

11818

11818

<p>Form 504</p> <p>U. S. DEPARTMENT OF COMMERCE</p> <p>COAST AND GEODETIC SURVEY</p> <p>DESCRIPTIVE REPORT</p>
<p>Type of Survey <u>Shoreline (Photogrammetric)</u></p> <p>Field No. _____ Office No. <u>T-11818</u></p>
<p>LOCALITY</p> <p>State <u>Hawaii</u></p> <p>General locality <u>Molokai</u></p> <p>Locality <u>Ilio Point</u></p>
<p><u>1960-1968</u></p> <p>CHIEF OF PARTY</p> <p><u>H.J. Seaborg, Chief of Party</u></p> <p><u>P.A. Stark, Photogrammetric Office</u></p>
<p>LIBRARY & ARCHIVES</p> <p>DATE _____</p>

DESCRIPTIVE REPORT - DATA RECORD

T-11818

PROJECT NO. (II):

~~24044~~ PH-6201

FIELD OFFICE (II):

HONOLULU, HAWAII

CHIEF OF PARTY

H. J. SEABORG

PHOTOGRAMMETRIC OFFICE (III):

PORTLAND, OREGON
Atlantic Marine Center, Norfolk, Virginia

OFFICER-IN-CHARGE

P. A. STARK
J. Bull, RADM, Director, AMC

INSTRUCTIONS DATED (II) (III):

APRIL 25, 1962 II

MAY 31, 1962 III

AMENDMENT I DECEMBER 14, 1962 III

AMENDMENT II FEBRUARY 20, 1963 III

AMENDMENT III JANUARY 8, 1964 III

Amendment IV April 24, 1967

METHOD OF COMPILATION (III):

KELSH INSTRUMENT

MANUSCRIPT SCALE (III):

1:5,000

STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III):

PANTOGRAPH SCALE: 1:3000
1:5000

DATE RECEIVED IN WASHINGTON OFFICE (IV):

DATE REPORTED TO NAUTICAL CHART BRANCH (IV):

APPLIED TO CHART NO.

DATE:

DATE REGISTERED (IV):

GEOGRAPHIC DATUM (III):

OLD HAWAIIAN

VERTICAL DATUM (III):

MEAN ~~SEA~~ ^{HIGH WATER} LEVEL EXCEPT AS FOLLOWS:

Elevations shown as (25) refer to mean high water

Elevations shown as (5) refer to sounding datum

i.e., ~~mean low water~~ or mean lower low water

REFERENCE STATION (III):

SAND, 1950

LAT.:

21° 13' 13.04"

LONG.:

157° 15' 41.47"

☒ ADJUSTED☐ UNADJUSTED

PLANE COORDINATES (IV):

Y = 322,524.71

X = 297,394.36

STATE

HAWAII

ZONE

2

ROMAN NUMERALS INDICATE WHETHER THE ITEM IS TO BE ENTERED BY (II) FIELD PARTY, (III) PHOTOGRAMMETRIC OFFICE,
OR (IV) WASHINGTON OFFICE.

WHEN ENTERING NAMES OF PERSONNEL ON THIS RECORD GIVE THE SURNAME AND INITIALS, NOT INITIALS ONLY.

DESCRIPTIVE REPORT - DATA RECORD

FIELD INSPECTION BY (II): LEONARD F. VAN SCOY		DATE: JANUARY- OCTOBER 1962
MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION): AUGUST 29, 1962 BY FIELD INSPECTION COMPILATION BY KELSH INSTRUMENT		
PROJECTION AND GRIDS RULED BY (IV): A. E. ROUNDTREE		DATE 1-4-64
PROJECTION AND GRIDS CHECKED BY (IV): P. SILVERMAN		DATE 1-7-64
CONTROL PLOTTED BY (III): D. N. WILLIAMS		DATE 2-3-65
CONTROL CHECKED BY (III): W. MABULA		DATE 2-3-65
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III): H. P. EICHERT		DATE DEC. 1964
STEREOSCOPIC INSTRUMENT COMPILATION (III):	PLANIMETRY J. S. PLACE	DATE 2-10-65
	CONTOURS NONE	DATE
MANUSCRIPT DELINEATED BY (III): J. S. PLACE C. H. Bishop (Photo-Hydro points and junction w/T-11819)		DATE 2-12-65 Sept. 1967
SCRIBING BY (III): B. L. BARGE		DATE 10-28-69
PHOTOGRAMMETRIC OFFICE REVIEW BY (III): J. L. HARRIS C. H. Bishop (Compilation done by A.M.C.)		DATE 7-6-65 Sept. 1967
REMARKS: FIELD EDIT BY: R. L. NEWSOM MARCH & APR. 1968		

DESCRIPTIVE REPORT - DATA RECORD

CAMERA (KIND OR SOURCE) (III):

