

# 11905

Diag. Cht. No. 4116.

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE  
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION  
COAST AND GEODETIC SURVEY

## DESCRIPTIVE REPORT

Type of Survey Shoreline (Photogrammetric)

Field No. Ph-6012 Office No. T-11905

### LOCALITY

State Hawaii

General locality Maui Island

Locality Kapuaiaaka Bay-Puniawa Point

1960-63

### CHIEF OF PARTY

H.J. Seaborg, Honolulu District Office  
W.E. Randall, Balto. District Office

### LIBRARY & ARCHIVES

DATE \_\_\_\_\_

USCOMM-DC 37022-P66

# 11905

## DESCRIPTIVE REPORT - DATA RECORD

T-11905

PROJECT NO. (II): PH 6012 (21034)		
FIELD OFFICE (II): Honolulu, Hawaii		CHIEF OF PARTY H. J. Seaborg
PHOTOGRAMMETRIC OFFICE (III): Baltimore, Maryland		OFFICER-IN-CHARGE W. E. Randall
INSTRUCTIONS DATED (II) (III): 14 November 1960 28 November 1960 13 June 1961 16 January 1962		
METHOD OF COMPILATION (III): Kelsh Plotter		
MANUSCRIPT SCALE (III): 1:10,000		STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III): 1:5,000 Pantograph 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): <del>MSL</del> MHW <del>MEAN SEA LEVEL EXCEPT AS FOLLOWS:</del> 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): KULOLI 2 (HTS 1929), 1950		
LAT.: 20° 55' 11.931"	LONG.: 156° 17' 08.779"	<input checked="" type="checkbox"/> ADJUSTED <input type="checkbox"/> UNADJUSTED
PLANE COORDINATES (IV): = 213,223.50 Ft.      x = 629,994.37 Ft.		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): <b>J. C. Lajoie</b>		DATE: <b>Feb. 1962</b>
MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION):  <b>MHW located by Kelsh Plotter using 1960 and 1961 photography supplemented by 1960 color photography and field inspection notes.</b>		
PROJECTION AND GRIDS RULED BY (IV): <b>A.E.R.</b>		DATE <b>3-21-62</b>
PROJECTION AND GRIDS CHECKED BY (IV): <b>A.E.R.</b>		DATE <b>3-21-62</b>
CONTROL PLOTTED BY (III):  <b>D. M. Brant</b>		DATE  <b>3-27-62</b>
CONTROL CHECKED BY (III):  <b>L. O. Neterer</b>		DATE  <b>3-27-62</b>
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III): <b>Aerotriangulation - Washington Office</b>		DATE <b>1962</b>
STEREOSCOPIC INSTRUMENT COMPILATION (III):  <b>D. M. Brant</b>	PLANIMETRY  <b>D. M. Brant</b>	DATE <b>4-2-62</b>
	CONTOURS  <b>Inapplicable</b>	DATE
MANUSCRIPT DELINEATED BY (III):  <b>D. M. Brant</b>		DATE  <b>4-62</b>
SCRIBING BY (III):		DATE
PHOTOGRAMMETRIC OFFICE REVIEW BY (III):  <b>J. D. Mc Evoy</b>		DATE  <b>4-62</b>
REMARKS:  <b>FIELD EDIT-1963 USC &amp; G S PATHFINDER NO : FIELD EDIT SHEET SUBMITTED</b>		

FORM C&GS-181c  
(12-61)U.S. DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY

## DESCRIPTIVE REPORT - DATA RECORD

CAMERA (KIND OR SOURCE) (III):

HWH Camera

## PHOTOGRAPHS (III)

NUMBER	DATE	TIME	SCALE	STAGE OF TIDE
60 W 2312 & 2313	2 Oct. 1960	0913	1:25,000	1.0 Ft. above MLLW
61 W 1203 thru 1207	26 Sept. 1961	0908	1:15,000	0.6 Ft. above MLLW
60 W(C) 3099 thru 3105	19 Sept. 1960	0744	1:10,000	0.5 Ft. above MLLW
60 W(C) 3107 & 3108	19 Sept. 1960	0752	1:10,000	0.5 Ft. above MLLW
60 W(C) 3445	19 Sept. 1960	0850	1:10,000	0.4 Ft. above MHW
Tides computed from Predicted Tide Tables.				

