# Descriptive Report

**Map No.** T-12554  
**Edition No.** 1  
**Job No.** PH-6402  
**Map Classification** FINAL FIELD EDITED MAP  
**Type of Survey** SHORELINE  

## Locality

**State** HAWAII  
**General Locality** HAWAII ISLAND, WEST COAST  
**Locality** KAILUA TO SOUTH CAPE  
**Locality** KAUNA POINT

1963 TO 1979

### Registry in Archives

**Date**

U.S. GOVERNMENT PRINTING OFFICE: 1974-669-248
# Descriptive Report - Data Record

**Photogrammetric Office**  
Coastal Mapping Div.  
Atlantic Marine Center, Norfolk, VA

**Officer in Charge**  
R. Matsushige

## I. Instructions Dated

<table>
<thead>
<tr>
<th>I. Office</th>
<th>2. Field</th>
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<tr>
<td>Compilation</td>
<td>Control/Field Inspection May 8, 1964</td>
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<td>Oct. 28, 1969</td>
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<tr>
<td>Jan. 3, 1973</td>
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## II. Datums

1. Horizontal:  
- [ ] 1987 North American  
- [ ] Other (Specify)
  - Old Hawaiian

2. Vertical:  
- [ ] Mean High-Water  
- [ ] Mean Low-Water  
- [ ] Mean Lower Low-Water  
- [ ] Mean Sea Level  
- [ ] Other (Specify)

3. Map Projection  
- Polyconic

4. Grid(s)  
- State: Hawaii  
- Zone: 1

## III. History of Office Operations

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<td>I. Perkinsin</td>
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<td>C. Blood</td>
<td>Nov. 1979</td>
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<td>6. Application of Field Edit Data</td>
<td>J. Hancock</td>
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<td>J. Hancock</td>
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<td>7. Compilation Section Review</td>
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<td>9. Data Forwarded to Photogrammetric Branch</td>
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<td>10. Data Examined in Photogrammetric Branch</td>
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<td>11. Map Registered - Coastal Survey Section</td>
<td>J. Hancock</td>
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*U.S. G.P.O. 1972-769932/582 REG #6*
1. COMPILED PHOTOGRAPHY

Camera(s)
Wild RC-8, S=152.29mm

Tide Stage Reference
X Predicted Tides

Types of Photography Legenden
(C) Color
(P) Panchromatic
(I) Infrared

Zone
Hawaii

Meridian
150th

Number and Type     Date     Time    Scale     Stage of Tide
63S(P) 7981-7983*    Aug. 31, 1963  09:39   1:30,000  1.1 FT. above MLLW
63S(C) 7988-7989**   Aug. 31, 1963  09:57   1:15,000  1.1 FT. above MLLW
63S(C) 7863-7866**   Aug. 29, 1963  09:42   1:15,000  1.5 FT. above MLLW

Mean Tide Range = 1.4 Ft

Remarks
*Bridging/Compilation photographs, **Compilation/hydro support photographs

2. SOURCE OF MEAN HIGH-WATER LINE:
The mean high water line was compiled from office interpretation of the compilation photographs using stereo instrument and graphic methods.

3. SOURCE OF MEAN LOW-WATER OR MEAN LOWER LOW-WATER LINE:
No mean lower low water line was compiled.

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

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<th>Survey Number</th>
<th>Date(s)</th>
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5. FINAL JUNCTIONS

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<th>North</th>
<th>East</th>
<th>South</th>
<th>West</th>
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<td>T-12553</td>
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Remarks
HISTORY OF FIELD OPERATIONS

1. FIELD INSPECTION OPERATION

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<td>3. VERTICAL CONTROL</td>
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<td>4. LANDMARKS AND AIDS TO NAVIGATION</td>
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2. FIELD EDIT OPERATION

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<th>ESTABLISHED BY</th>
<th>PRE-MARKED OR IDENTIFIED BY</th>
<th>LOCATED (Field Methods) BY</th>
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II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

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2. VERTICAL CONTROL IDENTIFIED

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3. PHOTO NUMBERS (Clarification of details)

63(S) 7840-7842 (1:30,000 scale matte contacts)