C&GS SINGLE LENS "W"

PHOTOGRAPHS (III)

NUMBER	DATE	TIME	SCALE	STAGE OF TIDE
60 W 2182 AND 2184	OCT. 2, 1960	09:55	1:25,000	1.0' ABOVE M.L.L.W.
60 W 2188 THRU 2191	OCT. 2, 1960	10:00	1:25,000	1.0' ABOVE M.L.L.W.
61 W 806 THRU 810	SEPT. 24, 1961	08:39	1:15,000	0.3' ABOVE M.L.L.W.
61 W 1036 THRU 1039	SEPT. 24, 1961	12:11	1:15,000	1.2' ABOVE M.L.L.W.
COLOR PHOTOS				
60 W(c) 2563 THRU 2567	OCT. 10, 1960	08:26	1:10,000	1.6' ABOVE M.L.L.W.
60 W(c) 2571 AND 2574	OCT. 10, 1960	08:33	1:10,000	1.6' ABOVE M.L.L.W.
				COMPUTED FROM TABLES OF PREDICTED TIDES.

TIDE (III)

DIURNAL

	RATIO OF RANGES	MEAN RANGE	XXXXXXX RANGE
REFERENCE STATION: HONOLULU, HAWAII		1.2	1.9
SUBORDINATE STATION: WAIMANALO, HAWAII		1.1	1.8
SUBORDINATE STATION:			

WASHINGTON OFFICE REVIEW BY (IV):

Leo F. Beugnet, Atlantic Marine Center

DATE:

July, 1970

PROOF EDIT BY (IV):

DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (II):

3

RECOVERED:

3

IDENTIFIED:

2

NUMBER OF BM(S) SEARCHED FOR (II):

NONE

RECOVERED:

IDENTIFIED

NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):

~~2~~ None

NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III):

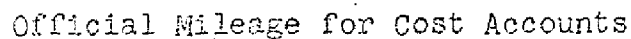
~~NONE~~ 2

REMARKS:

T-11818

COMPILATION RECORD	COMPLETION DATE	REMARKS
Alongshore Area for Hydro.	February 12, 1965	<i>Superseded</i>
Shoreline Completed	August 1967	<i>Superseded</i>
<i>Field Edit Applied, Compilation Complete</i>	<i>June 1969</i>	

SHORELINE MAPPING
1:5,000 AND 1:10,000 SCALES
MOLOKAI ISLAND HAWAII



Sheet No.	Shoreline Lin. Mi.	Area Sq. Mi.	Sheet No.	Shoreline Lin. Mi.	Area Sq. Mi.
11818	4	4	11952	3	3
11819	6	6	11953	3	3
11820	6	6	11954	2	2
11821	4	4	11955	3	3
11822	3	3	11956	3	3
11823	1	1	11957	6	6
11824	3	3	11958	5	5
11825	3	3	11959	3	3
11826	3	3	11960	6	6
11827	6	6	11961	3	3
11828	9	9	11962	4	4
			11963	3	3
			11964	3	3
			11965	3	3
			Total	98	98

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT T-11818

Shoreline survey T-11818 is one of twenty-five similar surveys in Project PH-6201. The maps in this project cover the entire coast of Molokai Island, Hawaii. This survey covers part of the north and west coast in the area of Illo Point.

Field work preceding compilation consisted of identification of horizontal control, field and shoreline inspection, location of fixed aids to navigation, selection of landmarks for charts, and identification of photo-hydro signal sites. All identification and inspection was on contact prints of panchromatic photographs.

Compilation was at 1:5,000 scale by Kelsh Instrument, using the panchromatic photography of September 24, 1961. Cronaflex copies of the manuscript, along with specially prepared photographs and ozalids, were subsequently provided for preparation of the boat sheet, location of photo-hydro signals, and field edit purposes.

The manuscript was a vinylite sheet 2 minutes in latitude by 2 minutes 30 seconds in longitude. Field edit was accomplished in March-April 1968. After application of field edit, the survey was scribed and reproduced on cronaflex. Final review was in the Atlantic Marine Center in July 1970. One cronaflex and a negative of the final-reviewed map are forwarded for record and registry.

FIELD INSPECTION REPORT

Map Manuscripts
T-11952 thru 11965
T-11818 thru 11828

Project PH-6201

January - October 1962

2. AREAL FIELD INSPECTION

The area covered by this report encompasses the whole of the island of Molokai. This is the fifth largest of the group of islands that form the State of Hawaii. The island was originally formed by the eruption of two volcanos. One was located somewhere near the east end of the island and the other somewhere near the west end. Following these eruptions the numerous deep drainages were created by stream erosion and the ocean created the great cliffs along the north coast. A later eruption formed the Mahanalu Peninsula on the north central coast. The Kauhako Crater remains as evidence of this eruption. The highest peak is Kanakou which is 4958 feet above sea level.

