

11958

11958

Form 504
U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
<b>DESCRIPTIVE REPORT</b>
Type of Survey <b>SHORELINE (PHOTOGRAMMETRIC)</b>
Field No. .... Office No. <b>T-11958</b>
<b>LOCALITY</b>
State <b>HAWAII</b>
General locality <b>MOLOKAI</b>
Locality <b>KALUAAPUHI FISHPOND</b>
<b>1960-1967</b>
<b>CHIEF OF PARTY</b>
<b>H. J. SEABORG</b>
<b>P. A. STARK, PHOTOGRAMMETRIC OFFICE</b>
<b>LIBRARY &amp; ARCHIVES</b>
DATE .....

## DESCRIPTIVE REPORT - DATA RECORD

T - 11958

PROJECT NO. (II):

~~21054~~ PH-6201

FIELD OFFICE (III):

HONOLULU, HAWAII

CHIEF OF PARTY

H. J. SEABORG

UNIT CHIEF

L. F. VAN SCOY

PHOTOGRAMMETRIC OFFICE (III):

PORTLAND, OREGON

OFFICER-IN-CHARGE

P. A. STARK

INSTRUCTIONS DATED (II) (III):

APR. 25, 1962 II

MAY 31, 1962 III

AMENDMENT I:

DEC. 14, 1962 III

AMENDMENT II:

FEB. 20, 1963 III

AMENDMENT III:

JAN. 8, 1964 III

METHOD OF COMPILATION (III):

KELSH INSTRUMENT

MANUSCRIPT SCALE (III):

1:10,000

STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III): 1:3000

PANTOGRAPH SCALE:

1:10,000

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 ~~LOW~~ <sup>Mean High Water</sup> WATER EXCEPT AS FOLLOWS: X

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):

PUU O KAHANUI, 1925

LAT.:

21° 06' 53.771"

LONG.:

157° 04' 33.815"

☒ ADJUSTED☐ UNADJUSTED

PLANE COORDINATES (IV):

Y = 284,059.64

X = 360,462.02

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):  L. F. VAN SCOY		DATE: JANUARY - OCTOBER 1962
MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION):  SEPTEMBER 18, 1962 BY FIELD INSPECTION. COMPILATION BY KELSH INSTRUMENT.		
PROJECTION AND GRIDS RULED BY (IV):  F. E. BUCK		DATE 12-12-62
PROJECTION AND GRIDS CHECKED BY (IV):  W. MASULA		DATE 12-12-62
CONTROL PLOTTED BY (III):  D. N. WILLIAMS		DATE 3-4-64
CONTROL CHECKED BY (III):  L. L. GRAVES		DATE 3-4-64
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III):  NONE RECEIVED.		DATE
STEREOSCOPIC INSTRUMENT COMPILATION (III):	PLANIMETRY  D. N. WILLIAMS	DATE 3-10-64
	CONTOURS  NONE.	DATE
MANUSCRIPT DELINEATED BY (III): SMOOTH DRAFT: J. L. HARRIS		DATE 4-3-64
SCRIBING BY (III): STICK-UP: D. N. WILLIAMS		DATE 4-16-64
PHOTOGRAMMETRIC OFFICE REVIEW BY (III): ROUGH DRAFT: C. C. HARRIS ADVANCE: J. L. HARRIS		DATE 3-11-64 6-10-64
REMARKS:		

## DESCRIPTIVE REPORT - DATA RECORD

CAMERA (KIND OR SOURCE) (III):

C&amp;GS SINGLE LENS "W"

