

11953

11953

Form 504	
U. S. DEPARTMENT OF COMMERCE	
COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Type of Survey SHORELINE (PHOTOGRAMMETRIC)	
Field No.	Office No. T-11953
LOCALITY	
State	HAWAII
General locality	MOLOKAI
Locality	KAUNALU
19.62 ⁰ -1968	
CHIEF OF PARTY	
H. J. SEABORG, CHIEF OF PARTY	
P. A. STARK, PHOTOGRAMMETRIC OFFICE	
LIBRARY & ARCHIVES	
DATE	

DESCRIPTIVE REPORT - DATA RECORD

T - 11953

PROJECT NO. (II):

~~PH-6201~~ 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): APRIL 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):

1:5000

STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III): 1:3000

PANTOGRAPH SCALE: 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 ~~Low Water~~ ^{High 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):

POOLAU, 1962

LAT.:

21° 09' 02.118"

LONG.:

157° 16' 36.919"

☒ ADJUSTED☐ UNADJUSTED

PLANE COORDINATES (IV):

Y = 297,178.50

X = 292,046.32

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 26, 1962 BY FIELD INSPECTION. COMPILATION BY KELSH INSTRUMENT.		
PROJECTION AND GRIDS RULED BY (IV): A. E. ROUNDTREE		DATE 1-8-64
PROJECTION AND GRIDS CHECKED BY (IV): P. SILVERMAN		DATE 1-8-64
CONTROL PLOTTED BY (III): D. N. WILLIAMS		DATE 2-5-64
CONTROL CHECKED BY (III): R. H. MEYER		DATE 2-5-64
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III): NONE RECEIVED		DATE
STEREOSCOPIC INSTRUMENT COMPILATION (III):	PLANIMETRY L. L. GRAVES	DATE 3-18-64
	CONTOURS NONE	DATE
MANUSCRIPT DELINEATED BY (III): SMOOTH DRAFT: J. L. HARRIS		DATE 4-8-64
SCRIBING BY (III): STICK-UP: L. L. GRAVES		DATE 5-25-64
PHOTOGRAMMETRIC OFFICE REVIEW BY (III): ROUGH DRAFT: J. L. HARRIS ADVANCE: C. C. HARRIS		DATE 3-18-64 5-27-64
REMARKS:		

DESCRIPTIVE REPORT - DATA RECORD

CAMERA (KIND OR SOURCE) (III):

C&GS SINGLE LENS "W"

PHOTOGRAPHS (III)

NUMBER	DATE	TIME	SCALE	STAGE OF TIDE
61 W 1243 THRU 1246 RATIO PRINTS OF ABOVE AT 1:5000.	9-27-61	08:55	1:15,000	0.8' ABOVE M.L.L.W.
60 W 2192 THRU 2194 RATIO PRINTS OF ABOVE AT 1:5000.	10-2-60	10:00	1:25,000	0.4' " "
COLOR PHOTOGRAPHY 60 W 2548 THRU 2550 60 W 2552 THRU 2556	10-10-60	08:20	1:10,000	1.6' " " COMPUTED FROM PRE- DICTED TIDE TABLES.

TIDE (III)

	RATIO OF RANGES	MEAN RANGE	DIURNAL 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:

Oct. 1970

PROOF EDIT BY (IV):

DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (II):

4

RECOVERED:

3

IDENTIFIED:

2

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

NONE

RECOVERED:

IDENTIFIED

NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):

NONE

NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III):

NONE

REMARKS:

