

TP-00718

TP-00718

NOAA FORM 76-35 (3-76)	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SURVEY	
DESCRIPTIVE REPORT	
Map No. TP-00718	Edition No. 1
Job No. CM-7215	
Map Classification Final Field Edited Map	
Type of Survey Shoreline	
LOCALITY	
State Hawaii	
General Locality Kaneohe Bay, Oahu Island	
Locality Kuglog Point	
1975 TO 1976	
REGISTRY IN ARCHIVES	
DATE	

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.	
DESCRIPTIVE REPORT - DATA RECORD		TYPE OF SURVEY ☒ ORIGINAL ☐ RESURVEY ☐ REVISED	
PHOTOGRAMMETRIC OFFICE Coastal Mapping Division Atlantic Marine Center, Norfolk, VA OFFICER-IN-CHARGE Jeffrey G. Carlen, Cdr.		SURVEY TP. <u>00718</u> MAP EDITION NO. <u>(1)</u> MAP CLASS <u>Final</u> JOB <u>PH-CM-7215</u>	
PHOTOGRAMMETRIC OFFICE Coastal Mapping Division Atlantic Marine Center, Norfolk, VA OFFICER-IN-CHARGE Jeffrey G. Carlen, Cdr.		LAST PRECEDING MAP EDITION TYPE OF SURVEY ☐ ORIGINAL ☐ RESURVEY ☐ REVISED JOB <u>PH-</u> MAP CLASS <u></u> SURVEY DATES: 19 <u></u> TO 19 <u></u>	
I. INSTRUCTIONS DATED			
1. OFFICE		2. FIELD	
Aerotriangulation 10/06/75 Compilation 1/07/76		Premarking 4/16/73 Premarking 7/17/75 Supplement I 8/18/75	
II. DATUMS			
1. HORIZONTAL: ☐ 1927 NORTH-AMERICAN 2. VERTICAL: ☒ MEAN HIGH-WATER ☐ MEAN LOW-WATER ☒ MEAN LOWER LOW-WATER ☐ MEAN SEA LEVEL		OTHER (Specify) <u>Old Hawaiian Datum</u> OTHER (Specify)	
3. MAP PROJECTION <u>Transverse Mercator</u>		4. GRID(S) STATE <u></u> ZONE <u></u> STATE <u>Hawaii</u> ZONE <u>3</u>	
5. SCALE <u>1:10,000</u>		STATE <u>Hawaii</u> ZONE <u>3</u>	
III. HISTORY OF OFFICE OPERATIONS			
OPERATIONS		NAME	DATE
1. AEROTRIANGULATION BY METHOD: Analytic LANDMARKS AND AIDS BY		<u>R. Kelly</u>	<u>Dec 1975</u>
2. CONTROL AND BRIDGE POINTS PLOTTED BY METHOD: Coradomat CHECKED BY		<u>Solbeck</u> <u>Solbeck</u>	<u>Dec 1975</u> <u>Dec 1975</u>
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY COMPILATION CHECKED BY INSTRUMENT: Wild B-8 SCALE: 1:7,500 CONTOURS BY CHECKED BY		<u>Jim Byrd</u> <u>A. C. Rauck</u> <u>NA</u> <u>NA</u>	<u>Jan 1976</u> <u>Jan 1976</u>
4. MANUSCRIPT DELINEATION PLANIMETRY BY CHECKED BY METHOD: Smooth Draft CONTOURS BY CHECKED BY SCALE: 1:10,000 HYDRO SUPPORT DATA BY CHECKED BY		<u>David Butler</u> <u>L. O. Neterer, Jr.</u> <u>NA</u> <u>NA</u> <u>David Butler</u> <u>L. O. Neterer, Jr.</u>	<u>Jan 1976</u> <u>Jan 1976</u> <u>Jan 1976</u> <u>Jan 1976</u>
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY		<u>L. O. Neterer, Jr.</u>	<u>Jan 1976</u>
6. APPLICATION OF FIELD EDIT DATA BY CHECKED BY		<u>C. Blood</u> <u>A. L. Shands</u>	<u>Aug 1976</u> <u>Aug 1976</u>
7. COMPILATION SECTION REVIEW BY		<u>A. L. Shands</u>	<u>Aug 1976</u>
8. FINAL REVIEW BY		<u>A. L. Shands</u>	<u>Apr 1978</u>
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY		<u>A. L. Shands</u>	<u>Apr 1978</u>
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY		<u>J. B. Phillips</u>	<u>May 1978</u>
11. MAP REGISTERED - COASTAL SURVEY SECTION BY		<u>R.T. Carter</u>	<u>Aug 1978</u>

TP-00718
COMPILATION SOURCES

1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-8		TYPES OF PHOTOGRAPHY LEGEND (C) COLOR (P) PANCHROMATIC (I) INFRARED		TIME REFERENCE	
TIDE STAGE REFERENCE ☒ PREDICTED TIDES ☐ REFERENCE STATION RECORDS ☐ TIDE CONTROLLED PHOTOGRAPHY				ZONE Hawaii MERIDIAN 150th	☒ STANDARD ☐ DAYLIGHT
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
75TNHY 3290(P) - 3296(P)	12/03/74	10:29	1:15,000	0.8 ft. above MLLW	
75TNHY 3784(P) - 3786(P)	1/17/75	10:14	1:15,000	0.6 ft. above MLLW	
75TNHY 3848(P) & 3850(P)	1/28/75	11:13	1:30,000	0.2 ft. above MLLW	

REMARKS

Subordinate tide station - Moku O Loe, Oahu

Reference tide station - Honolulu, Hawaii

MHW=1.6 ft.