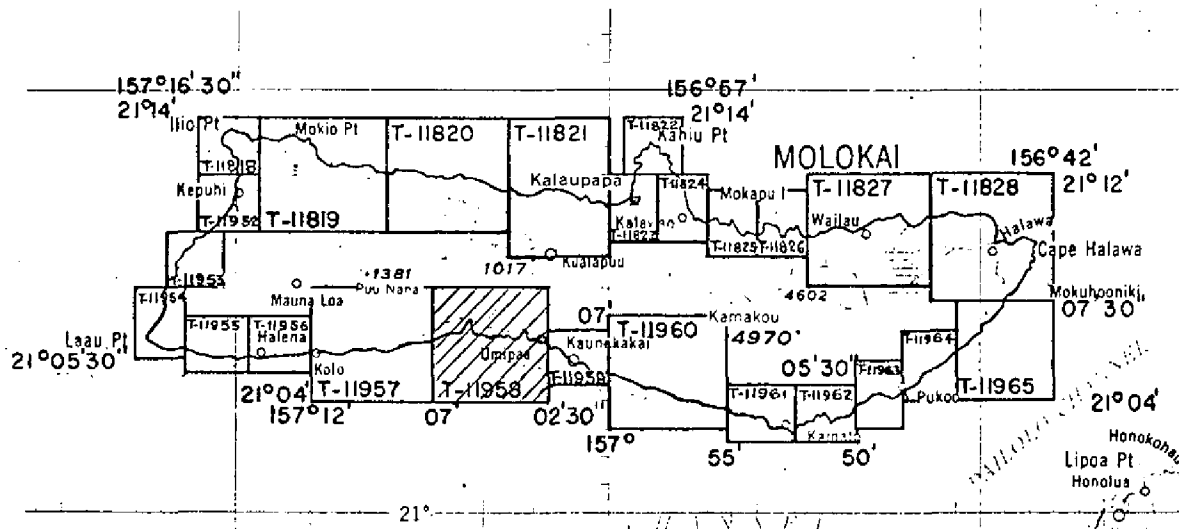
## PHOTOGRAPHS (III)

NUMBER	DATE	TIME	SCALE	STAGE OF TIDE
60 W 2427 THRU 2431	10-8-60	08:30	1:25,000	1.7' ABOVE M.L.L.W.
61 W 713 THRU 717	9-23-61	08:43	1:15,000	0.1' " "
61 W 690 THRU 694	"	08:33	"	0.1' " "
COLOR PHOTOGRAPHY				
62 W 2407 THRU 2413	2-1-62	15:12	1:10,000	0.6' " "
COMPUTED FROM PRE- DICTED TIDE TABLES.				
TIDE (III)				
			RATIO OF	MEAN
			DIURNAL	

COMPILATION RECORD	COMPLETION DATE	REMARKS
Alongshore area for hydro	May 1964	Superseded
Final Review	Nov. 1970	

## 5

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

6

SUMMARY TO ACCOMPANY  
DESCRIPTIVE REPORT T-11958

Shoreline survey T-11958 is one of twenty-five similar surveys in project PH-6201. These surveys cover the entire coast of Molokai. This survey covers a part of the south coast in the vicinity of Ohiapili.

Field work preceding compilation consisted of identification of horizontal control, shoreline and field inspection, identification of fixed aids to navigation and selection of landmarks for charts.

Compilation was at 1:10,000 scale by Kelsh Instrument using the photography of October 1960, September 1961, and February 1962. Cronaflex copies of the manuscript along with ozalids and specially prepared photographs were subsequently provided for transfer of the shoreline to the boat sheet, photo-hydro support use and for field edit.

Field edit was done in conjunction with hydrography on boat sheet H-8884, AR-10-1-67.

The manuscript was a vinylite sheet 4 minutes in latitude by 4 minutes 30 seconds in longitude. After application of field edit the manuscript was scribed and reproduced on cronaflex. Final review was in the Atlantic Marine Center in November 1970. One cronaflex positive and a negative of the final reviewed survey 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 Makenalua 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 dependant 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 Haleolon 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 (Leprosy). Special permis-  
sion 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