## TIDE (III)

## Diurnal

	RATIO OF RANGES	MEAN RANGE	SPRING RANGE
REFERENCE STATION: Honolulu, Hawaii		1.2	1.9
SUBORDINATE STATION: Kahului, Hawaii		1.4	2.2
SUBORDINATE STATION:			

WASHINGTON OFFICE REVIEW BY (IV): Leo F. Beugnet, Norfolk Regional Office

DATE: Nov 1966  
~~Oct. 1965~~

PROOF EDIT BY (IV):

DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (II):

1

RECOVERED:

1

IDENTIFIED:

#2

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

None

RECOVERED:

0

IDENTIFIED:

0

NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):

0

NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III):

6

REMARKS:

\* Two temporary stations established and identified.



COMPILATION RECORD

COMPLETION DATE

REMARKS

Shoreline furnished for hydro	April 1962	Superseded
Compilation completed	April 1964	

5

CCOUNTS  
Area  
(Sq. Miles)  
1.5  
12  
8  
3  
4  
4  
6  
3



+

SUMMARY TO ACCOMPANY  
DESCRIPTIVE REPORT T-11905

Shoreline survey T-11905, compiled at 1:10,000 scale, covers a part of the coastline of Maui Island in the vicinity of Opana Point. The primary purpose of the survey was to furnish new shoreline for nautical charts and to provide photo-hydro support data for hydrographic surveys to be made in the same area.

Field work preceding compilation included recovery and identification of horizontal control, field inspection and the selection of photo-hydro stations.

Compilation was by Kelsh instrument methods using the panchromatic photography of October 2nd 1960 and 26 September 1961. Supplemental control established by Aerotriangulation was used to control the Kelsh models. A cronaflex copy of the manuscript along with specially prepared ratio photographs were furnished for preparation of the boat sheet and for the location of hydro signals by photogrammetric methods.

The manuscript is a vinylite sheet which was smooth drafted and reproduced. One cronar positive and one cronar negative are provided for record and registry.

FIELD INSPECTION REPORT  
T-11905

Please refer to the Field Inspection Report for Maui Island, Hawaii, dated 8 September 1962, bound with the Descriptive Report for T-11894.





PHOTOGRAMMETRIC PLOT REPORT  
ISLAND OF MAUI (EAST HALF)  
HAWAII

Project PH-6212  
February 1962

21. AREA COVERED

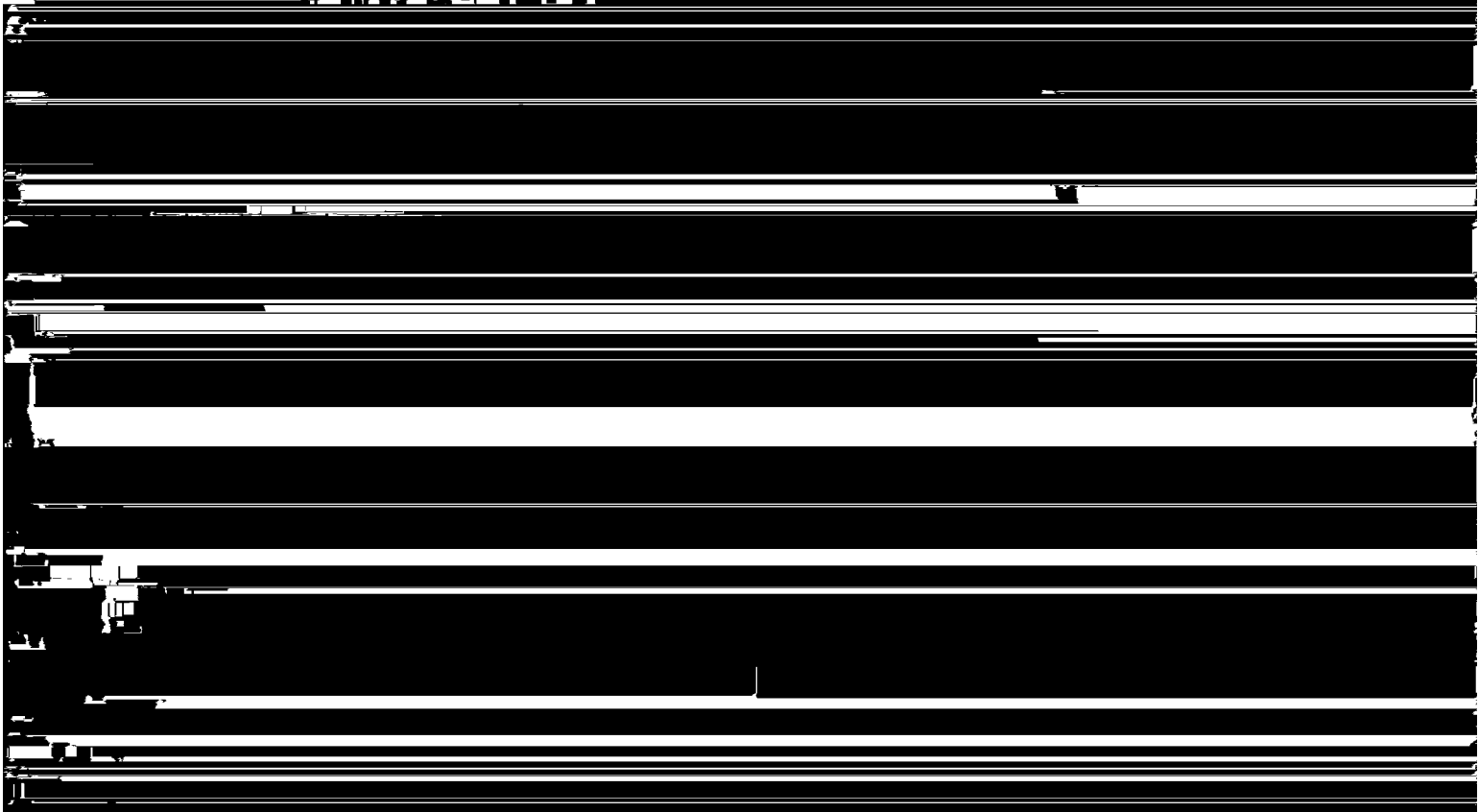
T-11905 through T-11911; T-11929 through T-11939;  
T-11989 through T-11992

