

TP-00053

TP-00053

NOAA FORM 76-35 (3-76)	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
<h2 style="text-align: center;">DESCRIPTIVE REPORT</h2>	
THIS MAP EDITION WILL NOT BE FIELD EDITED	
<i>Map No.</i> TP-00053	<i>Edition No.</i> 1
<i>Job No.</i> PH-6905	
<i>Map Classification</i> Class III (FINAL)	
<i>Type of Survey</i> SHORELINE	
<h3 style="text-align: center;">LOCALITY</h3>	
<i>State</i> DELAWARE	
<i>General Locality</i> DELAWARE BAY	
<i>Locality</i> ST. JONES RIVER	
<div style="border: 1px solid black; padding: 5px; text-align: center;"> 1969 TO 19 </div>	
<h3 style="text-align: center;">REGISTRY IN ARCHIVES</h3>	
<i>DATE</i>	

MAP NOT INSPECTED BY
QUALITY CONTROL OF PHOTOGRAMMETRY DIVISION
PRIOR TO REGISTRATION

1 of 5

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.		TYPE OF SURVEY <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED		SURVEY TP-00053 MAP EDITION NO. (1) MAP CLASS III (FINAL) JOB PH-6905	
DESCRIPTIVE REPORT - DATA RECORD				LAST PRECEDING MAP EDITION			
				TYPE OF SURVEY <input type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED		JOB PH- MAP CLASS SURVEY DATES: 19 TO 19	
PHOTOGRAMMETRIC OFFICE Coastal Mapping Division, Norfolk, VA				OFFICER-IN-CHARGE Roy K. Matsushige, CDR			
I. INSTRUCTIONS DATED							
1. OFFICE				2. FIELD			
Aerotriangulation December 10, 1969 Compilation May 12, 1970 Amendment I April 1, 1971 Memo (Cancel field edit) December 14, 1979 Memo (Completion Schedule) June 22, 1981				Field September 26, 1969 Amendment I October 7, 1969			
II. DATUMS							
1. HORIZONTAL: <input checked="" type="checkbox"/> 1927 NORTH-AMERICAN				OTHER (Specify)			
2. VERTICAL: <input checked="" type="checkbox"/> MEAN HIGH-WATER <input checked="" type="checkbox"/> MEAN LOW-WATER <input type="checkbox"/> MEAN LOWER LOW-WATER <input type="checkbox"/> MEAN SEA LEVEL				OTHER (Specify)			
3. MAP PROJECTION Polyconic				4. GRID(S) STATE Delaware ZONE			
5. SCALE 1:10,000				STATE ZONE			
III. HISTORY OF OFFICE OPERATIONS							
OPERATIONS				NAME		DATE	
1. AEROTRIANGULATION BY METHOD: Analytic LANDMARKS AND AIDS BY				D. Norman		April 1972	
2. CONTROL AND BRIDGE POINTS PLOTTED BY METHOD: Coradomat CHECKED BY				J. Dempsey		March 1971	
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY COMPILATION CHECKED BY				E. Homick		March 1971	
INSTRUMENT: Wild B-8				E. Bichner		Sept. 1971	
SCALE: 1:10,000				R. White & A. Shands		Sept. 1971	
4. MANUSCRIPT DELINEATION PLANIMETRY BY CHECKED BY				NA			
METHOD: Smooth Drafted				NA			
SCALE: 1:10,000				NA			
HYDRO SUPPORT DATA BY				E. Bichner		March 1972	
CHECKED BY				B. Wilson		April 1972	
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY				B. Wilson		April 1972	
6. APPLICATION OF FIELD EDIT DATA BY				None			
CHECKED BY				None			
7. COMPILATION SECTION REVIEW Class III BY				B. Wilson		April 1972	
8. FINAL REVIEW Class III BY				L. O. Neterer, Jr.		Sept. 1981	
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY				L. O. Neterer, Jr.		Sept. 1981	
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY				H. D. Wilson		May 10 1983	
11. MAP REGISTERED - COASTAL SURVEY SECTION BY							

NOAA FORM 76-36B
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEYTP-00053
COMPILATION SOURCES

1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-9 "M"
Wild RC-8 "E" & "K" and "M"TYPES OF PHOTOGRAPHY
LEGEND

