud". The westerly part of Lake Smith was run in from a short spur which branched off from triangulation station "Mud", traverse No. 3.



Looking Eastward Along The Shore Of Chesapeake Bay
from Little Creek Channel

- a: Triangulation Station "Dune"
- b: Topographic Signal "Cow"
- c: Rock Jetty



Looking Over Waste Land Along The Outer Shore Line
Eastward from Little Creek Channel

- a: Triangulation Station "Dune"
- b: Dead Trees and Brush

Lake Whitehurst was run in from a spur beginning at triangulation station "Wood". The portion of the southerly shore of Lake Whitehurst, as shown, was determined by cuts on prominent points.

GENERAL DESCRIPTION:-

The area shown on this sheet is typical of the eastern coastal plain of the United States, there being along the outer coast line a belt of waste land covered with sand dunes, coarse grasses, bush, and scrub trees. Inshore from this belt the soil is fertile, supporting a heavy stand of pine, which gives way to cultivated land.

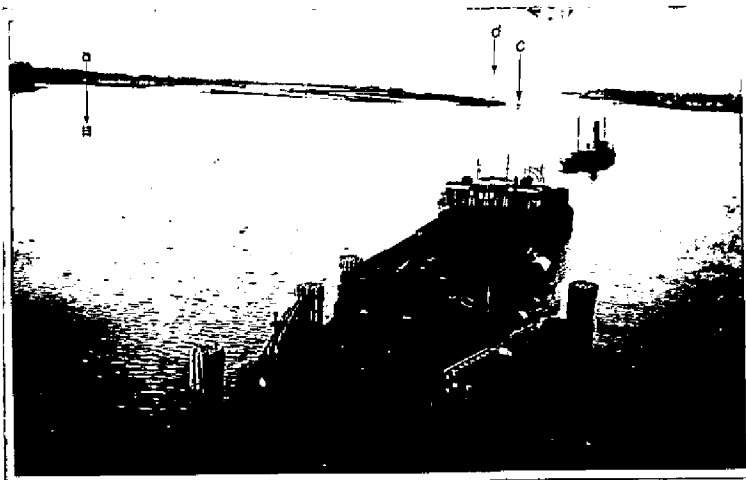
That part of the shore line of Chesapeake Bay shown on this sheet has a narrow sand beach with the first line of sand dunes rising to a height of about 15 feet above high water. About one-quarter of a mile inshore there are a few scattered sand dunes varying in height from 15 to 42 feet. They mark approximately the beginning of the heavily wooded areas. The area between is covered by low sand dunes which support a growth of coarse grass, bush, and scrub pine, quite sparse in places.

In Northeast Arm the swampy areas as shown are of two general characters. The points and some parts of the

shore line are covered by a growth of grass about two feet high. The ground at such places is fairly solid, though covered by about a foot of water at high tide. The larger swampy areas support a growth of coarse grass and reeds and are practically impassable. At high tide they are covered by water to a depth of from one to one and one-half feet.

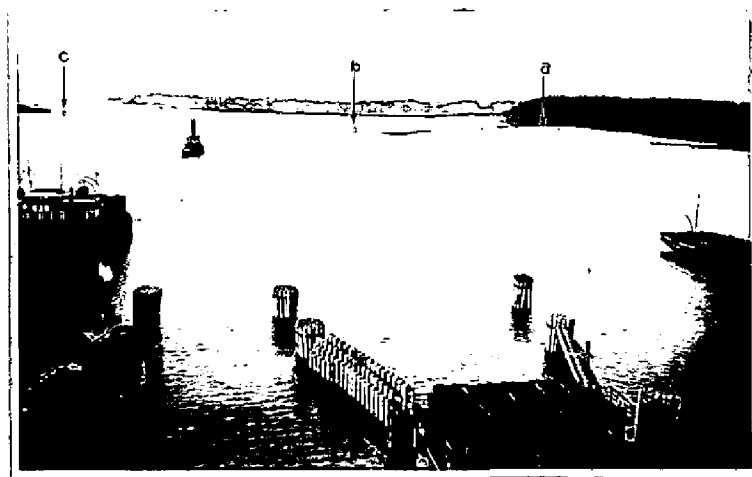
On the peninsula between Northeast Arm and Southeast Arm the stand of pine as shown is quite heavy. At places on the southerly side a dense growth of holly, brush, and briars form a barrier which is practically impassable. The sandy point of the peninsula as shown is a low mound of sandy dredge spoil.

