Original

11957

11957

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey SHORELINE (PHOTOGRAMMETRIC)

Field No. ..... *Office No.* T-11957

LOCALITY

State HAWAII

General locality MOLOKAI

Locality KAUMANA POINT

19 60 -1968

CHIEF OF PARTY
H. J. SEABORG

P. A. STARK, PHOTOGRAMMETRIC OFFICE

LIBRARY & ARCHIVES

DATE .....

USCOMM-DC 5087

FORM C&GS-181a
(12-61)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

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	[X] 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.

USCOMM-DC 16276A-P61

FORM C&GS-181b
(12-61)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

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:

USCOMM-DC 16276-P61

FORM C&GS-181c (12-61)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

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	9-23-61	08:33	1:15,000	0.1' ABOVE M.L.L.W.
RATIO PRINTS OF ABOVE AT 1:10,000.				
60 W 2424 THRU 2427	10-8-60	08:26	1:25,000	1.7' " "
62 W 1994 THRU 1987	1-19-62	12:26	1:15,000	0.3' " "
COLOR PHOTOGRAPHY				
60 W 2682 THRU 2690	10-11-60	08:19	1:10,000	1.9' " "
				COMPUTED FROM PREDICTED TIDE TABLES.

TIDE (III)

	RATIO OF RANGES	MEAN RANGE	DIURNAL ~~SPRING~~ 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. Beugnet, 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

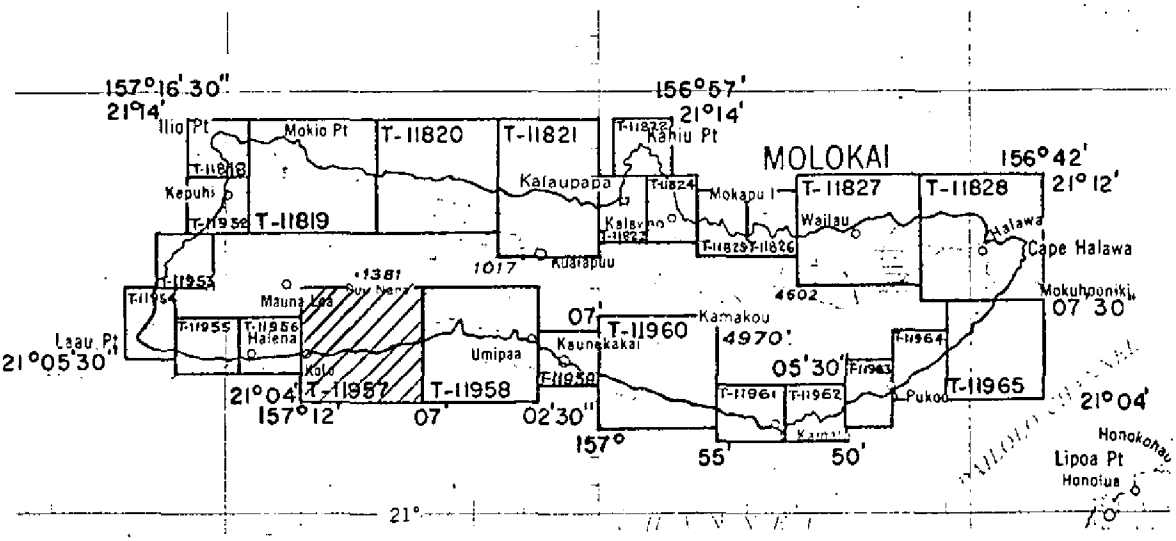
COMPILATION RECORD	COMPLETION DATE	REMARKS
Along shore area for hydro	Mar. 1964	
Final Review	Nov. 1970	

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. 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 errosion 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 Kamakou 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 seldomed 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 Makanalua Peninsula is the small settlement of Kalaupapa. 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 accessable 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 an the mean high water noted on the field photographs. The shoreline along the north coast except for the Makanalua 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 accessable 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

Kolokai VOR (MKK)
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 inaccessable 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

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

(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
Waiahewaheva, 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

[redacted]

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

OCT 30 1962

Approved:
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 Technican
Unit Chief, C & G S