2. SOURCE OF MEAN HIGH-WATER LINE:

The mean high water line was compiled from the above listed photographs.

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

None compiled

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
No Survey	No Survey	TP-00719	No Survey

REMARKS

TP-00718

HISTORY OF FIELD OPERATIONS

I. ☒ FIELD INSPECTION OPERATION☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	R. Melby	Sept 1975
2. HORIZONTAL CONTROL	RECOVERED BY	R. Melby
	ESTABLISHED BY	None
	PRE-MARKED OR IDENTIFIED BY	R. Melby
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 ☐ COMPLETE ☐ SPECIFIC NAMES ONLY ☒ NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	None
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	NA

II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

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)

1 Form 76-53

2 Forms 526 (copies)

TP-00718

HISTORY OF FIELD OPERATIONS

I. ☐ FIELD INSPECTION OPERATION☒ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	C. Townsend	3-4/76
2. HORIZONTAL CONTROL	RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	None None None
3. VERTICAL CONTROL	RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	NA NA NA
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY LOCATED (Field Methods) BY IDENTIFIED BY	None None None
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION ☐ COMPLETE ☐ SPECIFIC NAMES ONLY ☒ NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	J. Osborn
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	NA

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)

75TNHY(P) 3291 thru 3295, 3784 and 3785

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)

1 Form 76-40

1 Field Edit Report OPR-419-RA-76

Field Edit Ozalid

TP-00718
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.	1/76	Class III Manuscript Superseded	1/30/76	1/30/76
Field edit applied. Compilation complete.	8/76	Class I Manuscript	9/30/76	
Final Review	4/78	Final	4/78	
Reef limits added during inspection	6/78	Supersedes 4/78 Final	8/78	

II. LANDMARKS AND AIDS TO NAVIGATION

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
1		10/04/76	Landmark to be charted.

2. ☐ REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: October 4, 19763. ☐ 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 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: Copies of Forms 526 were not forwarded

4. ☐ DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED: _____

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 ☐ REVISED ☐ RESURVEY MAP CLASS ☐ II. ☐ III. ☐ IV. ☐ V. ☐ FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH - _____	TYPE OF SURVEY ☐ REVISED ☐ RESURVEY MAP CLASS ☐ II. ☐ III. ☐ IV. ☐ V. ☐ FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
FOURTH EDITION	SURVEY NUMBER TP - _____ (4)	JOB NUMBER PH - _____	TYPE OF SURVEY ☐ REVISED ☐ RESURVEY MAP CLASS ☐ II. ☐ III. ☐ IV. ☐ V. ☐ FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	

