11972

DWF

Diag. Cht. No. 4116.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey SHORELINE (PHOTOGRAMMETRIC)

Field No. Ph-21045 *Office No.* T-11972

LOCALITY

State HAWAII

General locality LANAI ISLAND

Locality KALAEAHOLE POINT

1960 - 1962

CHIEF OF PARTY

WILBUR R. PORTER, CHIEF OF PARTY
FRED NATELLA, PHOTOGRAMMETRIC OFFICE

LIBRARY & ARCHIVES

DATE September 1964

USCOMM-DC 5087

11972

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

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT - DATA RECORD

T - 11972

PROJECT NO. (II):

21045

FIELD OFFICE (II): HONOLULU, HAWAII	CHIEF OF PARTY / UNIT CHIEF: WILBUR R. PORTER / L. F. VAN SCOY
PHOTOGRAMMETRIC OFFICE (III): PORTLAND, OREGON	OFFICER-IN-CHARGE: FRED NATELLA

INSTRUCTIONS DATED (II) (III):

	JULY 31, 1962	II
	DEC. 18, 1962	III
AMENDMENT I;	MAY 23, 1963	III
AMENDMENT II:	JUNE 24, 1963	III
AMENDMENT III:	JULY 9, 1963	III
AMENDMENT IV:	SEPT. 30, 1963	III

METHOD OF COMPILATION (III):

KELSH INSTRUMENT

MANUSCRIPT SCALE (III): 1:10,000	STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III): 1:5000 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 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):

POHAKU, 1962

LAT.:	LONG.:	
20° 53' 03.56"	157° 01' 13.74"	☐ ADJUSTED ☒ UNADJUSTED

PLANE COORDINATES (IV):		STATE	ZONE
Y = 200,250.61	X = 379,218.58	HAWAII	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: OCT-DEC. 1962
MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION): OCTOBER-DECEMBER 1962 BY FIELD INSPECTION. COMPILATION BY KELSH INSTRUMENT.	
PROJECTION AND GRIDS RULED BY (IV): A.R.	DATE 6-24-63
PROJECTION AND GRIDS CHECKED BY (IV): R.G.	DATE 6-25-63
CONTROL PLOTTED BY (III): D.N. WILLIAMS	DATE 7-17-63
CONTROL CHECKED BY (III): L. L. GRAVES	DATE 7-17-63
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III): HENRY P. EICHERT	DATE AUG. 1963
STEREOSCOPIC INSTRUMENT COMPILATION (III): PLANIMETRY L. L. GRAVES	DATE 7-30-63
CONTOURS NONE	DATE
MANUSCRIPT DELINEATED BY (III): SMOOTH DRAFT: C. C. HARRIS	DATE 8-2-63
SCRIBING BY (III): STICK-UP: C. C. HARRIS	DATE 8-14-63
PHOTOGRAMMETRIC OFFICE REVIEW BY (III): ROUGH DRAFT: D. N. WILLIAMS; ADVANCE: J. E. DEAL	DATE 7-31-63; 8-14-63
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
62 W 2478 AND 2479	2-1-62	08:00	1:25,000	-0.9' ABOVE M.L.L.W.
	RATIO PRINTS OF ABOVE AT		1:10,000	
62 W 2456 THRU 2458	2-1-62	08:20	1:25,000	0.9' ABOVE M.L.L.W.
COLOR PHOTOGRAPHS				
60 W 3320 AND 3321	10-24-60	07:50	1:10,000	2.4' ABOVE M.L.L.W.
60-W 3270 AND 3379	10-22-60	08:50	1:10,000	1.4' ABOVE M.L.L.W.
				COMPUTED FROM PREDICTED TIDE TABLES.

TIDE (III)

	RATIO OF RANGES	MEAN RANGE	DIURNAL RANGE
REFERENCE STATION: HONOLULU		1.2	1.9
SUBORDINATE STATION: KAUMALAPAU		1.5	2.2
SUBORDINATE STATION:			

WASHINGTON OFFICE REVIEW BY (IV): DATE:

PROOF EDIT BY (IV): DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (II): 5	RECOVERED: 5	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): 4

REMARKS:

Field Inspection Report

Project PH-6202

Map Manuscripts
T-11966 through T-11976

October - December 1962

2. AREAL FIELD INSPECTION

The area covered by this report encompasses the entire island of Lanai. This is the sixth largest of the eight islands forming the State of Hawaii. The island was created by volcanic eruptions. The Palawai Basin is a part of the islands extinct volcanic crater. The name Lanai originated from the old Hawaiian word Lana'i meaning hump. The present day usage of the word means a porch.