In Southeast Arm the marshes are similar in character to those in Northeast Arm except that the larger ones are somewhat more impassable. The swampy area to the Northeastward of topographic signals "Toe" and "Mol" was sketched in after it had been carefully inspected. At high tide it is covered by about one and one-half feet of water. The short creek shown at the head of Southeast Arm was in all probability dug for the purpose of gaining access to the canal which has its beginning at that point. The canal has long been in disuse as has also the power line which follows along its N'ly side. The large mud flat shown, is built up of dredge spoil. Though in places along the high wooded ground it may



Looking Seaward From The Pennsylvania R. R.
Terminal Wharf

a: Day Beacon "Lynx" c: Lighted Beacon "Bear"
d: Little Creek Light



Looking Seaward From The Pennsylvania R. R. Terminal
Wharf Showing Car Ferry Slips In The Lower Foreground

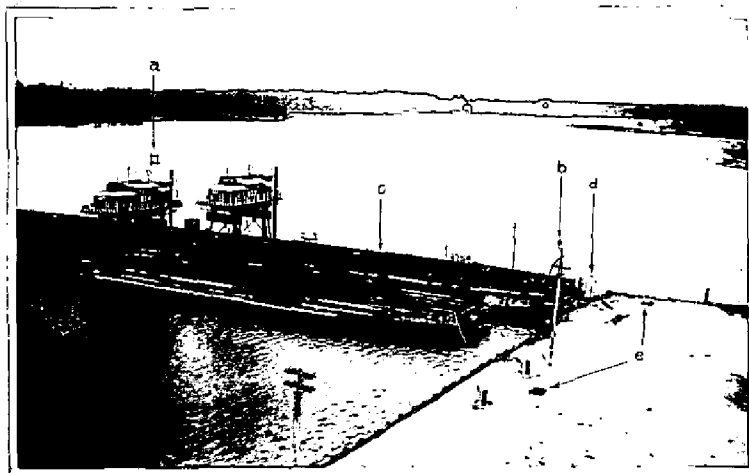
a: Triangulation Station "Sand"
b: Lighted Beacon "Lion" c: Lighted Beacon "Bear"

appear to afford a good footing, it was found, much to the discomfort of the rodmen, to be very treacherous. The wooded area to the eastward of the mud flat is covered by a heavy stand of large pine. The area to the westward of the mud flat, and northward of the cultivated part, has been covered by dredge spoil which has killed most of the heavy stand of pine except those trees in the immediate vicinity of the shore line.

The Pennsylvania R. R. terminal wharf is of standard bulkhead construction, sand filled. The accompanying pictures clearly show the detail of the ferry slips and the dolphins which are plotted on the sheet. Both the N. W'ly and N. E'ly corners of the wharf are protected by a dolphin, topographic signals "Red" and "Eva" being located on them. Day beacons "Mink" and "Lynx" are clearly shown on the accompanying picture. Fresh water for vessels is supplied at three points along the wharf front — one on either side of the ferry slips and the third on the E'ly side of the wharf near the N. E'ly corner. At night the wharf is lighted by a tall flood light and two smaller lights which are located near the N'ly front of the wharf, one at each end of the power line shown. The large light, the structure of which is described in the description of triangulation station "Flood", floods only to the southward. The two smaller ones, each