COMPILATION RECORD

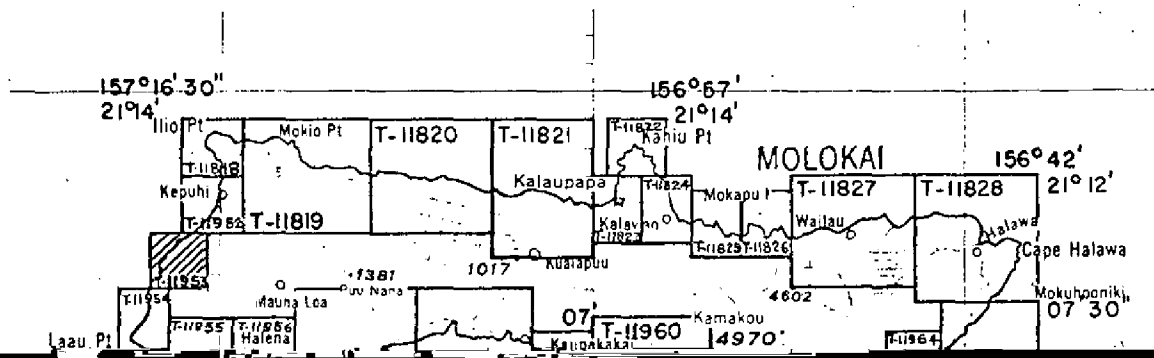
COMPLETION DATE

REMARKS

Along shore area for hydro	June 1964	
Final Review	Oct. 1970	

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



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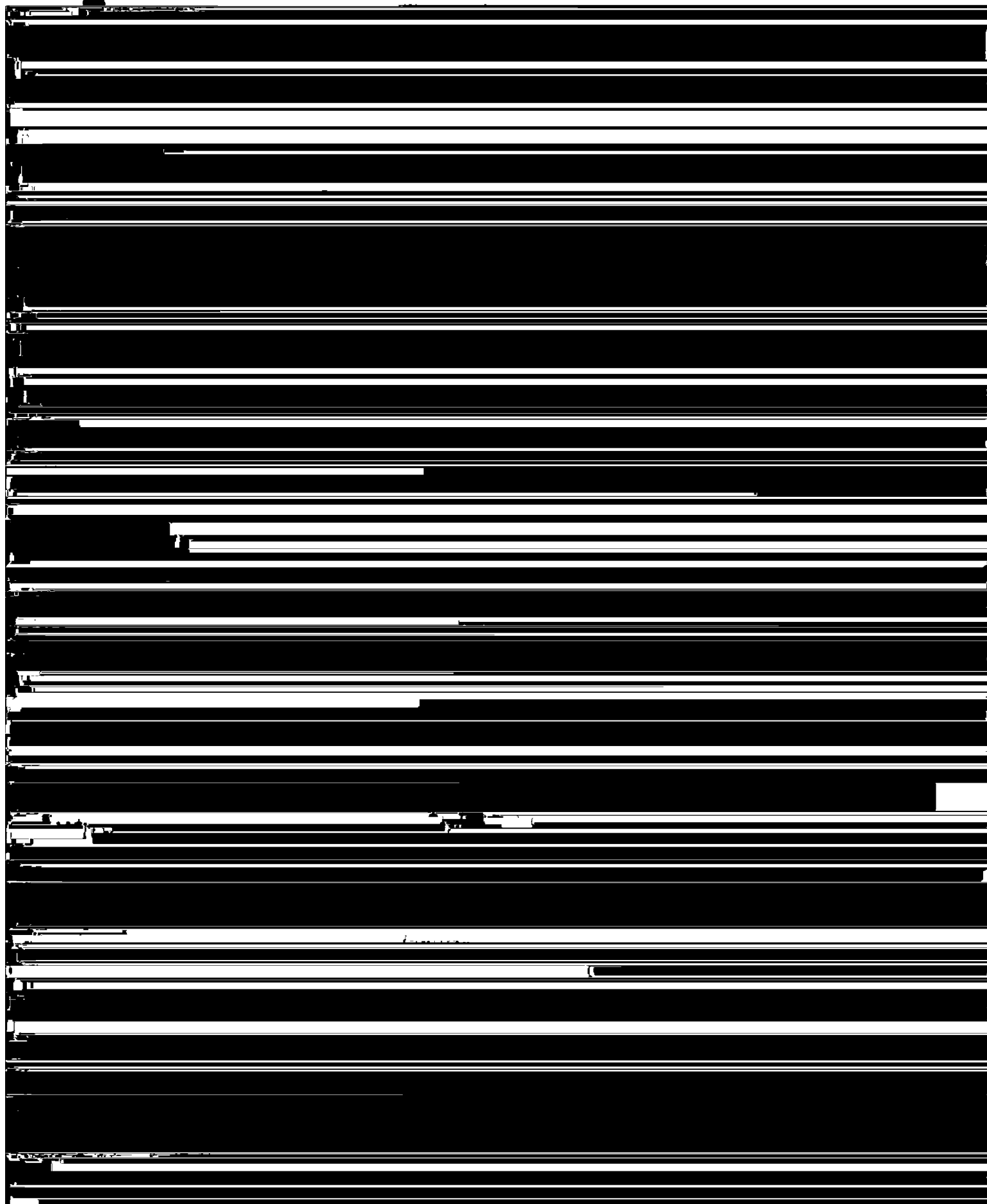
SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT T-11953