The climate of the island varies depending on the elevation of the area. Most of the island has a semi-arid appearance. The western half of the island and the lower slopes around the entire island receive very little rainfall. Most of the rainfall that is captured for the island water supply falls in the mountainous areas of the northeast. The high point in the area is Lanaihale which is 3370 feet above sea level.

The only settlement on the island is Lanai City which is a planned community that was started when the Dole Corporation purchased most of the island in 1922. Prior to that time the island native population varied from a few hundred to over two thousand. Warring with the natives from the other islands, disease, and unsuccessful agricultural attempts caused the fluctuations in the population.

The only port on the island is Kamalapau Harbor which was constructed about 1925. The wharf is protected by a boulder breakwater. The port is used mostly to ship pineapple to the cannery in Honolulu and receive general merchandise. A good paved road connects the harbor area with Lanai City.

At Halepalaoa is the ruins of a wharf that was built when an attempt was made to grow sugar cane in that area.

Prior to the time the harbor was constructed at Kamalapau a loading ramp at Manele Bay and the beaches there and in Hulapoe Bay was used by the people on the island to ship cattle and bring in supplies.

The entire economy of the island is dependant upon the cultivation of pineapple. Prior to this the island was used to raise sheep and cattle. About 1900 an unsuccessful attempt was made to grow sugar cane along the northeast coast.

The island is popular with sportsmen because of the good hunting for deer, goats, pheasants, quail, and dove. A few years ago the island was stocked with a small herd of antelope that seems to be increasing.

Photography was adequate for the identification of horizontal control and shoreline inspection, for the island. A small section of the shoreline between Kaumalapau Harbor and Palaoa Point was in shadow but the mean high water along this area is at the base of the bluffs.

The shoreline around the island varies from the almost vertical rock bluffs along the westerly and southerly coast to the sandy beach areas along the north, northeast, and southeast coast. Most of this part of the coast is protected by an offshore reef. A large section of the coast is inaccessable. A few areas can be reached by rutted and rock strewn jeep roads.

The shoreline for the entire island was visually inspected and the mean high water was delineated on the field photographs. The shoreline in the accessable areas was inspected by walking the beaches. The shoreline in the inaccessable area was inspected from vantage points along the tops of the bluffs, and coves at the head of the drainages.

3. HORIZONTAL CONTROL

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

KAUMALAPAU LIGHT
KAUMALAPAU HARBOR, BREAKWATER LIGHT
PALAOA PT. LIGHT
STANDARD OIL, STORAGE TANK
DOLE COPR., WATER TANK
LANAI VOR, LNY
N. COAST LANAI SHIPWRECK, FLAGPOLE ON STERN HOUSE
N.W. COAST LANAI SHIPWRECK, FOREWARD MAST

(b) No datum adjustment was made by the field party

(c) All control stations identified for the bridging were established by the Coast & Geodetic Survey or were tied to by the tellurometer party this season and new positions computed. Many new stations had to be established to meet the horizontal control requirements.

(d) Control stations in all but three designated areas were identified prior to my arrival on the island by John C. Lajoye. Control stations LOPA 1962, KAAPA 1927, and NOB 1927 were positively identified after my arrival on the island.

(e) All control stations within the limits of the project were searched for by the tellurometer party. Form 526 was submitted for each station searched for. A complete list of all stations recovered and those reported lost can be obtained from the Honolulu District Office or the Division of Geodesy. No stations that were listed as lost were identified for use in the plot.

(f) The quality of identification of each station or substitute station was indicated on the control station identification cards. None of the identification was considered to be sub-standard.

4. VERTICAL CONTROL

The only required control was a search for all tidal bench marks in the project area and the identification of one mark in each group. All tidal bench marks at Kaumalapau Harbor and Manele Bay were searched for. A total of 8 marks were searched for. Form 685 was submitted for each mark.

5. CONTOURS AND DRAINAGE

Contours not applicable.

Drainage is self evident on the photographs. All streams on the island are intermitted. There are no marsh areas on the island.

