DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. Patton, Director

State: North Carolina

LOCALITY
Cape Fear River
Carolina Beach to Corncake Inlet

1934

CHIEF OF PARTY
O. S. Reading.
Appointed 6 Oct 1236 - Oct 1937 - P. B. D.
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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. .......................................................... 5041
REGISTER NO. ................................................. 5041

State: North Carolina

Locality: Carolina Beach to Corneake Inlet

Scale: 1/20,000

Photographs: January 31, 1933,
Compilations: April 19, 1934

Lieutenant Goodrich, Pilot
Vessel: Army Air Corps F.1A airplane
Sgt. Matos, Photographer

Chief of Compilation: C. S. Reading

Surveyed by: L. A. McGann

Inked by: L. A. McGann

Heights in feet above ground to tops of trees

Contour, Approximate contour, Form line interval

Instructions dated: ........................................... 19...

Remarks: Compilation of aerial photographs Nos. 408 to 425...

...incl. and 374 to 395 incl. printed by photo lithographic process.

Polyconic projection by E. R. Hand
L. A. McGann January 11, 1934.

Projection verified by L. A. McGann

Control plotted by L. A. McGann

Control verified by E. R. Hand

February 24, 1934.
Descriptive Report
to accompany
Air Photo Topographic Sheet No. 5041.

General Information.

(a) This sheet is a compilation of Army Air Corps five lens photographs taken with a type T-3A camera from an altitude of approximately 10,000 feet, a Fairchild F-1A plane was used piloted by Lieutenant Goodrich with Sergeant Matos as photographer.

(b) Statistics:
27 Sq. statute miles of area.
9.1 miles of coastline.
38.9 miles of inside shoreline.
10 miles of streams less than 200 meters wide.

(c) No general description of this sheet is available. All portions of this sheet are flat and low in relief. The coastal strip is covered with myrtle bushes and grass while the mainland strip for the most part is covered with low coniferous trees. The southern area near Corneake Inlet is uncertain, composed of shifting sand dunes and marsh islands.

(d) The photographs Nos. 408 to 425 inclusive, and Nos. 374 to 395, inclusive, which embrace this sheet, are parts of two separate strips. The former were taken about 12:00 M. January 31, 1933, when the stage of tide was approximately 2.7 feet above M.L.W. The latter photographs were taken about 11:30 A. M. January 31, 1933, when the stage of tide was approximately 2.2 feet above M.L.W. Mean range of tide in each case is 4.2 feet and 3.9 feet, respectively.

Control.

(a) The control consists of third order triangulation by W. C. Hodgkins in 1917, by C. L. Garner in 1918, by L. P. Raynor in 1922 and 1923, and by J. A. Bond in 1933, all adjusted to the N. A. 1927 Datum; aluminum control sheet No. 4785 was also used.

(b) Not all stations, however, could be identified on the photographs and used for control, such as stations: Grave, 1917; Peters Point, 1917; Isle, 1918; Wreck, 1918; Bend, 1918; and Beacon 67, 1933.

(c) Stations Corn, 1923, Cake, 1887, and Post, 1887, have been lost and their approximate positions only have been given on the photographs. These were used.

Compilation.

(a) The radial line method of compilation was used. Marked adjustment of plot was required throughout for the projection was made by others on 1/10,000 scale exactly, while the average scale of the photographs is considerably smaller than this scale. Adjustment was
made by grouping closely together the secondary control points of
the plot and by confining adjustments wherever possible to the
center "B" print.

(b) On the inland branches of Walden Creek and the Orton Pond, it
was difficult to secure well defined points: the identical point on
three successive photographs. Consequently, the error of position
in these areas may be somewhat greater than in important areas along
the line of flight where good points and good intersections had been
obtained.

(c) Field inspection notes covered the "B" prints only and for this
area they are complete. No interpretation of the upper spoilbank
island in the river was given and the delineation as shown was in-
terpreted by the compiler.

(d) The photographs were not clear and in places such as along the
branches of Walden Creek, along the Orton Pond and the marsh islands
north of Corncake Inlet, the marsh line was hard to determine. For
this reason, no attempt was made to show the marsh lines around the
Orton Pond, except at its head.