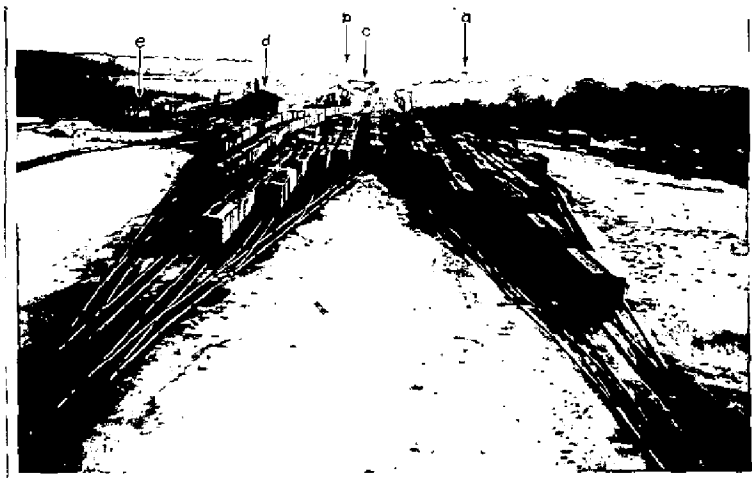
General Office Building



N. E. Corner of Wharf & Southeast Arm

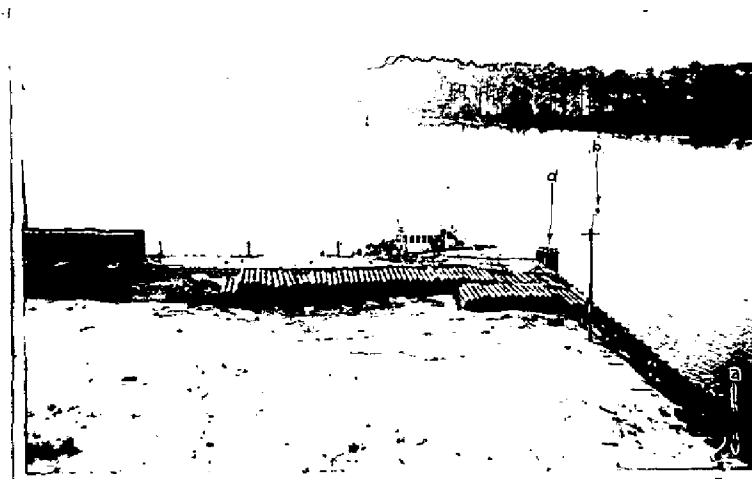
- | | |
|-----------------------|--------------|
| a: Day beacon "Mink" | c: Car ferry |
| b: Small flood light | d: Dolphin |
| e: Fresh water supply | |

supported by a single pole, light the ferry slips. The building close to triangulation station "Flood" is a freight dispatch office building of wood construction. The smaller building to the immediate southward is a tool house. The accompanying picture shows the general office building and the small building which houses a heating unit near the E'ly side of the wharf. The large structure shown with the two R. R. tracks running through it, is the terminal engine house, constructed entirely of steel. To the northeastward from it is located the Wm. H. Haines store building. The structure shown in dotted lines just to the eastward of the engine house is a cattle loading pen and shute to the immediate southward from which is located a long loading platform. To the E. S. E'rd from the loading platform is an old house now used as a garage. The center structure of three small ones to the immediate southward from the engine house is a small concrete building housing a stationary engine. The other two are coal hoppers for loading engine tenders. In the grove of tall pines located at the south end of the W'ly face of the wharf is a small cottage. On the east side of that pine grove a temporary structure is shown in dotted lines. The south end of the westerly face of the wharf is protected by a rock fill. The general freight office building is the large one shown



Looking S.S.W.'ly along the Pennsylvania R. R.
Terminal Yards

- a: Triangulation Station "Black"
- b: Flood Light "Light"
- c: Highway Viaduct
- d: Engine House
- e: Store



The Regular Berth of the "MIKAWA"
near the N.W.'ly Corner of the Wharf at Little Creek

- a: Fresh Water Supply
- b: Small Flood Light
- d: Dolphin

just to the northward of the viaduct. The two small buildings just to the southward of the viaduct are used as garages. The bridge over the canal which joins Lake Whitehurst and Lake Smith, is of reinforced concrete construction. A black dot abreast of triangulation station "Black" between the third and fourth pairs of rails from the westward, marks the position of a water spout for supplying water to locomotive tenders. The railroad yards from the canal bridge S. S. W'ly to the S'ly arm of Lake Whitehurst are built upon an earthen fill. Between the $36^{\circ}-53'-30''$ and $36^{\circ}-54'-00''$ parallels the yards run through a cut, the maximum of which is about eight feet. The gravel pit shown is operated by the Pennsylvania R. R. and varies in depth from 6 to 12 feet. A gravel washing outfit, not shown on the sheet, is located just to the northward from the end of the power line spur shown. The spur track along the S'ly side of the gravel pit is shifted as the excavation continues. Four small buildings used as garages, and a small water tank are located as shown to the eastward across the R. R. yards from the gravel pit. The long building to the northeastward from the tank is an old ramshackle barn. A tool shed is located in the R. R. yards to the northward from the tank. Flood light structures similar to triangulation station "Flood" are designated as topographic signals "Light", "Three", and "Four". Triangulation station "Black"

is a water tank 65 feet high, having a capacity of about 7,000 cubic feet. Approximately where the $36^{\circ}-53'-30''$ parallel crosses the Pennsylvania R. R., is located as shown a long platform from which refrigerator cars are supplied with ice. A small office building is shown just on the E'ly side of the platform. To the westward from the platform across the tracks is located a small tool house. A power line from the terminal wharf supplies power for machinery and lights on the ice platform. A telegraph line follows the railroad to its junction with the Norfolk and Southern R. R.