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

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5. GEOGRAPHIC NAMES: [X] REPORT  [ ] NONE

6. 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 Geodetic Division)

Project field report
HISTORY OF FIELD OPERATIONS

1. FIELD INSPECTION OPERATION

   OPERATION
   -------------------
   1. CHIEF OF FIELD PARTY
   2. HORIZONTAL CONTROL
   3. VERTICAL CONTROL
   4. LANDMARKS AND AIDS TO NAVIGATION
   5. GEOGRAPHIC NAMES INVESTIGATION
   6. PHOTO INSPECTION
   7. BOUNDARIES AND LIMITS

   TYPE OF INVESTIGATION
   ☐ COMPLETE
   ☐ SPECIFIC NAMES ONLY
   ☑ NO INVESTIGATION

   CLARIFICATION OF DETAILS BY
   ☑ L. Roberts

   SURVEYED OR IDENTIFIED BY
   ☑ N.A.

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

   PHOTO NUMBER       STATION NAME
   None               None

2. VERTICAL CONTROL IDENTIFIED

   PHOTO NUMBER       STATION DESIGNATION
   None               None

3. PHOTO NUMBERS (Clarification of details)

   635(C) 7864-7866, 7988, 7989 (Cronaquapect, 1:10,000 scale)

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

   None

5. GEOGRAPHIC NAMES:

   ☑ REPORT
   ☑ NONE

6. BOUNDARY AND LIMITS:

   ☑ REPORT
   ☑ NONE

7. SUPPLEMENTAL MAPS AND PLANS

   None

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

   1 Field edit report
   1 Field edit paper print
I. MANUSCRIPT COPIES

<table>
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<td>Nov. 1979</td>
<td>Class I manuscript</td>
<td>Nov. 1979</td>
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<td>Final review</td>
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II. LANDMARKS AND AIDS TO NAVIGATION

None

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

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<th>Number</th>
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2. REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH DATE FORWARDED: None

3. REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION DATE FORWARDED: None

III. FEDERAL RECORDS CENTER DATA

1. [ ] BRIDGING PHOTOGRAPHS; [ ] DUPLICATE BRIDGING REPORT; [ ] COMPUTER READOUTS.
2. [ ] CONTROL STATION IDENTIFICATION CARDS; [ ] FORM NOS 567 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:

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

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SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT

T-12554

This 1:10,000 scale Final Field Edited Map is one of nineteen maps that comprise PH-6402, Hawaii Island, West Coast, Kailua to South Cape. The project consists of sixteen 1:10,000 scale maps (T-12546 thru T-12561) and three 1:5,000 scale inset maps (T-11796, T-11797, T-13312).

The purpose of this map was to furnish data in support of hydrographic operations and to provide current shoreline data for marine charts.

This map includes shoreline along the southwest coast of Hawaii Island from Latitude 19° 00' 00" to Latitude 19° 03' 45".

Photo coverage for the project was adequately provided in August/September 1963 using the Wild RC-8 "S" camera. Photography consisted of 1:30,000 scale panchromatic photographs used for field inspection, aerotriangulation, and compilation. Color photographs at 1:15,000 scale were obtained for compilation and hydro support. Additional color photographs at 1:15,000 scale were obtained in March 1969 with the Wild RC-8 "E" camera. These supplemental photographs were used to compile inset maps T-11796 and T-11797. The stage of tide for all project photographs was based upon predicted tide data. No infrared photographs were provided.

Field work prior to aerotriangulation consisted of the recovery and establishment of horizontal control by photoidentification methods. In addition, a field inspection was performed for the project area utilizing the 1:30,000 scale contact photographs. This activity was conducted in February thru September 1964 in conjunction with adjoining project PH-6401.

Analytic aerotriangulation was adequately provided by the Washington Science Center in June 1969. Tie points from photo strip #4 contained in adjoining project PH-6401 were included in this bridge. Aerotriangulation activity included ruling the base manuscripts and also provided ratio prints for compilation and hydrographic/field edit operations.

Compilation for this map was performed at the Coastal Mapping Section, Atlantic Marine Center in January 1973. Copies of the initial compilation and hydrographic support data were forwarded to the hydrographer for field edit.