TIME REFERENCE

TIDE STAGE REFERENCE

☒ PREDICTED TIDES☐ REFERENCE STATION RECORDS☐ TIDE CONTROLLED PHOTOGRAPHY☒ (C) COLOR☐ (P) PANCHROMATIC☐ (I) INFRARED

ZONE

Eastern

☒ STANDARD

MERIDIAN

75th

☐ DAYLIGHT

NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE
*x 69 E (C)-3072 thru 3074	Oct. 24, 69	11:29	1:40,000	+3.2 above MLW
69 E (C)-2981 thru 2986	Oct. 23, 69	14:59	1:20,000	+0.1 above MLW
+ 69 K (I)-4553 thru 4560	Oct. 23, 69	14:59	1:20,000	+0.1 above MLW
Camera focal length: E = 152.71, K = 151.77				

REMARKS + All tides were computed from predicted tides, at Murderkill River Entrance.

*Centers not shown on manuscript.

x Bridging photography used in the Wild B-8 stereoplotter.

2. SOURCE OF MEAN HIGH-WATER LINE:

The mean high-water line was compiled using the above listed color photographs.

3. SOURCE OF MEAN LOW-WATER OR MEAN LOWER LOW-WATER LINE:

The mean low-water line was compiled using the above listed infrared photographs. This low water line is based on the Murderkill River Entrance subordinate tide station since no tide stations were established in the St. Jones River.

4. CONTEMPORARY HYDROGRAPHIC SURVEYS (List only those surveys that are sources for photogrammetric survey information.)

SURVEY NUMBER	DATE(S)	SURVEY COPY USED	SURVEY NUMBER	DATE(S)	SURVEY COPY USED

5. FINAL JUNCTIONS

NORTH	EAST	SOUTH	WEST
TP-00116	TP-00054	TP-00055	No Survey

REMARKS

TP-00053
HISTORY OF FIELD OPERATIONS.I. ☒ FIELD INSPECTION OPERATION (Premarking) ☐ FIELD EDIT OPERATION.

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	J. K. Wilson	1969
2. HORIZONTAL CONTROL	RECOVERED BY None	
	ESTABLISHED BY None	
	PRE-MARKED OR IDENTIFIED BY None	
3. VERTICAL CONTROL	RECOVERED BY NA	
	ESTABLISHED BY NA	
	PRE-MARKED OR IDENTIFIED BY NA	
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY None	
	LOCATED (Field Methods) BY None	
	IDENTIFIED BY None	
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION	
	<input type="checkbox"/> COMPLETE BY	
	<input type="checkbox"/> SPECIFIC NAMES ONLY	
	<input checked="" type="checkbox"/> NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY None	
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY None	

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

None

2. VERTICAL CONTROL IDENTIFIED

NA

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS (Clarification of details)

None

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

None

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

5. GEOGRAPHIC NAMES: ☐ REPORT ☒ NONE6. BOUNDARY AND LIMITS: ☐ REPORT ☒ NONE

7. SUPPLEMENTAL MAPS AND PLANS

None

8. OTHER FIELD RECORDS (Sketch books, etc. DO NOT list data submitted to the Geodesy Division)

None

NOAA FORM 76-36D
(3-72)U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATIONTP-00053
RECORD OF SURVEY USE

I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Compilation Complete pending field edit	March 1972	Class III		
Final Review, Class III	Sept. 1981	Final Class III Map No field edit performed		

II. LANDMARKS AND AIDS TO NAVIGATION

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS

2. ☐ REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: _____3. ☐ REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: _____

III. FEDERAL RECORDS CENTER DATA

1. ☐ BRIDGING PHOTOGRAPHS; ☒ DUPLICATE BRIDGING REPORT; ☒ COMPUTER READOUTS.
 2. ☒ CONTROL STATION IDENTIFICATION CARDS; ☐ FORM NOS. ~~16-48~~ SUBMITTED BY FIELD PARTIES.
 3. ☐ SOURCE DATA (except for Geographic Names Report) AS LISTED IN SECTION II, NOAA FORM 76-36C.
 ACCOUNT FOR EXCEPTIONS:

4. ☒ DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED: Nov 1982

IV. SURVEY EDITIONS (This section shall be completed each time a new map edition is registered)

SECOND EDITION	SURVEY NUMBER TP - _____ (2)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
FOURTH EDITION	SURVEY NUMBER TP - _____ (4)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL

Official Mileage for Cost Accounts

Sheet No.-Area Sq.Mi.