6. WOODLAND COVER

The mountainous section in the northeast part of the island contains a fairly dense cover of tree ferns and native hardwoods. Norfolk pine have been planted in scattered areas around the island. Most of the remainder of the island is open and barren except for scattered Keawe trees and low brush. Some of the drainages and area boarding the north and northeast coast contain denser stands of Keawe trees.

7. SHORELINE AND ALONGSHORE FEATURES

(a) The mean high water was indicated on the field photographs. A small section of the shoreline between Palaoa Pt. on Kaumalapau was in shadow on the photographs. In the accessable areas of the coast the location of the mean high water was determined by measurements to identifable objects adjacent to the shoreline.

The shoreline along the southerly and westerly coast contain many areas of along shore rocky sections, projecting sections of ledges, and in some sections vertical rock cliffs. The features combined with the surf breaking along the shore tend to confuse the location of the mean high water line on the photographs.

(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 westerly and southerly sections of the coast contain rock bluffs varying in heights from a few feet to over 1000 feet. The northeast and easterly sections of the coast is bordered by a narrow, sandy beach with scattered, short, rocky sections.

(e) The only unnatural features to be found in the project area were located at Kaumalapau Harbor and Manele Bay. A new small-boat basin has been constructed in Manele Bay. This contained a short boulder groin, finger piers, boat ramp, and enclosed with a masonary wall. The features were located photogrammetrically.

(f) Not applicable

(g) There are no other shoreline structures in the project areas except the ruins of an old wharf at Halepalaoa.

8. OFFSHORE FEATURES

Offshore rocks and projecting sections of ledges are located along most of the westerly and southerly coast and small areas along the rest of the island. Most of these are visible on the photographs and should be clearer on the color photographs which were not available to the field party. The heights these rocks were baring at the time of inspection was estimated and this information indicated on the photographs. The varying heights of the surf breaking over these features could account for some errors in these estimations.

A reef about 0.5 mile offshore is located along most of the northerly and northeasterly coast. Two prominent wrecks, whose positions were determined geodetically were found on the reef. The remains of a few other wrecks was indicated on the photographs.

9. LANDMARKS AND AIDS

(a) All chartered landmarks were investigated by the field party. A total of 6 old landmarks were deleted. One old landmark was retained. A total of 5 new landmarks were selected for charting. A third-order position of each of these landmarks were determined. All landmarks to be retained, deleted, and new ones selected were listed on Form 567. The elevation of each landmark was determined or estimated by the field party.

(b) No interior landmarks were selected.

(c) The geographic positions for the following aeronautical aids selected for charting was determined by third-order triangulation during the field season.

LANAI VOR, LNY
DOLE CORP., WATER TANK

All aeronautical aids selected for charting were listed on Form 567. The elevation for each was determined by the field party.

(d) A new third-order position for the following list of navigational aids was determined during the field season.

KAUMALAPAU LIGHT
KAUMALAPAU HARBOR, BREAKWATER LIGHT
PALAOA PT. LIGHT

These charted nautical aids were listed on Form 567. The elevation and height of each aid was determined by the field party.

There are no ranges within the project area.

(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 many cases it will be necessary to locate the site for the hydrographic signals from the selected photo hydro points.

12. OTHER INTERIOR FEATURES

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

There were no public buildings in the project area.

The only airport serving the island is located out of the project area.

No bridges, submerged cables or cable crossing over navigable water were found in the project area.

13. GEOGRAPHIC NAMES

Not applicable

14. SPECIAL REPORTS AND SUPPLEMENTAL DATA

(a) A coast pilot investigation was made and report submitted with records.

(b) A new small-boat basin was constructed in Manele Bay since the date of photography. All necessary information to compile this feature was determined

photogrammetrically. This data with necessary photograph and Forms 567 were previously submitted as directed by letter from Office of the Director.

Approved:
Wilbur R. Porter
Honolulu District Officer

Respectfully submitted
Leonard F. Van Scoy
Photo Unit Chief

Photogrammetric Plot Report
Project 21045
Island of Lanai, Hawaii
August 1963

21. Area Covered

The entire island of Lanai, shoreline surveys T-11966 thru T-11976.