(e) All names were taken from Chart No. 1235, the aluminum control
sheet No. 4785, and the field photographs.

(4) The double full line is used to indicate improved roads; the
double broken line, secondary roads, and a single heavy dark line to
show narrow unimproved roads or trails.

Comparison with other Surveys.

(a) There is a satisfactory junction with sheet No. 5042 (aerial)
on the north. Sheet No. 5081 will adjoin on the south. The most
recent survey which covers the coastal area from Corncake Inlet
to Kure Beach was made in 1923, and discrepancies with this sheet
(No. 4042), are due to change of coastline.

Recommendations for further Surveys.

(b) There is attached herewith a list of recoverable topographic
stations.

Respectfully submitted:

Approved:  

Leonard A. McGann

[Signature]
This sheet was compiled from photographs taken January 31, 1933. Since that time a large factory has been built within the area covered by this sheet, and appears on photo Nos. M-24, M-25, and M-26—8/4/D of a flight of single lens photographs, M-1—8/4/D to M-29—8/4/D, taken January 15, 1934. This factory is the Ethyl Dow Chemical Company, a description of which is given in an attached letter from the Wilmington Chamber of Commerce, and is located about 5 miles North by East of Cornicke Inlet, South of Wilmington, N. C.

METHOD OF COMPILATION

Since the radial plotted points on the celluloid were erased, and the 5-lens photographs were not available to make another plot, it was necessary to use compiled points as control in compiling the factory area. The following points were used: The dock S.E. of the factory, the house East of the factory just west of the paved beach road, the road intersection between the above named point and the factory, the point of high water line just west of the factory, the road intersection south of the factory, and the road intersection southeast of the factory.

Since the compilation of the factory was made, the positions of the factory stack and water tank have been computed by triangulation by Lt. B. H. Rigg's Party—1934. These positions have been submitted as landmarks for charts. The compilation was checked, using the above mentioned positions, which could be spotted on the photographs, as control. The positions agreed with the compiled positions of the stack and tank.

The compilation agrees with a blue print of the factory which has been received since the compilation was made. The blue print is being submitted with the compilation. A ship channel has been dredged from the factory dock to the channel of the Cape Fear River. This channel is 8 feet deep, 100 feet wide, and 7200 feet long, and is now marked with stakes. It is to be marked with day markers. The position of this channel is not known in this office, and is roughly sketched on chart No. 425 a copy of which is being submitted with the air photo sheet.

INTERPRETATION

The dashed line north of the dock and projecting outside the beach high water line was not noticed on the photographs by the field inspection party. It is felt that this is an outlet for waste and is a continuation of a known pipeline from the discharge ditch across the road just west of it. (See enclosed Blue Print)

The double line south of the above mentioned dashed line represents two lines of bulkheads, made of steel sheet piling, which are on either side of the intake for sea water. A drag line operating on a track on the
southerly bulkhead, keeps the intake free of sand.

The overlay sheet, the blue print, and chart No. 425, gives all other data necessary for a more complete description of this factory area.

Assisted by:
E. H. Kirsch
Chief of Party.

Submitted by:
H. W. Langley
H. W. Langley.

The blue print and copies of chart 425 mentioned above have been sent to the cartographic section. 1-30-35.
DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY  

LANDMARKS FOR CHARTS  

Charleston, S. C.  
February 1, 1935  

E. H. Bisch  
Chief of Party  

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted:

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>POSITION</th>
<th>METHOD OF DETERMINATION</th>
<th>CHARTS AFFECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tank (Elevated) (150' High)</td>
<td>34° 00' (112'9) 55' (111'9)</td>
<td>NA 1927</td>
<td>125, 124, 1235, 1236.</td>
</tr>
<tr>
<td>Stack (125' High)</td>
<td>34° 00' (110'1) 54' (82'1)</td>
<td>NA 1927</td>
<td>125, 124, 1235, 1236.</td>
</tr>
</tbody>
</table>

Values corrected from adjusted triangulation on 7/19/36. N.C. triangulation.