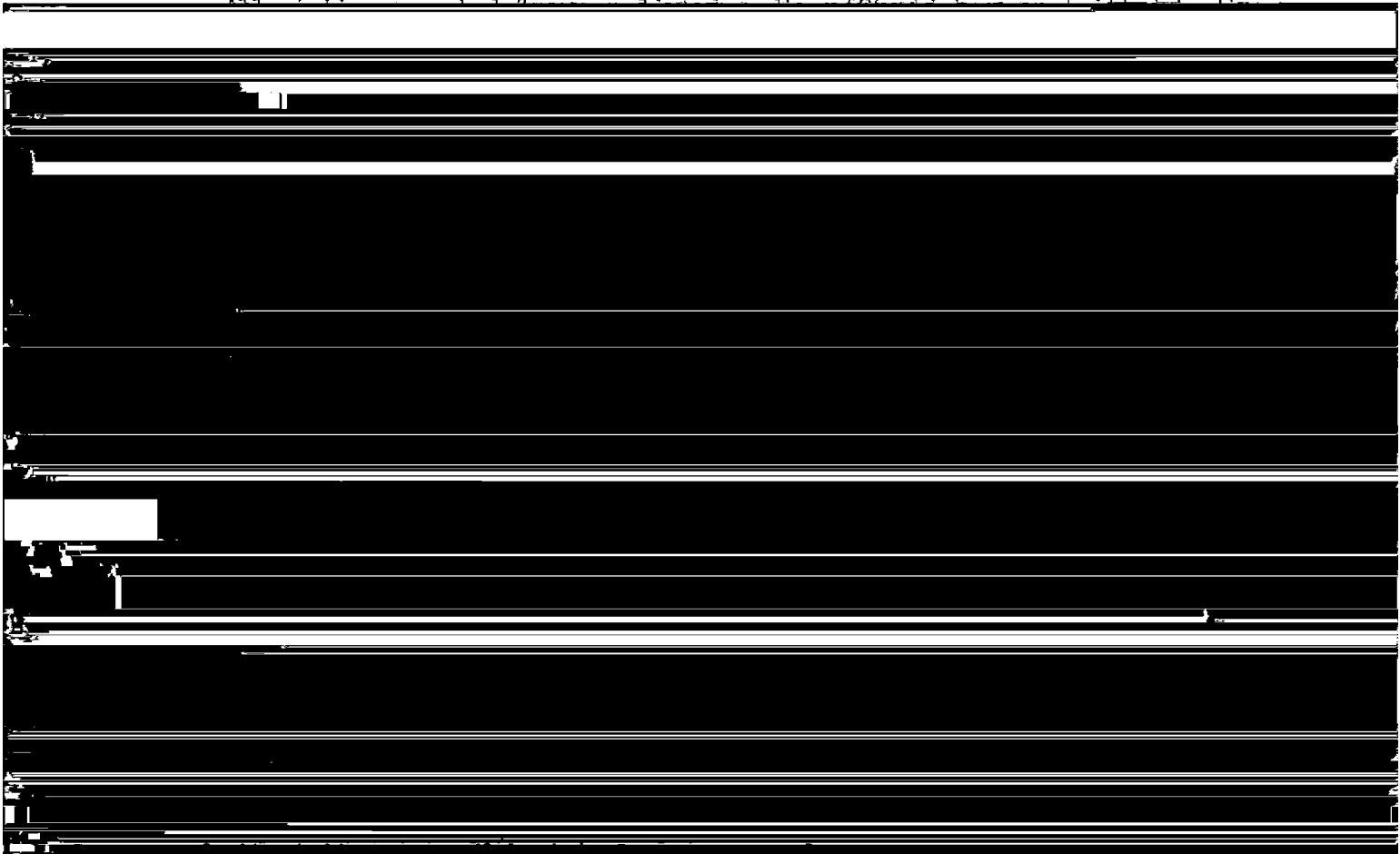
Kolokai VOR (LMMK)  
Puu Apalu, Tank  
Ilio Pt., Coast Guard Loran Mast  
Waiahewahewa, Aero Beacon Red Light  
Laa Pt. Light  
Kaunakakai Harbor, Entrance Range, Front Light  
Kaunakakai Harbor, Entrance Range, Rear Light

(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.