22. Method

Six strips were bridged by analytic aerotriangulation. Attached sketch shows layout of strips, horizontal control used, and closures to control. In all but strip No. 4, the 1:25,000 scale photography was bridged. In the bridging of strip No. 4, the 1:15,000 scale photography was used. This complied with project instructions. Control was not adequate for bridging the 1:15,000 scale photography to cover survey T-11976 which will be compiled at a scale of 1:5,000. Therefore, a strip at 1:25,000 scale was utilized. Pass point positions were furnished so that Kelsh models could be set using the 1:15,000 scale photography.

Discrepancies between strips were under 0.5 mm at map scale and would undoubtedly be smaller had control identification been better.

23. Adequacy of Control

Initial examination of control identification revealed that several stations were not satisfactorily identified. Thus, certain stations were reidentified in the field.

Great difficulty was experienced in the office in identifying the substitute stations of the field parties. An attempt was made to identify all possible control submitted by both field parties. By carefully evaluating the resulting control identification the best selection was made to control the bridges.

Well-defined points were scarce due to the nature of the terrain. However, a more careful selection of points would have improved the identification of control and would have resulted in a saving in time and increased assurance in accuracy. Of a total of 49 points identified in the field, 5 were rated good, 22 fair, 8 poor and 14 doubtful.

Excessive discrepancies in the aerotriangulation are discussed below. Also refer to the appended Aerotriangulation Sketch.

AWEHI, 1962

Sub-points were identified for this station by the two separate field parties. The second set fit well with other control held while the first set did not. This is attributed to mis-identification by the field party.

KIEI, 1962

All four sub-points for this station were drilled but were used as checks, only, since they were rated either doubtful or poor. The sub-points identified by the second field party attempt agreed fairly well with the bridge, considering the rating which we gave them.

KAMALAPAU LT., 1962

This point appeared in strip No. 4. It was used as a check, but failed to agree by well over 100 feet. Our drilling was based on the field pricking although the light itself could not be seen on the photography. It is very possible that the field pricking was erroneous. Although strip No. 4 was extended two models beyond control before making a tie with strip No. 3, we are confident of its accuracy since discrepancies between tie points were no greater than 5 feet.

KAUMALAPAU HBR. BRKWATER LT., 1962

This point, also in strip No. 4, did not hold well. Similarly, the light itself could not be seen on the photography.

PU PEHE, 1962

One sub-point was established for this station as well as a direct identification.

Both points were used as checks only. The sub-point was rated as poor and the direct identification of the station as doubtful.

In spite of the difficulties and discrepancies discussed above, we feel that our bridging results comply with the National Standards of Map Accuracy for the areas being mapped.