00050	3
00051	1
00052	3
00053	5
00054	3
00055	4
00056	5
00057	4
00058	3
00059	3
00060	2
00061	3
00062	4
00063	2
00116	2
00121	2
00180	7
TOTAL	54

JOB PH-6905
DELAWARE BAY, DELAWARE
COASTAL MAPPING
SCALE 1:10,000

DELAWARE
298
H+04 & ev 6m

6

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT

TP-00053

This 1:10,000 shoreline manuscript is one of seventeen maps that comprise project PH-6905, Delaware Bay, Delaware. The project encompasses the western part of Delaware Bay from Woodland Beach, latitude 39°20' south to Indian River Inlet, latitude 38°35'.

Correspondence, from the Chief of Photogrammetry dated December 14, 1979, called for the cancellation of field edit on TP-00050 through TP-00058 and TP-00116 and registering these as Class III maps. Maps TP-00059 through TP-00063, TP-00121 and TP-00180 are to be registered as Class I.

No contemporary hydrographic survey was accomplished in the area common to this Class III map.

Field work prior to compilation was accomplished in October 1969; this involved the establishment of horizontal control by premarking methods in order to meet aerotriangulation requirements.

Photographic coverage was provided in October 1969 for aerotriangulation using panchromatic film with the "M" camera at 1:80,000 scale. Compilation photography was color film with the "E" camera at 1:20,000 scale.

The low water infrared photography taken with the "K" camera and 1:20,000 color photography were taken in tandem. The predicted tide tables on the Murderkill River Entrance subordinate station, were used to determine the stage of tide, which was +0.1 foot above mean low water.

Analytic aerotriangulation was performed at the Washington Science Center April 1970.

Compilation was performed at the Atlantic Marine Center from office interpretation of the 1969 photography in March 1972. No copies of this Class III map were submitted for field edit.

Final review was performed at the Atlantic Marine Center in July of 1981. Cancellation of field edit requires this map to be registered as a final Class III map.

This Descriptive Report contains all pertinent information used to compile this final Class III map.

The original base manuscript and all pertinent data were forwarded to the Washington Science Center for final registration.

FIELD INSPECTION

TP-00053

There was no field inspection prior to compilation. Field work accomplished was limited to the recovery and identification of the horizontal control necessary for the aerotriangulation of the project.

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Photogrammetric Plot Report
PH-6905
Delaware Bay

April 3, 1970

21. Area Covered

The area covered in this project is the southwest shore of Delaware Bay. The manuscripts are TP-50 through TP-62 and TP-116 at 1:10,000 scale and TP-63 at 1:5,000 scale.

22. Method

Two strips of 1:80,000 scale panchromatic photography and one strip of 1:30,000 scale color photography were bridged by analytic aerotriangulation methods. Points were selected on the 1:80,000 scale photography common to the 1:40,000 and 1:20,000 scales to be used for compilation of the 1:10,000 scale manuscripts and as an aid during hydrography. Similarly, the 1:30,000 scale bridging photography was used to control the 1:10,000 scale photography for compilation of the 1:5,000 scale manuscript. Attached are sketches showing strips bridged and legend with fit to control.

23. Adequacy of Control

The horizontal control was adequate. Nevertheless, the following discrepancy should be noted: a substitute station was established for LEWES COAST GUARD LIFE SAVING STATION MAST, 1962 which appears in two strips. A discrepancy of 6.5 degrees in azimuth was found between the two azimuth stations from which angles were turned to the substitute station. When the position was computed using the azimuth from Delaware Breakwater West End Light, 1933 the discrepancy in both strips was approximately 13 feet. When the position was computed using the azimuth from LEWES WEST OIL FACTORY CHIMNEY, 1962 the fit to control was excellent. This latter position is evidently correct. No reason could be found for the discrepancy.

24. Supplemental Data

Elevations were taken from USGS topographic quadrangles to meet the vertical control requirements.

-2-

25. Photography

The photography was adequate.

