

11957

11957
2611

Form 504	
U. S. DEPARTMENT OF COMMERCE	
COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Type of Survey <u>SHORELINE (PHOTOGRAMMETRIC)</u>	
Field No.	Office No. <u>T-11957</u>
LOCALITY	
State	<u>HAWAII</u>
General locality	<u>MOLOKAI</u>
Locality	<u>KAUMANA POINT</u>
<u>19 60</u> - 1968	
CHIEF OF PARTY H. J. SEABORG	
P. A. STARK, PHOTOGRAMMETRIC OFFICE	
LIBRARY & ARCHIVES	
DATE	

DESCRIPTIVE REPORT - DATA RECORD

T - 19957

PROJECT NO. (II):

~~21044~~ PH-6201

FIELD OFFICE (II):

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 ~~SEA LEVEL~~ ^{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):

HIKAUHI, 1962

LAT.:

21° 06' 19.050"

LONG.:

157° 10' 16.244

☒ ADJUSTED☐ UNADJUSTED

PLANE COORDINATES (IV):

Y = 280,649.41

X = 328,028.42

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): SEPT. 19 - 20, 1962 BY FIELD INSPECTION. COMPILATION BY KELSH INSTRUMENT FEBRUARY 17, 1964.		
PROJECTION AND GRIDS RULED BY (IV): A. R.		DATE 12-12-62
PROJECTION AND GRIDS CHECKED BY (IV): W. M.		DATE 12-12-62
CONTROL PLOTTED BY (III): D. N. WILLIAMS		DATE 2-4-64
CONTROL CHECKED BY (III): R. H. MEYER		DATE 2-4-64
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III):		DATE
STEREOSCOPIC INSTRUMENT COMPILATION (III):	PLANIMETRY R. H. MEYER	DATE 2-17-64
	CONTOURS NONE	DATE
MANUSCRIPT DELINEATED BY (III): SMOOTH DRAFT: J. L. HARRIS		DATE 3-4-64
SCRIBING BY (III): STICK-UP: D. N. WILLIAMS		DATE 4-9-64
PHOTOGRAMMETRIC OFFICE REVIEW BY (III): ROUGH DRAFT: J. L. HARRIS ADVANCE: J. L. HARRIS		DATE 2-25-64 6-10-64
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 695 THRU 701 RATIO PRINTS OF ABOVE AT 1:10,000.	9-23-61	08:33	1:15,000	0.1' ABOVE M.L.L.W.
60 W 2424 THRU 2427	10-8-60	08:26	1:25,000	1.7' " "
62 W 1994 THRU 1987 COLOR PHOTOGRAPHY	1-19-62	12:26	1:15,000	0.3' " "
60 W 2682 THRU 2690	10-11-60	08:19	1:10,000	1.9' " "
COMPUTED FROM PRE- DICTED TIDE TABLES.				

TIDE (III)

	RATIO OF RANGES	MEAN RANGE	DAILY RANGE
REFERENCE STATION: HONOLULU, HAWAII		1.2	1.9
SUBORDINATE STATION: KOLO		1.3	2.0
SUBORDINATE STATION:			

WASHINGTON OFFICE REVIEW BY (IV):

Leo F. Beugnot, Atlantic Marine Center

DATE:

Nov. 1970

PROOF EDIT BY (IV):

DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (II):

22

RECOVERED:

10

IDENTIFIED:

3

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

1

RECOVERED:

1

IDENTIFIED:

1

NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):

2

NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III):

NONE

REMARKS:

4

COMPIATION RECORD

COMPLETION DATE

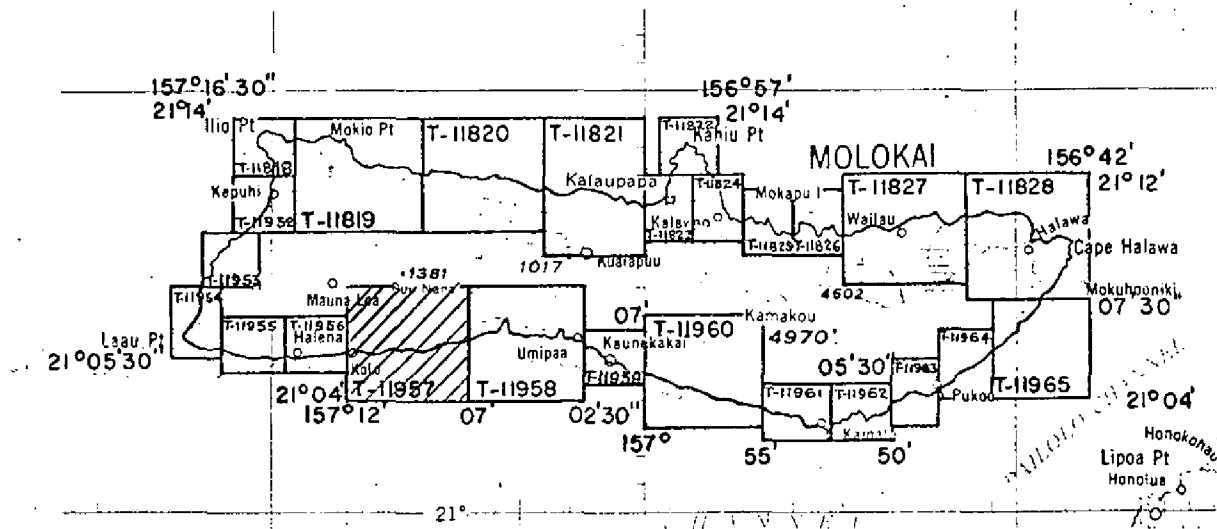
REMARKS

Along shore area for hydro	Mar. 1964	
Final Review	Nov. 1970	

PROJECT PH-6201

SHORELINE MAPPING

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



Official Mileage for Cost Accounts

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-11957

Shoreline survey T-11957 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 south coast from Kolo Harbor eastward to Pakanaka Fishpond.

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

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

Field edit was done in conjunction with hydrography on boat sheets AR-10-3-67, H-8969; AR-10-1-67, H-8884; AR-5-4-68 and AR-5-2-68, H-8977.

The manuscript was a vinylite sheet 4 minutes in latitude by 5 minutes in longitude. After application of field edit data 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. AERIAL 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 Makanalua 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 Hooilehua 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 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 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

x 7

Molokai VOR (MKG)
Puu Apalu, Tank
Ilio Pt., Coast Guard Loran Mast
Waiahewa, 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. 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 Pukoo, Kanaloa, 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

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.

8. 12

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

Molokai, Airport Beacon
Waiahehewa, 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:

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

OCT 30 1962

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.

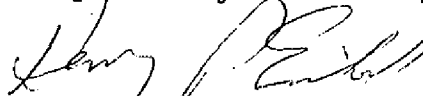
24. Supplemental Data

None

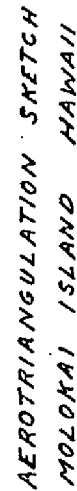
25. Photography

Photography was adequate as to coverage, overlap and definition.

Respectfully submitted,


Henry P. Eichert, Acting
Chief, Aerotriangulation
Section

7



STRIPS 10411
21044
AUGUST 1963

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

☐ Tie points

57810 9710

$$\begin{array}{ccc} 1 & (-1.8 & -9.3) \\ 2 & (-5.2 & -2.7) \\ 3 & (-0.1 & +0.7) \end{array} \quad \textcircled{2} \quad \begin{array}{ccc} 5 & (-4.5 & -7.9) \\ 6 & (-6.8 & +0.1) \end{array}$$

STRIP 10 of 11

7 (+0.2 +4.1) 10 (-0.9 -0.6)
8 (+0.4 +2.6) 11 (+3.1 +2.8)
9 (+2.6 +2.7)

STRIP 11 of 2

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

DESCRIPTIVE REPORT CONTROL RECORD

MAP T- TT957 PROJECT NO. 21044 PH-6201 SCALE OF MAP 1:10,000 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. = 304.8006 meter) FORWARD (BACK)
HIKAUHI 1962	P.C. Pa. 26		280,649.41	
			328,028.42	
SUB. PT. A	OFFICE COMP.		280,659.80	
			328,015.30	
SUB. PT. B	"		280,728.60	
			328,025.40	
KOLO 1962	P.C. Pa. 26		278,360.03	
			322,643.83	
PUU ILOLI (HGS) 1885	P.C. Pa. 27		281,585.74	
			345,804.49	
SUB. PT. A	OFFICE COMP.		281,632.60	
			345,792.20	
SUB. PT. B	"		281,621.90	
			345,836.80	
KAHUALEWA 1925	P.C. Pa. 7		283,322.40	
			318,656.68	
KALA 1962	P.C. Pa. 27		277,327.83	
			338,452.32	
PUNAKOU 1962	P.C. Pa. 26		289,369.86	
			334,740.95	
COMPUTED BY D.N.W.	DATE 1-31-64.	CHECKED BY R.H.M.	DATE 2-3-64	16