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

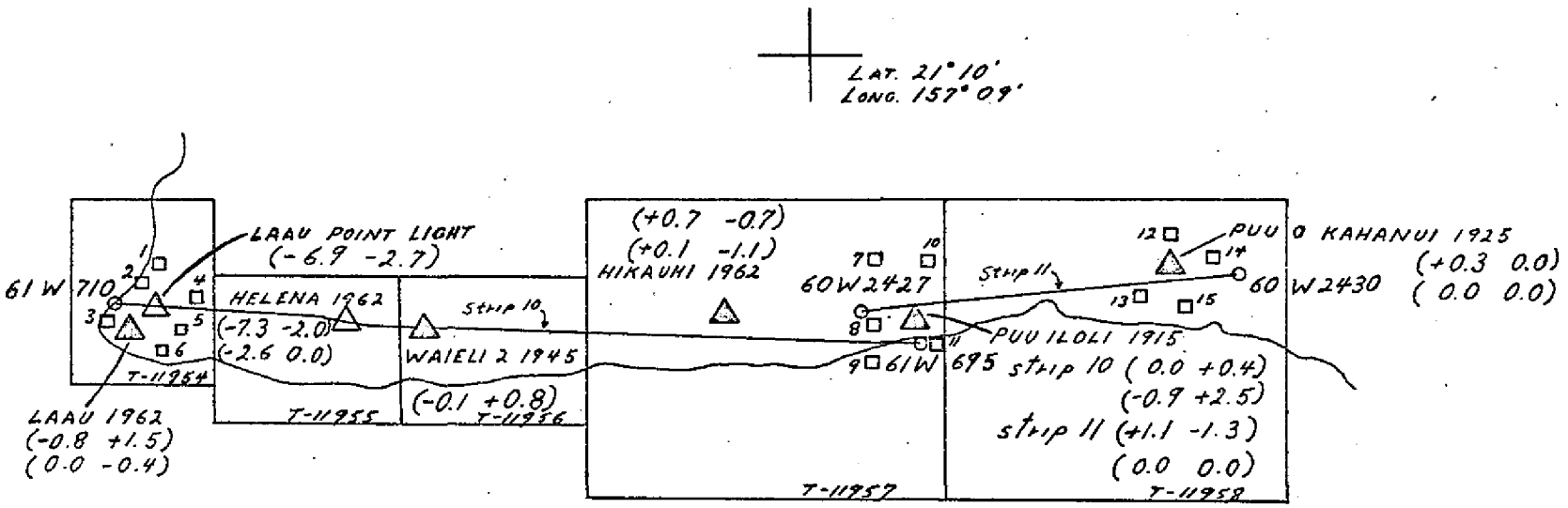
None

25. Photography

Photography was adequate as to coverage, overlap and definition.

Respectfully submitted,

Henry P. Eichert, Acting
Chief, Aerotriangulation
Section



△ CONTROL USED IN ADJUSTMENT

△ CONTROL USED AS CHECK

□ TIE POINTS

STRIP 9 & 10

1 (-1.8 -9.3) ⊗
2 (-5.2 -2.7) 5 (-4.5 -2.9)
3 (-0.1 +0.7) 6 (-6.8 +0.1)

STRIP 10 & 11

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

STRIP 11 & 12

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

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

FORM C&GS-1
(3-64)
USCOMM-DC
6659-P64

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

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. = 3048006 meter)* FORWARD (BACK)
HIKAUHI 1962	P.C. Pg. 26		280,649.41 328,028.42	
Sub. Pt. A	Office Comp.		280,659.90 328,015.30	
Sub. Pt. B	"		280,728.60 328,025.40	
KOLO 1962	P.C. Pg. 26		278,360.03 322,643.83	
PUU ILOLI (HGS) 1885	P.C. Pg. 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. Pg.7		283,322.40 318,656.68	
KALA 1962	P.C. Pg. 27		277,327.83 338,452.32	
PUNAKOU 1962	P.C. Pg. 26		289,369.86 334,740.95	

COMPUTED BY	DATE	CHECKED BY	DATE
D.N.W.	1-31-64	R.H.M.	2-3-64

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. 7½ 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