22. METHOD

Six stereoplanigraph bridges, designated as strips #8 through #13, were run in order to provide pass points for use in Kelsh compilation of the project. Additional points along the shoreline were provided, for possible use in conjunction with hydrographic surveys in the area.

This project covers the entire eastern half of the island of Maui, and adjoins a similar project of March 1961, which covers the western half of the island. On that earlier phase, the numbers assigned to the stereoplanigraph bridges were #1 through #7.

Strip #13 was adjusted on a linear basis. All other strips in this project (eastern half of the island) were adjusted



PUHILELE-SUB A is entirely one of interpretation. In strip #8, two different possible positions for the point were read, one of which held in bridging, and the other failed to hold. In strip #9, the single position read for the point failed to hold. The number and geographical location of other control in this area is such that this station may be disregarded.

No specific cause has been found for the failure of MAKALAE-SUB B to hold. Its companion sub. pt. held, and therefore, SUB B may be disregarded.

The sub. pts. of PUUHINAI 2 had a questionable starting azimuth due to the lack of agreement among several solar azimuth observations. The sub. points did not hold in the adjustment.

24. SUPPLEMENTAL DATA

None

25. PHOTOGRAPHY

The photography used in bridging was adequate in all respects.

Submitted by

*Robert E. Fuechsel*  
Robert E. Fuechsel

Approved

*Everett H. Ramey*  
Everett H. Ramey, Chief  
Aerotriangulation Section

11.

COMPILATION REPORT T-11905

For additional data pertaining to this survey refer to the Field Inspection Report bound with T-11896.

ITEMS 31 THRU 36

Please refer to the Compilation Report bound with T-11896

37. LANDMARKS AND AIDS

There are no landmarks, aids to navigation or aeronautical aids within the compilation limits of this map.

38. CONTROL FOR FUTURE SURVEYS

No control for future surveys was established during compilation.

39. JUNCTIONS

Satisfactory junctions were made with T-11904 on the west and with T-11906 on the east. There is no contemporary survey on the south:



46. COMPARISON WITH EXISTING MAPS

Comparison was made with U.S.G.S. Haiku, Hawaii quadrangle, scale 1:24,000, edition of 1957.

47. COMPARISON WITH NAUTICAL CHARTS

Comparison was made with the following charts:

4116 - 1:250,000 scale - 12th edition, August 17, 1964

4124 - 1:30,000 scale - 3rd edition, May 3, 1965



ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None

ITEMS TO BE CARRIED FORWARD

None

Respectfully submitted:

*Joseph Steinberg*  
For: Donald M. Brant  
Carto. (Photo.)