Shoreline survey T-11953 is one of twenty-five similar surveys in Project PH-6201. The surveys in this project cover the entire coast of Molokai. This survey covers that part of the west coast from Kapuhikani northeastward to Papohaku Beach. See page 5 of this report for the area within the project.

Field work preceding compilation consisted of identification of horizontal control, field inspection and shoreline inspection. There were no fixed aids to navigation or landmarks for charts within the area mapped.

Compilation was at 1:5,000 scale by Kelsh Instrument methods using the photography of October 2, 1960; October 10, 1960 and September 27, 1961. Cronaflex copies of the compilation manuscript along with ozalids and specially prepared photographs were subsequently provided for location of photo-hydro signals, transfer of the shoreline to the boat sheet and field edit use.

The manuscript was a vinylite sheet 2 minutes in latitude by 2 minutes 45 seconds in longitude. Field edit was accomplished in conjunction with the hydrography on boat sheet H-8994, AR-10-3-68. After application of field edit the survey was scribed and reproduced on cronaflex. Final review was in the Atlantic Marine Center in October 1970. One cronaflex copy and a negative of the final reviewed survey are forwarded for record and registry.



Located on the Makenalua Peninsula is the small settlement of Kalanipapa. The settlement is maintained by the State of Hawaii, Department of Health for the treatment of Hansen's Disease (Leprosy). 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 breakwater 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 (MKK)
 Puu Apalu, Tank
 Ilio Pt., Coast Guard Loran Mast
 Waiahewahewa, Aero Beacon Red Light
 Lanu 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) WAIILI 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 station 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 Pukoo, 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.

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

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

(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.

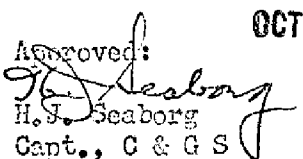
All public buildings with their function was indicated on the field photographs.

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 Makaanalua Peninsula. A small private airstrip is located at Haleolon near the southwest end of the island.

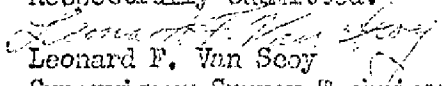
No bridges or overhead cable crossings over navigable water are located in the project area. There are no submerged cables connecting the island with other areas.

13. GEOGRAPHIC NAMES

Not Applicable

Approved: 
H.J. Seaborg
Capt., C & G S
Honolulu District Officer

OCT 30 1962

Respectfully submitted:

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

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Photogrammetric Plot Report
Molokai, Hawaii
Project 21044
August 1963

21. Area Covered

This report covers T-Sheets 11818, 11819, 11952 thru 11954, along the western shore of the Island of Molokai, Hawaii.