JLH

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
Naninanikukui Gulch
Onopalani Gulch
Pacific Ocean
Pakanaka Fishpond
Punakou Gulch
Waiakane
Waiakane Gulch
Waiaooli Gulch
Hikauhi
Molokai

Approved by:

A. J. Wraight

A. Joseph Wraight
Chief Geographer

Prepared by:

Frank W. Pickett

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-~~10063~~ 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	10. PHOTOGRAMMETRIC PLOT REPORT	11. DETAIL POINTS
✓	None	✓	None

ALONGSHORE AREAS *(Nautical Chart Data)*

12. SHORELINE	13. LOW-WATER LINE	14. ROCKS, SHOALS, ETC.	15. BRIDGES
✓	None	✓	None

16. AIDS TO NAVIGATION	17. LANDMARKS	18. OTHER ALONGSHORE PHYSICAL FEATURES	19. OTHER ALONGSHORE CULTURAL FEATURES
None	✓	✓	✓

PHYSICAL FEATURES

20. WATER FEATURES	21. NATURAL GROUND COVER	22. PLANETABLE CONTOURS
✓	✓	Not Applicable

23. STEREOSCOPIC INSTRUMENT CONTOURS	24. CONTOURS IN GENERAL	25. SPOT ELEVATIONS	26. OTHER PHYSICAL FEATURES
Not Applicable	Not Applicable	None	✓

CULTURAL FEATURES

27. ROADS	28. BUILDINGS	29. RAILROADS	30. OTHER CULTURAL FEATURES
✓	✓	None	✓

BOUNDARIES

31. BOUNDARY LINES	32. PUBLIC LAND LINES
None	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	SUPERVISOR, REVIEW SECTION OR UNIT
J.L. Harris	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	SUPERVISOR
J.L. Harris	Leo F. Beugnet

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 shordine.

56 MISCELLANEOUS

The breaker line shown on the field edit ozalid of T-11957 was transfered 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°05'39" longitude 157°11'51" and a pole near latitude 21°05'21" longitude 157°11'58" on H-8977 are not visible on photographs of the area.

The rocks shown on H-8969 extending from approximate longitude 157°10.0' to 157° 11.8' at approximate latitude 21°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 Thomas