The position of the Norfolk and Southern R. R. as shown on the Coast and Geodetic Survey Chart No. 1222 does not quite agree with its position as shown on this sheet.

The shore line of Southwest Arm is a very narrow, sandy beach, except where marshes are shown. The mud flat in the N. W'ly corner is covered by about a foot of water at high tide. A narrow fringe of large pines follows the W'ly and N'ly shore line. The small sandy arm extending out from triangulation station "Pen" is covered with grass. The marsh shown on the W'ly side of the entrance to Long Arm is covered by one foot of water at high tide. It is surrounded by a fringe of brush and tall pines. All of the buildings shown in the area bounded on the west by the highway and lying between Southwest Arm and Long Arm, are dwellings.

The S'ly shore of Long Arm from its entrance, to the highway bridge, is a narrow sandy beach except where shown as grassy marsh. The mud flat between topographic stations "Boy" and "Hot" and the one bordering on the E'ly side of the highway are covered by about three-quarters of a foot of water at high tide. The mud flat and marsh shown between topographic stations "Kid" and "Sue" are covered by a little less than a foot of water at high tide. An old dilapidated house is shown just to the westward of topographic station "Don", and another just S. W'ly from station "Kid". Almost at the shore end of the fence which extends out into the water to the westward from station "Cue", a ditch begins and runs inland as shown. The pines shown along the shore to the westward from the ditch are very large. The group of buildings shown in that vicinity are farm buildings. Topographic station "Box" is the N. E'ly corner of a small boat house. The mud flat and the marsh to the southward from it are covered at high tide by water from one-half to one foot in depth. The marsh growth consists of tall reeds and marsh grass. The marsh to the southwestward from station "Pea" is grown over with grass and reeds, being submerged at high tide about one half foot. The mud flat to the westward from topographic station "Roy" is covered by about one foot of water at high tide as are the marshy areas shown on either side. The creek which

has its beginning at the head of Long Arm runs westward and southwestward as shown, gradually diminishing in size until it disappears in the marshy area to the southwestward of the log bridge which crosses the creek near the head of Long Arm. At times the current in this creek runs with the swiftness of a mill race, depending on the stage of the tide. The building shown to the southward from the log bridge is a small abandoned house. The building to the westward of that is a barn. The roads shown as dotted lines in that vicinity are poor wagon roads. The northerly shore line of Long Arm from the highway bridge to the log bridge is a continuous grassy marsh of varying width as shown and covered at high tide by water from one-quarter to one foot in depth. A few scrub oaks are scattered among the pine woods which are fairly open and of varying density, extending to the marsh line. Approaching the highway northward from Long Arm, the pine growth gradually gives way to scrub pine, scrub oak, brush, and coarse grass, which covers the low scattered sand dunes to the southward of the highway.

To the eastward of triangulation station "Garrett" the topography is complete, but to the westward only a few of the dwellings are shown at the beginning of the residential section, which extends from there, westward to Ocean View. Just to the east of the $76^{\circ}-12'$ meridian and on the N'y side of the highway is shown an oil station and small dwelling of

recent construction. The area between the highway and the Chesapeake Bay shore line to the eastward of "Garrett" is covered by low sand dunes grown over with brush, tall grass, and a few scrub pines.

That part of Lake Smith shown was found to compare closely with the Coast and Geodetic Survey Chart No. 1222. The shore line which is dotted in was sketched with the aid of several cuts on prominent points. That portion of the shore line in pencil was enlarged and transferred from C. & G. Survey Chart No. 1222. The elevation of Lake Smith on September 24th was 4.7 feet above mean high water. At an elevation of about 5 feet it overflows at the concrete spillway which is beneath the highway bridge. The highway fill, faced with stone on the southerly side to a point a little above the high water line of the lake, forms a ~~lake~~ dam across the northern end of the lake. The small building to the southwestward of the bridge and the ~~area~~^{one} to the northwestward are used as hunting lodges.