OFFICIAL MILEAGE FOR COST ACCOUNT

Sheet Number	Square Miles
TP-00718	2
TP-00719	6
TP-00720	6
TOTAL	14

TP-00718

TP-00720

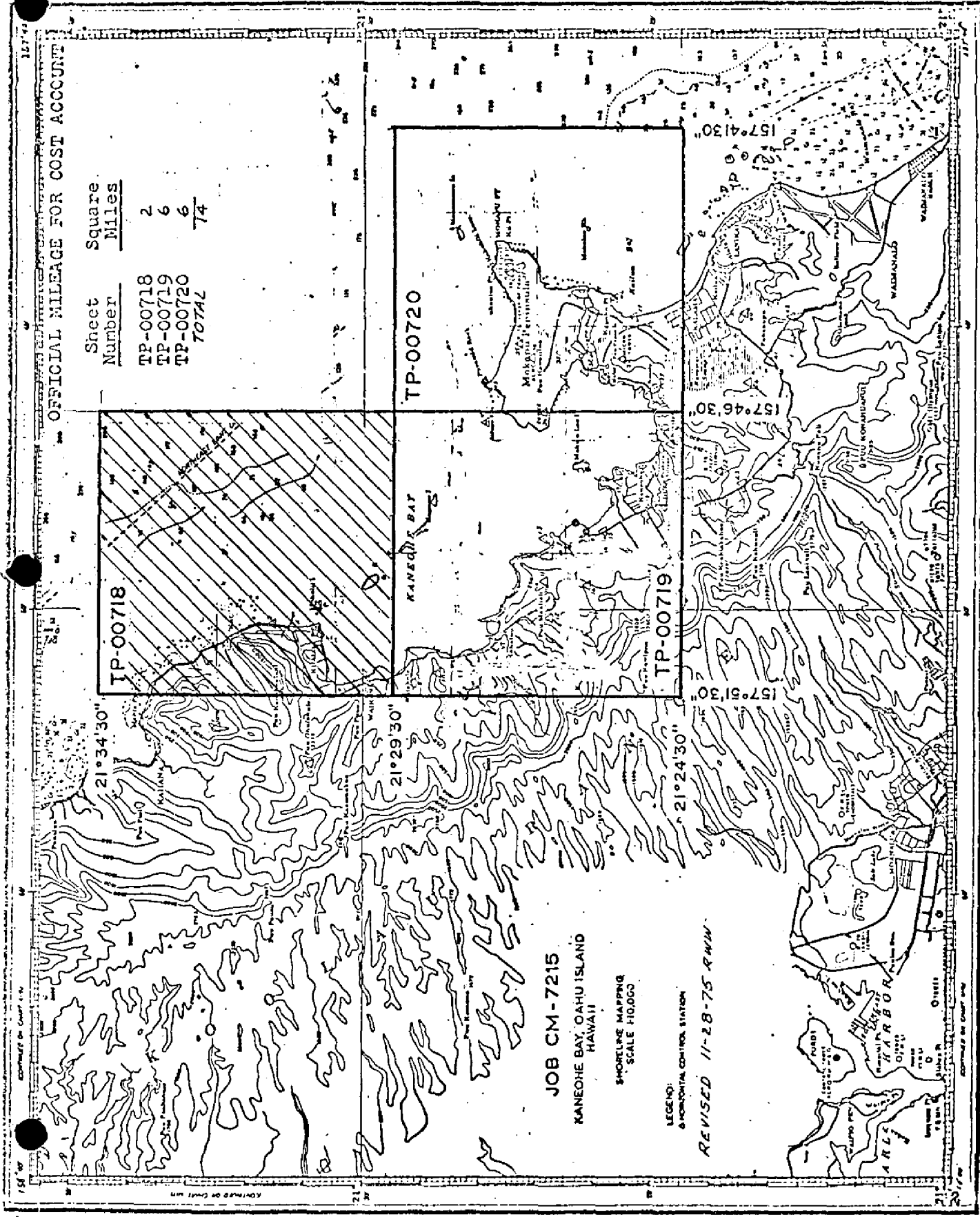
TP-00719

JOB CM-7215
KANEHOE BAY, OAHU ISLAND
HAWAII

SHORELINE MAPPING
SCALE 1:10,000

LEGEND:
A HORIZONTAL CONTROL STATION

REVISED 11-28-75 R.W.N.



SUMMARY TO ACCOMPANY DESCRIPTIVE REPORTS

TP-00718 THROUGH TP-00720

The maps included in this summary comprise all of Project CM-7215, Kaneohe Bay, Oahu Island, Hawaii. Each is a 1:10,000 scale standard shoreline map, the purpose of which is to provide shoreline and alongshore data in support of hydrographic operations and for nautical chart compilation.

The area covered is that of Kaneohe Bay extending from just below Mahie Point on the north southward to and including the Mokapu Peninsula. This project originally consisted of ~~nine~~ 1:5,000 scale maps (TP-00718 through TP-00727) covering about the same area. All instructions and correspondence dealing with map scale make reference to the 1:5,000 scale maps with the exception of the compilation instructions. The compilation instructions make reference only to the three 1:10,000 scale maps TP-00718 through TP-00720. These are the only maps compiled for the project.

Apparently, it was decided around November, 1975 to cancell all 1:5,000 scale maps in the project and replace them with 1:10,000 scale maps. Documents authorizing this change, however, are not available to this reviewer at this time.

Field work prior to compilation was limited to the recovery and identification of horizontal control necessary for bridging. It was begun under orders dated April 16, 1973. However, the photography obtained at that time was not suitable for compilation. This part of the job was redone in September, 1975.

Photography was flown by a private contractor in December, 1975 and January, 1976. It was flown with panchromatic film at 1:15,000 and 1:30,000 scale. Coverage was not extended to allow the delineation of the southern shoreline of Kailua Bay. The quality was excellent.

Bridging was done at the Washington Science Center in December, 1975. All maps were compiled at the Atlantic Marine Center using the Wild B-8 stereoplotter.

Field edit was performed in March, 1976 and applied to the maps in September, 1976 at the Atlantic Marine Center. Final Review also took place at the Atlantic Marine Center in April, 1978.

The original base map and all pertinent data is forwarded to the Washington Science Center for reproduction and final registration.

7

FIELD INSPECTION

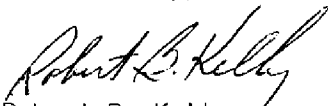
TP-00718

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.

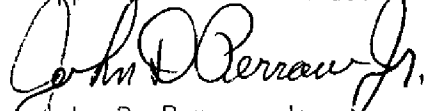
Photogrammetric Plot Report
Kaneohe Bay, Oahu Island, Hawaii
Job CM-7215
December 1975

21. Area Covered: This report covers three 1:10,000 sheets, TP-00718, TP-00719, and TP-00720 of Kaneohe Bay, Oahu Island, Hawaii.
22. Method: Three strips of 1:30,000 photography and one strip of 1:15,000 photography were bridged by analytic aerotriangulation methods and adjusted to ground on the Hawaii State Plane Coordinate System, Zone three. The attached two sketches shows the placement of horizontal control, bridging photographs, and photographs to be used for compilation. Bridge points were drilled on the 1:15,000 scale photography and measured on 1:30,000 scale bridging photography for ratioing photographs to be used in compilation. Ratios were ordered and sheets were plotted on the Coradomat.
23. Adequacy of Control: The horizontal control provided was adequate except for Pahu, 1910 home station which could not be seen. All other control held within the accuracy required by National Standards of Map Accuracy at 1:10,000.
24. Supplemental Data: Local shoreline and U.S. Geological Survey quadrangles were used to provide elevations for vertical adjustments of bridges.
25. Photography: RC-8 black-and-white film positives were adequate as to coverage, overlap, and definition.