Approved:

*J. Bull*  
J. Bull, CAPT., USESSA  
Director, Atlantic Marine Center

GEOGRAPHIC NAMES  
Ph 6012

T-11905

East Kuiaha Gulch  
Haiku  
Haiku Reservoir  
\* Halehaku Point  
\* Holumalu Gulch  
\* Kakipi Gulch  
Kanemoeala Gulch  
Kapalaalaea Reservoir  
Kapalaalaea Stream  
\* Kapuaiaaka Bay  
\* Kaupakulua Gulch  
Kaupakulua Reservoir  
\* Kealii Point  
\* Kealii Stream  
\* Konanui Gulch  
Kuiaha Gulch  
Liiikoi Gulch  
Maliko Gulch  
\* Manawai Gulch  
\* Manawaiiao Bay  
\* Manawaiiao Stream  
\* Manawai Point  
\* Opana Point  
Papaaea Reservoir  
Papalaalaea Stream  
\* Papalua Stream  
\* Papanui o Kane  
Pauwela  
Pauwela Gulch

Pauwela Point  
Pauwela Reservoir  
\* Peahi Gulch  
Peahi Reservoir  
\* Pilale Bay  
Puniawa Stream  
\* Uaoa Bay  
\* Uaoa Stream  
Waipio Stream  
\* Puniawa Point

*Frank W. Rickett*  
All Names Approved  
by Office of Geography

*Approved,*

*1-20-66*

*A. J. Wright*

*\* Only these names appear on this manuscript*

49. NOTES FOR THE HYDROGRAPHER

The positions of the following hydrographic signal sites, identified by the field inspection party, were established during compilation.

0501	Flag at end of brush	60 W 2505	<i>in net</i>
0502	Corner of triangle in pineapple field	60 W 2505	ESS
0503	Centerline path and road edge	60 W 1204	
0504	Top southerly tip of rock	60 W 1204	
0505	Tip of triangular patch	60 W 1204	
0506	Center dark spot on offshore reef	60 W 1205	



## PHOTOGRAMMETRIC OFFICE REVIEW

T-19262-11905

1. PROJECTION AND GRIDS DMB		2. TITLE DMB		3. MANUSCRIPT NUMBERS DMB		4. MANUSCRIPT SIZE DMB	
CONTROL STATIONS							
5. HORIZONTAL CONTROL STATIONS OF THIRD-ORDER OR HIGHER ACCURACY DMB				6. RECOVERABLE HORIZONTAL STATIONS OF LESS THAN THIRD-ORDER ACCURACY (Topographic stations) NONE		7. PHOTO HYDRO STATIONS DMB	
8. BENCH MARKS DMB		9. PLOTTING OF SEXTANT FIXES NONE		10. PHOTOGRAMMETRIC PLOT REPORT DMB		11. DETAIL POINTS DMB	
ALONGSHORE AREAS (Nautical Chart Data)							
12. SHORELINE DMB		13. LOW-WATER LINE DMB		14. ROCKS, SHOALS, ETC. DMB		15. BRIDGES DMB	
16. AIDS TO NAVIGATION DMB		17. LANDMARKS DMB		18. OTHER ALONGSHORE PHYSICAL FEATURES DMB		19. OTHER ALONGSHORE CULTURAL FEATURES DMB	
PHYSICAL FEATURES							
20. WATER FEATURES DMB				21. NATURAL GROUND COVER NONE		22. PLANETABLE CONTOURS NONE	
23. STEREOSCOPIC INSTRUMENT CONTOURS NONE		24. CONTOURS IN GENERAL NONE		25. SPOT ELEVATIONS NONE		26. OTHER PHYSICAL FEATURES DMB	
CULTURAL FEATURES							
27. ROADS DMB		28. BUILDINGS DMB		29. RAILROADS DMB		30. OTHER CULTURAL FEATURES DMB	
BOUNDARIES							
31. BOUNDARY LINES NONE				32. PUBLIC LAND LINES NONE			
MISCELLANEOUS							
33. GEOGRAPHIC NAMES DMB				34. JUNCTIONS DMB		35. LEGIBILITY OF THE MANUSCRIPT DMB	
36. DISCREPANCY OVERLAY DMB		37. DESCRIPTIVE REPORT DMB		38. FIELD INSPECTION PHOTOGRAPHS DMB		39. FORMS DMB	
40. REVIEWER For: D.M. Brant Joseph Steinberg				SUPERVISOR, REVIEW SECTION OR UNIT Joseph Steinberg			
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 * This map was field edited - Refer to page 16 of this report							



FIELD EDIT REPORT T-11905

No formal field edit report was received for this manuscript. Please refer to the memorandum, which is the following page of this report, concerning field edit of this survey.