The climate of the island varies considerably depending on the elevation and location in relation to the prevailing trade winds. The mean annual temperature at sea level is about 74 degrees. The temperature seldom varies more than 10 degrees except at the higher elevations. The yearly rainfall varies from about 7 inches around Kaunakakai to over 150 inches in the high mountain sections of the northeast.

The only port in use on the island is located at Kaunakakai. A small wharf connected to the shore by a long mole is used to load and unload barges, and serve small commercial and private boats. At one time a railroad connected the wharf to the area now known as Hoolehua Homesteads. It was abandoned soon after completion as the sugar plantation it was constructed to serve was a failure. The economy of the island is almost wholly dependent on the growing of pineapple and cattle ranching.

The wharf located at Kolo was used for a time to load pineapple from the Maunaloa area. It was later abandoned and since that time has been partially destroyed by fire. The wharf located at Kamalo is now in poor condition and seldom used except by an occasional small fishing or pleasure boat. The wharf located at Pukoo is no longer in evidence. Located at Haleoloh is a small harbor protected by a breakwater. This is a private harbor and is used to load sand and cinder barges for shipment to Oahu. A small private airstrip is located along the easterly breakwater.

Located on the Makenalua Peninsula is the small settlement of Kalau-papa. The settlement is maintained by the State of Hawaii, Department of Health for the treatment of Hansen's Disease (Leper³³⁴sey). Special permission must be obtained from the state before visiting this area. No facilities for serving the public are permitted on the peninsula. The U.S. Coast Guard maintains an isolated light station at the northern tip of the peninsula. The area is served by limited airplane service and supplies are brought in by barge at infrequent intervals. A small wharf protected by a short break-water is located at the settlement. This area is isolated from the remainder of the island except for a foot trail that leads down the steep rocky cliffs from the top of the pali southwest of the settlement.

Shoreline around the island vary from the almost vertical rock cliffs along most of the north and east coast, to the narrow and relatively flat coastal areas along the south coast. Most of the south coast is protected by an offshore reef. A few sandy beaches are located along the south and west coasts. Most of the north coast is accessible only by boat and any landings there should be attempted with extreme caution.

Photography was adequate for the identification of horizontal control and shoreline inspection for most of the island. A few sections of the shoreline along the northeast coast of the island were in complete shadow from the most vertical cliffs.

The shoreline for the entire island was visually inspected on the mean high water noted on the field photographs. The shoreline along the north coast except for the Makenalua Peninsula was inspected by cruising offshore in a small boat. The work was difficult due to the small size of the boat, the rough seas, and strong winds. A few landings were made on the more prominent points along the northeast coast. The remainder of the island was inspected by walking the shoreline in the more accessible areas, and by observations from vantage points along bluffs and cliffs where the shoreline could not be otherwise visited. Scattered sections of the shoreline along the south coast were obscured by overhanging Keawe trees and dense growths of Mangrove trees.

3. HORIZONTAL CONTROL

(a) The following described intersection stations were located by traverse or triangulation as nautical aids, aeronautical aids, and landmarks.

- Molokai Lighthouse
- Molokai Airport Beacon
- Waihuna, Aero Beacon Red Light
- Kaulapuu, Aero Beacon Red Light

Molokai VOR (133K)
 Puu Apalu, Tank
 Ilio Pt., Coast Guard Loran Mast
 Waiahewahewa, Aero Beacon Red Light
 Laau Pt. Light
 Kaunakakai Harbor, Entrance Range, Front Light
 Kaunakakai Harbor, Entrance Range, Rear Light

(b) No datum adjustments were made by the field party.

(c) WAIELI 2, 1945 was the only control station identified that was not established by the Coast and Geodetic Survey. This station was established by the Territory of Hawaii and can be considered as third order accuracy. The station was destroyed before it could be tied to the 1962 work. HELENA, 1962 which is located about a half mile west of this station was later identified. All other control stations identified were established by the Coast and Geodetic Survey or tied to by the geodetic party during the 1962 season. Many of the old stations could not be recovered and new stations had to be established to meet the control requirements.

(d) Control stations were positively identified in all areas indicated on the control diagram.

(e) All control stations within the limits of the project except for a few along the inaccessible northeast coast of the island were searched for. Part of this recovery was performed by the geodetic party located on the island. All stations searched for were listed on Form 526 which was submitted to the Honolulu District Officer. A complete list of all stations reported lost on Form 526 would have to be obtained from the Honolulu District Officer or the Division of Geodesy. No stations that were listed as lost were identified for use in the plot.

(g) The quality of identification of each station or substitute station has been indicated on the control station identification card. None of the identification was considered to be sub-standard.