Submitted by,


Robert B. Kelly

Approved and forwarded:


John D. Perrow, Jr.
Chief, Aerotriangulation Section

JOB CM-7215

KANEHIE BAY, OAHU ISLAND
HAWAII

SPOTLINE MAPPING
SCALE 1:10,000

COMPILATION PHOTOGRAPHS 21°24'30"

TP-007

INDEX TO STRIPS OF PHOTOGRAPHS

(5)	75	TNHY	3752-3759
(6)	"	"	3765-3771
(7)	"	"	3780-3786
(8)	"	"	3283-3296

157°51'30"

21°34'30"

21°29'30"

TP-00718

TP-00718

TP-00718

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INDEX TO CONT

- 5 State Survey 5
- 6 State Survey 4
- 7 State Survey 4
- 8 State Survey 4
- 9 Pahu, 1910
- 10 Papaa, 1932
- 11 Pyramid Rock L
- 12 Mokapu, 1872

JOB CM-7215

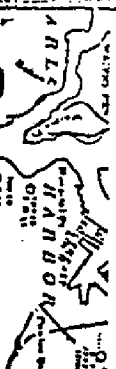
KANEOHE BAY, OAHU ISLAND
HAWAII

SHORTLINE MARKING
SCALE 1:10000

BRIDGING PHOTOGRAPH

INDEX TO STRIPS ON

(1)	75	TNHY	3861
(2)	"	"	3841
(3)	"	"	3791
(4)	"	"	3391



Photocopy of original map
Reproduced by the National Oceanic and Atmospheric Administration

COMPILATION REPORT

TP-00718

31. DELINEATION:

Delineation was by the Wild B-8 stereoplotter, using 1:15,000 scale photography. Photograph coverage and quality was adequate. 1:30,000 scale ratios were used to help compile reef lines (graphically).

32. CONTROL:

See Photogrammetric Plot Report dated December, 1975.

33. SUPPLEMENTAL DATA:

None.

34. CONTOURS AND DRAINAGE:

Contours are not applicable to the project. Drainage was delineated by office interpretation of the photographs.

35. SHORELINE AND ALONGSHORE DETAILS:

The shoreline and all alongshore details were delineated by office interpretation of the photographs.

36. OFFSHORE DETAILS:

No unusual problems, except for vast coral reef areas which were compiled graphically.

37. LANDMARKS AND AIDS:

Appropriate copies of Form 76-40, Landmarks and Nonfloating Aids to Navigation, were forwarded to the field editor for verification, deletion and additions.

38. CONTROL FOR FUTURE SURVEYS:

None.

39. JUNCTIONS:

See the Form 76-36B, Item #5 of this Descriptive Report concerning junctions.

40. HORIZONTAL AND VERTICAL ACCURACY:

No Statement.

46. COMPARISON WITH EXISTING MAPS:

A comparison has been made with USGS Quadrangle KANEOHE, HAWAII, scale 1:24,000, dated 1968; and KAHANA, HAWAII, scale 1:24,000, dated 1967.

47. COMPARISON WITH NAUTICAL CHARTS:

A comparison has been made with Chart No. 19359, scale 1:15,000, dated September 28, 1974, 6th edition.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

Submitted by:

Albert C. Rauck, Jr. FOR
David P. Butler
Cartographic Aid
January 23, 1976

Approved:

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

April 20, 1978 11

GEOGRAPHIC NAMES

FINAL NAME SHEET

CM-7215 (Kaneohe Bay, Hawaii)

TP-00718

Kaaawa

Kualoa Point

Kaaawa Point

Kulua Point

Kaaawa Stream

Mokolii Island (Chinamans Hat)

Kaneohe Bay

Molji Pond

NOAA FORM 75-74
(7-75)U.S. DEPARTMENT OF COMMERCE
NOAA
NATIONAL OCEAN SURVEYPHOTOGRAMMETRIC OFFICE REVIEW
TP - 00718

1. PROJECTION AND GRIDS ACR	2. TITLE ACR	3. MANUSCRIPT NUMBERS ACR	4. MANUSCRIPT SIZE ACR
CONTROL STATIONS			
5. HORIZONTAL CONTROL STATIONS OF THIRD-ORDER OR HIGHER ACCURACY ACR	6. RECOVERABLE HORIZONTAL STATIONS OF LESS THAN THIRD-ORDER ACCURACY (Topographic stations) NA		7. PHOTO HYDRO STATIONS NA
8. BENCH MARKS NA	9. PLOTTING OF SEXTANT FIXES ALS	10. PHOTOGRAMMETRIC PLOT REPORT ACR	11. DETAIL POINTS LON
ALONGSHORE AREAS (Nautical Chart Data)			
12. SHORELINE LON	13. LOW-WATER LINE ALS	14. ROCKS, SHOALS, ETC. LON	15. BRIDGES NA
16. AIDS TO NAVIGATION ALS	17. LANDMARKS LON	18. OTHER ALONGSHORE PHYSICAL FEATURES LON	19. OTHER ALONGSHORE CULTURAL FEATURES LON
PHYSICAL FEATURES			
20. WATER FEATURES LON	21. NATURAL GROUND COVER NA		22. PLANETABLE CONTOURS NA
23. STEREOSCOPIC INSTRUMENT CONTOURS NA	24. CONTOURS IN GENERAL NA	25. SPOT ELEVATIONS NA	26. OTHER PHYSICAL FEATURES LON
CULTURAL FEATURES			
27. ROADS	28. BUILDINGS	29. RAILROADS	30. OTHER CULTURAL