24. Supplemental Data

None

25. Photography

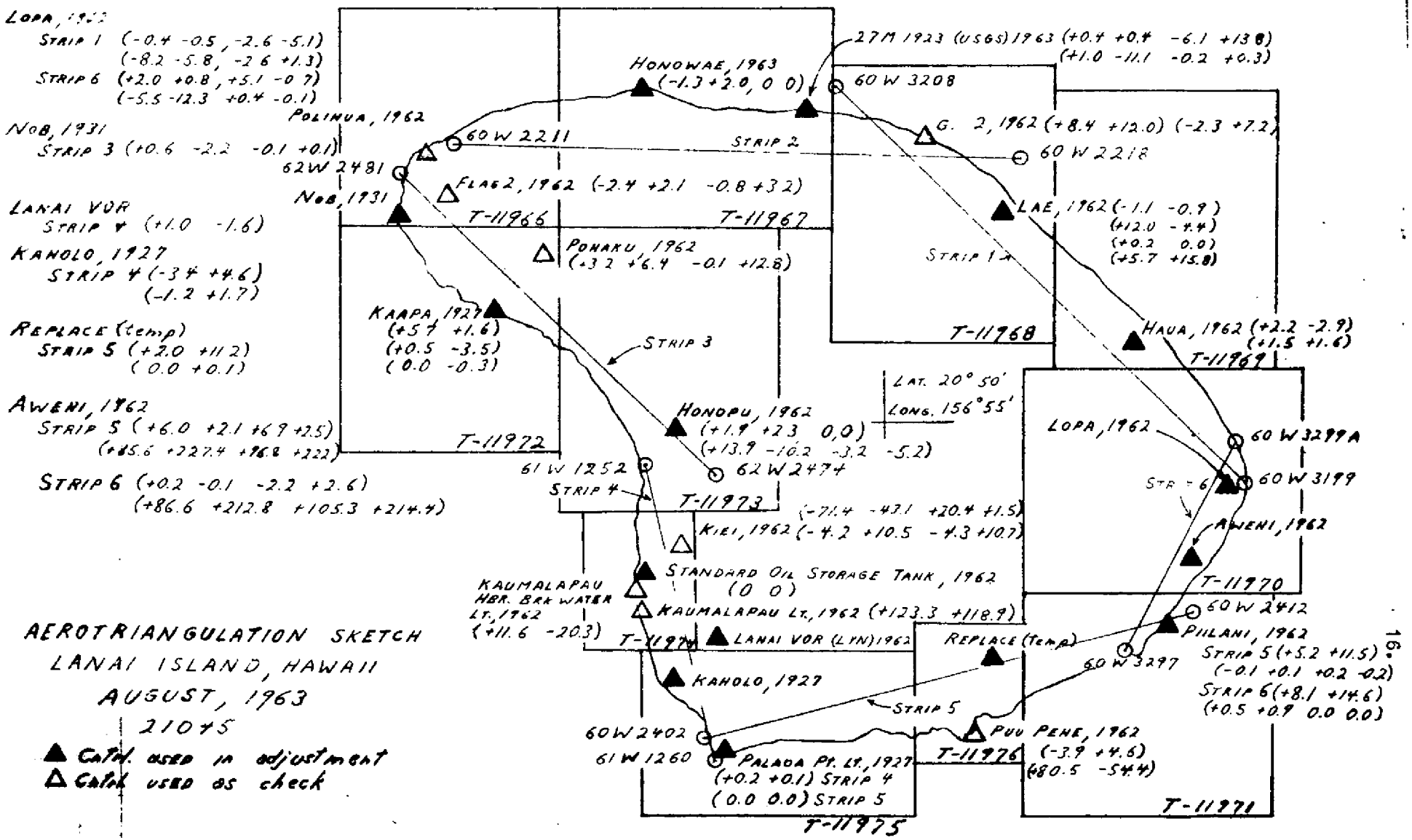
Overlap was not sufficient to run the entire strip No. 2 from 60W 2211 thru 2218. Since there was only partial overlap several pass points were furnished from this strip, which was run from 2212 thru 2218, and also from strip No. 3 so that model 2211-12 could be set. Aside from this, coverage and overlap was adequate.

Submitted by:

Henry P. Eichert

Approved by:

Everett H. Ramey, Chief
Aerotriangulation Section



AEROTRIANGULATION SKETCH
LANAI ISLAND, HAWAII
AUGUST, 1963
21075

▲ Cntl. used in adjustment
△ Cntl. used as check

FORM 164
(4-23-54)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

[redacted]TROL RECORD

MAP T-11972 PROJECT NO. 21045 SCALE OF MAP 1:10,000 SCALE FACTOR

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE LONGITUDE OR x-COORDINATE	DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS FORWARD (BACK)	DATUM CORRECTION	N.A. 1927-DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)
KAAPA, 1927	UNADJ. FIELD COMP.	OLD HAWAIIAN	193,476.37	13,476.37		4107.6	
			373,511.53	18,511.53		5642.3	
POHAKU, 1962	"	"	200,250.61	20,250.61		6172.4	
			379,281.58	24,218.58		7381.8	
APPLE, 1931	"	"	201,477.85	21,477.85		6546.4	
			371,074.03	16,074.03		4899.4	
PINE, 1931	"	"	197,816.60	17,816.60		5430.5	
			370,998.10	15,998.10		4876.2	
KAA, 1927	P-10	"	192,523.68	2523.68 (2476.32)		769.2 (754.8)	
			377,362.36	2362.36 (2637.64)		720.0 (804.0)	

1 FT. = .3048006 METER

COMPUTED BY: D.N.W. DATE 7-16-63

CHECKED BY: L.L.G. & C.C.H. DATE 7-16-63

COMM-DC-57643

COMPILATION REPORT

MAP MANUSCRIPT T-11972

PROJECT 21045

31. DELINEATION:

PLATES FURNISHED FOR COMPILATION WERE PRINTED IN REVERSE WHICH NECESSITATED COMPILATION BY THE KELSH INSTRUMENT IN THE NEGATIVE. SMOOTH DRAFTING IN THE POSITIVE WAS ACCOMPLISHED FROM THIS COMPILATION.