Chief, Photogrammetric Branch

Jack E. Guth

Chief, Photogrammetry Division

C&GS FORM 567
(11-61)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

T-11957

[redacted] LANDMARKS FOR CHARTS

TO BE CHARTED
[redacted]
} STRIKE OUT TWO

PORTLAND, OREGON — FEB. 19 64

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

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

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

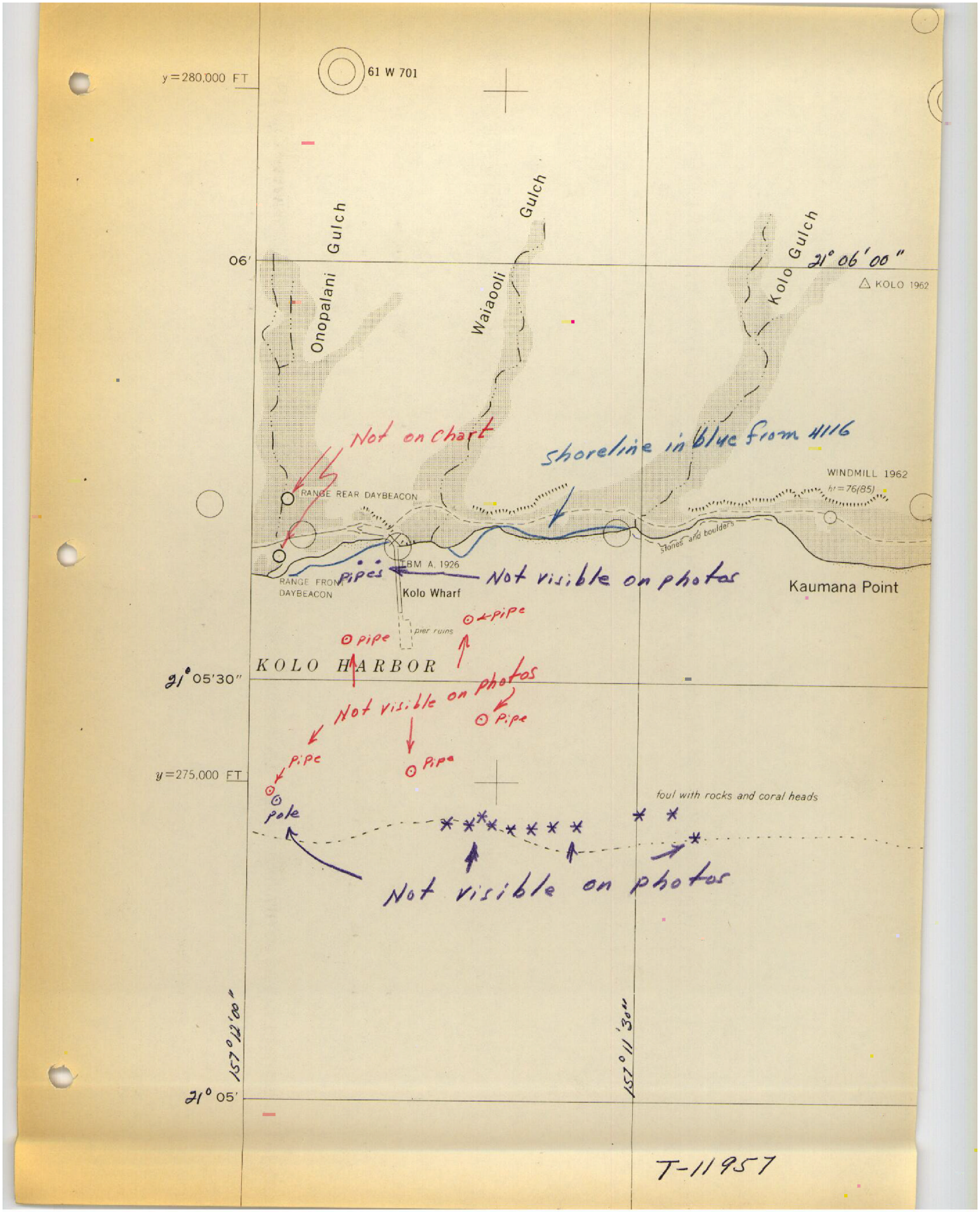