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 boardered 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 seected 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  
 Waiahewa, 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

14

Photogrammetric Plot Report  
Project 21044  
Molokai, Hawaii  
August 1963

21. Area Covered

The bridging furnishes control for the compilation of five shoreline surveys on the southwest shore of Molokai Island. They are T-11954 through T-11956 at a scale of 1:5,000 and T-11957 and T-11958 at a scale of 1:10,000.

22. Method

Two strips, 10 and 11, were bridged analytically at a scale of 1:25,000. Strip 10 using photographs 61-W-695 through 710 was adjusted on four horizontal control points. Strip 11 was adjusted as a straight line using photographs 60-W-2427 through 2430 but this was adequate since only three models were involved.

23. Adequacy of Control

Control complied with project instructions. It was well distributed and was adequate. Closures to control and tie points for the two strips are shown on the attached aerotriangulation sketch.


24. Supplemental Data

None

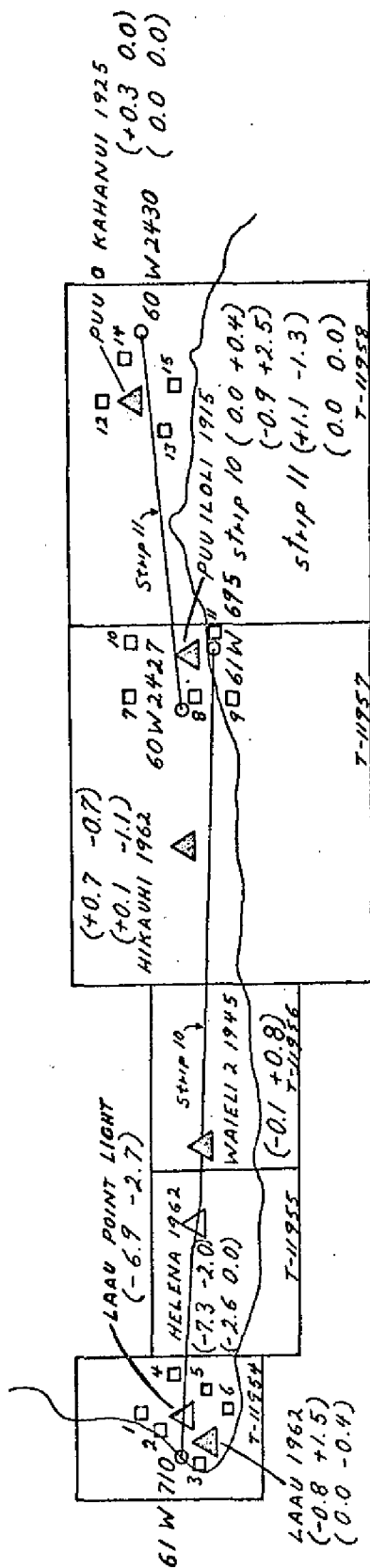
25. Photography

Photography was adequate as to coverage, overlap and definition.

Respectfully submitted,

  
Henry P. Eichert, Acting  
Chief, Aerotriangulation  
Section

LAT. 21°10'  
LONG. 157°09'



△ CONTROL USED IN ADJUSTMENT  
△ CONTROL USED AS CHECK  
□ TIE POINTS

STRIP 9+10  
1 (-1.8 -9.3)  
2 (-5.2 -2.7)  
3 (-0.1 +0.7)  
4 (-4.5 -2.9)  
5 (-6.8 +0.1)

STRIP 10+11  
7 (+0.2 +1.1)  
8 (+0.4 +2.6)  
9 (+2.6 +2.7)  
10 (-0.9 -0.6)  
11 (+3.1 +2.8)

STRIP 11+12  
12 (+9.5 -9.8)  
13 (-2.2 +5.0)  
14 (+5.0 -6.6)  
15 (-2.5 +2.2)