Lake Whitehurst, being connected to Lake Smith by a canal, has the same elevation and overflows at the concrete spillway provided beneath the highway bridge which is just to the southward from triangulation station "Wood". The highway fill forms a dam similar to the one on the north end of Smith Lake. The group of farm buildings on the N'y

side of Lake Whitehurst are supplied with electric power from the power line which is an extension from the Pennsylvania R. R. terminal wharf. That part of the shore line in the vicinity of the farm buildings is protected by a concrete retaining wall extending from the highway fill around the point to the back of the first deep cove to the westward. The portion of the south shore line shown by a dotted line was sketched in by the aid of cuts on prominent points. The shore line shown in pencil was enlarged and transferred from C. & G. Survey Chart No. 1222. The two most easterly arms of Lake Whitehurst have been changed somewhat by the railroad fill. The position of that part of the most southerly arm shown on the subplan was found to disagree somewhat with its position as found on chart No. 1222.

THE OCEAN VIEW-CAPE HENRY STATE HIGHWAY

is a new concrete road which was opened to traffic in ^{August} 1929. A new reinforced concrete bridge and sand and clay fill carry it across Long Arm. A new reinforced concrete bridge and earthen fill carry it across the space between Southwest Arm and Lake Whitehurst. It crosses the Pennsylvania R. R. terminal yards over a concrete and steel viaduct which is approached on either side by an earthen fill at a point one-half mile S. S. W'ly from the N'ly face of the terminal wharf. The roadbed of the viaduct is 40.0 feet above mean

high water. The road is carried between Southeast Arm and Lake Smith over a new reinforced concrete bridge and earthen fill. From there on to Ocean Park there are several earthen fills and concrete culverts. The approximate direction to the "Bayville Chimney" as shown on the sheet was observed from the northerly edge of the concrete highway at the easterly end of the most easterly curve.

The roads in the vicinity of the Pennsylvania R. R. terminal wharf, with the exception of the main concrete highway, are of dirt and cinder construction. The roads shown by dotted lines in the area between Southwest Arm and Long Arm are wagon roads. The road crossing the main highway just to the east of the $76^{\circ}-09'$ meridian is a good dirt road.

NOTE 1: In the preceding discussion of details the statement that a marsh is submerged or covered by a certain depth of water at high tide, is intended to convey the idea that the ground and not the grass is covered. In no place where grassy marsh is shown is the grass or reed growth covered by water.

NOTE 2: It may be well here to mention that the private property ^{owners} along Long Arm consider those waters as private.



Telemeter Rod

designed by

Deck Officer Harry C. Walker

CHANGES SINCE PREVIOUS SURVEY:-

Most of the changes in this area since the previous survey are in the form of man-made commercial developments. The Pennsylvania R. R. terminal yards and wharf, the new state highway, and their bearing on existing detail, have already been discussed. There has been no large change in the outer shore line except where the new dredged channel has been cut, at which place the shore line has been built out as shown on the eastward side of the east rock jetty and on the westward side of the west rock jetty. For a distance of about one-quarter of a mile east and west of the dredged channel entrance, the growth of trees and underbrush has been killed by the deposit of dredge spoil. The old mouth of Little Creek, which is about 0.4 of a mile to the westward from the new dredged channel, is completely filled in with sand, the outer shore line being unbroken at that point.

NEW TYPE OF MARKINGS FOR TELEMETER ROD:-

The telemeter rod pictured on the opposite page was designed by the topographer and one such rod was used by him during the entire survey. The principal feature of the rod is that every meter can be clearly and quickly read. The equal angles at which the marks are laid off, facilitate the setting of the cross hair exactly on a given mark and makes the reading of the rod a certainty.

The distinctiveness of the markings is such that the rod can be read with equal ease at both short and long distances.

MAGNETIC DECLINATION:-

The magnetic declination was determined at about 3:00 P. M. on August 15, 1929, by means of the declinoire and plane-table at triangulation station "Dune", Latitude $36^{\circ}-55'-32''.89$ (1013.9 m), Longitude $76^{\circ}-10'-23''.65$ (585.5 m). The plane-table was oriented along the line "Dune" to "Little Creek". The declination was found to be $5^{\circ}-47'$ W.