STATE HAWAII

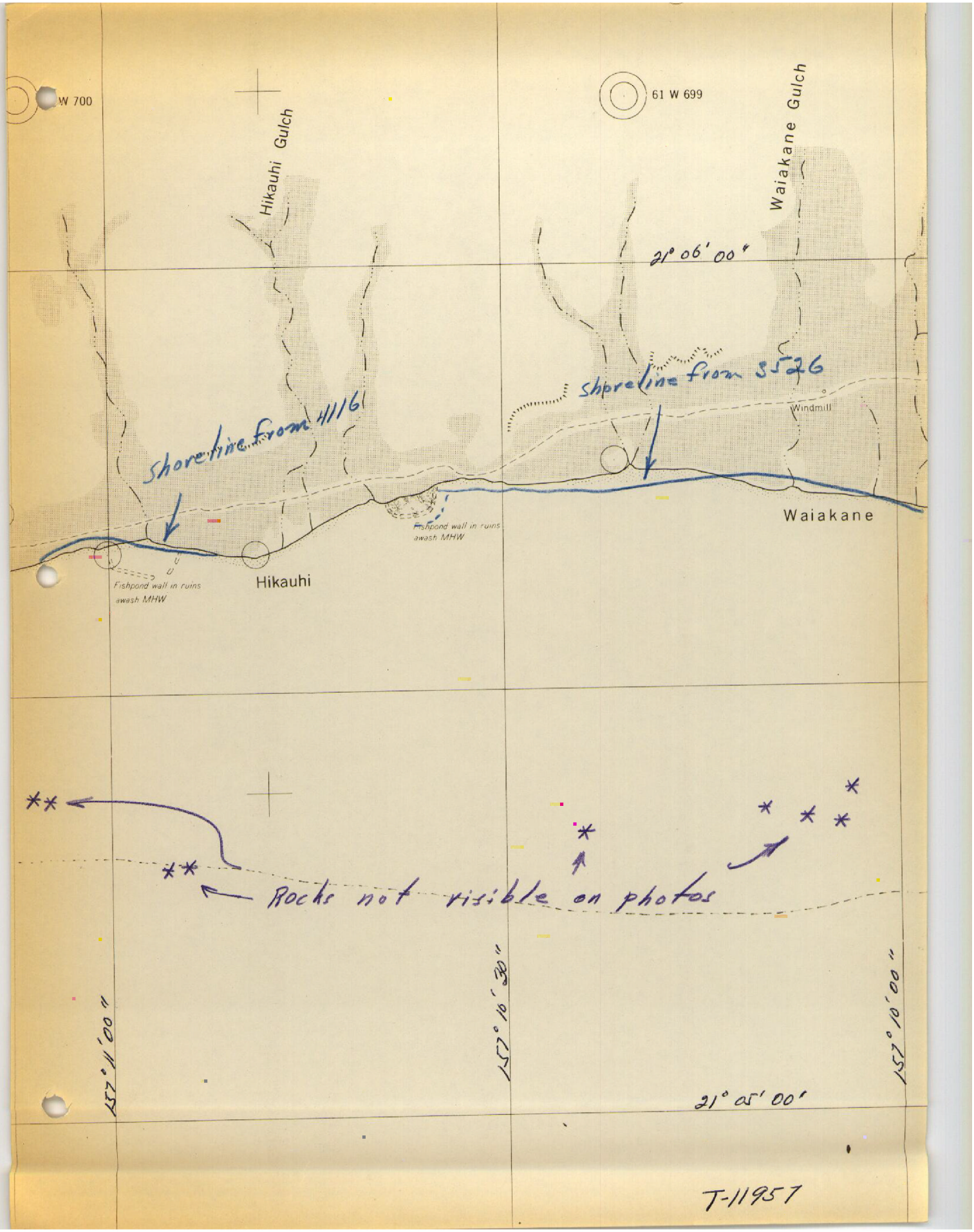
CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE* ° ′	″ D.M. METERS	LONGITUDE* ° ′	″ D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
WINDMILL	WINDMILL, 1962, STEEL HT=85' (95')		21 05	55.82 1716.6	157 08	25.34 731.5	OLD HAWAIIAN	KELSH	9-19-62			X	4116-4120
WINDMILL	WINDMILL, 1962 HT=76' (85')		21 05	42.06 1293.5	157 11	15.35 443.0	"	"	9-20-62			X	"

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.