22. Method

A fourteen model bridge was run on the C-8 to provide control for compilation, using photographs 61-W-1236 thru 61-W-1250. The adjustment on the IBM-650 utilized five control stations with their companion stations as checks.

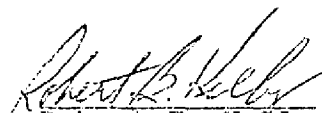
23. Adequacy of Control

The horizontal control provided complied with the project instructions and was adequate. Closures to control are shown on attached aerotriangulation sketch.


24. Photography

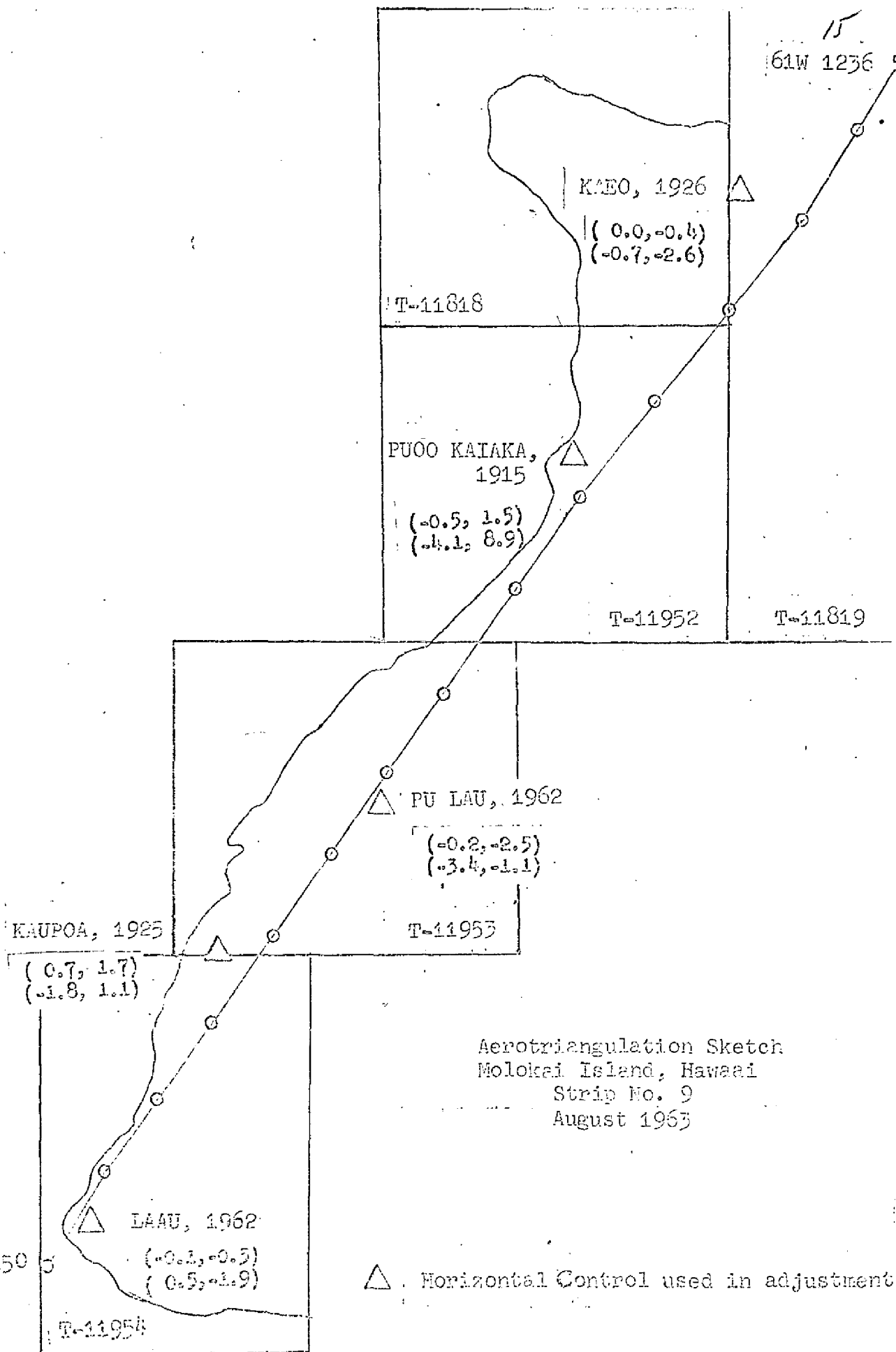
Adequate as to coverage, overlap and definition.