COMPILATION REPORT
MAP MANUSCRIPT T-11957
PROJECT 21044

ITEMS 31 THRU 34:

REFER TO THE COMPILATION REPORT FOR T-11952.

35. SHORELINE AND ALONGSHORE DETAILS:

REFER TO THE COMPILATION REPORT FOR T-11956.

36. OFFSHORE DETAILS:

NONE.

37. LANDMARKS AND AIDS:

TWO LANDMARKS SHOWN ON THIS MANUSCRIPT HAVE BEEN RECOMMENDED FOR CHARTING. FORM 567 IS SUBMITTED.

38. CONTROL FOR FUTURE SURVEYS:

NONE.

39. JUNCTIONS:

SATISFACTORY JUNCTION WAS MADE WITH T-11956 TO THE WEST AND WITH T-11958 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 MOLOKAI AIRPORT,
HAWAII QUADRANGLE, SCALE 1:24,000, EDITION 1952.

47. COMPARISON WITH NAUTICAL CHARTS:

COMPARISON WAS MADE WITH THE FOLLOWING NAUTICAL CHARTS:

NAUTICAL CHART 4121, SCALE 1:5000, SEPT. 17, 1951

NAUTICAL CHART 4120, SCALE 1:80,000 AT LAT. 21° 01',
1ST EDITION, REVISED FEB. 4, 1963.

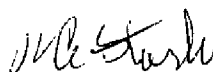
ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY:

NONE.

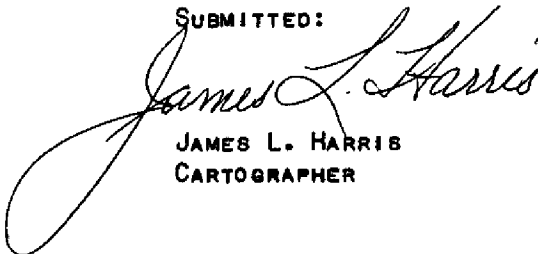
ITEMS TO BE CARRIED FORWARD:

NONE.

APPROVED:


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

SUBMITTED:


JAMES L. HARRIS
CARTOGRAPHER

413.

September 11, 1970

GEOGRAPHIC NAMES

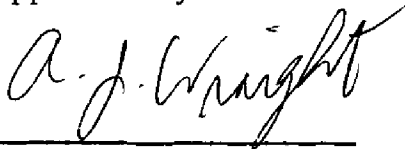
FINAL NAME SHEET

PH-6201 (Molokai Island, Hawaii)

T-11957

Hikauhi Gulch
Kaumana Point
Keanakaiole Gulch
Kolo Gulch
Kolo Harbor
Kolo Wharf
Kukuku Gulch
Naninaniukui Gulch
Onopalani Gulch
Pacific Ocean
Pakanaka Fishpond
Punakou Gulch
Waiakane
Waiakane Gulch
Waiaooli Gulch
Hikauhi
Molokai

Approved by:



A. Joseph Wraight
Chief Geographer

Prepared by:



Frank W. Pickett
Cartographic Technician

49. NOTES FOR THE HYDROGRAPHER:

CHART 4121, KOLO HARBOR, SHOWS OBJECTS LABELED "PIPE" NEAR THE RUINS OF THE WHARF. THESE OBJECTS WERE NOT IDENTIFIED BY THE FIELD PARTY AND WERE NOT VISIBLE ON THE PHOTOGRAPHY. THE HYDROGRAPHER SHOULD INVESTIGATE. ON THE SAME CHART IS LOCATED A LANDMARK "TANK (ALUMINUM COLOR)". THIS OBJECT IS NOT RECOMMENDED FOR ADDITION OR DELETION ON THE FORM 567 SUBMITTED BY THE FIELD AND WAS NOT IDENTIFIED. THE TANK COULD NOT BE POSITIVELY IDENTIFIED DURING COMPILATION.