31. BOUNDARY LINES

32. PUBLIC LAND LINES

MISCELLANEOUS

NOAA FORM 76-35

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

FIELD EDIT: KANEOHE BAY

OPR-419-RA-76

MANUSCRIPT NO. TP-00718-00720

CHARLES K. TOWNSEND
CDR., NOAA
COMMANDING OFFICER

INTRODUCTION AND METHODS

Field Edit for the RAINIER's spring project, OPR-419-RA-76 began March 1st and was completed April 15, 1976. Normally only one field unit performed field edit but on occasion, early in the project, two field units operated simultaneously. The field edit was accomplished by walking, driving GSA vehicles, and in RAINIER skiffs. Field edit is complete and thorough for the three manuscripts that cover Kaneohe Bay.

Field Edit operations began first in south Kaneohe Bay area on T-Sheet TP-00720 in order to facilitate commencement of hydrographic operations there. Simultaneous with these operations, field edit was begun at the southern edge of T-Sheet TP-00718 and moved northward to completion. After completing the initial photogrammetric support for hydrography on TP-00720, field edit progressed on this sheet around Mokapu Peninsula to the limits of the manuscript. Finally, the field work at the junction of TP-00720 & TP-00719 was undertaken and this work moved north to the junction with TP-00718. Questions from the Master Field Edit Sheets requiring geodetic locations were accomplished on all T-Sheets at the outset of the field edit.

All deletions, additions, and corrections to the final shoreline manuscript appear on the Master Field Edit Sheets and on the processed cronapague photographs. The Master Field Edit Sheets are indices of all field edit work carried out. All discrepancies and questions listed on the Master Field Edit Sheet and film and paper ozalids are completely and thoroughly answered on the Master. Proper references are included. Special violet ink field notes on the Master Field Sheets are items that were verified by field edit. In addition, the photo number is given as a reference. Special red ink was used to indicate changes or additions found during field edit and have position and location references. Finally, those field notes inked in green are deletions. References, where needed, are included. All notes on the Master Field Edit Sheets which are identified on the cronapague photographs, include the description, height (if a rock) and the photo number on which they were located. All Field Edit information on the smooth boatsheets for H-9593 and H-9594 which were verified by field edit was inked in black, while changes or additions were inked in special red. Unverified items would have been inked in blue, however, verification is complete for all manuscripts and blue was not used.

For a reference of photographs-T-Sheet Manuscripts, refer to "Separates Following the Text". Height data on rocks was estimated to plus or minus 1/2 foot and on bluffs and cliffs to plus or minus 10 feet. Times were referenced to 0° Longitude.

ADEQUACY OF COMPILATION

The compilation of the Manuscripts were adequate and complete. Compilation of the MHWL was generally very good. The MLLWL was compiled, wherever physically possible, by hydrographic Survey Operations and is not discussed in this text. There were numerous discrepancies, other than scale difference distortion, between the photo compiled T-Sheets and the 1:15,000 existing chart of Kaneohe Bay (NOS 19359; C&GS 4134). Except as noted on pages three(3) & five(5) T-Sheets were compiled correctly, with only minor changes verified by field edit. All rocks offshore, and inshore features are labeled and/or discussed on the Master Field Edit Sheet, and wherever possible, verified on the photographs.

Kaneohe Bay has numerous coral reefs both awash, submerged, and exposed. The obtain accurate and detailed depth delineation of these many shoal areas visual walk hydro crews obtained numerous detached pole soundings throughout these areas.

Quality and contrast of the reefs on the cronapaque photographs is excellent and was compared against actual reef conditions during field edit and against the hydrographic data. Some revisions to reef outlines and conditions were made, and are noted and referenced on the Master Field Edit Sheets. A combination of both photograph interpretation and hydrographic survey information is necessary for complete and adequate delineation of the shoal areas. For further information on survey operations, refer to Descriptive Reports, H-9593 and H-9594.

SHORELINE SUMMARIES

TP-00718: Field edit by LTJG Andreen commenced at the junction of TP-00718 and TP-00719 at latitude $21^{\circ} 29' 30''$ N, progressed northward to the manuscript limits at latitude $21^{\circ} 33' 40''$ N, and is complete. The shoreline compilation is generally excellent, with only very minor revisions directly north and south of latitude $21^{\circ} 30' 30''$, and the left tip of Kualoa Point.

The dams in the Molii Pond are verified as being constructed of rock, rip-rap, and small boulders. This area is in the process of becoming a wildlife refuge to adjoin the state park at Kualoa Point.

A small foul area was investigated off the central tip of Kualoa Point. It is small and the surrounding water is shallow, thus this area is not a serious hazard to navigation. The rock off shore, located at approximately $21^{\circ} 30' 30''$ N, $157^{\circ} 50' 15''$ W, was searched for and not found photogrammetrically but the hydrographer did locate this rock. The recommendation is for retention of the rock as shown in the hydrographic records.

The MHWL for Mokolii Island was compared visually with the photograph # 3291 and found accurate. The pipe charted at approximately $21^{\circ} 31' 15''$ N, $157^{\circ} 50' 05''$ W, was search for by the field editor and not found. Heavy surf in this region hampered the investigation process. A change to the hydrographic instructions put this outside the hydrographic projected area and therefore it was not searched for by the hydrographer. It is recommended that

the pipe be retained in its present location.