Report submitted by


Robert B. Kelly

Affirmed and forwarded by


Henry P. Eichert
Chief, Aerotriangulation Section



DESCRIPTIVE REPORT CONTROL RECORD

MAP T- **11953** PROJECT NO: **21044** SCALE OF MAP **1:5000** SCALE FACTOR _____

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 meters) FORWARD (BACK)
KAUPOA, 1925	P.C. 26		291,155.82	
			285,973.76	
Sub. Pt. A			291,165.20	
			286,022.90	
Sub. Pt. B			291,133.10	
			285,981.70	
POOLAU, 1962	P.C. 26		297,229.04	
			292,046.32	
Sub. Pt. A			297,178.50	
			292,006.60	
Sub. Pt. B			297,276.30	
			292,079.90	
W.C. 17 (NO DATE)	P.C. 7		296,657	
			287,236	
COMPUTED BY L.L.G.	DATE 3-4-64	CHECKED BY D.N.W.	DATE 2-5-64	/6

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COMPILATION REPORT
MAP MANUSCRIPT T-11953
PROJECT 21044

31. DELINEATION:

MOST OF THE PLANIMETRY WAS COMPILED BY THE KELSH INSTRUMENT AS FIELD INSPECTED. IN THE AREA BETWEEN POOLAU COVE AND KAUNALU BAY THE SHORELINE WAS OBSCURED BY HEAVY CLOUD COVER ON THE 1961 PHOTOGRAPHY. THIS PORTION OF THE MANUSCRIPT WAS GRAPHICALLY DELINEATED USING RATIO PRINTS OF THE 1960 PHOTOGRAPHY WITH CENTERS RESECTED AND CONTROLLED BY POINTS COMMON TO BOTH FLIGHTS. THESE POINTS WERE LOCATED DURING ADJACENT KELSH COMPILATION.

32 THRU 34:

REFER TO THE COMPILATION REPORT FOR T-11952.

35. EXCEPT FOR THE AREA COMPILED BY GRAPHIC METHODS AS NOTED ABOVE, FIELD INSPECTION WAS ADEQUATE FOR THE DELINEATION OF THE MEAN HIGH WATER LINE. NO LOW WATER LINE WAS SHOWN. THE APPROXIMATE LIMITS OF A SHALLOW FORESHORE AREA WAS DELINEATED FROM OFFICE INTERPRETATION OF THE COLOR PHOTOGRAPHY.

ITEMS 36 THRU 38:

REFER TO THE COMPILATION REPORT FOR T-11952.

39. JUNCTIONS:

SATISFACTORY JUNCTION WAS MADE WITH T-11952 TO THE NORTH AND WITH T-11954 TO THE SOUTH. THE PACIFIC OCEAN IS ON THE WEST. THERE IS NO CONTEMPORARY SURVEY ON THE EAST.

40. HORIZONTAL AND VERTICAL ACCURACY:

46. COMPARISON WITH EXISTING MAPS:

COMPARISON WAS MADE WITH THE U.S.G.S. 7½ MINUTE, ILIO POINT, HAWAII, QUADRANGLE, SCALE 1:24,000, EDITION 1952.

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47. COMPARISON WITH NAUTICAL CHARTS:

COMPARISON WAS MADE WITH NAUTICAL CHART 4120, SCALE 1:80,000
AT LAT. 21° 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

J.L.H.