C&GS FORM 1002
(11-13-61)U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

PHOTOGRAMMETRIC OFFICE REVIEW

T-10000 11957

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 None
8. BENCH MARKS ✓	9. PLOTTING OF SEXTANT FIXES None	10. PHOTOGRAMMETRIC PLOT REPORT ✓	11. DETAIL POINTS None
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 ✓	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 J.L. Harris		SUPERVISOR, REVIEW SECTION OR UNIT Leo F. Beugnot	
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. Beugnot	
43. REMARKS			

Field Edit Report
To Accompany T 11957

USC&GSS McARTHUR

Ronald L. Newsom
CDR, USESSA
Commanding Officer

51 METHODS

Field edit on manuscript T 11957 was done in conjunction with hydrography on boatsheets AR 10-3-67, H 8969, AR 10-1-67, H 8884, AR 5-4-68 and AR 5-2-68, H 8977. The shoreline and breaker line were inspected from Skiffs and Launches. The MLLW line was impossible to determine due to extensive coral reefs and coral heads in shallow water inshore of the breaker line. Field edit information was shown on one field ratio photo #61W700 in violet ink. Photo cross references and other field edit information were shown on the discrepancy ozalid print of T-11957 in violet ink.

52 ADEQUACY OF COMPILATION

Manuscript T 11957 was completely adequate for a hydrographic survey.

54 RECOMMENDATIONS

The day beacons shown as discontinued on T 11957 have been rebuilt and should be shown as such.

The land mark tank shown on Chart 4121 still exists but is obscured by trees and should be removed as a landmark.

The pipe shown off the end of the pier at Kolo Harbor on Chart 4121 was not found but numerous pipes and stakes were found on both sides of the pier near the shoreline.

56 MISCELLANEOUS

The breaker line shown on the field edit ozalid of T-11957 was transferred from boatsheet AR 10-3-67, H 8969 and closely follows the breaker lines in the photos. The shallow water line shown on T 11957 closely follows the 2 fathom depth curve on boatsheet AR 10-3-67, H 8969.

REVIEW REPORT T-11957

SHORELINE

NOVEMBER 9, 1970

61. GENERAL STATEMENT:

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

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

Comparison was made with copies of registered survey No. 4116, 1:5,000 scale, dated March, 1925 and Nos. 3525 and 3526 1:20,000 scale, dated 1915. The difference in the shoreline of the surveys has been indicated on the comparison print in blue.

The passage of time has made the prior registered surveys obsolete. They are superseded by T-11957 for nautical chart construction purposes.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

Comparison was made with U.S.G.S. MOLOKAI AIRPORT, HAWAII, 8 by 7.5 minute quadrangle, 1:24,000 scale, edition of 1952. The shoreline of the surveys is in good general agreement.

The following differences were noted:

The U.S.G.S. quadrangle shows three range lights to the northwest of Kolo Wharf. There are only two.

The U.S.G.S. quadrangle does not show the mangrove in the area of Pakanaka Fishpond.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

Comparison was made with copies of smooth sheet H-8977, AR-5-2-68 and boat sheets H-8969, AR-10-3-67 and H-8884, AR-10-1-67.

Two pipes located near latitude $21^{\circ}05'39''$ longitude $157^{\circ}11'51''$ and a pole near latitude $21^{\circ}05'21''$ longitude $157^{\circ}11'58''$ on H-8977 are not visible on photographs of the area.

The rocks shown on H-8969 extending from approximate longitude $157^{\circ}10.0'$ to $157^{\circ}11.8'$ at approximate latitude $21^{\circ}05.3'$ are not visible on photographs of the area.

65. COMPARISON WITH NAUTICAL CHARTS:

Comparison was made with charts 4121, 6th edition, September 30, 1968 and 4120, 3rd edition, October 14, 1968.

None of the pipes and rocks shown on the charts in the area of Kolo Harbor are visible on the photographs. These have been indicated on the comparison print in red.

The range for Kolo Harbor is not shown on the charts. This was reported as rebuilt by the field editor.

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 L. Shuman *Jack E. Luth*
Chief, Photogrammetric Branch Chief, Photogrammetry Division

NONTECHNICAL LANDMARKS FOR CHARTS

PORTLAND, OREGON

I recommend that the following objects which ~~have~~ *have not* been inspected from seaward to determine their value as landmarks be charted on ~~(the 1900 and 1905 charts)~~ the charts indicated.