THE POSITIONS OF THE ABOVE LANDMARKS, WHICH HAVE BEEN PLOTTED ON AIR PHOTO.

A list of objects carefully selected because of their value as landmarks as determined from seaward, together with individual descriptions, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report.  

The selection, determination, and description of these points are an important factor in the value of the chart.  Landmarks selected at appropriate intervals can be clearly charted.  However, when none is outstanding, a group of two or three objects may by their interrelationship provide positive identification.  A group so selected should be indicated.  

The description of each object should be short, but such as will clearly identify it; for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc.  Assign numerals to landmarks to indicate: (1) Offshore, (2) Inshore, (3) harbor.  1, 2, 3 would be a mark useful on all charts.  Generally, flagstaffs and like objects are not sufficiently permanent to chart.
LANDMARKS FOR CHARTS

Washington, D. C.

April 7, 1934

Chief of Party.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>POSITION</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>DATUM</th>
<th>METHOD OF DETERMINATION</th>
<th>CHARTS AFFECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tank Carolina Beach 75 ft.</td>
<td>Height</td>
<td>34 01</td>
<td>1598</td>
<td>77 54</td>
<td>65</td>
<td>N.A.1927 Photo</td>
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<tr>
<td>Tank Wilmington 60 ft.</td>
<td></td>
<td>34 01</td>
<td>259</td>
<td>77 54</td>
<td>223</td>
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<tr>
<td>Flagstaff</td>
<td></td>
<td>33 59</td>
<td>248</td>
<td>77 61</td>
<td>180</td>
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<tr>
<td>Tank Kure Beach 40 ft.</td>
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<td>33</td>
<td>59</td>
<td>1747</td>
<td>77 54</td>
<td>659</td>
</tr>
<tr>
<td>Tank Carolina Beach 40 ft.</td>
<td></td>
<td>34 01</td>
<td>1764</td>
<td>77 53</td>
<td>1010</td>
<td></td>
</tr>
</tbody>
</table>

A list of objects carefully selected because of their value as landmarks as determined from seaward together with individual descriptions, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report.

The selection, determination, and description of these points are an important factor in the value of the chart. Landmarks selected at appropriate intervals can be clearly charted. However, when none is outstanding, a group of two or three objects may by their interrelationship provide positive identification. A group so selected should be indicated.

The description of each object should be short, but such as will clearly identify it: for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc. Assign numerals to landmarks to indicate: (1) offshore, (2) inland, (3) harbor, 1, 2, 3 would be a mark useful on all charts. Generally, flagstaffs and like objects are not sufficiently permanent to chart.
1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 8; and 16, a, b, c, d, e, g and i.)

2. The character and scope of the compilation satisfy the instructions and the "Notes on the Compilation of Planimetric Line Maps from Five Lens Aerial Photographs".

3. The control and adjustment of the radial plot were adequate. (Par. 12, 29.) (See Descriptive Report)

4. There is sufficient control on maps from other sources that were transmitted by the field party for their application to the charts. (Par. 28.)

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

6. 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.)

7. Important details shown on previous surveys and on the chart have been compared with this sheet and a statement has been entered in the report regarding the removal from the chart or change in position of important detail such as rocks, lights, beacons, prominent objects, bridges, docks, and structures along the water front. (See page 3)

8. The span, draw and clearance of bridges are shown. (Par. 16c.)

9. The data furnished by the Field Inspection is adequate. Inspection

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.
Inauguration Station Brier Creek Buoy Light, 1886 is a discontinued light tower. It was removed in 1933 as described. The disconnection data that the station is in the form of a low massing bush tower. As the compilation the explanatory note "light discontinued" has been added to the name.
10. The descriptive report covers all details listed in the Manual, so far as they apply to this survey. (Par. 64, 65 and 66.)

11. The descriptive report also contains all additional information required in photo topography as prescribed in the instructions and in the "Notes on the Compilation of Planimetric Line Maps from Five Lens Aerial Photographs".