The region of piers and rip-rap beach between Latitudes $21^{\circ} 31' 15''$ and $21^{\circ} 32' 00''$ was inaccurately compiled. The shoreline is correct, however in the lower portion of this latitude span, the piers are in actuality rock groins extending approximately 8 feet out from the MHWL. The upper portion of this latitude span shows no discrepancies in either shoreline compilation or fore-shore characteristics, thus no field notes were necessary. Finally the tanks in question, charted at approximate latitude and longitude $21^{\circ} 32' 40''$ N, $157^{\circ} 51' 15''$ W were searched for thoroughly and not found. Deletion is recommended.

The coral reef lines showed generally good agreement in manuscript compilation and visual verification in the field. For further information on reef delineation, refer to DESCRIPTIVE REPORT: H-9594, OPR-419-RA-76.

All non-floating aids to navigation and landmarks for charts have been thoroughly researched and answered for this manuscript. Refer to "Separates Following the Text" for Form 76-40's.

TP-00719: Shoreline verification for this manuscript was begun by ENS OSBORN and Mr. MELBY at its junction with TP-00720 at approximate Latitude $21^{\circ} 24' 53''$ N and proceeded northwesterly to the junction with TP-00718. Inshore work was carried out in conjunction with the shoreline edit. Field Edit is complete for this manuscript.

Two small islands not previously compiled or charted were discovered at these approximate positions: 1) $21^{\circ} 24' 50''$ N, $157^{\circ} 47' 05''$ W, and 2) $21^{\circ} 25' 40''$ N, $157^{\circ} 47' 40''$ W. A minor revision of the MHWL is also noted at this first position. The islands are very small earthen masses with sparse grassy growth.

Seven concrete pilings that bare 3 feet were discovered on either side of the pier that serves the shuttling students to Moku-O-Loe-Island ($21^{\circ} 25' 55''$ N, $157^{\circ} 47' 42''$ W). These piles are a potential hazard to mariners unfamiliar with this region. A small inlet located on the southwestern tip of Moku-O-Loe Island was verified to exist. It was not previously compiled on the T-Sheet or charted. Two additional cement blocks at approximate position $21^{\circ} 25' 50''$ N, $157^{\circ} 48' 20''$ W that were not compiled were verified, and should be added to the one presently shown on the T-Sheet. Compilation on the concrete footings was verified. The masts no longer exist on these footings.

A 25 foot bluff was verified at the seaward tip of Kealohi Point. It is rocky in nature with grassy growth extending downward. This bluff is of landmark value to small boaters in the near vicinity. Also note Kaneohe Fishing Pier, just to the northeast of Kealohi Point, at approximate location $21^{\circ} 26' 50''$ N, $157^{\circ} 48' 45''$ W, is now called Heeia Kea Small Boat Harbor. For further information refer to Coast Pilot Report: Kaneohe Bay, OPR-419-RA-76.

Fixed platform ruins were discovered on both sides of the

small boat channel which is cut or dredged through coral reef at approximate position $21^{\circ} 27' 25''$ N, $157^{\circ} 49' 40''$ W. These fixed ruins appear from their location to mark the channel. Their fixed nature warrants charting, and they can be used as an aids to navigation in this area.

The "T" shaped object at the far northern tip of Kahaluu Landing is in actuality a sea wall that has been filled, landscaped, and has a boat landing and covered storage added on its western side. The whole structure is a major portion of a large estate on the point. A small earth filled and landscaped circular seawall that can be interpreted as an island was located and verified 20 meters to the west of the tip of the "T".

A large foul area, within the limits of the main shoreline reef, was verified at approximate location, $21^{\circ} 28' 34''$ N, $157^{\circ} 50' 45''$ W. There are numerous small rocks baring, awash, and submerged within the limits defined on the Master Field Edit Sheet. An acceptable number were photo identified, and form an outline for the foul area. Further to the northeast, along the shoreline, a rocky region awash was verified seaward from a point of land just to the right of a stream outflow, at approximate position $21^{\circ} 29' 15''$ N, $157^{\circ} 50' 45''$ W.. This presents a hazard to small boat navigators who presently moor a short distance up the stream. Small skiffs were observed tied up in the stream, but none were seen to actually make the transit past the rocky region awash.

The Master Field Edit Sheet position of Ahu-O-Laka Island, $21^{\circ} 28' 19''$ N, $157^{\circ} 49' 10''$ W, is grossly inaccurate. Three point sextant fixes were taken at high tide at the water line of Ahu-O-Laka and another island off the tip of the Kaneohe Marine Corps Air Station runway. Geographic positions were computed for each sextant fix. Ahu-O-Laka is actually two small sand islands at high water and is situated in the center of a large sandy reef area. The region between the two portions of island is submerged 1 to 2 feet at high tide. The island near the MCAS runway does not cover as extensive an area as is shown on the Master Field Edit Sheet or on the existing chart. Representative 3 point sextant fixes were also taken on Kapapa Island to verify its geographic position and that of the ledge on the western tip of the island. For further information refer to the Master Sheet and to the "Separates Following the Text".

All Aero Obstructions Lights as well as other non-floating aids to navigation and landmarks that required information as per instructions in the notes to the field editor have been completely answered. Refer to the Master Field Edit Sheet and to the "Separates Following the Text" for position information and Form 76-40's. For a more detailed discussion of survey methods used for location, Horizontal Control Report: Kaneohe Bay, OPR-419-RA-76, can be referenced.