4. VERTICAL CONTROL

The only vertical control requirement was the recovery of all tidal bench marks in the project area and identification of one mark in each of the groups.

All tidal bench marks listed at Fukoo, Kamalo, Kaunakakai, and Kolo were searched for. A total of 18 bench marks were searched for. All marks were listed on Form 685 which was submitted to the Honolulu District Officer.

10 X

A total of 13 U. S. Geological Survey bench marks were searched for. These marks were used in conjunction with the tellurometer traverse work on the island and for use in determining the elevation of landmarks. All marks were listed on Form 685 which was submitted to the Honolulu District Officer.

5. CONTOURS AND DRAINAGE

Contours not applicable

Drainage is self evident on the photographs. All streams except for a few in the larger valleys of the northeast coast and near the east end of the south coast are intermittent. During the wet season there are dozens of waterfalls cascading from the tops of the cliffs and rims of the valleys of the northeast coast. Marsh areas have been indicated on the field photographs.

6. WOODLAND COVER

The mountainous areas of the northeast part of the island is covered with a dense growth of native ferns and hardwoods. A large stand of planted softwoods is located along the top of the pali in the north central part of the island. Keawe trees which were introduced to the island about 100 years ago cover most of the remainder of the island except for the cultivated areas. Along the mud flats of the south coast there are scattered stands of introduced Mangrove trees.

7. SHORELINE AND ALONGSHORE FEATURES

(a) The mean high water line was indicated on the photographs. Along some sections of the northeast coast the shoreline was obscured due to the shadows created on the photographs from the almost vertical cliffs. In some areas of the south coast the shoreline was partially obscured by low overhanging Kiawe trees. In most cases this overhang was less than 10 meters and the approximate correct location was indicated on the photographs. Also along the south coast there are scattered stands of Mangrove trees. In these areas the mean high water line was indicated as apparent shoreline.

The shoreline along the north, east, and small areas of the west and southwest coast contain many areas of alongshore rocks, projecting reefs and ledges, and almost vertical bluffs. These features combined with a normally heavy surf breaking along the shore tend to confuse the location of the mean high water line on the photographs.

Where possible especially along the beach areas and the more accessible sections of the coast the location of the mean high water line was determined by measurements to near by objects.

(b) The low water line was not indicated on the photographs.

(c) Where possible the character of the foreshore was indicated on the photographs.

(d) The north, east, and sections of the west and southwest coast is bordered by rocky cliffs. In some cases these cliffs are over 2000 feet high. Along most of the south coast, sections of the west coast, and the Moomomi area the land has a more gradual slope with a small relatively flat area adjacent to the coast.

(e) The only unnatural features to be found in the project area were located at Kalaupapa, Kamalo, Kaunakakai, Kolo, and Haleolono. All information regarding these features was indicated on the field photographs.

(f) Not applicable

(g) Along the south shore there are the remains of many fishponds. The stone walls for some of these have been completely leveled and for most of the others large sections of the walls have been leveled. The location of these fishponds is apparent on the photographs.

8. OFFSHORE FEATURES

Offshore rocks are located along many areas of the north, east, and sections of the west and southwest coast. Most of these rocks that are visible on the photographs are adjacent to the shore. In these areas it is probable that there are many rocks that are not visible on the photographs but are close enough to the surface of the water to consider the foreshore as being foul with submerged rocks. The height of many of the rocks along the shore were estimated at the time the shoreline was inspected.

A reef about 0.5 to 1.0 mile offshore is located along most of the south coast. Between the reef and the shore there are scattered areas of sand and many coral heads that project at low water.

9. LANDMARKS AND AIDS

(a) All charted landmarks were investigated by the field party. A total of 13 old landmarks were deleted from the charts and four old landmarks were retained. A total of 11 new landmarks were selected for charting. The old landmarks which were to be deleted were indicated on the sections of the charts on which they appeared. These sections of the charts will be submitted with the field records. All old landmarks that were retained and the new landmarks selected for charting were listed on Form 567, and the elevation for each landmark was determined by the field party.

(b) No interior landmarks were selected for charting.

(c) The geographic positions for the following charted aeronautical aids was determined by traverse or triangulation during the 1962 field season.

Molokai, Airport Beacon
 Waiahewahewa, Aero Beacon Red Light
 Waihuna, Aero Beacon, Red Light
 Kualapuu, Aero Beacon, Red Light

The geographic position of one new aeronautical aid selected for charting was determined during the 1962 field season.

Molokai VOR (MKK)

All aeronautical aids to be charted were listed on Form 567 and the elevation for each aid was determined by the field party.

(d) The geographic positions of the following list of aids to navigation was determined by the field party during the 1962 season.