Field edit was conducted in conjunction with hydrographic survey H-9808 by NOAA ship FAIRWEATHER personnel in February 1979.

Application of field edit was performed at the original compilation office in November 1979. Map copies were submitted to Marine Charts and to the hydrographer for smooth sheet application.
Final review was performed at the Atlantic Marine Center in April 1987. A comparison was made with the common hydrographic survey and nautical chart. The original base manuscript and related data along with a final Chart Maintenance Print and a Hydrographic Print were forwarded to the Washington Science Center for registration and distribution.
FIELD INSPECTION

T-12554

Field activity prior to compilation included a field inspection of the shoreline and the recovery / photoidentification of horizontal control necessary for project aerotriangulation. Results of the 1964 field inspection were submitted on the 1:30,000 scale contact photographs.
Memorandum

TO: Chief, Photogrammetric Field Operations
THRU: Honolulu Field Officer

DATE: August 5, 1964

FROM: Lt(jg) Edward P. Cline

SUBJECT: Control Identification Project No. 21413

No problems were found in the control identification on Project 21413. The following is a list of the stations identified on the various Flight Lines:

FLIGHT STRIP NO. 5
  WAIKAKU 4, 1951
  KAPUKAWA, 1884
  OHEPUUPUU, 1890

FLIGHT STRIP NO. 6
  KAMOI, 1948
  NA PUU a PELE, 1891
  PUU KI, 1914
  TANK, 1948
  Supplimental Stations Pricked:
    KAUNA POINT LIGHT, 1948

FLIGHT STRIP NO. 7
  KALAE 2, 1948
  PALAHEMO, 1898
  KAMILE, 1898
  KIPAEPAE, 1898
  Supplimental Stations Pricked:
    KALAE LIGHT, 1948
    KALAE, 1887
    MAHANA, 1898

The ratio prints provided by the Washington Office were of great assistance in the identification of the stations and they were very well placed.

Edward P. Cline
21. Area Covered

This project extends along the southwest shore of Hawaii Island. It includes T-sheets 12546 through 12561 at 1:10,000 and T-sheets 11796, 11797 and 13312 at 1:5,000. This project joins PH-6401 which extends along the northwest shore of the island.

22. Method

Strips were bridged on the stereoplanigraph and adjusted by IBM 1620 methods. Strip #4 discussed in the report for PH-6401. Strip #10 was adjusted on five triangulation stations with tie points from Strips #4 and #11 as checks. Strip #11 was adjusted on five stations with one station and tie points as checks. The adjustment of Strip #12 met with considerable problems. These problems were due to control identification on stations KAMILO, KIPAEPAE on the northeast end of the strip. Points were dropped from Strip #11 to enable model 63-S-7964 and 7965 to be set, thus enabling T-sheet 12561 to be completed.

T-sheets 12559 and 12560 must await further field work. Difficulties were also experienced in bridging Strip #13. This problem was resolved by dropping enough points from Strips #4 and #10 to set individual models between 63-S-8080 and 8085. All points between strips were averaged. Points were drilled by using the Wild FUG.

23. Adequacy of Control

Control provided by the field was adequate. The following stations could not be held in the bridging adjustments.

1. KEEI SOUTH BASE, 1948, SS #1 and SS #2, could not be held in Strip #13, as was the case of Strip #4 in PH-6401. No reasons could be determined for the lack of adjustment with other points.
2. KAMIL0, 1949 and SS #1  
3. KIPAEPAE, 1948 and SS #1. Problems with these two stations could not be resolved. Re-identification of the stations is planned at the same time that work continues to the east.

4. McCANDLESS, 1948 SS #1 and SS #2 although held in the bridging could be seen on, only one photograph in Strip #10 due to cloud coverage.

24. Supplemental Data

Ratio prints will be provided to aid in compilation. Local USGS quads were used to provide vertical points needed for the strip adjustment program.

25. Photography

Photography was not adequate to provide coverage of the 1:5,000 scale sheets. This inadequate coverage was caused by a change in the limits of the 1:5,000 areas after bridging was nearing completion. Photography was adequate in regard to definition and overlap.