On TP-00719 as on TP-00718, the reef delineation showed good agreement when manuscript and photography were compared.

For further information on the coral reef survey methods used for delineation, refer to Descriptive Reports: H-9593 and H-9594, OPR-419-RA-76.

TP-00720: Shoreline verification began by ENS OSBORN and Mr. MELBY at the tip of the Kaneohe MCAS runway. First priority was to finish the inside bay shore to the junction with TP-00719. Once this was accomplished, field edit continued around the northern shoreline past Pyramid Rock and around Mokapu Point, then southward to the manuscript limits in Kailua Bay at approximate position $21^{\circ} 25' 25''$ N, $157^{\circ} 44' 48''$ W. Field edit is complete on this manuscript.

The mooring pier at Kaneohe Bay Yacht Club at Latitude $21^{\circ} 25' 15''$ N, $157^{\circ} 46' 15''$ W is back with earth that is grown over. The MHWL was verified along this pier and is noted on the Master Field Edit Sheet. It should be charted as shown.

Two small islands that previously were not charted or compiled were verified to exist along the eastern shore of the inner bay region. The approximate locations are 1) $21^{\circ} 25' 28''$ N, $157^{\circ} 46' 04''$ W and 2) $21^{\circ} 25' 14''$ N, $157^{\circ} 46' 05''$ W. Both are earth in composition with small mangrove growths. They should not however be considered as mangrove islands.

A small boat wreck was discovered and verified in the small bay that comprises the Marine Corps Air Station Marina, at approximately $21^{\circ} 26' 35''$ N, $157^{\circ} 45' 52''$ W. It is in very shallow water and appears to be no serious danger to navigation in the Marina. It should however, be charted for completeness.

The waters north of Pali Kilo are an extremely heavy surf zone. Boat investigations here were inconclusive due to the areas inaccessibility. The region was visually inspected from the shoreline south of Pyramid Rock where the height gave a good vantage point. A breaker and foul area was outlined from this vantage point. The region is extremely foul with submerged rocks and boulders. It should be charted as such. This area is a definitely a dangerous area for all vessel traffic. Survey operations could not be undertaken due to its foul and dangerous nature.

All the shoreline surrounding Ulupau Crater is foul with ledges baring and awash plus regions of beach and rock shoreline. Specific rocks in the entire region were adequately searched for and either not found or not photographically identified. It is recommended that the ledges identified on the Master Field Edit Sheet and cronapaque photographs be charted and that specific rocks be retained. It is believed that they are portions of the ledges that extend the highest above the waterline.

A sewer outfall is under construction on the eastern shore of the Mokapu Peninsula at approximate position $21^{\circ} 27' 12''$ N, $157^{\circ} 43' 40''$ W. For final information on its position for charting purposes contact LT Robert Braddock, Assistant Public works Officer, Kaneohe, M.C.A.S., Phone 808-257-2521. The outfall will be of definite landmark value for both large and

small scale charts of Oahu and the northern islands in general.

All non-floating aids to navigation and landmarks for charts have been thoroughly researched and answered for this manuscript. For further information, refer to the Master Field Edit Index and the "Separates Following the Text". Reference the Horizontal Control Report; Kaneohe Bay, OPR-419-RA-76, for a discussion of the geodetic surveying techniques used for location of aids and landmarks.

Except for a small discrepancy at approximate position $21^{\circ} 26' 15''\text{N}$, $157^{\circ} 45' 37''\text{W}$ that is noted on the Master Field Edit Sheet and referenced photograph, the coral reef delineation shows good agreement with actual field observations. For further reef information, reference Descriptive Report: H-9593, OPR-419-RA-76.

ADDITIONAL INFORMATION

Visual Hydrography and photo located signals were a necessary part of the Kaneohe Bay portion of OPR-419-RA-76 to obtain adequate reef delineation in regions too shallow for electronic survey craft. Separate film ozalids for photogrammetrically located signals have been submitted. Information contained on the ozalids are: the number of the signal on the Master List, the photographs used for each ray transferred, and a reference to the "Separates Following the Text", PHOTO SIGNAL COMPUTATIONS. Field computations such as: the meters forward and backward that were scaled, conversion to seconds, and latitude and longitude computations will be found in these separates. Signal locations are listed on the Master Field Edit Sheet, and referenced to the Photo Signal Film Ozalid.

DATA PROCESSING

Position information for the Ahu-O-Laka, Runway, and Kapapa Island location was logged in visual hydrographic format and punched on paper tape. Geographic positions were computed using the ships PDP8/e computer. Data being submitted include visual master and corrector tapes for automated plotting, printouts of the tapes, and printouts of the geographic position computations for each 3 point sextant fix taken. A list of computer programs used follows:

RK 300 UTILITY COMPUTATIONS
Version 2/10/76

AM 602 "ELINORE" (EXTENDED LINE ORIENTED EDITOR)
Version 5/22/76

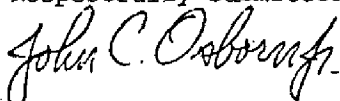
RECOMMENDATIONS

Hydrographic survey data must be used in conjunction with photographic analysis to obtain coral reef delineation. "Walk Hydro" was done over each reef to obtain sounding coverage, and

electronic survey vessels circled and transversed reefs to the extent that was permitted by safety. Coupling the two information sources will not only give excellent delineation but will facilitate the development of adequate depth curves along the steeply sloping sides of the reefs.