Molokai Lighthouse
 Laau Pt. Light
 Ilio Pt., Coast Guard Loran Mast
 Kaunakakai Harbor, Entrance Range, Front Light
 Kaunakakai Harbor, Entrance Range, Rear Light

All nautical aids to be charted were listed on Form 567 and the elevation for each aid was determined by the field party.

(e) Not applicable

10. BOUNDARIES, MONUMENTS, AND LINES

Not applicable

11. OTHER CONTROL

No recoverable topographic stations were established.

In all areas where identifiable objects could be found photo hydro sites were selected. In some cases it will be necessary to locate a more suitable location for the hydrographic signals from the selected photo hydro sites.

12. OTHER INTERIOR FEATURES

All roads in the project area were classified on the field photographs in compliance with the project instructions.

All public buildings with their function was indicated on the field photographs.

The main airport serving the island is located south of the Hoolehua Homestead area in the central section of the island. A small airport for use by small aircraft is located on the Makanalua Peninsula. A small private airstrip is located at Haleolon near the southwest end of the island.

No bridges or overhead cable crossings over navigable water are located in the project area. There are no submerged cables connecting the island with other areas.

13. GEOGRAPHIC NAMES

Not Applicable

Approved: **OCT 30 1962**
H. J. Seaborg
H. J. Seaborg
Capt., C & G S
Honolulu District Officer

Respectfully submitted:
Leonard F. Van Scoy
Leonard F. Van Scoy
Supervisory Survey Technician
Unit Chief, C & G S

Photogrammetric Plot Report

Project 21044

Molokai, Hawaii

December, 1964

21. Area Covered

This report pertains to the remainder of the Island of Molokai. It covers surveys T-11818 thru T-11824.

22. Method

Three strips were bridged by analytic aerotriangulation. Strips 6 and 7 were at a scale of 1:15,000 and strip 8 at 1:25,000.

During the processing of the data for strip 8, distortions were evident at the eastern terminal. Model 2169-70 was eliminated from the bridge, and model 2170-2171 appeared to have distortions also in the center and north side although the two tie points on the south side of the model agreed well with strips 4 and 6. Fortunately these models were not needed as the area is adequately covered by strips 6 and 7.

23. Adequacy of Control

The failure of horizontal points in strip 8 to hold together beyond point 86110 and 11 was attributed at first to a possible datum difference. This could not be proved. When additional measurements and a study of the cantilever output indicated distortions in the bridge, this idea was discarded.

Although control point 10100 would not hold well with 86110 and 11 in strip 8, when 10100 was used as a terminal in strip 7, tie point 10403 agreed reasonably well with strip 8.

Control complied with project instructions and was adequate.

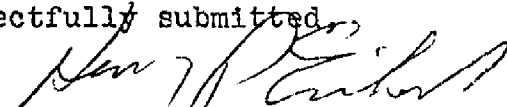
24. Supplemental Data

None

25. Photography

Photography was adequate with regard to coverage, overlap, and definition.

Respectfully submitted,


Henry P. Eichert, Acting Chief,
Aerotriangulation Section



MOLOKAI ISLAND, HAWAII

PROJECT 21044

LEGEND

- A CONTROL USED IN ADJUSTMENT
 A CONTROL USED AS CHECK
 O TIE POINTS

- (11) NAHAEULA 2, 1962 Sub. Pl. A (+0.3, +0.9) Sub. Pl. B (+2.8, -1.1)
 - (12) POHAKUNOI, 1888 (40.1, -1.2) Sub. Pl. A (-2.8, +0.8) Sub. Pl. B (-10.0, -3.2)
 - (13) MOOMOMI, 1962 Sub. Pl. A (-16.2, 7) Sub. Pl. B (-10, -5.3)
 - (14) LAINA (KAA) 1926 Sub. Pl. A (0.0, 4.9)
 - (15) PUU O KAIKA, 1915 Sub. Pl. A (+1.2, -2.1) Sub. Pl. B (-6.7, 1.0)
 - (16) SAND 1950 (Sub. Pl. A (+2.6, 1.9) Sub. Pl. (+2.0, 16.8)
 - (17) KAO 1926 Sub. Pl. A (+2.3, 9.1) Sub. Pl. B (0.7, +8.9)
 - (18) PUU KAPELE, 1888 Sub. Pl. A (+2.9, -1.2) Sub. Pl. B (-1.4, -5.0)
 - (19) POWAHI 1962 Sub. Pl. A (+2.1, 20.0)
- Sub. Pls. for SAND 1930 were considered poor at the time of plate measurement