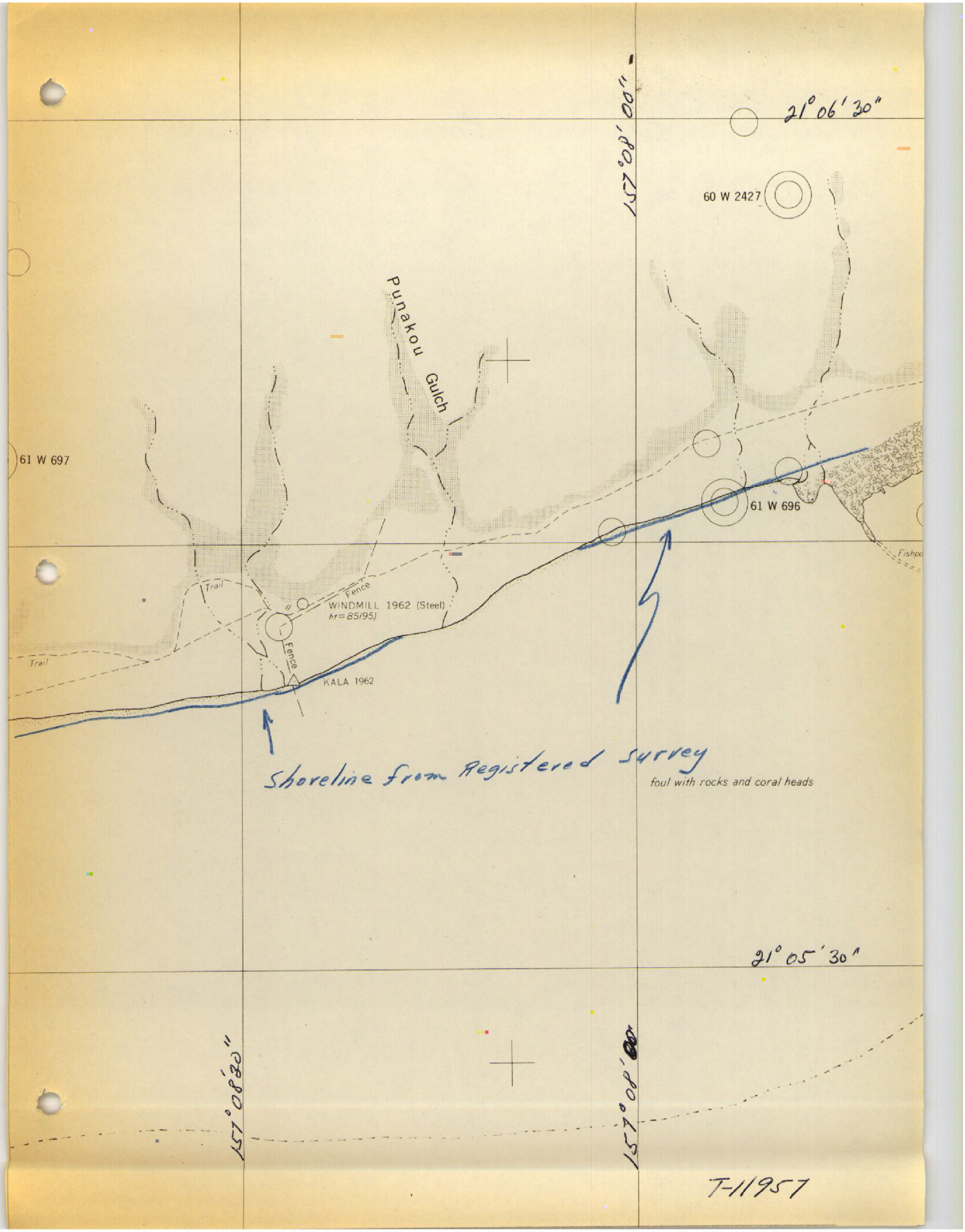
* TABULATE SECONDS AND METERS

USCOMM-DC 16234-P61


y=280,000 FT
61 W 701
Onopalani Gulch
Waiaooli Gulch
Kolo Gulch
06'
21° 06' 00"
△ KOLO 1962
Not on chart
shoreline in blue from H116
WINDMILL 1962
ht=76(85)
RANGE REAR DAYBEACON
stones and boulders
BM A 1926
Pipes
Not visible on photos
RANGE FRONT DAYBEACON
Kolo Wharf
Kaumana Point
pier ruins
pipe
pipe
KOLO HARBOR
21° 05'30"
Not visible on photos
pipe
pipe
pipe
y=275,000 FT
foul with rocks and coral heads
pole
Not visible on photos
157° 07' 00"
157° 11' 30"
21° 05'
T-11957


W 700
61 W 699
Hikauhi Gulch
Waiakane Gulch
21° 06' 00"
Shoreline from 11161
Shoreline from 5526
Windmill
Waiakane
Fishpond wall in ruins awash MHW
Hikauhi
Fishpond wall in ruins awash MHW
Rocks not visible on photos
157° 11' 00"
157° 10' 30"
157° 10' 00"
21° 05' 00"
T-11957


Naninanikukui Gulch
Keanakaiole Gulch
Kukuku Gulch
61 W 698
Trail
21°06'00"
Fishpond wall in ruins awash MHW
Fishpond wall in ruins awash MHW
Shoreline from Registered Survey No. 3526
21°05'30"
foul with rocks and coral heads
157°09'30"
157°09'00"
T-11957


21° 06' 30"
157° 08' 00"
60 W 2427
Punakou Gulch
61 W 697
61 W 696
Trail
Fence
WINDMILL 1962 (Steel)
ht=85/95)
Trail
Fence
KALA 1962
Shoreline from Registered survey
foul with rocks and coral heads
21° 05' 30"
157° 08' 30"
157° 08' 00"
T-11957