Respectfully submitted,

Don O. Norman

Don O. Norman

Approved and Forwarded,

Henry P. Eichert

Henry P. Eichert, Chief
Aerotriangulation Section

DELAWARE BAY

PH 6905

Bridging Photography

◦ 1 80,000

⊙ 1 30,000 color

MUG, 1933 Δ

STRIP 1

186, 1932 Δ

NIC, 1932 Δ

STRIP 2

DOCTOR, 1932

DEVRIES, 1933

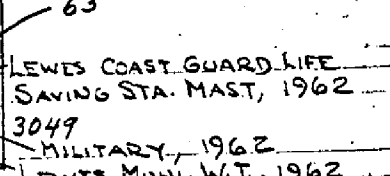
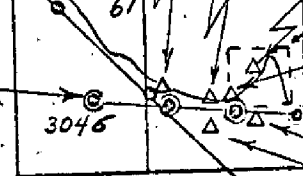
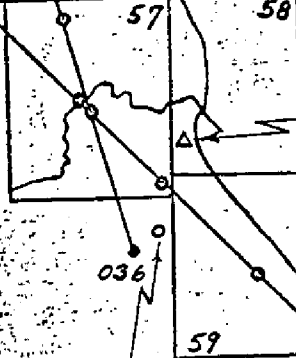
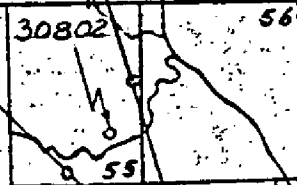
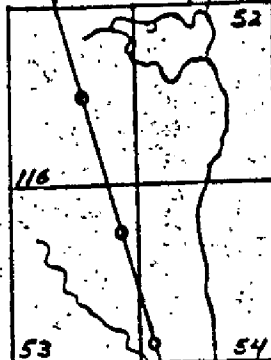
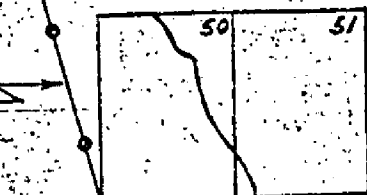
LEWES W. OIL FACTORY CHY, 1962

DELAWARE BREAKWATER
L.H., 1927

LEWES COAST GUARD LIFE
SAVING STA. MAST, 1962

MILITARY, 1962

LEWES MUNI. W.T., 1962



34801

STRIP 6

3046

1590

75° 15' 00"

39° 00' 00"

LEGEND

11



CONTROL USED IN ADJUSTMENT

CLOSURES OF BRIDGE TO CONTROL SHOWN
IN PARENTHESES



CONTROL USED AS CHECK

STRIP 1

- ▲ FLEMING, 1933 SUB. A (-40, +1.06)
- ▲ COLLEGE, 1932 RM2 SUB. A (+2.20, -2.51)
- ▲ 30802 TIE POINT
- ▲ UNION STA. A (-6.36, +2.20)
- ▲ DOCTOR, 1932 RM6 (-4.83, +6.75)
- ▲ 34901 TIE POINT (+1.92, -.57)

STRIP 2

- ▲ MILITARY, 1962 SUB. A (+.56, +1.26)
- MILITARY, 1962 SUB. B (0.0, 0.0)
- ▲ LEWES COAST GUARD LIFE SAVING STA. SUB. A (-.96, -.77)
- ▲ DEVRIES, 1962 RM (+1.66, -1.83)
- ▲ DEVRIES, 1933 (+1.86, +.94)
- ▲ DOCTOR, 1932 RM 6 (0.0, 0.0)
- ▲ UNION, 1932 SUB. A (0.0, 0.0)

STRIP 6

- ▲ DEVRIES, 1962 RM (0.0, 0.0)
- ▲ DEVRIES, 1933 SUB. A (-.02, -.11)
- ▲ LEWES COAST GUARD LIFE SAVING STA. MAST SUB. A (+1.05, 4.06)
- ▲ LEWES MUNI. WATER TANK, 1962 (+.75, -1.22)
- ▲ LEWES W. OIL FACTORY CHY., 1962 (+2.54, +.36)
- ▲ MILITARY, 1962 SUB. A (0.0, 0.0)
- ▲ MILITARY, 1962 SUB. B (-.81, +.45)
- ▲ DELAWARE BREAKWATER L.H., 1927 (-.76, +.39)

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	SOURCE OF INFORMATION (Index)	AEROTRI- ANGULATION POINT NUMBER	COORDINATES IN FEET		GEOGRAPHIC POSITION		ORIGINATING ACTIVITY
				STATE	ZONE	ϕ LATITUDE	λ LONGITUDE	
TP-00053	PH-6905							Coastal Mapping Division, AMC
None				X=		ϕ		
				Y=		λ		
				X=		ϕ		
				Y=		λ		
				X=		ϕ		
				Y=		λ		
				X=		ϕ		
				Y=		λ		
				X=		ϕ		
				Y=		λ		
				X=		ϕ		
				Y=		λ		
				X=		ϕ		
				Y=		λ		
				X=		ϕ		
				Y=		λ		
COMPUTED BY				COMPUTATION CHECKED BY				DATE
LISTED BY				LISTING CHECKED BY				DATE
HAND PLOTTING BY				HAND PLOTTING CHECKED BY				DATE

COMPILATION REPORT

TP-00053

31. DELINEATION

Delineation was by the Wild B-8 stereoplotter, using 1:40,000 scale photography to compile the streams in the northeast corner of the manuscript and using 1:20,000 scale color photography to compile the St. Jones River northwest to Lebanon.