LEGEND

△ Control used in adjustment

△ Control used as check

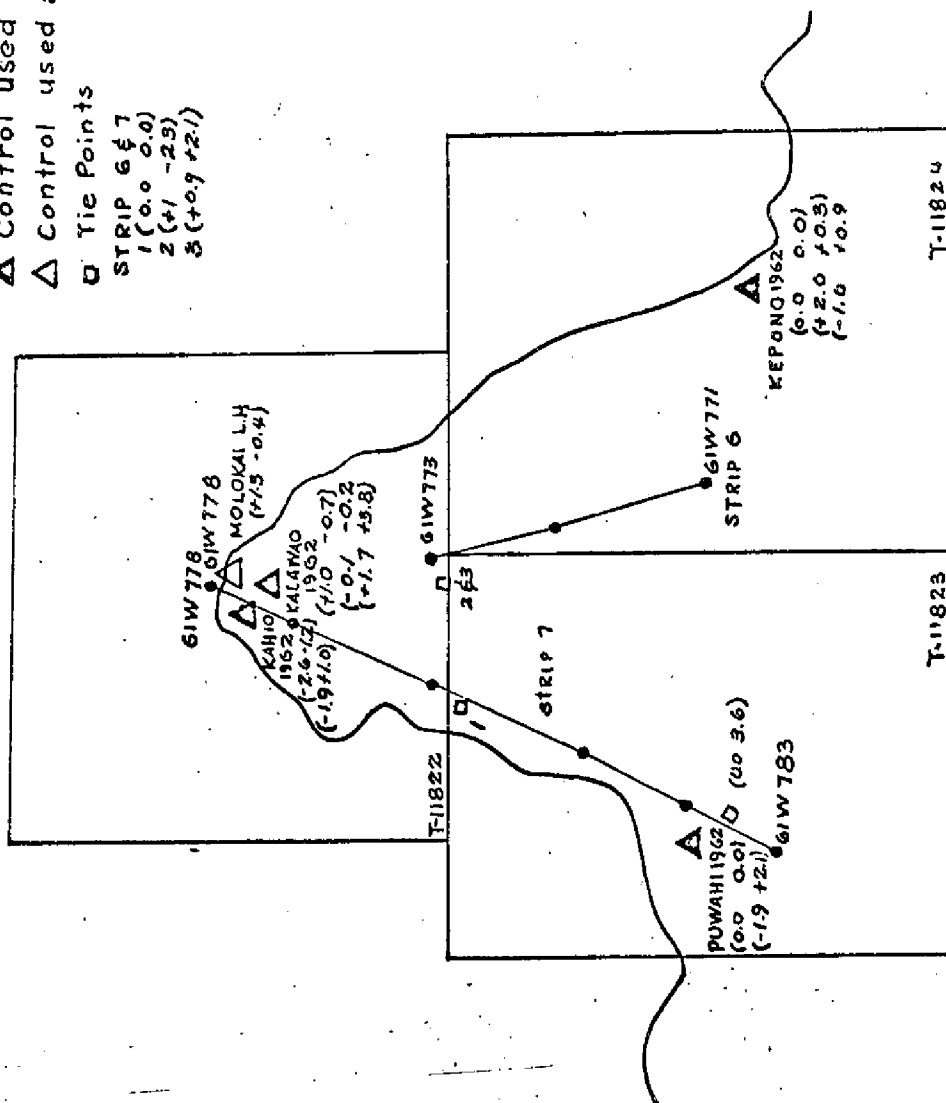
□ Tie Points

STRIP 6 7

1 (0.0 0.0)

2 (+1 -2.3)

3 (+0.9 +2.1)



AEROTRIANGULATION SKETCH

MOLOKAI ISLAND HAWAII

PROJECT 21014

DESCRIPTIVE REPORT CONTROL RECORD

NONE

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR Y COORDINATE LONGITUDE OR X COORDINATE	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS (1 ft. = 3048006 meter)	
				FORWARD	(BACK)
ILIO POINT, COAST GUARD LORAN MAST, 1962	P.C. P.30	OLD HAWAIIAN	322,240.88	2,240.88	2,759.12
			298,219.12	3219.12	1,780.89
CLIFF, 1950	P.12	"	324,048.00	4,048.00	952.00
			299,223.00	4,223.00	777.00
SAND, 1950	P.26	"	322,524.71	2,524.71	2,475.29
			297,394.36	2,394.36	2,605.64
COMPUTED BY L. L. GRAVES	DATE 2-16-64	CHECKED BY J. L. H.	DATE 2-12-64	17	

COMPLETED BY

Y L. L. GRAVES

DATE _____

2-16-64

CHECKED BY J. L. H.

DATE _____

2-12-64

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COMPILATION REPORT

MAP MANUSCRIPT T-11818

PROJECT 21044

ITEMS 31 THRU 33:

REFER TO THE COMPILATION REPORT FOR T-11822.

34. CONTOURS AND DRAINAGE:

CONTOURS ARE NOT APPLICABLE.

THE ONLY DRAINAGE FIELD INSPECTED IS THE INTERMITTENT STREAM THRU KAWAKIU GULCH.