12. The descriptions of recoverable stations and references to shore line were accomplished on Form 524, and scaling of positions checked. (Par. 29, 30 and 57.) Copy is included in this report. (see page 3)

13. A list of landmarks for charts was furnished on Form 567 and scaling of positions checked. (Par. 16d, e, 60.) A copy is included in this report. (see page 3)

14. The geographic datum of the sheet is N.A. 1927 and the reference station is correctly noted. (Par. 64.)

15. Junctions with contemporary surveys are adequate.

16. Geographic names are shown on the sheet and are covered by the Descriptive Report. (Par. 64, 66k.)

17. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46.)

18. No additional surveying is recommended.

19. Remarks: This sheet was completed in the Washington Office.

20. Examinined and approved:  
   [Signature]
   Chief of Party

21. Remarks after review in office:

   Reviewed in office by:  [Signature]  Feb 28, 1935
   Chief, Section of Field Records

   Chief, Division of Charts

   Chief, Section of Field Work

   Chief, Division of Hydrography and Topography.
Additional Review Notes T-5041

7. (Cont.) Chart 1235 and T-1484a (1878) show a bluff on each side of the Cape Fear River. This bluff is not shown on T-5041. However, a dashed line indicating the edge of the high ground is shown and this line agrees fairly well with this bluff line.

In comparing this sheet with Charts 424 and 425, differences in the islands in the Cape Fear River were noted.

1. The group of islands at 33° 58', 77° 58' have changed in details.

2. At 34° 01′ 52″, 77° 56′ four small islands are shown on the chart while the compilation shows only one. At 34° 02″ 51′, 77° 56′ only shoal area is shown on the chart while the compilation shows an island. Field Inspection was not available for these islands and the delineation is the compiler's interpretation. All examinations of the photographs indicate the compilation to be correct.

The wreck shown on the chart at 34° 02″ 51′, 77° 56′ is not shown on the compilation as it was not noted by the field inspection and it could not be identified from the photographs.

13. (Cont.) The charted landmarks not appearing on this sheet were not noted by the Field Inspection and were impossible to identify using the stereoscope due to the poor photographs.

It was noticed that all of the landmarks appearing on Chart 1235 are not shown on Chart 425.

(Page 1 of Report, Control, paragraph C) Triangulation Stations CORN, CAKE, and POST were reported lost in 1933. As these stations were spotted on the field photographs it has been assumed that the Field Inspection Party found the station marks or was able to determine the ground location of these marks within one or two meters.

After this sheet was photographed and a proof submitted October 1934, the celluloid was sent to the Charleston, South Carolina Compilation Party for corrections. The report of its work is attached. The corrections were made on the celluloid and transferred to the negatives and plate by the Printing Section.

In photographing the sheet to the northeast (T-5042) it was found to be too long, hence the detail between 77° 54′ and 77° 55′ north of the canal to 34° 04′ and between 77° 53′ and 77° 54′ from 34° 02″ to 34° 04′ was transferred to the negatives and plate of this sheet (T-5041) from the celluloid of T-5042 by the Printing Section.

February 25, 1935.

[Signature]
<table>
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<tr>
<th>Status</th>
<th>Name on Survey</th>
<th>Name on Chart</th>
<th>New Names in local use</th>
<th>Names assigned by Field</th>
<th>Location</th>
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<tr>
<td></td>
<td>Orton Pond</td>
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<td>Orton Creek</td>
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<td>Andersons Landing</td>
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<td>Carolina Beach</td>
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<td></td>
<td>Wilmington Beach</td>
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<td>Peters Point</td>
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<td>Sunny Point</td>
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<td>Walden Creek</td>
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<td>Federal Point</td>
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<td>Price Creek</td>
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<tr>
<td></td>
<td>Corncakes Inlet</td>
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</tbody>
</table>

Approved by the Division of Geographic Names, Department of Interior. *

Referred to the Division of Geographic Names, Department of Interior. R

Under investigation. Q

Survey No. T 5041
Chart No. 1255 424
Diagram No.
T 5041 Supplemental

Graphic Control Survey T 65 26 a and b (4/17/37)

These graphic control surveys have been compared with
compass T 5041 and all detail within the area
added to a supplemental copy of T 5041 except
for the location of Benmore

R. C. Sands
5/18/37