The positions given have been checked after listing by J. L. Harris

P. A. STARK, *Chief of Party.*

P. A. STARK,

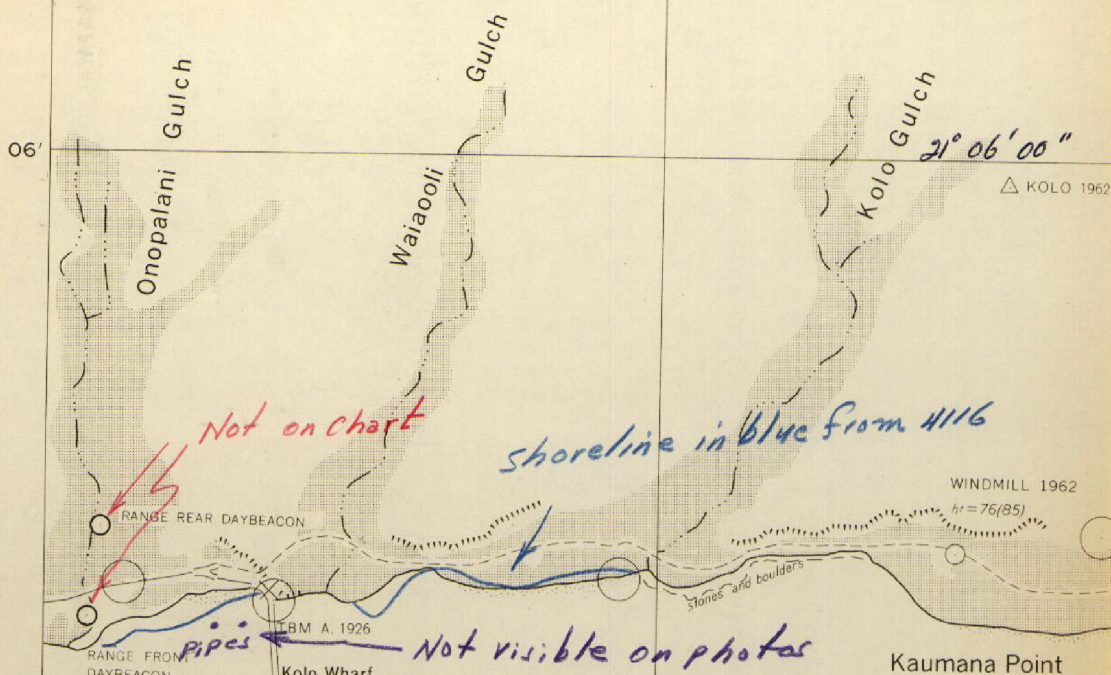
[illegible]

This form shall be prepared in accordance with Hydrographic Manual, Publication 20.2, Sec. 1-35, 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

y=280,000 FT

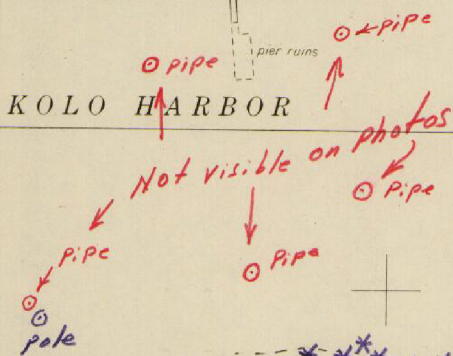
61 W 701



21° 05' 30"

KOLO HARBOR

y=275,000 FT



21° 05'

157° 12' 00"

157° 11' 30"

T-11957

W 700

61 W 699

Hikauhi Gulch

Waiakane Gulch

21° 06' 00"

Shoreline from 4116

Shoreline from 3526

Windmill

Waiakane

Hikauhi

Fishpond wall in ruins
awash MHW

Fishpond wall in ruins
awash MHW

**

**

Rocks not visible on photos

*

*

*

*

*

*

157° 11' 00"

157° 16' 30"

21° 05' 00"

157° 10' 00"