FIELD INSPECTION OF THE MEAN HIGH-WATER LINE AND THE DELINEATION OF ALONGSHORE FEATURES WAS OFTEN INCOMPLETE WHEN COMPARED WITH THE COLOR PHOTOGRAPHY. IN SEVERAL INSTANCES, CLEARLY DISCERNABLE ROADS OR TRAILS DOWN THE STEEP HILLSIDES PROVIDED ACCESS TO THE WATER. THESE WERE APPARENTLY NOT UTILIZED BY THE FIELD INSPECTOR. INDICATIONS ARE THAT PRACTICALLY ALL OF THE FIELD INSPECTION SHOWN ALONG THE WATER WAS DONE FROM THE TOP OF THE BLUFFS AND THAT THE COLOR PHOTOGRAPHY WAS EITHER NOT AVAILABLE TO OR WAS IGNORED BY THE FIELD INSPECTOR. NOTES WERE POORLY WRITTEN AND MANY WERE INDEFINITE OR AMBIGUOUS.

EXAMINATION OF THE COLOR PHOTOGRAPHY IN THE PORTLAND PHOTOGRAMMETRIC COMPILATION OFFICE HELPED GREATLY TO REPLACE THIS LACK OF ADEQUATE FIELD INSPECTION OF ALONGSHORE FEATURES.

32. CONTROL:

ADEQUATE SUPPLEMENTAL CONTROL WAS ESTABLISHED BY ANALYTIC AEROTRIANGULATION.

33. SUPPLEMENTAL DATA:

NONE.

34. CONTOURS AND DRAINAGE:

CONTOURS ARE NOT APPLICABLE.

DRAINAGE WAS COMPILED AS FIELD INSPECTED.

35. SHORELINE AND ALONGSHORE DETAILS:

COMPILATION OF THE MEAN HIGH WATER LINE WAS ACCOMPLISHED BY EXPANDING THE SPOT LOCATION FURNISHED BY THE FIELD UNIT TO CONFORM WITH THE SHORELINE APPARENT ON THE HIGH-WATER COLOR PHOTOGRAPHY. EXTENSIVE USE OF THE COLOR PHOTOGRAPHY WAS MADE IN DETERMINING THE LIMITS OF LEDGES AND REEFS. AREAS ENCLOSED WITH A DASHED LINE AND LABELED "FOUL" WERE DELINEATED FROM EXAMINATION OF THE COLOR PHOTOGRAPHS. LOCATIONS AND ELEVATIONS OF ROCKS SHOWN WERE OBTAINED FROM

DATA FURNISHED BY THE FIELD PARTY; THE HEIGHTS BEING ADJUSTED TO THE MANUSCRIPT DATUM.

PHOTOGRAPHY DID NOT PERMIT COMPILATION OF A MEAN LOWER LOW-WATER LINE.

36. OFFSHORE DETAILS:

NONE.

37. LANDMARKS AND AIDS:

NO LANDMARKS OR AIDS HAVE BEEN SHOWN ON THIS MANUSCRIPT.

38. CONTROLS FOR FUTURE SURVEYS:

FOUR PHOTO-HYDRO STATIONS WERE IDENTIFIED BY THE FIELD UNIT AND LOCATED DURING KELSH INSTRUMENT COMPILATION. THEIR NUMBERS AND DESCRIPTIONS ARE LISTED IN PARAGRAPH 49, NOTES FOR THE HYDROGRAPHER.

39. JUNCTIONS:

SATISFACTORY JUNCTIONS WERE MADE WITH T-11966 TO THE NORTH AND WITH T-11973 TO THE EAST. THE PACIFIC OCEAN IS TO THE WEST AND SOUTH.

40. HORIZONTAL AND VERTICAL ACCURACY:

THE FORESHORE AREAS SHOWN ON THIS MANUSCRIPT, EXCEPT FIELD IDENTIFIED FEATURES, WERE DELINEATED BY STEREOSCOPIC EXAMINATION OF THE COLOR PHOTOGRAPHY AND TRANSFERRED TO THE MANUSCRIPT BY USE OF THE VERTICAL PROJECTOR. FOR THIS REASON THESE FEATURES MAY NOT MEET THE NATIONAL STANDARDS OF ACCURACY.