Photograph quality was generally very good. Clarity and contrast facilitated good identification for shoreline verification and photo identification of visual signals. Coverage was lacking in some areas however. Excessive area gaps between certain photograph pairs forced six(6) visual signals to be located with only two positioning rays. There were three areas where lacking coverage existed. The first which has already been discussed earlier in this report was the lack of photo coverage for the islands in central Kaneohe Bay. The second was the North-South shoreline on TP-00718. A change in Hydrographic Project Instruction's project limits eliminated the need for photo picked signals in this area. Signals 310 and 316 were picked on the upper limits of TP-00719 using only two rays and they form the boundary of another region of limited coverage. When photo picking with two rays, every attempt was made to locate signals that were easily identifiable and provided strong intersection for the positioning rays. This was accomplished in all cases. However, it is recommended that either future photographs taken be provided for field work, especially, where photo-identified signals are going to be used for hydrography.

Respectfully submitted:



John C. Osborn Jr.

ENS., NOAA

Replaces C&GS Form 567.

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY

☐ HYDROGRAPHIC PARTY
☐ GEODETIC PARTY
☐ PHOTO FIELD PARTY
☒ COMPILATION ACTIVITY
☐ FINAL REVIEWER
☐ QUALITY CONTROL & REVIEW GRP.
☐ COAST PILOT BRANCH

(See reverse for responsible personnel)

REPORTING UNIT
(Field Party, Ship or Office)
Coastal Mapping Div.
AMC, Norfolk, VA

STATE
Hawaii

LOCALITY
Kaneohe Bay, Oahu

DATE
Aug. 1976

OPR PROJECT NO.
419

JOB NUMBER
CM-7215

SURVEY NUMBER
TP-00718

DATUM
Old Hawaiian

CHARTING NAME
CHIMNEY

DESCRIPTION
(Record reason for deletion of landmark or aid to navigation.
Show triangulation station names, where applicable, in parentheses.)
(Large Chimney, 1910)

LATITUDE
32.31
D.M. Meters

LONGITUDE
157 50 17.19
D.P. Meters

POSITION
Old Hawaiian

OFFICE
74THNY 3292

FIELD
F-V-Vis.

METHOD AND DATE OF LOCATION
(See instructions on reverse side)
Dec. 3, 1974 March, 1976

CHARTS AFFECTED
19357
19359

RESPONSIBLE PERSONNEL	
TYPE OF ACTION	NAME
OBJECTS INSPECTED FROM SEAWARD	☐ PHOTO FIELD PARTY ☐ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED	FIELD ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	OFFICE ACTIVITY REPRESENTATIVE ☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE
INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'	
(Consult Photogrammetric Instructions No. 64.)	
OFFICE I. OFFICE IDENTIFIED AND LOCATED OBJECTS Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object. EXAMPLE: 75E(C)6042 8-12-75	FIELD (Cont'd) B. Photogrammetric field positions* require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object. EXAMPLE: P-8-V 8-12-75 74L(C)2982
FIELD I. NEW POSITION DETERMINED OR VERIFIED Enter the applicable data by symbols as follows: F - Field P - Photogrammetric L - Located Vis - Visually V - Verified 1 - Triangulation 5 - Field identified 2 - Traverse 6 - Theodolite 3 - Intersection 7 - Planetable 4 - Resection 8 - Sextant	II. TRIANGULATION STATION RECOVERED When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery. EXAMPLE: Triang. Rec. 8-12-75
A. Field positions* require entry of method of location and date of field work. EXAMPLE: F-2-6-L 8-12-75	III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH Enter 'V-Vis.' and date. EXAMPLE: V-Vis. 8-12-75
**FIELD POSITIONS are determined by field observations based entirely upon ground survey methods. **PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.	

REVIEW REPORT
TP-00718

SHORELINE

April 12, 1978

61. GENERAL STATEMENT:

See Summary, page 6 of this Descriptive Report.

The reef line shown on the map is not the limit of the reef visible on the photographs. It does mark that portion of the reef which is dangerously shoal and shoreward of the breaker line visible on the photographs.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

Not Applicable.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

Not applicable.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

Comparison was made with a copy of Final Verified Smoothsheet H-9594 (RA-10-21-76). There are no significant differences.

65. COMPARISON WITH NAUTICAL CHARTS:

Comparison was made with Chart 19359, 1:15,000 scale, 6th edition dated September 28, 1974.

A pipe shown on the map about 3/4 mile north of Kualoa Point was positioned and identified in the compilation model. There is no field confirmation of its position or existence. The pipe shown on the chart is 800 ft. west of the map position. The source of the charted position should be examined in determining which position should be carried forward.

Placement of the charted shoreline differs significantly from that shown on the map from Kualoa Point to Waikane and Mokolii Island.

Four small piers charted south of Molii Pond are not visible on the photographs.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

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

See Summary, page 6 of this Descriptive Report.

Submitted by:

A. L. Shands

A. L. Shands
Final Reviewer

Approved for forwarding

Billy H. Barmen

for Jeffrey G. Carlen, Cdr.
Chief, Coastal Mapping Division, AMC

Approved:

Billy H. Barmen

Chief, Photogrammetric Branch

John D. Cavanaugh Jr.

James Allen

Chief, Coastal Mapping Division