Submitted by,

[Signature]
John D. Perrow, Jr.

Approved by,

[Signature]
Henry P. Eichert
Chief, Aerotriangulation Section
Notes to Compiler
PH-6402
Hawaii Island, Hawaii

The following points should be used in setting individual models along Strips #12 and #13.

(1) **63-S-7964-7965**
Points 68803, 68804, 67100, 67101, 64100, 64101, 64102 and 64103.

(2) **63-S-8080-8081**
Points 22330, 23310, 23800, 23801

(3) **63-S-8081-8082**
Points 77331, 78333, 22801, 23800, McCANDLESS SS #1 and SS #2

(4) **63-S-8082-8083**
Points 76331, 77331, 77333

(5) **63-S-8083-8084**
Points 75331 HONAUNAU ST. BENEDICT CATH. CH. SPIRE, 1948 plus points dropped from model 8082-8083.

(6) **63-S-8084-8085**
Points 75331, 75333 plus points dropped from model 8083-8084.

Plates 63-S-7821 and 7824 were not used in bridging Strip #10.

Plates 63-S-7976, 7978, 7880, 7982 and 7984 were not used in Strip #11.
# Descriptive Report Control Record

<table>
<thead>
<tr>
<th>MAP NO.</th>
<th>JOB NO.</th>
<th>GEOGRAPHIC DATUM</th>
<th>ORIGINATING ACTIVITY</th>
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</thead>
<tbody>
<tr>
<td>T-12554</td>
<td>PH-6402</td>
<td>Old Hawaiian Datum</td>
<td>Coastal Mapping Section, AMC</td>
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**Station Name:** KAUNA POINT LIGHT, 1949

**Source of Information (Index):** G.P.

**Page:** 18

<table>
<thead>
<tr>
<th>Coordinates in Feet</th>
<th>Geographic Position</th>
<th>Remarks</th>
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<tbody>
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<td>( \phi )</td>
<td></td>
</tr>
<tr>
<td>y=</td>
<td>( \lambda )</td>
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<tr>
<td>( x = 19^\circ 02' 13.337&quot; )</td>
<td>( \lambda = 155^\circ 52' 53.784&quot; )</td>
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<table>
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<tr>
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<th>AEROTRIANGULATION POINT NUMBER</th>
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**Computed by:** A. C. Rauck, Jr.

**Date:** 7-29-69

**Computation Checked by:** R. White

**Date:** 2-13-70

**Listed by:**

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*Supersedes NOAA Form 76-41, 2-71 Edition which is obsolete.*
31. **DELINEATION:**

Delineation was by instrument methods using the Wild B-8 stereoplotter and 1:30,000 scale panchromatic compilation/bridging photographs. Ratio prints of the 1:15,000 scale color photographs were used graphically to supplement the compilation of minor detail and to assist in photo interpretation.

The field inspection supplied on the 1:30,000 scale contact prints was difficult to interpret. Individual rocks that could not be clearly identified during compilation were not compiled.

Photo quality and coverage were adequate.

32. **CONTROL:**

Refer to the Photogrammetric Plot Report, dated June 10, 1969.

33. **SUPPLEMENTAL DATA:**

None.

34. **CONTOURS AND DRAINAGE:**

Contours are inapplicable. Drainage was delineated from the compilation photographs.

35. **SHORELINE AND ALONGSHORE DETAILS:**

The shoreline, coral and foul limits were delineated from office interpretation of the photographs and from the annotated photographs resulting from the precompilation field inspection. Because of the small tide range, no mean lower low water line was compiled.

36. **OFFSHORE DETAILS:**

Compilation of offshore detail was performed as described in Item #31.

37. **LANDMARKS AND AIDS:**

One navigational aid was photo verified and applicable data was submitted for field edit.
38. **CONTROL FOR FUTURE SURVEYS:**

None.

39. **JUNCTIONS:**

Refer to the Data Record Form 76-36B, Item 5.

40. **HORIZONTAL AND VERTICAL ACCURACY:**

Refer to the Photogrammetric Plot Report dated June 10, 1969.