46. COMPARISON WITH EXISTING MAPS:

COMPARISON WAS MADE WITH THE U.S.G.S. TOPOGRAPHIC MAP OF THE ISLAND OF LANAI, MAUI COUNTY, HAWAII, SURVEYED IN 1923.

47. COMPARISON WITH NAUTICAL CHARTS:

COMPARISON WAS MADE WITH NAUTICAL CHART 4120, SCALE 1:80,000 AT LAT. 21° 01', 1ST EDITION MAR. 17, 1942, REVISED 2-4-63.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY:

NONE.

ITEMS TO BE CARRIED FORWARD:

NONE.

APPROVED:

FRED NATELLA, CAPT, C&GS
PORTLAND DISTRICT OFFICER

RESPECTFULLY SUBMITTED:

JAMES L. HARRIS
CARTOGRAPHER

49. NOTES FOR THE HYDROGRAPHER - T-11972

LISTED BELOW ARE SEVERAL OBJECTS SELECTED BY THE FIELD INSPECTOR FOR PHOTO-HYDRO SIGNALS AND LOCATED BY KELSH INSTRUMENT.

No.	DESCRIPTION	FIELD PHOTO No.
7201	POINT OF LOW BLUFF	62 W 2455
7202	HIGH POINT LEDGE PROJECTS 10 FT.	62 W 2457
7203	ROCK BARES 4 FT. M.H.W.	62 W 2457
7204	ROCK BARES 4 FT. M.H.W.	62 W 2457

PASS POINTS HAVE BEEN LOCATED AT OR NEAR THE WATER LEVEL ABOUT EVERY MILE ALONG THE SHORELINE AND THESE SHOULD BE USED WHEN LOCATING ADDITIONAL PHOTO-HYDRO SIGNALS IDENTIFIED DURING THE TIME OF THE HYDROGRAPHIC SURVEY.

C&GS FORM 1002
(11-13-61)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

PHOTOGRAMMETRIC OFFICE REVIEW

T ~~10358~~ 11972

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	✓	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	None	✓	None

PHYSICAL FEATURES

20. WATER FEATURES	21. NATURAL GROUND COVER	22. PLANETABLE CONTOURS
✓	✓	None

23. STEREOSCOPIC INSTRUMENT CONTOURS	24. CONTOURS IN GENERAL	25. SPOT ELEVATIONS	26. OTHER PHYSICAL FEATURES
None	None	None	✓

CULTURAL FEATURES

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

40. REVIEWER	SUPERVISOR, REVIEW SECTION OR UNIT
R. Williams	Edward Deal

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

USCOMM-DC 16262-P61

T-11972

48. Geographic Names List

Kalaeahole Point
Lanai Island
Pacific Ocean

Geographic Names Section
February 1964

Review Report

Shoreline Maps

T-11966 through T-11976

July 1964

61. General Statement

These shoreline maps of Project PH-6202 Lanai, Hawaii were prepared to furnish hydro support-data and base maps for our nautical and aeronautical charting programs.

62. Comparison with Registered Topgographic Surveys

T-3435	1:20,000	1914
T-4304	1: 5,000	1927
T-4304a	1: 2,500	1928
T-4745	1:20,000	1932
T-4780	1: 5,000	1931

Differences exist between these surveys - generally in the main shoreline and the shapes of some of the islands. The subject surveys are to supersede the above listed maps of common areas for nautical charting purposes.

63. Comparison with Maps of Other Agencies

Island of Lanai	1:62,500	1923

Because of the scale difference only a visual comparison can be made. The subject surveys are more complete and supersede the above survey for common area.

64. Comparison with Contemporary Hydrographic Surveys

None

65. Comparison with Nautical Charts

4120	1:80,000	Edition 1942	Revised Feb.1963
4130	1:80,000	Edition 1936	Revised Apr.1962
4122	1: 2,500	Edition 1929	Revised Apr.1951

Differences exist. However, there are no items to be applied immediately.

66. Adequacy of Results and Future Surveys

These surveys were prepared according to project instructions and are within the required accuracy for Nautical Charting.

Reviewed by:

L. C. Lande

Approved by:

Chief, Photogrammetric Branch

Chief, Nautical Chart Division

Chief, Photogrammetry Division
Acting

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. T-11972

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
4120	11/1/65	J. McMillan	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. Critical Care only
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
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