AEROTRIANGULATION SKETCH  
MOLOKAI ISLAND HAWAII  
STRIPS 10+11  
21044  
AUGUST 1963



Aerotriangulation Report  
MOLOKAI Island, Hawaii  
Project PH-6201  
July 1962

Aera Covered

This report discusses the results of aerotriangulation of three strips of photographs on the southeast portion of Molokai Island. It covers shoreline surveys T-11828 (in part) at 1:10,000 scale, T-11958 (in part) at 1:10,000 scale, T-11959 at 1:5000 scale, T-11960 at 1:10,000 scale, T-11961 thru T-11964 at 1:5000 scale and T-11965 at 1:10,000 scale. Other parts of this project will be covered by subsequent reports.

Method

The three strips were done by stereoplanigraph and furnish sufficient pass points for compilation of shoreline details by Kelsh instruments. Strip #3 coordinates were computed by a linear transformation using the Clary Computer. Strip #1 and #2 were computed by the IBM-650 Computer. Although two stations did not hold in the adjustment for Strip #2 (See Item 23 below), the adjustment for all strips is believed to be satisfactory for the required accuracy of these surveys. This is based on the closures to other stations and the ties between strips. (See appended sketch)

23. Adequacy of Control

With exceptions below, control was adequate and complied with project instructions.

Advance field positions for Stations HALEAHI, 1962 and RAYKAMI, 1962 were used. Both indicated a similar error in X-coordinates. Inconsistencies were detected in directions furnished by the field party which could account for these discrepancies. Positions affected in Strip #2 should be verified after the receipt of final positions.

24. Supplemental Data

None.

25. Photography

Adequate for aerotriangulation.

Submitted by:

*Everett H. Ramey*

Everett H. Ramey  
Chief, Aerotriangulation Section

ISLAND OF HAWAII, HAWAII  
PH - 6201  
STRIP 1

THRU 61-W-998 TAKEN  
24 SEP 61

17

LLPHEH, 1915

SUB A (-0.3, +0.9)  
SUB B (-0.8, +1.3)

88000

KUMIMI

SUB B (+4.8, -2.3)  
SUB A (+2.8, -3.6)

90000

PUU MANO, 1915 (+3.6, -3.2)

HONOMUNI, 1925 (+0.7, -1.6)

92000

SUB B (-2.5, -3.5)  
SUB A (-3.3, +3.3) MAPULEHU, 1925

96000

KEAWANUI

SUB A (+2.3, -3.6)  
SUB B (+0.5, -1.3)

98000

HORIZONTAL CONTROL USED  
IN ADJUSTMENT

5 JULY 1962

ISLAND OF MOLOKAI, HAWAII

PH - 6201

STRIP 2

PHOTOGRAPHS 61-W-715

THRU 61-W-733 TAKEN

23 SEP 61

157°04'30"

21°07'00"

SUB B (-0.3, +0.2)  
SUB A (0, +0.1)

PUN B KAHANUI

18

16000

16000

HALEALI, 1962 SUB B (+17.8, +8.2)  
SUB A (+15.5, +5.0)

ONINI, 1915 (-0.2, 0)

21000

24000

27000

30000

PUN PAPAI SUB A (+4.2, 0)

RAYKAMA, 1961

SUB B (+15.1, -3.0)  
SUB A (+15.0, -9.0)

32000

HORIZONTAL CONTROL USED  
IN ADJUSTMENT

6 JULY 1962

SUB B (-0.2, +2.7)  
SUB A (0, 0)

KRAYANUI, 1915

PH - 6201

STRIP 3

PHOTOGRAPHS 61-W-976

THRU 61-W-980 TAKEN

24 SEP 61

19

LUPEHU, 1915

SUB PT. B (0,0)  
SUB PT A (+2.3, -1.0)

⊠ 88310 - TIE PT. TO STRIP 1  
(-5.5, -0.2)

TIE PT. TO STRIP 1 - 87330  
(+1.2, -1.5)

76000

77000



SUB PT A (+0.2, +4.2)  
SUB PT B (+1.0, +5.6)