35. SHORELINE AND ALONGSIDE DETAILS:

FIELD INSPECTION WAS ADEQUATE FOR THE DELINEATION OF THE MEAN HIGH WATER LINE. AN APPROXIMATE LOW WATER LINE AND THE LIMITS OF A SHALLOW AREA ARE SHOWN AS INTERPRETED FROM OFFICE INSPECTION OF THE COLOR PHOTOGRAPHY.

36. OFFSHORE DETAILS:

NONE.

37. LANDMARKS AND AIDS:

ONE LANDMARK SHOWN ON THIS MANUSCRIPT HAS BEEN RECOMMENDED FOR CHARTING. FORM 567 IS SUBMITTED.

38. CONTROL FOR FUTURE SURVEYS:

NONE.

39. JUNCTIONS:

SATISFACTORY JUNCTION WAS MADE WITH T-11952 TO THE SOUTH, AND ~~THE JUNCTION~~ WITH T-11819 ON THE EAST, ~~AS AWAITING COMPLETION OF THE INDICATED MANUSCRIPT.~~ THE PACIFIC OCEAN IS ON THE WEST AND NORTH.

40. HORIZONTAL AND VERTICAL ACCURACY:

46. COMPARISON WITH EXISTING MAPS:

COMPARISON WAS MADE WITH THE U.S.G.S. UETO POINT, HAWAII
QUADRANGLE, SCALE 1:24,000, EDITION 1952.

47. COMPARISON WITH NAUTICAL CHARTS:

COMPARISON WAS MADE WITH:

NAUTICAL CHART 4120, SCALE 1:80,000 AT LAT. 21° 01',
1ST EDITION, REVISED 2-4-63.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY:

NONE.

ITEMS TO BE CARRIED FORWARD:

NONE.

APPROVED:

(for) *P.A. Stark*
P.A. STARK, COR.C&GS
PORTLAND FIELD OFFICER

SUBMITTED:

James L. Harris
JAMES L. HARRIS
CARTOGRAPHER

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COMPILATION REPORT (SUPPLEMENT I)
Map Manuscript T-11818
Project PH-6201

This map was completed in the Portland Photogrammetric Office in July 1965 except for making a junction with T-11819 to the east and processing hydrographic support photographs. These items were completed by the Photogrammetric Section of the Atlantic Marine Center in September 1967.

Charles H. Bishop

October 1967

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6201

T-11818

ANAPUKA

HAWAII (title)

ILIO POINT

KAWAIIHAU COVE

KAWAKIU GULCH

KAWAKIUIKI COVE

KAWAKIUNUI COVE

KEONEHANAU

MOLOKAI

PACIFIC OCEAN

PUEOAO

Approved by:

*A. J. Wraight*A. J. Wraight
Chief Geographer

Prepared by:

*F. W. Pickett*Frank W. Pickett
Cartographic Technician

49. NOTES FOR THE HYDROGRAPHER

Refer to the Field Edit Ozalid.

Photo-hydro points were selected by the field inspector in 1962.

The following is a list of photo-hydro points that are shown on the manuscript and cronapaque ratio prints for your use if they are still in existence.

<u>Point</u>	<u>Description</u>
1801	Clump of brush
1802	Top of 25 foot rock

PHOTOGRAMMETRIC OFFICE REVIEW

T-11818

1. PROJECTION AND GRIDS ✓	2. TITLE ✓	3. MANUSCRIPT NUMBERS ✓	4. MANUSCRIPT SIZE ✓
CONTROL STATIONS			
5. HORIZONTAL CONTROL STATIONS OF THIRD-ORDER OR HIGHER ACCURACY ✓	6. RECOVERABLE HORIZONTAL STATIONS OF LESS THAN THIRD-ORDER ACCURACY (Topographic stations) ✓		7. PHOTO HYDRO STATIONS ✓
8. BENCH MARKS	9. PLOTTING OF SEXTANT FIXES	10. PHOTOGRAMMETRIC PLOT REPORT ✓	11. DETAIL POINTS ✓
ALONGSHORE AREAS (Nautical Chart Data)			
12. SHORELINE ✓	13. LOW-WATER LINE ✓	14. ROCKS, SHOALS, ETC. ✓	15. BRIDGES ✓
16. AIDS TO NAVIGATION ✓	17. LANDMARKS ✓	18. OTHER ALONGSHORE PHYSICAL FEATURES ✓	19. OTHER ALONGSHORE CULTURAL FEATURES ✓
PHYSICAL FEATURES			
20. WATER FEATURES ✓		21. NATURAL GROUND COVER	22. PLANETABLE CONTOURS
23. STEREOSCOPIC INSTRUMENT CONTOURS	24. CONTOURS IN GENERAL	25. SPOT ELEVATIONS	26. OTHER PHYSICAL FEATURES
CULTURAL FEATURES			
27. ROADS ✓	28. BUILDINGS ✓	29. RAILROADS	30. OTHER CULTURAL FEATURES
BOUNDARIES			
31. BOUNDARY LINES		32. PUBLIC LAND LINES	
MISCELLANEOUS			
33. GEOGRAPHIC NAMES ✓		34. JUNCTIONS ✓	35. LEGIBILITY OF THE MANUSCRIPT ✓
36. DISCREPANCY OVERLAY	37. DESCRIPTIVE REPORT ✓	38. FIELD INSPECTION PHOTOGRAPHS ✓	39. FORMS ✓
40. REVIEWER <i>Leo F. Baugher</i>		SUPERVISOR, REVIEW SECTION OR UNIT <i>Leo F. Baugher</i>	
41. REMARKS (See attached sheets)			
FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT			
42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete, except as noted under item 43.			
COMPILER <i>Albert C. Rauck, Jr.</i> Rev. by: <i>R. E. Smith</i> <i>P. E. Smith</i>		6/20/69 10/3/69 SUPERVISOR <i>Albert C. Rauck, Jr.</i> Albert C. Rauck, Jr.	
43. REMARKS Field edit applied from: Field edit ozalid Matte Ratios - 61W-807, 808, 810			