46. **COMPARISON WITH EXISTING MAPS:**

A comparison was made with USGS quadrangle Manuka Bay, Hawaii, scale 1:24,000, dated 1962.

47. **COMPARISON WITH NAUTICAL CHARTS:**


**ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY:**

None.

**ITEMS TO BE CARRIED FORWARD:**

None.

Submitted by:

[Signature]

R. White
Cartographic Technician
January 1973

Approved:

[Signature]

Albert C. Rauck, Jr.
Chief, Coastal Mapping Section
ADDENDUM TO THE COMPILATION REPORT

T-12554

Field edit was performed in February 1979 by NOAA ship FAIRWEATHER personnel. The editor indicated that Kauna Point Light, 1949 was not in operation nor of landmark value. The existing structure consists of an 8 foot square, 3 1/2 foot high concrete foundation. The station was retained on the manuscript because the editor did not state that it is destroyed. Adequate field data was furnished to advance the manuscript to Class I.
GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6402 Hawaii

T-12554

Island of Hawaii
Kaiakekua
Kauna Point
Pacific Ocean

Approved by:

A. Joseph Wright
Chief Geographer

Prepared by:

Frank W. Pickett
Cartographic Technician
T-12554
OPR-T126-FA-79
Kauna Point

Description

Jagged lava flow cliffs, ranging from 5 to 30 feet in height, extended along the entire coastline. Ledges are common with extreme depths just off shore.

Method

Field edit was done on foot with a skiff standing-by off shore to confirm submerged features. Heavy swells (4 to 5 foot) and the irregular character of the shoreline rendered work done solely form the skiff inadequate. Skiff activities were directed by the shore party via radio. Existing features were compared to the discrepancy print and to the color photographs. Changes and additions were depicted on the photographs. Rock heights, deletions and answers to questions posed by the stereo compiler were written on the discrepancy print. Discrepancies noted between the field edit data and the hydrographic data have been resolved.

Adequacy and Completeness of Compilation

Compilation of the manuscript was adequate with the following exceptions. Greater care taken by the stereo compiler in depicting the mean high water line would have greatly aided the field editor. A number of ledges were not compiled. Closer attention to the tidal range (2 to 3 feet) would have aided the stereo compiler in differentiating between a submerged ledge with rocks on it and a ledge barely awash.

Manuscript Accuracy

The manuscript, as compiled, compared very well with items inspected. The terrain did not allow for measurements to the mean high water line from photo identifiable points.

Recommendations

This manuscript should be accepted for charting purposes after the corrections have been applied.

Submitted by:

LeeAnne Roberts, Lt(jg), NOAA

Approved by:

Bruce I. Williams, Cdr, NOAA
Commanding Officer
NOAA Ship Fairweather
61. **GENERAL STATEMENT:**

   Final review for this Final Field Edited Map was accomplished at the Atlantic Marine Center in April 1987. For a schedule of the office and field operations, refer to the Summary included with this Descriptive Report.

62. **COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:**

   Not applicable.

63. **COMPARISON WITH MAPS OF OTHER AGENCIES:**

   A comparison was made with USGS quadrangle Manuka Bay, Hawaii, scale 1:24,000, dated 1962.

64. **COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:**

   A comparison with a portion of hydrographic survey H-9808, FA-10-2-79, surveyed in 1979 did not reveal any significant discrepancies.

65. **COMPARISON WITH NAUTICAL CHARTS:**

   A comparison was made with NOS Chart 19320, 13th edition, scale 1:250,000, July 10, 1982.

66. **ADEQUACY OF RESULTS AND FUTURE SURVEYS:**

   This map complies with the Project Instructions, and meets the requirements for National Standards of Map Accuracy.

   Submitted by:
   
   [Signature]
   
   Jerry L. Hancock
   Final Reviewer

Approved for forwarding:

[Signature]

Billy H. Barnes
Chief, Photogrammetric Section, AMC

Approved:

[Signature]

Chief, Photogrammetric Production Sec.

[Signature]

Chief, Photogrammetry Branch
## INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Revi

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FORM CAGS-839, SUPERSEDES ALL EDITIONS OF FORM CAGS-878.

USCOM, DC 20350