PUU O HOKU, 1915

78000

79000

N



HORIZONTAL CONTROL USED  
IN ADJUSTMENT

19 JULY 1962



SUB PT C (+0.2, -0.5)  
SUB PT B (0,0)

KAPUU POI 2, 1962

COMMERCE  
C SURVEY

UM  
JECTION LINE  
5 meter)  
(BACK)

9

20

78 21

COMPILATION REPORT  
MAP MANUSCRIPT T-11958  
PROJECT 21044

ITEMS 31 THRU 34:

REFER TO THE COMPILATION REPORT FOR T-11952.

35. SHORELINE AND ALONGSHORE DETAILS:

DATA FURNISHED BY THE FIELD UNIT WAS ADEQUATE FOR THE COMPILATION OF THE MEAN HIGH WATER LINE. THE COLOR PHOTOGRAPHY WAS USED TO DELINEATE THE APPROXIMATE LIMITS OF SHALLOW AREAS AND THE EXTENT OF REEFS. NO LOW WATER LINE WAS SHOWN.

36. OFFSHORE DETAILS:

NONE.

37. LANDMARKS AND AIDS:

NONE.

38. CONTROL FOR FUTURE SURVEYS:

NONE.

39. JUNCTIONS:

SATISFACTORY JUNCTION WAS MADE WITH T-11957 TO THE WEST AND WITH T-11959 TO THE EAST. THE PACIFIC OCEAN IS ON THE SOUTH. THERE IS NO CONTEMPORARY SURVEY ON THE NORTH.

40. HORIZONTAL AND VERTICAL ACCURACY:

46. COMPARISON WITH EXISTING MAPS:

COMPARISON WAS MADE WITH THE U.S.G.S.  $7\frac{1}{2}$  MINUTE QUADRANGLE OF MOLOKAI AIRPORT AND KAUNAKAKAI, HAWAII. BOTH QUADRANGLES ARE AT 1:24,000 SCALE, EDITION 1952.

47. COMPARISON WITH NAUTICAL CHARTS:

COMPARISON WAS MADE WITH NAUTICAL CHART 4120, SCALE 1:80,000 AT LAT.  $21^{\circ} 01'$ , 1ST EDITION, REVISED FEB. 4, 1963.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY:

NONE.

ITEMS TO BE CARRIED FORWARD:

NONE.

APPROVED:

*P. A. Stark*  
P. A. STARK, CDR, C&GS  
PORTLAND FIELD OFFICER

SUBMITTED:

*James L. Harris*  
JAMES L. HARRIS  
CARTOGRAPHER

113.  
8.1

September 11, 1970

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6201 (Molokai Island, Hawaii)

T-11958

Kaluaapuhi Fishpond

Manawainui Gulch

Ooia Fishpond

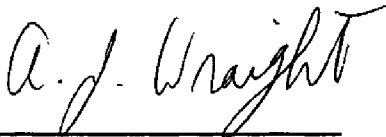
Pacific Ocean

Molokai

Ohiapili

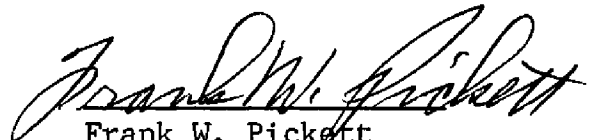
Umipaa

Approved by:



A. Joseph Wraight  
Chief Geographer

Prepared by:



Frank W. Pickett  
Cartographic Technician



49. NOTES FOR THE HYDROGRAPHER:

THE HYDROGRAPHER SHOULD INVESTIGATE WHAT APPEARS TO BE RUINS  
LOCATED AT APPROXIMATELY  $21^{\circ} 06' 05''$ ,  $157^{\circ} 05' 55''$ .