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Field Edit Report
To Accompany T 11818

USC&GSS McARTHUR

Ronald L. Newsom
CDR, USESSA
Commanding Officer

51 METHODS

Manuscript T 11818 was field edited by personnel aboard the USC&GSS McARTHUR in conjunction with hydrography on boatsheet AR 5-4-67 H 8972, AR 20-3-68 H 8973 and AR 10-3-68 H 8994. The shoreline was inspected from Launches and Skiffs. Constant heavy swell made it impossible to determine the MLLW line.

Field edit information was shown on three (3) ratio prints 61W810, 61W808 and 61W807 and the field edit ozalid, and indexed on one (1) field edit ozalid copy of T 11818 in violet ink.

52 ADEQUACY OF COMPILATION

Manuscript T 11818 was completely adequate for hydrography, however the location of the bluff line is deceptive on the manuscript.

54 RECOMMENDATIONS

The bluff line along the north shore should be re-located to indicate the existance of sheer cliffs along the north shore or another symbol adopted to indicate the existance of vertical cliffs.

REVIEW REPORT T-11818

SHORELINE

JULY 9, 1970

61. GENERAL STATEMENT

See Summary, which is page 6 of the Descriptive Report.

62. COMPARISON WITH REGISTERED SURVEYS

There was no registered survey of this area available at the time of final review.

63. COMPARISON WITH MAPS OF OTHER AGENCIES

Comparison was made with USGS ILIO POINT, HAWAII, 8.5 x 7.5 minute quadrangle, 1:24,000 scale, edition of 1952. The two surveys are in good general agreement.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

Comparison was made with copies of boat sheets H-8972, AR-5-4-67; H-8968, AR-10-2-67; and H-8982, AR-20-3-68. The shoreline on the boat sheets is in good agreement with that of T-11818.

The following differences in rock data on H-8982 were noted:

A rock awash near latitude $21^{\circ} 13' 29''$, longitude $157^{\circ} 15' 00''$, as shown on the boat sheet, is southeast of its true position.

Four rocks near latitude $21^{\circ} 13' 18''$, longitude $157^{\circ} 14' 07''$ are not on the boat sheet.

65. COMPARISON WITH NAUTICAL CHARTS

A visual comparison was made with Chart 4120, 3rd edition, October 14, 1968. The two surveys appear to be in good general agreement.

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66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

This survey complies with instructions and meets the National Standards of Map Accuracy.

Reviewed by:

Leo F. Beugnet

Leo F. Beugnet
Cartographer

Approved by:

Allen L. Powell

Allen L. Powell, RADM, USESSA
Director, Atlantic Marine Center

Approved by:

Charles H. Hannon
Chief, Photogrammetric Branch *CHH*

Jack E. Guth
Chief, Photogrammetry Division

STRIKE OUT TWO

NON-LOCATING THESE OR LANDMARKS FOR CHARTS

Portland, Oregon

I recommend that the following objects which have ~~not~~ been inspected from seaward to determine their value as landmarks be charted on *(deleted from)* the charts indicated.

The positions given have been checked after listing by James I. Harris

P. A. Stark

Chief of Party:

[illegible]

This form shall be prepared in accordance with Hydrographic Manual, Publication 20.2, Sec. 1-55, 2-39, 6-36, 7-18 to 22 inclusive, and Fig. 79. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. Revisions shall show both the old and new positions. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

TABULATE SECONDS AND METERS

USCOMM-DC 18294-P6