Graphic compilation of the St. Jones River from Lebanon to the northwest limits of navigation, using photographically identified points supplied from the analytic bridge.

32. CONTROL

Horizontal control was adequate. Refer to the Photogrammetric Plot Report, dated 3 April 1970.

33. SUPPLEMENTAL DATA

None

34. CONTOURS AND DRAINAGE

Contours are not applicable to the project. Drainage was delineated by the Wild B-8 stereoplotter and by office interpretation of the photographs.

35. SHORELINE AND ALONGSHORE DETAILS

The mean high water line and alongshore details were delineated by the Wild B-8 stereoplotter and by graphic compilation from office interpretation of the photographs.

36. OFFSHORE DETAILS

All offshore details were compiled from office interpretation of the photographs. No unusual problems were encountered.

37. LANDMARKS AND AIDS

Appropriate copies of 76-40 forms are being submitted with this Descriptive Report.

38. CONTROL FOR FUTURE SURVEYS

None

39. JUNCTIONS

Refer to the Data Record Form 76-36B, Item 5 of the Descriptive Report concerning Junctions.

40. HORIZONTAL AND VERTICAL ACCURACY

See Item #32.

46. COMPARISON WITH EXISTING MAPS

A comparison was made with the following U.S. Geological Survey Quadrangles:

Dover, Delaware; Frederica, Delaware; Little Creek, Delaware; and Wyoming, Delaware, all 1:24,000 scale and dated 1956.

47. COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following National Ocean Survey Chart: 1218, 16th edition, dated October 25, 1969 (corrected through Notice to Mariners 43-1969).

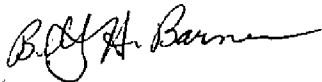
ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None

ITEMS TO BE CARRIED FORWARD

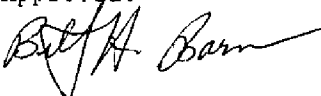
None

Submitted by:

for 
Eugene Bichner
Cartographic Technician

Date: March 2, 1972

Approved:

for 
Albert C. Rauck, Jr.
Chief, Coastal Mapping Section

REVIEW REPORT

SHORELINE

TP-00053

61. GENERAL STATEMENT:

See Summary included with this report for this final Class III map.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

Not applicable.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

A comparison was made with U.S.G.S. quadrangles; Dover, Delaware; Frederica, Delaware; Little Creek, Delaware; and Wyoming, Delaware, all are 1:24,000 scale and dated 1956.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

No contemporary hydrographic survey was conducted in the area covered by this final Class III map.

65. COMPARISON WITH NAUTICAL CHARTS:

A comparison was made with N.O.S. chart 12304, 27th edition, March 28, 1981, 1:80,000 scale.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

This map complies with the project instructions and meets the requirements for the National Standards of Map Accuracy.

Submitted by:

Lowell O. Neterer, Jr.
Lowell O. Neterer, Jr.
Final Reviewer
September 10, 1981

Approved for forwarding:

Billy H. Barnes
Billy H. Barnes
Chief, Photogrammetric Branch, AMC

July 28, 1981

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6905 (Delaware Bay, Delaware)

TP-00053

Barkers Landing

Beaver Gut Ditch

Capitol Park (Ppl)

Cypress Branch

Cypress Pond

Dover

Dover Air Force Base

Isaac Branch

Lebanon

Little River

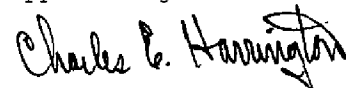
Pipe Elm Branch

Puncheon Branch

St. Jones River

Tidbury Creek

Approved by:



Charles E. Harrington
Chief Geographer, OA/C3x5

Information of Dissemination of Project Material

PH-6905

Delaware Bay

NATIONAL ARCHIVE/FEDERAL RECORD CENTER

Computer Readout
Control Station Identification Cards
Field Edit Ozalids
Field Photographs
NOAA Form 76-41 (Descriptive Report Control Record)

Project Diagrams

Plot Report

Bureau Archives

Descriptive Report

Registered Maps

Reproduction Division

8x Reduction Negative of Each Maps

Office of Staff Geographer

Geographer Names Standard