T-11957



Naninaniukui Gulch

Keanakaiolo

61 W 698

Gulch

Kukuku Gulch

Trail

Fishpond wall in ruins
awash MHW

Fishpond wall in ruins
awash MHW

Shoreline from Registered
Survey No. 3526

foul with rocks and coral heads

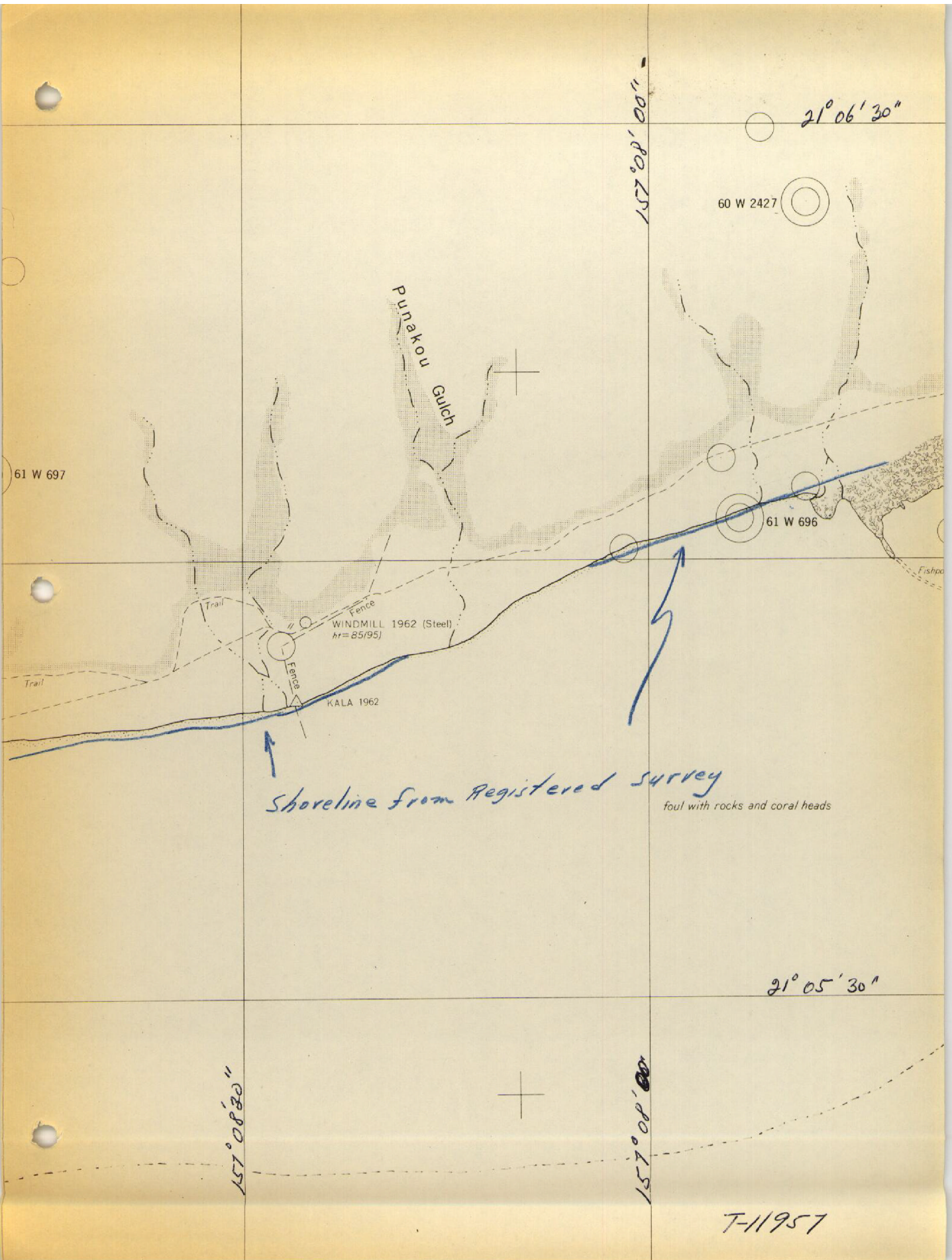
21°06'00"

21°05'30"

157°09'30"

157°09'00"

T-11957



21° 06' 30"

60 W 2427

Punakou Gulch

61 W 697

61 W 696

WINDMILL 1962 (Steel)
ht=85/95

KALA 1962

Shoreline from Registered Survey

foul with rocks and coral heads

21° 05' 30"

157° 08' 30"

157° 08' 00"

T-11957