September 11, 1970

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6201 (Molokai Island, Hawaii)

T-11953

Kapuhikani

Kaunalu (locality)

Kaunalu Bay

Kaunalu Gulch

Pacific Ocean

Papohaku Beach

Poolau

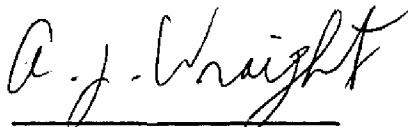
Poolau Cove

Poolau Gulch

Puu Koai

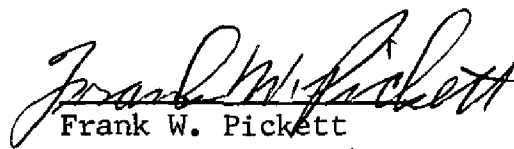
Molokai

Approved by:



A. Joseph Wraight
Chief Geographer

Prepared by:



Frank W. Pickett
Cartographic Technician

49. NOTES FOR THE HYDROGRAPHER:

NONE.

PHOTOGRAMMETRIC OFFICE REVIEW

T-18943-11953

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 None	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 ✓	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 None	37. DESCRIPTIVE REPORT ✓	38. FIELD INSPECTION PHOTOGRAPHS ✓	39. FORMS ✓
40. REVIEWER J. L. Harris		SUPERVISOR, REVIEW SECTION OR UNIT	
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		SUPERVISOR	
43. REMARKS			

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Field Edit Report
To Accompany T 11953

USC&GSS McARTHUR

Ronald L. Newsom
CDR, USESSA
Commanding Officer

51 METHODS

Advance manuscript T 11953 was field edited by personnel aboard the USC&GSS McARTHUR in conjunction with hydrography on boatsheet 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 two (2) field contact prints 61W1243 and 61W1246 and indexed in violet ink on the discrepancy sheet, an ozalid copy of T 11953. Some areas were obscured by clouds and field edit information was shown directly on the discrepancy sheet.

52 ADEQUACY OF COMPILATION

Manuscript T 11952 was completely adequate for a hydrographic survey. The inshore area was not field edited.

54 RECOMMENDATIONS

None

REVIEW REPORT T-11953

SHORELINE

OCTOBER 23, 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. 3526, 1:20,000 scale, dated 1915. Because of the difference in scale only a visual comparison was feasible. No major discrepancies were noted.

Shoreline survey T-11953 supersedes the older topographic survey for nautical chart construction purposes.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

Comparison was made with U.S.G.S. ILIO POINT, HAWAII, 8.5 by 7.5 minute quadrangle, 1:24,000 scale, edition of 1952. The two surveys are in good general agreement with the exception that the large bare rocks shown on the U.S.G.S. quadrangle are not visible on the photographs of the area.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

Comparison was made with a copy of boat sheet H-8994 (AR-10-3-68"2"). The shoreline of the two surveys is in good agreement. The following differences were noted:

Two rocks, located at latitude $21^{\circ}08'04''$ longitude $157^{\circ}17'59''$ and $21^{\circ}09'21''$ - $157^{\circ}17'09''$ on the boat sheet, are not visible on the photographs.

A rock located at latitude $21^{\circ}09'44''$ longitude $157^{\circ}16'41''$ on T-11953 is not shown on the boat sheet.

A rock located near latitude $21^{\circ}09'49''$ longitude $157^{\circ}16'36''$ on T-11953 is 2.0mm northwest of the position as shown on the boat sheet. Only one rock is visible on the photographs in this area and has been mapped as a rock awash at MHW.

65. COMPARISON WITH NAUTICAL CHARTS:

Comparison was made with nautical chart 4120, 3rd edition, October 14, 1968. Because of the difference in scale only a visual comparison was feasible. No major conflicts were noted.

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 F. Henn *Jack E. Luth*
Chief, Photogrammetric Branch Chief, Photogrammetry Division