DISTORTION OF SHEET:-

The sheet which is dated May 25, 1925 was kept laid out upon a flat surface for about a month before the projection was plotted on it. Immediately after the projection was plotted the sheet expanded in the ratio of 1 meter to 835 meters in an east and west direction and 1 meter in 1000 meters in a north and south direction. The expansion was undoubtedly caused by the extremely damp weather experienced at that particular time. Six days later when the field work was begun, the sheet had returned nearly to normal, there being very little distortion of the sheet while the field work was in progress. Seven weeks after the completion of the field work and after the inking had been completed, the sheet was found to have contracted 1 meter in 1250 in an east and west

direction and 1 meter in 1870 in a north and south direction.

NEW NAMES:-

1. Well-Established Local Names:

Lake Whitehurst

The name "Little Creek" as formerly used, designated the main channel and all of its tide-water tributaries. To facilitate the description of the different sections and the various phases of the work, the following are the

2. Names Assigned by Field Officers:
(Names are penciled on the sheet)

Northeast Arm

Southeast Arm

Southwest Arm

Long Arm

*not approved
KTA*

STATISTICS:-

Area surveyed in square statute miles ----- 7.0

Length of detailed shore line in statute miles- 25.0

Length of shore line of creeks in statute miles- 1.0

Length of shore line of lakes in statute miles- 8.0

Length of roads in statute miles ----- 7.7

Length of railroad tracks in statute miles ---- 22.7

Washington, D. C.

November 14, 1929

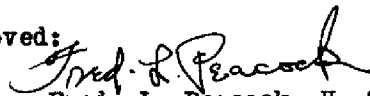
Respectfully submitted,



Harry C. Walker,

Deck Officer, C. & G. S.

Approved:



Fred. L. Peacock, H. & G. E.

Chief of Party, C. & G. S.

PLANE 3 TABLE POSITIONS

Object	Latitude	D. M.	Longitude	D. P.	Remarks
		meters		meters	
Wolf	36 - 55	1281	76 - 10	1087	Lighted Beacon
Lynx	36 - 54	1778	76 - 10	1246	Day Beacon
Mink	36 - 54	1595	76 - 10	874	" "
Range	36 - 54	1258	76 - 10	839	Lighted Beacon
Light	36 - 54	745	76 - 10	1345	Flood Light
Three	36 - 54	417	76 - 11	108	" "
Four	36 - 53	1493	76 - 11	632	" "
Cow	36 - 55	1510	76 - 10	860	Pile Structure
Rok	36 - 55	1508	76 - 10	1122	Temporary Hyd. Sig.
Lee	36 - 55	1621	76 - 10	837	" " "
<u>N.E. Arm</u>					
Ela	36 - 55	509	76 - 10	631	" " "
Ham	36 - 55	581	76 - 10	514	" " "
Pag	36 - 55	569	76 - 10	325	" " "
Wop	36 - 55	636	76 - 10	223	" " "
May	36 - 55	687	76 - 10	112	" " "
Hat	36 - 55	709	76 - 09	1412	" " "

Object	Latitude	D. M.	Longitude	D. P.	Remarks
<u>N.E. Arm</u>		meters		meters	
Hoe	36 - 55	697	76 - 09	1293	Temporary Hyd. Sig.
Dot	36 - 55	657	76 - 09	1106	" " "
Fan	36 - 55	664	76 - 09	1012	" " "
Tax	36 - 55	619	76 - 09	801	" " "
Wod	36 - 55	565	76 - 09	885	" " "
Mob	36 - 55	534	76 - 09	979	" " "
Hay	36 - 55	533	76 - 09	1125	" " "
Gar	36 - 55	520	76 - 09	1221	" " "
Ena	36 - 55	531	76 - 09	1360	" " "
Sal	36 - 55	468	76 - 09	1424	" " "
Paw	36 - 55	405	76 - 09	1472	" " "
Gee	36 - 55	289	76 - 09	1426	" " "
Egg	36 - 55	334	76 - 10	84	" " "
Dol	36 - 55	331	76 - 10	157	" " "
Owl	36 - 55	282	76 - 10	221	" " "
Her	36 - 55	365	76 - 10	208	" " "
Dab	36 - 55	445	76 - 10	232	" " "
Pop	36 - 55	387	76 - 10	403	" " "
Mat	36 - 55	366	76 - 10	565	" " "