# Memorandum

16

244 1

TO : The Director  
Coast and Geodetic Survey  
U.S. Department of Commerce  
Washington 25, D.C.

DATE: 8 July 1963

FROM : Commanding Officer  
USCAGSS Pathfinder  
705 Federal Office Building  
Seattle, Washington

SUBJECT: Field Edit Report - OPR-419

During the first half of the 1963 field season, Pathfinder personnel field edited the manuscripts listed below for accuracy and completeness. All recommended changes have been noted on the blackline impressions in red and green ink. In general, the manuscripts were found to be very reliable with only minor discrepancies being noted.

Four manuscripts with noted changes are being forwarded to the Washington Office on July 9. Those manuscripts with no recommended changes have been noted below. The remaining manuscripts will be forwarded

REVIEW REPORT T-11905  
SHORELINE  
May 16, 1966

61. GENERAL STATEMENT

See summary accompanying Descriptive Report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS

Comparison was made with a copy of Registered Planetable Survey No. 3272, 1:20,000 scale, made in 1912 and approved March 30, 1914.

The shoreline and alongshore features of the two surveys are in fairly good agreement. Survey T-11905 being at a larger scale and a recent survey is more depictive of the area.

Planetable survey 3272 is superseded by manuscript T-11905. The latter should be used for nautical chart construction purposes in the area mapped.

63. COMPARISON WITH MAPS OF OTHER AGENCIES

Comparison was made with U.S.G.S. quadrangle Haiku, Hawaii, 1:24,000 scale, edition of 1957. The shoreline of the two surveys are in good general agreement except for the shape of some of the small islands just offshore of the MHWL.

A submerged rock at approximate latitude  $20^{\circ} 56.9'$  longitude  $156^{\circ} 18.1'$  is not visible on photography of the area.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS (REFER TO PAGE 19)

\*\* 65. Comparison was made with chart 4124, 1:30,000 scale, 3rd edition May 3, 1965 in the area west of longitude  $156^{\circ} 18.0'$ . No discrepancies were noted. Chart 4116, 1:250,000 scale, is the only other chart coverage of the area. A visual comparison with this chart revealed no major discrepancies.

\*\* COMPARISON WITH NAUTICAL CHARTS



66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

This survey complies with project instructions and meets the National Standards of Map Accuracy.

Reviewed by:

Leo F. Beugnet  
Leo F. Beugnet

Approved by:

J. Bull  
J. Bull, CAPT., USESSA  
Director, Atlantic Marine Center

Approved by:

Shank Lamer  
Chief, Cartographic Branch ~~see~~  
Photogrammetric

*See page 19*  
L. S. Woodward  
Chief, Photogrammetry Division

John D. Boyer 2/21/68  
Chief, Chart Division  
Marine

Chief, Operations Division



NOTES TO THE VERIFIER  
H-8717  
PH-6012 (Survey T-11905)  
Maui Island, Hawaii

No discussion of a comparison with contemporary Hydrographic Survey H-8717 is included in the Final Review Report for T-11905; however, a note on the "Comparison Report" accompanying the shoreline survey indicates that a comparison was made with a copy of the survey boat sheet (PF-10-5-62).

The note applies to an existing minor difference between the surveys in MHW line located at 20° 56.45' latitude and 156° 16.1' longitude. Since the field edit report, submitted by the Commanding Officer Ship PATHFINDER, stated that no changes resulted from the field edit of T-11905, the difference apparently results from one of the following: (a) an error in transferring the shoreline from T-11905 to the boat sheet; (b) a change in boat sheet shoreline made during hydrography; (c) a re-interpretation of MHW on T-11905, subsequent to forwarding the preliminary manuscript for use in hydrography.

Please notify the Washington Office, Photogrammetry Review Group, in the event the discrepancy results from a change made during hydrography.

*J. G. Blankenship*  
W.O. Review Unit