C&GS FORM 1002 (11-18-61)		U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY	
PHOTOGRAMMETRIC OFFICE REVIEW T-10223 11958			
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) None		7. PHOTO HYDRO STATIONS ✓
8. BENCH MARKS None	9. PLOTTING OF SEXTANT FIXES None	10. PHOTOGRAMMETRIC PLOT REPORT ✓	11. DETAIL POINTS ✓
ALONGSHORE AREAS (Nautical Chart Data)			
12. SHORELINE ✓	13. LOW-WATER LINE None	14. ROCKS, SHOALS, ETC. ✓	15. BRIDGES None
16. AIDS TO NAVIGATION None	17. LANDMARKS None	18. OTHER ALONGSHORE PHYSICAL FEATURES ✓	19. OTHER ALONGSHORE CULTURAL FEATURES ✓
PHYSICAL FEATURES			
20. WATER FEATURES ✓	21. NATURAL GROUND COVER ✓		22. PLANETABLE CONTOURS Not Applicable
23. STEREOSCOPIC INSTRUMENT CONTOURS Not Applicable	24. CONTOURS IN GENERAL Not Applicable	25. SPOT ELEVATIONS None	26. OTHER PHYSICAL FEATURES ✓
CULTURAL FEATURES			
27. ROADS ✓	28. BUILDINGS ✓	29. RAILROADS None	30. OTHER CULTURAL FEATURES ✓
BOUNDARIES			
31. BOUNDARY LINES None		32. PUBLIC LAND LINES None	
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 C. C. Harris		SUPERVISOR, REVIEW SECTION OR UNIT Leo F. Beugnet	
41. REMARKS (See attached sheet)			
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 J. L. Harris		SUPERVISOR Leo F. Beugnet	
43. REMARKS			

Field Edit Report  
To Accompany T 11958

USC&GSS McARTHUR

Ronald L. Newsom  
CDR, USESSA  
Commanding Officer

51 METHODS

Field edit on T 11958 was accomplished in conjunction with hydrography on boatsheet AR 10-1-67, H 8884. The shore line was inspected from Launches and Skiffs. The MLLW line was impossible to determine due to extensive coral reefs and coral heads inshore of reef line. The field edit information is shown on the discrepancy oval of T 11958 in violet ink. No field edit information was shown on photos.

52 ADEQUACY OF COMPILATION

Manuscript T 11958 was completely adequate for a hydrographic survey.

54 RECOMMENDATIONS

The fishing shack on the coral reef should be charted as an aid to locating the fresh water channel through the coral reef.

## REVIEW REPORT T-11958

## SHORELINE

NOVEMBER 12, 1970

61. GENERAL STATEMENT:

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

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

Comparison was made with a copy of Registered Survey No. 3525, 1:20,000 scale, dated 1915. The passage of time has made that survey obsolete. It is superseded by T-11958 for nautical chart construction purposes.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

Comparison was made with U.S.G.S. MOLOKAI AIRPORT and KAUNAKAKAI, HAWAII quadrangles. Both are 1:24,000 scale surveys, 1952 editions. The surveys appear to be in good general agreement with the following exception:

The mangrove area is much more extensive than it is shown on the U.S.G.S. quadrangles.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

Comparison was made with a copy of boat sheet H-8884, AR-10-1-67 and H-8993, AR-5-4-68. The shoreline of the surveys is in good agreement. The three metal pipes noted on H-8993, near latitude 21°06'01" longitude 157°06'07" and latitude 21°05'33" longitude 157°05'55", are not visible on the photographs of the area.

65. COMPARISON WITH NAUTICAL CHARTS:

A visual comparison was made with chart 4120, 3rd edition, October 14, 1968. The following were noted:

The chart does not show any of the mangrove along the shore in this area.

A rock at latitude  $21^{\circ}05.6'$  longitude  $157^{\circ}04.6''$  is not visible on the photographs. The entire area appears as a reef.

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, NOAA  
Director, Atlantic Marine Center

Approved by:

*Charles H. Hemm*  
Photogrammetric Branch <sup>100</sup>

*Jack E. Luth*  
Chief, Photogrammetry Division