Object	Latitude	D. M.	Longitude	D. P.	Remarks
<u>S.E. Arm</u>		meters		meters	
Law	36 - 54	1831	76 - 10	661	Temporary Hyd. Sig.
Tar	36 - 54	1830	76 - 10	540	" " "
Wag	36 - 54	1745	76 - 10	395	" " "
Pak	36 - 54	1740	76 - 10	285	" " "
Vex	36 - 55	90	76 - 10	223	" " "
Eat	36 - 54	1753	76 - 10	14	" " "
Soo	36 - 54	1730	76 - 09	1396	" " "
You	36 - 54	1829	76 - 09	1393	" " "
Lay	36 - 55	103	76 - 09	1348	" " "
Toe	36 - 55	224	76 - 09	1272	" " "
Mol	36 - 55	133	76 - 09	1233	" " "
Sad	36 - 55	44	76 - 09	1266	" " "
Cob	36 - 54	1780	76 - 09	1260	" " "
Fig	36 - 54	1534	76 - 09	1195	" " "
Bar	36 - 54	1408	76 - 09	1154	" " "
Hit	36 - 54	1430	76 - 09	1047	" " "
Cub	36 - 54	1296	76 - 09	1039	" " "
Oar	36 - 54	1284	76 - 09	939	" " "
Lax	36 - 54	1234	76 - 09	798	" " "

Object	Latitude	D. M.	Longitude	D.P.	Remarks
<u>S.E. Arm</u>		meters		meters	
Rip	36 - 54	1118	76 - 09	670	Temporary Hyd. Sig.
Wow	36 - 54	1044	76 - 09	572	" " "
Ort	36 - 54	978	76 - 09	559	" " "
Tag	36 - 54	1037	76 - 09	707	" " "
Hog	36 - 54	1123	76 - 09	869	" " "
Big	36 - 54	1184	76 - 09	959	" " "
Fog	36 - 54	1043	76 - 09	1096	" " "
Mut	36 - 54	1145	76 - 09	1131	" " "
Pit	36 - 54	1147	76 - 09	1229	" " "
Bat	36 - 54	1241	76 - 09	1305	" " "
Ear	36 - 54	1360	76 - 10	223	" " "
Ebb	36 - 54	1432	76 - 10	224	" " "
Hag	36 - 54	1460	76 - 10	252	" " "
Fit	36 - 54	1451	76 - 10	319	" " "
Day	36 - 54	1396	76 - 10	553	" " "
Nut	36 - 54	1381	76 - 10	750	" " "
Mad	36 - 54	1360	76 - 10	960	" " "
Tot	36 - 54	1341	76 - 10	1052	" " "

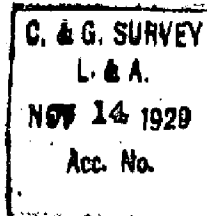
Object	Latitude	D. M.	Longitude	D. P.	Remarks
<u>WHARF</u>		meters		meters	
Gal	36 - 54	1375	76 - 10	1054	Temporary Hyd. Sig.
Eva	36 - 54	1457	76 - 10	1026	" " "
Put	36 - 54	1472	76 - 10	1099	" " "
Cat	36 - 54	1493	76 - 10	1166	" " "
Red	36 - 54	1522	76 - 10	1234	" " "
Pil	36 - 54	1433	76 - 10	1262	" " "
Not	36 - 54	1360	76 - 10	1285	" " "
Tel	36 - 54	1300	76 - 10	1305	" " "
Mis.	36 - 54	1211	76 - 10	1332	" " "
<u>S.W. Arm</u>					
Man	36 - 54	1188	76 - 10	1421	" " "
Sat	36 - 54	1202	76 - 11	52	" " "
Pot	36 - 54	1249	76 - 11	151	" " "
Pal	36 - 54	1303	76 - 11	203	" " "
Pin	36 - 54	1195	76 - 11	303	" " "
Can	36 - 54	1218	76 - 11	405	" " "
Led	36 - 54	1304	76 - 11	509	" " "
Sok	36 - 54	1378	76 - 11	577	" " "

Object	Latitude	D. M.	Longitude	D. P.	Remarks
<u>S.W.Arm</u>		meters		meters	
Far	36 - 54	1427	76 - 11	506	Temporary Hyd. Sig.
Cal	36 - 54	1555	76 - 11	486	" " "
Tac	36 - 54	1615	76 - 11	403	" " "
Wet	36 - 54	1717	76 - 11	425	" " "
Tol	36 - 54	1793	76 - 11	442	" " "
Cal	36 - 54	1725	76 - 11	297	" " "
Gil	36 - 54	1669	76 - 11	161	" " "
Fom	36 - 54	1639	76 - 11	87	" " "
Let	36 - 54	1601	76 - 11	13	" " "
Mac	36 - 54	1696	76 - 10	1470	" " "
<u>Long Arm</u>					
Boy	36 - 55	596	76 - 11	211	" " "
Hot	36 - 55	522	76 - 11	339	" " "
Bad	36 - 55	545	76 - 11	482	" " "
Out	36 - 55	710	76 - 11	671	" " "
Fuz	36 - 55	881	76 - 11	754	" " "
Gay	36 - 55	895	76 - 11	788	" " "
Don	36 - 55	791	76 - 11	881	" " "
Pad	36 - 55	769	76 - 11	1035	" " "

Object	Latitude	D. M.	Longitude	D. P.	Remarks
<u>Long Arm</u>		meters		meters	
Sue	36 - 55	741	76 - 11	1169	Temporary Hyd. Sig.
Kid	36 - 55	738	76 - 11	1319	" " "
Roy	36 - 55	883	76 - 11	1340	" " "
Tap	36 - 55	937	76 - 12	14	" " "
Cue	36 - 55	1074	76 - 12	104	" " "
Box	36 - 55	986	76 - 12	753	" " "
Pea	36 - 55	1229	76 - 12	990	" " "
Sip	36 - 55	1381	76 - 12	1071	" " "
Jag	36 - 55	1363	76 - 12	1111	" " "
Joy	36 - 55	1400	76 - 12	1181	" " "
Gin	36 - 55	1455	76 - 12	1232	" " "
Rex	36 - 55	1491	76 - 12	1246	" " "
Bog	36 - 55	1534	76 - 12	1252	" " "
Pat	36 - 55	1679	76 - 12	1339	" " "
Reo	36 - 55	1459	76 - 12	1101	" " "
Lad	36 - 55	1413	76 - 12	921	" " "
Rag	36 - 55	1503	76 - 12	741	" " "
Sew	36 - 55	1445	76 - 12	725	" " "
Leo	36 - 55	1371	76 - 12	520	" " "
Pig	36 - 55	1270	76 - 12	426	" " "

Object	Latitude	D. M.	Longitude	D. P.	Remarks
<u>Long Arm</u>		meters		meters	
Tom	36 - 55	1177	76 - 12	298	Temporary Hyd. Sig.
Sap	36 - 55	1165	76 - 12	237	" " "
Set	36 - 55	1154	76 - 12	76	" " "
Pan	36 - 55	1100	76 - 12	16	" " "
Kit	36 - 55	1096	76 - 11	1399	" " "
Rut	36 - 55	1098	76 - 11	1292	" " "
Tan	36 - 55	1003	76 - 11	1164	" " "
Log	36 - 55	990	76 - 11	1027	" " "
Gaf	36 - 55	1044	76 - 11	908	" " "
Car	36 - 55	992	76 - 11	749	" " "
Cup	36 - 55	985	76 - 11	583	" " "
Kao	36 - 55	840	76 - 11	446	" " "
Web	36 - 55	868	76 - 11	315	" " "
She	36 - 55	768	76 - 11	218	" " "
Buz	36 - 55	831	76 - 11	74	" " "

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY



TOPOGRAPHIC TITLE SHEET

The finished Topographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

4456

U. S. Coast and Geodetic Survey.

Register No. ⁴⁴⁵⁶4456

State . . . Virginia

General locality . . . ^{Southern}~~Lower~~ Chesapeake Bay

Locality . . . Little Creek

Chief of party . . . Fred. L. Peacock, H. & G. E.

Surveyed by . . . Harry C. Walker, Deck Officer

Date of survey . . . Aug. 15 to Sept. 20, 1929

Scale . . . 1 : 10,000 . . . Subplan 1 : 5,000

Heights in feet above . . . High water line

Contour interval . . . 20 . feet.

Inked by Harry C. Walker Lettered by Harry C. Walker

Records accompanying sheet (check those forwarded): Photographs,

Descriptive report, Horizontal angle books, Field computations,

Data from other sources affecting sheet

Remarks: