11824

Original

11824

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.: Office No. T-11824

LOCALITY

State: Hawaii

General locality: Molokai

Locality: Kalawao

1962-1968

CHIEF OF PARTY
Allen L. Powell, RADM, USESSA
Director, Atlantic Marine Center

LIBRARY & ARCHIVES

DATE

USCOMM-DC 37022-P66

FORM C&GS-181a
(3-66)

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

DESCRIPTIVE REPORT - DATA RECORD

T- 11824

PROJECT NO. (II):

PH-6201

FIELD OFFICE (II):	CHIEF OF PARTY
Honolulu, Hawaii	H. J. Seaborg
PHOTOGRAMMETRIC OFFICE (III):	**OFFICER-IN-CHARGE**
Atlantic Marine Center	Allen L. Powell, Director, AMC

INSTRUCTIONS DATED (II) (III):

	April 25, 1962	II
	May 31, 1962	III
Amendment I	December 14, 1962	III
Amendment II	February 20, 1963	III
Amendment III	January 8, 1964	III
Amendment IV	April 24, 1967	III

METHOD OF COMPILATION (III):

Kelsh Instrument and Graphic

MANUSCRIPT SCALE (III):	STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III):
1:5,000	1:3,000 Pantograph Scale 1,5,000
DATE RECEIVED IN WASHINGTON OFFICE (IV):	**DATE REPORTED TO NAUTICAL CHART BRANCH (IV):**

APPLIED TO CHART NO.	DATE:	DATE REGISTERED (IV):

GEOGRAPHIC DATUM (III):	VERTICAL DATUM (II):
Old Hawaiian	High Water MEAN ~~SEA LEVEL~~ EXCEPT AS FOLLOWS: *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):

KAUPIKIAWA, 1890

LAT.:	LONG.:	
21° 11' 47.138" ✓	156° 57' 20.141" ✓	☒ ADJUSTED ☐ UNADJUSTED

PLANE COORDINATES (IV):		STATE	ZONE
Y = 313,568.84 ✓	X = 401,574.82 ✓	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 36393-P66

FORM C&GS-181b
(3-66)

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

DESCRIPTIVE REPORT - DATA RECORD

FIELD INSPECTION BY (II):	DATE:
L. F. Van Scoy	January-Oct. 1962

MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION):

August 30, 1962 by field inspection.
Compilation by Kelsh Instrument and graphic methods.
September 24, 1961.

PROJECTION AND GRIDS RULED BY (IV):	DATE
A. E. Roundtree	2-26-65
PROJECTION AND GRIDS CHECKED BY (IV):	DATE
R. Glaser	3-3-65
CONTROL PLOTTED BY (III):	DATE
L. L. Graves	5-4-65
CONTROL CHECKED BY (III):	DATE
J. S. Place	5-4-65
RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III):	DATE
H. P. Eichert	December 1964

STEREOSCOPIC INSTRUMENT COMPILATION (III):		
	PLANIMETRY: J. S. Place	DATE: 5-7-65
	CONTOURS: Inapplicable	DATE:

MANUSCRIPT DELINEATED BY (III):	DATE
J. L. Harris	6-16-65
C. H. Bishop	10-20-67
SCRIBING BY (III):	DATE
B. Wilson	11-25-69

PHOTOGRAMMETRIC OFFICE REVIEW BY (III):		DATE
Compilation:	J. L. Harris & C.H. Bishop	6-16-65 & 10-23-67
Field Edit:	R. E. Smith	10-22-69
Scribing & Stick Up	B. Barge	12-29-69

REMARKS:

Field Edit by: R. L. Newsom December 1968

USCOMM-DC 36393-P66

FORM C&GS-181c (3-66)

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

DESCRIPTIVE REPORT - DATA RECORD

CAMERA (KIND OR SOURCE) (III):

Wild RC-8 "W"

PHOTOGRAPHS (III)

NUMBER	DATE	TIME	SCALE	STAGE OF TIDE
61 W 771 thru 773	9-24-61	08:25	1:15,000	0.1 above MLLW
60(c) 3225 thru 3228	10-22-60	08:25	1:10,000	0.8 above MLLW
61 W 1010 thru 1012	9-24-61	12:05	1:15,000	1.4 above MLLW
				Computed from predicted tide tables.

TIDE (III)

	RATIO OF RANGES	MEAN RANGE	SPRING RANGE
REFERENCE STATION: Honolulu, Hawaii		1.2	1.9
SUBORDINATE STATION: Waimanalo, Hawaii		1.1	1.8
SUBORDINATE STATION:			

WASHINGTON OFFICE REVIEW BY (IV): Leo F. Beugnet, Atlantic Marine Center — DATE: August 1970

PROOF EDIT BY (IV): — DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (II):	5	RECOVERED: 5	IDENTIFIED: 0
NUMBER OF BM(S) SEARCHED FOR (II):	None	RECOVERED:	IDENTIFIED

NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III): None

NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III): None

REMARKS:

T-11824

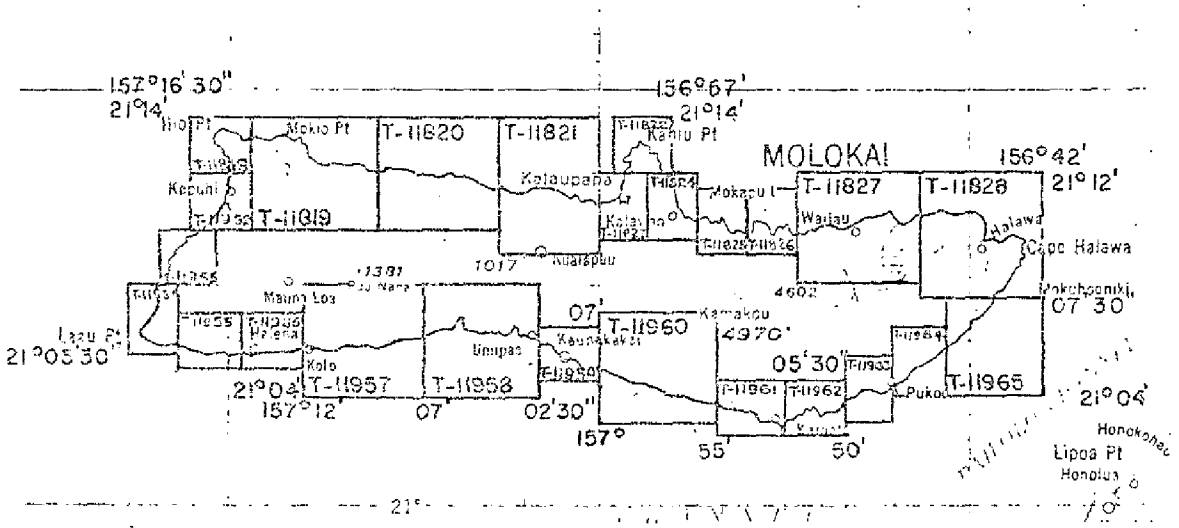
COMPILATION RECORD	COMPLETION DATE	REMARKS
Alongshore area for Hydro	June 16,1965	Superseded
Shoreline Completed	September 1967	Superseded
Field Edit applied Compilation complete	July 1969	

PROJECT PH-62C1

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.
11813	4	4	11952	3	3
11814	6	6	11953	3	3
11815	6	6	11954	2	2
11821	4	4	11955	3	3
11822	3	3	11956	3	3
11823		1	11957	6	5
11824	3	3	11958	5	[illegible]
11825	3	3	11959	3	[illegible]
11826	3	3	11960	6	6
11827	6	6	11961	3	3
11828	9	9	11962		4
			11963	3	3
			11964	3	3
			11965	3	3
			Total	98	98

SUMMARY TO ACCOMPANY

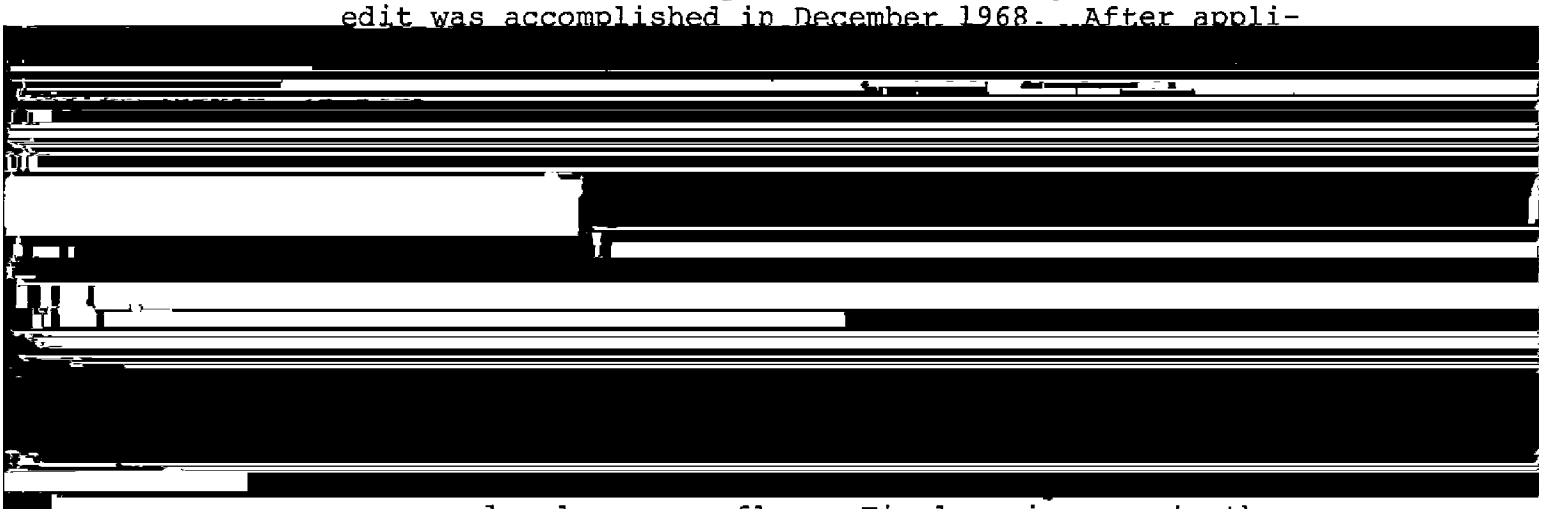
DESCRIPTIVE REPORT T-11824

Shoreline survey T-11824 is one of twenty-five similar surveys in Project PH-6201. The maps of this project cover the entire coast of Molokai Island. This survey covers a part of the north shore on the east side of Makanaiua Peninsula. See page 5 of the Descriptive Report for the area within the project.

Field work preceding compilation consisted of identification of horizontal control and field and shoreline inspection.

Compilation was at 1:5,000 scale, using the panchromatic photography of September 24, 1961, supplemented by color photography previously obtained on October 22, 1960. Cronaflex copies of the manuscript, along with ozalids and specially prepared photographs, were subsequently furnished for transfer of the shoreline to the boat sheet, location of photo-hydro signals, and field edit use.

The manuscript was a vinylite sheet 2 minutes 30 seconds in latitude by 2 minutes in longitude. Field edit was accomplished in December 1968. After appli-



reproduced on cronaflex. Final review was in the Atlantic Marine Center in August 1970. One cronaflex copy 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 Halcolon 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 Keave trees and dense growths of Mangrove trees.

3. HORIZONTAL CONTROL

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

Molokai Lighthouse
Molokai Airport Beacon
Waihuna, Aero Beacon Red Light
Kaulapuu, Aero Beacon Red Light

Molokai VOR (MKK)
Puu Apalu, Tank
Ilio Pt., Coast Guard Loran Mast
Waiahewahewa, Aero Beacon Red Light
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

(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

[redacted]

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

Molokai, Airport Beacon
Waiahewahewa, Aero Beacon Red Light
Waihuna, Aero Beacon, Red Light
Kualapuu, Aero Beacon, Red Light

The geographic position of one new aeronautical aid selected for charting was determined during the 1962 field season.

Molokai VOR (MKK)

All aeronautical aids to be charted were listed on Form 567 and the elevation for each aid was determined by the field party.

(d) The geographic positions of the following list of aids to navigation was determined by the field party during the 1962 season.

Molokai Lighthouse
Laau Pt. Light
Ilio Pt., Coast Guard Loran Mast
Kaunakakai Harbor, Entrance Range, Front Light
Kaunakakai Harbor, Entrance Range, Rear Light

All nautical aids to be charted were listed on Form 567 and the elevation for each aid was determined by the field party.

(e) Not applicable

10. BOUNDARIES, MONUMENTS, AND LINES

Not applicable

11. OTHER CONTROL

No recoverable topographic stations were established.

In all areas where identifiable objects could be found photo hydro sites were selected. In some cases it will be necessary to locate a more suitable location for the hydrographic signals from the selected photo hydro sites .

12. OTHER INTERIOR FEATURES

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

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

The main airport serving the island is located south of the Hoolehua Homestead area in the central section of the island. A small airport for use by small aircraft is located on the 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

Respectfully submitted:
Leonard F. Van Scoy
Leonard F. Van Scoy
Supervisory Survey Technican

[redacted]

Aerotriangulation Report
PH-6201
Molokai, Hawaii
Strip 4

21. Area Covered

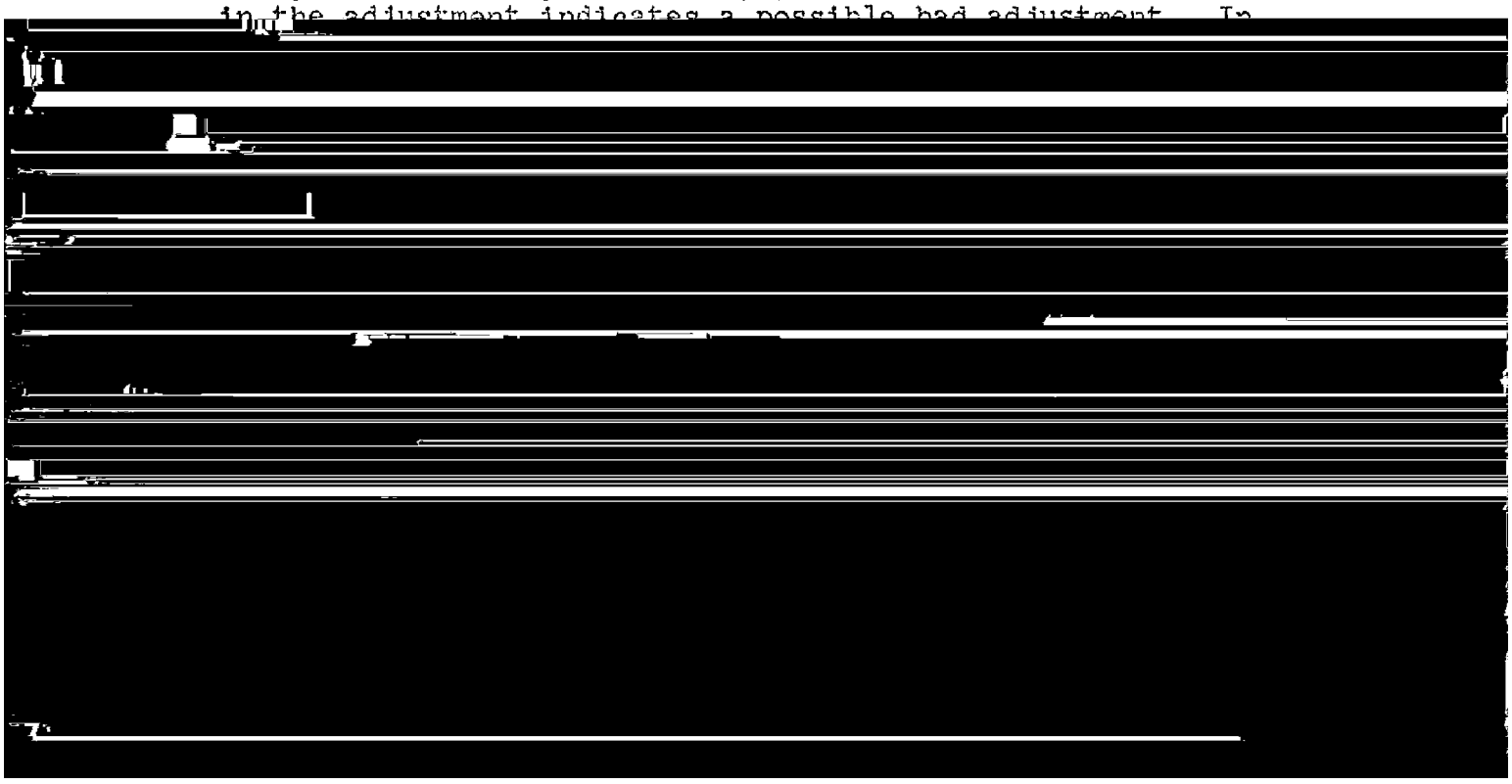
This report covers T-sheets 11821 and 11823 through 11828 along the Northeastern shore of Molokai Island.

22. Method

A horizontal bridge was run on the C-8 stereoplanigraph to provide control for compilation using photographs 62-W-1850 through 1865. The adjustment on the IBM 650 utilized four control stations with one station as a check. A supplemental straight line adjustment was made in the area of Strips #6 and #7.

23. Adequacy of Control

The horizontal control provided complied with project instructions in quantity but not in quality. Station Kikipua 2, 1962 was identified by only one sub-station and this point could not be positively identified. At station Mokohola 1962 two sub-stations plus the home station for Mokohola HGS (old station) were identified. Of these three points only Mokohola HGS (old station) was of any quality and it was doubtful. The adjustment of this strip holds all control within the accuracy of National Standards, however, tie points to Strips #6 and #7 plus a mathematical strain in the adjustment indicates a possible bad adjustment. In



26. In attempting to drop pass points for control of flight 62-W-1850 through 1865 it was found that due to shadows and extreme elevations only a few common points could be provided and these were along the shoreline. Since these points are insufficient to allow detailing by machine methods the shoreline must be delineated by graphic methods and additional points must be pricked by the hydro party.

Submitted by,

John D. Perrow, Jr.

John D. Perrow, Jr.
Cartographer

Approved by,

Henry P. Eichert
Chief, Aerotriangulation
Section

PH-6201
Molokai, Hawaii
Strip 4

NOTES TO COMPILER

This strip was recomputed on the adjusted control which is now available. The points in the northeastern area

[redacted]

no appreciable change. The new adjusted positions should be used in preference to those provided earlier.

17

Photogrammetric Plot Report

Project 21044

Molokai, Hawaii

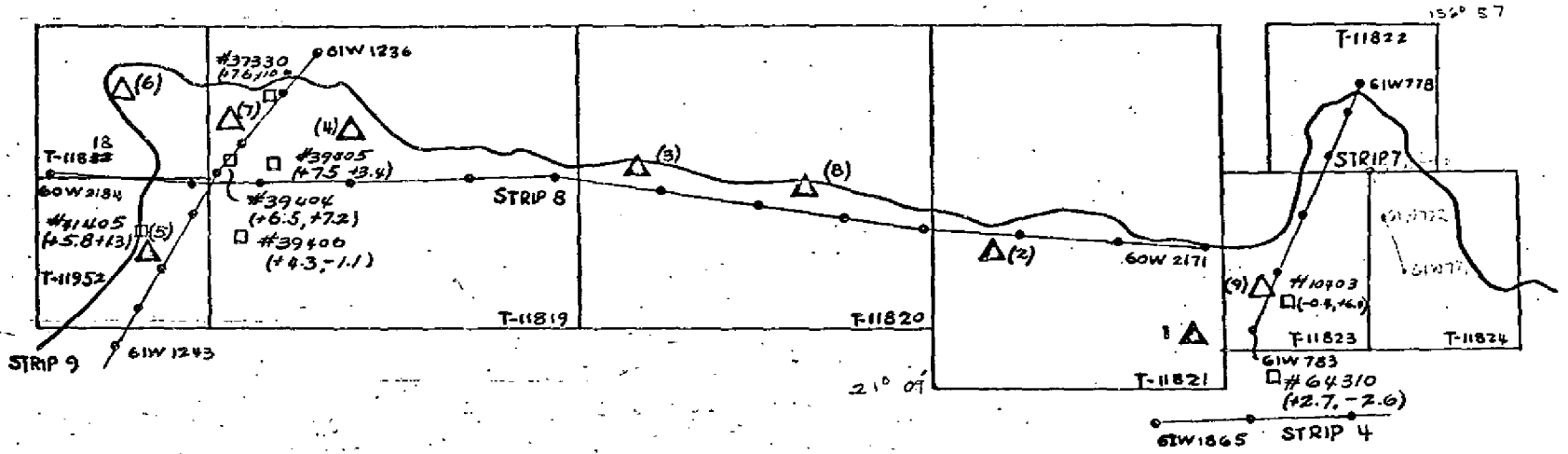
December, 1964

21. Area Covered

This report pertains to the remainder of the Island of Molokai. It covers surveys T-11818 thru T-11824.

22. Method

Three strips were bridged by analytic aerotriangulation. Strips



AEROTRIANGULATION SKETCH

MOLOKAI ISLAND, HAWAII

PROJECT 21044

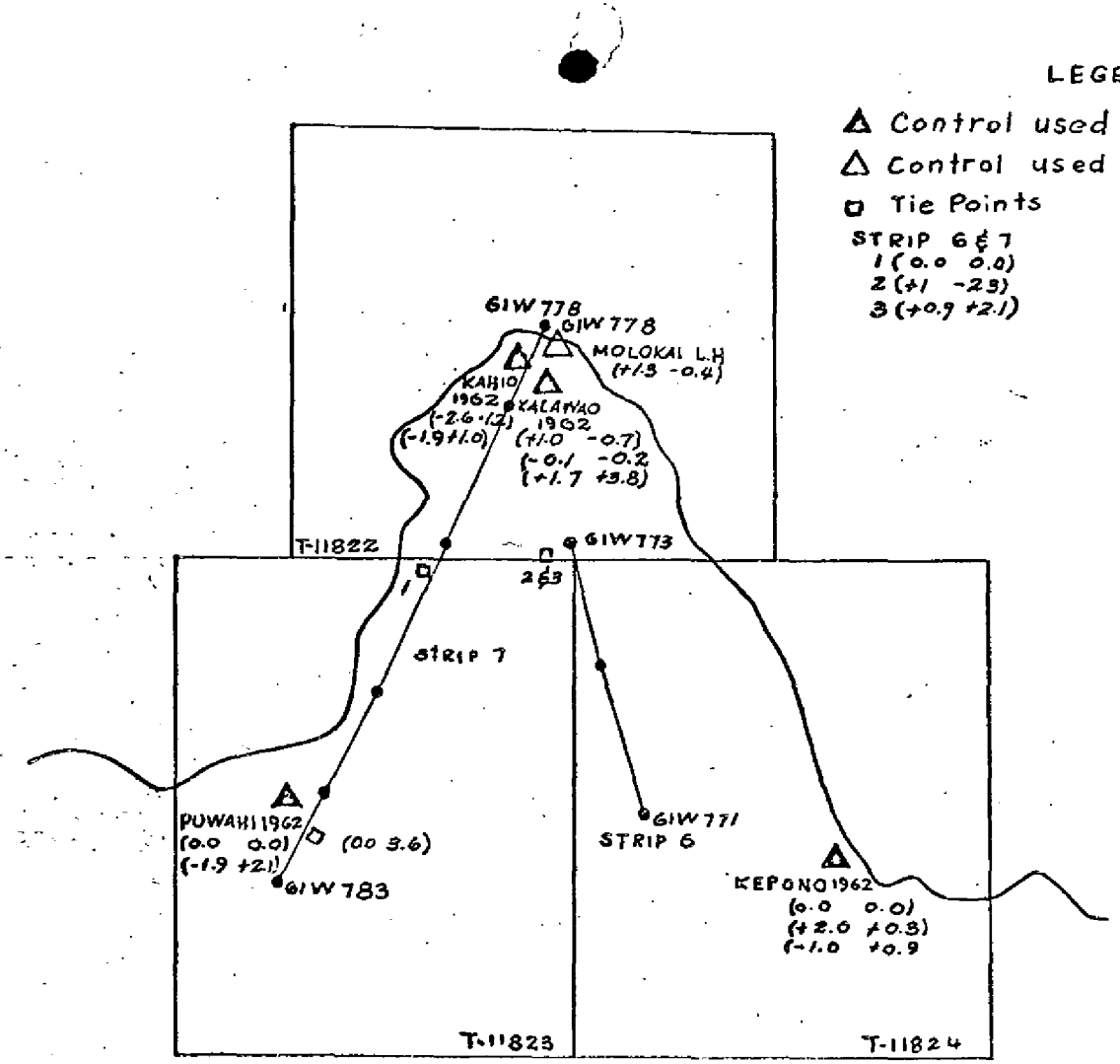
LEGEND

▲ CONTROL USED IN ADJUSTMENT

△ CONTROL USED AS CHECK

□ TIE POINTS

(1) HAHAEULA 2, 1962 Sub. Pt. A (+0.3, +0.9) Sub. Pt. B (+2.8, -1.1)
(2) POHAKUNUI, 1888 (+0.1, -1.2) Sub. Pt. A (-2.8, +0.8) Sub. Pt. B (-10.0, -3.2)
(3) MOOMOMI, 1962 Sub. Pt. A (-1.6, 2.7) Sub Pt. B (-2.0, -5.3)
(4) LAINA (KAA) 1926 Sub Pt. A (0.0, 4.9)
(5) PUU O KAIKA, 1915 Sub Pt. A (+1.2, -2.1) Sub Pt. B (-6.7, +0.1)
(6) SAND 1950 (Sub Pt. A (+2.6, 17.9) Sub Pt. (+2.0, 16.8)
(7) KAEO 1926 Sub Pt. A (+2.5, 9.1) Sub Pt. B (+0.7, +8.9)
(8) PUU KAPELE, 1888 Sub Pt. A (+2.9, -1.2) Sub Pt. B (-1.4, -5.0)
(9) POWAHI 1962 Sub Pt. A (+0.1, 20.0)
Sub. Pts. for SAND 1950 were considered poor at the time of plate measurement



AEROTRIANGULATION SKETCH

MOLOKAI ISLAND HAWAII

PROJECT 21044

FORM C&GS-164
(3-64)
USCOMM-DC
5659-P64

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT CONTROL RECORD

MAP T- 11824 PROJECT NO. 21044 SCALE OF MAP 1:5,000 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)
KEPONO 1962	P.C. P 28	OLD HAWAIIN	307,707.51 403,628.07	
KAUPIKIAWA 1890	P 6		313,568.84 401,574.82	

COMPUTED BY D.N. WILLIAMS DATE 4-28-65 CHECKED BY LLG DATE 4-29-65

COMPILATION REPORT

MAP MANUSCRIPT T-11824

PROJECT PH-6201

31. DELINEATION

The area north of latitude 21°10'45" was compiled by Kelsh Instrument in accordance with field inspection. The area south of latitude 21°10'45" and eastward of longitude 156°57'00" was not compiled at this time. The range of elevation in this area is beyond the limits of the Kelsh Instrument for 1:5,000-scale mapping.

32. CONTROL

Adequate supplemental control, based on field-identified horizontal control stations, was established by aerotriangulation.

33. SUPPLEMENTAL DATA

None.

34. CONTOURS AND DRAINAGE

Contours are not applicable.

No drainage was apparent within the area mapped.

35. SHORELINE AND ALONGSHORE DETAILS

Field inspection was adequate for the delineation of the mean high water line. No low water line is shown. The limits of the alongshore foul area was delineated from office interpretation of the color photography of October 22, 1960.

36. OFFSHORE DETAILS

None.

37. LANDMARKS AND AIDS

There are no landmarks or fixed aids to navigation within the compilation limits.

38. CONTROL FOR FUTURE SURVEYS

None.

39. JUNCTIONS

Satisfactory junction was made with T-11823 to the west and with T-11822 to the north. T-11825 to the east was not compiled at this time. There is no contemporary survey to the south.

40. HORIZONTAL AND VERTICAL ACCURACY

No statement.

46. COMPARISON WITH EXISTING MAPS

Comparison was made with USGS KAUNAKAKAI and KAMALO, HAWAII quadrangles, 1:24,000 scale, edition of 1952.

47. COMPARISON WITH NAUTICAL CHARTS

Comparison was made with nautical chart 4120, scale 1:80,000, at latitude 21°01', 1st edition, revised 2/4/63.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

Respectfully submitted,

James L Harris

James L. Harris
Cartographer

Approved:

Leo F. Bengnet

for P. A. Stark Commander USC&GS
Portland Field Officer

COMPILATION REPORT
Map Manuscript T-11824
Project PH-6201

This report refers only to that part of T-11824 which is south of latitude 21° 10' 45", and was compiled by the Coastal Mapping Section of the Photogrammetric Branch of the Atlantic Marine Center.

31. DELINEATION:

An attempt was made to compile this map with the Wild B-8 Plotter, using glass plates of the bridging photographs, scale 1:25,000. The time of photography was around 0830 hours and the line of flight was considerably south of the shoreline. This combination, and the fact that the models could not be scaled to the 1:5,000 scale manuscript because of an excessive range of elevation, made it impossible to compile the mean high water line because it was in deep shadow and partly obscured by overhanging bluffs.

It was possible to transfer enough bridge points to the ratio prints of the 1:15,000 hydrographic support photographs to locate their centers by resection. The mean high water line and other details were compiled graphically from these ratio prints, completely by-passing the 1:25,000 scale photographs.

32. CONTROL:

See Photogrammetric Plot Report by H. P. Eichert dated December 1964.

33. SUPPLEMENTAL DATA:

None

34. CONTOURS AND DRAINAGE:

Contours are not applicable.

No drainage was compiled.

35. SHORELINE AND ALONGSHORRE DETAILS:

Field inspection was adequate for the delineation of the mean high water line. A foul line was shown, which should be verified by the hydrographer.

36. OFFSHORE DETAILS:

None

37. LANDMARKS AND AIDS:

None

38. CONTROL FOR FUTURE SURVEYS:

None

39. JUNCTIONS:

Satisfactory junctions were made with T-11823 to the west, T-11822 to the north and T-11825 to the east. There is no contemporary survey to the south.

40. HORIZONTAL AND VERTICAL ACCURACY:

No statement.

46. COMPARISON WITH EXISTING MAPS:

Comparison was made with USGS Quadrangle KAMALO, HAWAII, ISLAND OF MOLOKAI, Scale 1:24,000, dated 1952.

47. COMPARISON WITH NAUTICAL CHARTS:

Comparison was made with Nautical Chart 4116, Scale 1:250,000, 12th Edition, dated August 17, 1964.

Items to be applied to nautical charts immediately:

None

Items to be carried forward:

None

Approved:

Submitted:

Charles H. Bishop

J. Bull, RADM, USESSA

Charles H. Bishop

[redacted]

Job PH-6201
Molokai Island, Hawaii
Supplement to Compilation Report

Because of the extreme elevations encountered in models along the northeast shore of Molokai, it was impossible to compile the shoreline by normal methods on the B-8 plotters. The methods used are described in the Compilation Reports for PH-6201, T-11825, T-11826, and T-11827.

In order to verify this work, three models (62-W-1853-1854), (62-W-1855-1856), and (62-W-1856-1857) were set on the C-8 Stereoplanigraph, and scaled to the original bridge points. Shoreline detail, offshore rocks, etc. were checked and found to be of National Map Accuracy Standards. Only in model 62-W-1853-1854 was it necessary to hold only the four points nearer the shoreline. The two interior points were an extreme elevation, and were disregarded as probably in error, because the aerotriangulation adjustment used at that time did not include a simultaneous vertical adjustment.

Submitted by:

John D. Perrow, Jr.

Approved by:

Henry P. Eichert
Chief, Aerotriangulation Section

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6201

T-11824

HAWAII (title)

KAAIA

KA LAE KILOIA

KALAWAO

KEANAKUA

KEAWAIKI

KEPONO

MAKALII

MAKANALUA PENINSULA

MOKIO

MOLOKAI

PACIFIC OCEAN

PUU KAUWA

Approved by:

A. J. Wraight

A. J. Wraight
Chief, Geographer

Prepared by:

F. W. Pickett

F. W. Pickett
Cartographic Technician

49. NOTES FOR THE HYDROGRAPHER:

1. Refer to the FIELD EDIT OZALID.

2. The area of this manuscript north of Latitude 21°10' 45" was compiled in the Portland Photogrammetric Office using the Kelsh Plotter with 1:15,000 scale photography. The area south of this latitude was compiled in the Coastal Mapping Section of the Atlantic Marine Center by graphic methods, using 1:15,000 contact scale photographs ratioed to 1:5,000 scale.

3. There are no photo-hydro points on this map.

FORM C&GS-1002
(9-66)

U.S. DEPARTMENT OF COMMERCE
ESSA
COAST AND GEODETIC SURVEY

PHOTOGRAMMETRIC OFFICE REVIEW

T- 11824

1. PROJECTION AND GRIDS	2. TITLE	3. MANUSCRIPT NUMBERS	4. MANUSCRIPT SIZE
X	X	X	X

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
X	None	None

8. BENCH MARKS	9. PLOTTING OF SEXTANT FIXES	10. PHOTOGRAMMETRIC PLOT REPORT	11. DETAIL POINTS
None	None	X	None

ALONGSHORE AREAS *(Nautical Chart Data)*

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

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

PHYSICAL FEATURES

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

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

CULTURAL FEATURES

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

BOUNDARIES

31. BOUNDARY LINES	32. PUBLIC LAND LINES
X	None

MISCELLANEOUS

33. GEOGRAPHIC NAMES	34. JUNCTIONS	35. LEGIBILITY OF THE MANUSCRIPT
X	X	X

36. DISCREPANCY OVERLAY	37. DESCRIPTIVE REPORT	38. FIELD INSPECTION PHOTOGRAPHS	39. FORMS
None	X	X	X

40. REVIEWER	SUPERVISOR, REVIEW SECTION OR UNIT
James L. Harris & C. H. Bishop	Albert C. Rauck, Jr.

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
A. L. Shands Arnold L. Shands 7/3/69	Albert C. Rauck, Jr.
Rev. by: R. E. Smith R.E. Smith 10/22/69	

43. REMARKS

Field Edit applied from:

Field Photo No. 61-W-1010 and Field Edit Ozalid

Field Edit Report
To Accompany T 11824

USC&GSS McARTHUR

Ronald L. Newsom
CDR, USESSA
Commanding Officer

51 METHODS

Field edit on manuscript T 11824 was done in conjunction with hydrography on boatsheets AR 5-3-68, H 8983 and AR 10-2-68, H 8975. Shoreline was inspected from launches and skiffs. The MLLW line was impossible to determine due to heavy swells. Field edit information was shown on one photo #61W1010 and indexed on the field edit ozalid. Additional field edit was shown directly on the field edit ozalid copy of T 11824 in violet ink.

52 ADEQUACY

Manuscript T 11824 was completely adequate for a hydrographic survey.

54 RECOMMENDATIONS

None

REVIEW REPORT T-11824

SHORELINE

AUGUST 31, 1970

61. GENERAL STATEMENT

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

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS

There were no registered topographic surveys available for comparison purposes at the time of final review.

63. COMPARISON WITH MAPS OF OTHER AGENCIES

Comparison was made with USGS KAUNAKAKAI and KAMALO, HAWAII, quadrangles. These are 1:24,000-scale surveys, editions of 1952. The surveys appear to be in good general agreement; the USGS quadrangles are more generalized because of scale.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

Comparison was made with copies of boat sheets H-8975 (AR-10-2-68-"ee") and H-8983 (AR-5-3-68). Some changes were made in the location of the mean high water line at the time of final review. The most noticeable of these are near latitude 21°11'42", longitude 156°57'12" and latitude 21°11'00", longitude 156°57'03". These changes and all differences between this survey and the boat sheets have been noted on the comparison print in purple.

There is a difference of .9 mm in the photogrammetric and the hydrographer's position of a rock near latitude 21°10'20", longitude 156°56'02". The photogrammetric position was verified at the time of final review. No rock is visible on the photographs at the hydrographer's location.

65. COMPARISON WITH NAUTICAL CHARTS

Comparison was made with Charts 4120, 3rd edition, revised 14 October 1968, and 4130, 6th edition, revised 10 February 1969. The shoreline of the charts is necessarily generalized because of scale and no alongshore rocks or foul areas are shown.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

Please refer to page 28 4425A of the Compilation Report dated October 28, 1967.

Reviewed by:

Leo F. Beugnet
Leo F. Beugnet
Cartographer

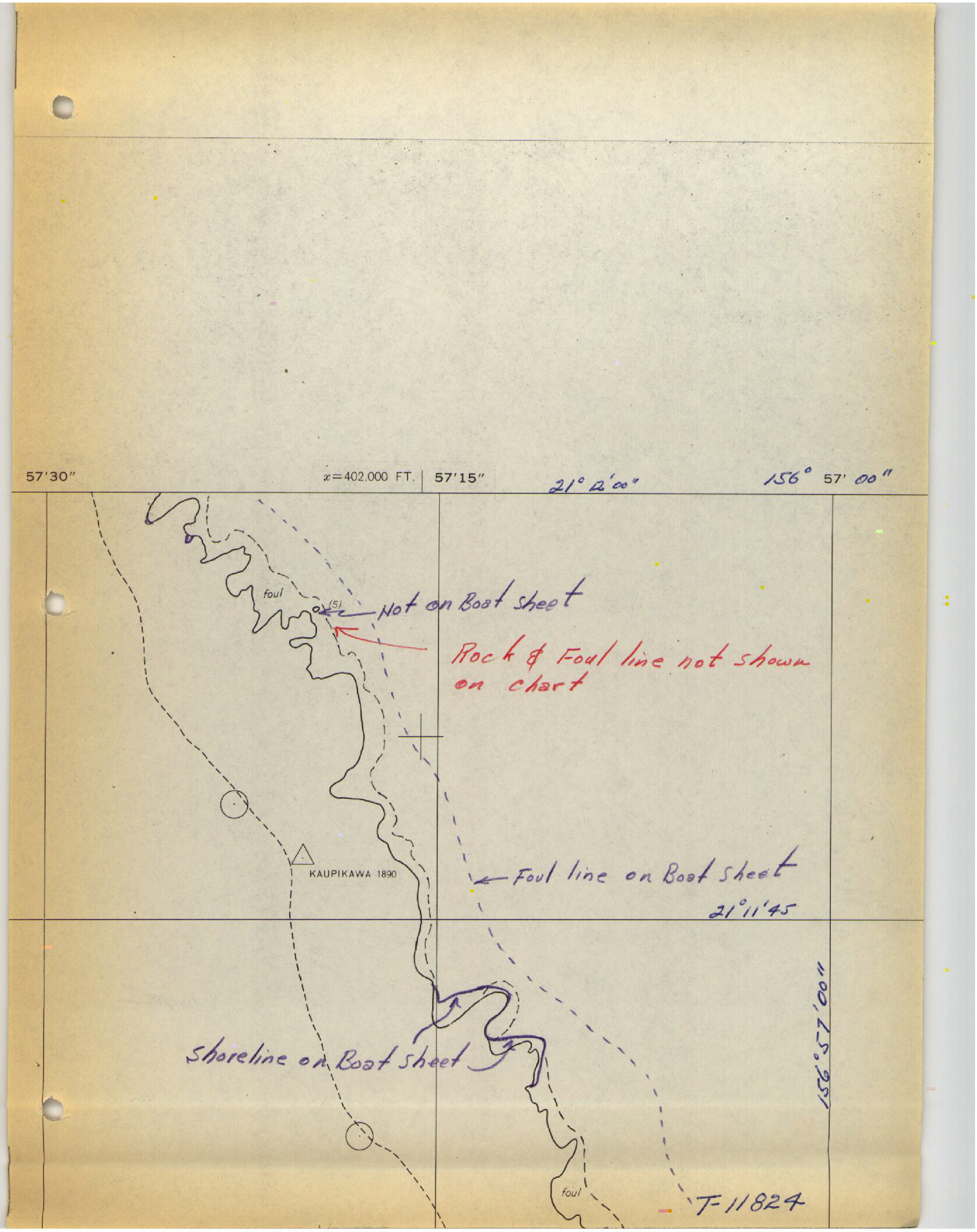
Approved by:

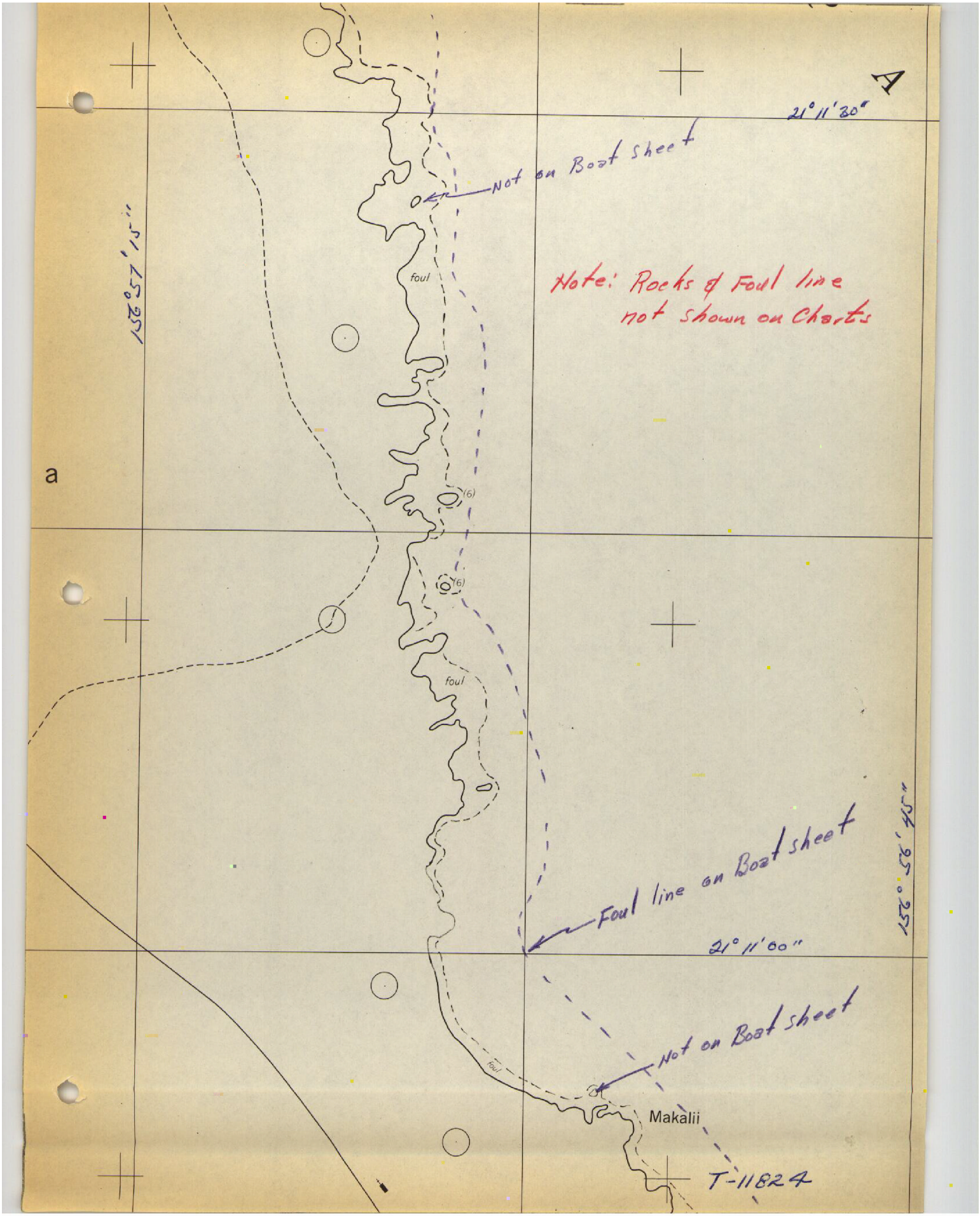
Allen L. Powell
Allen L. Powell, RADM, USESSA
Director, Atlantic Marine Center

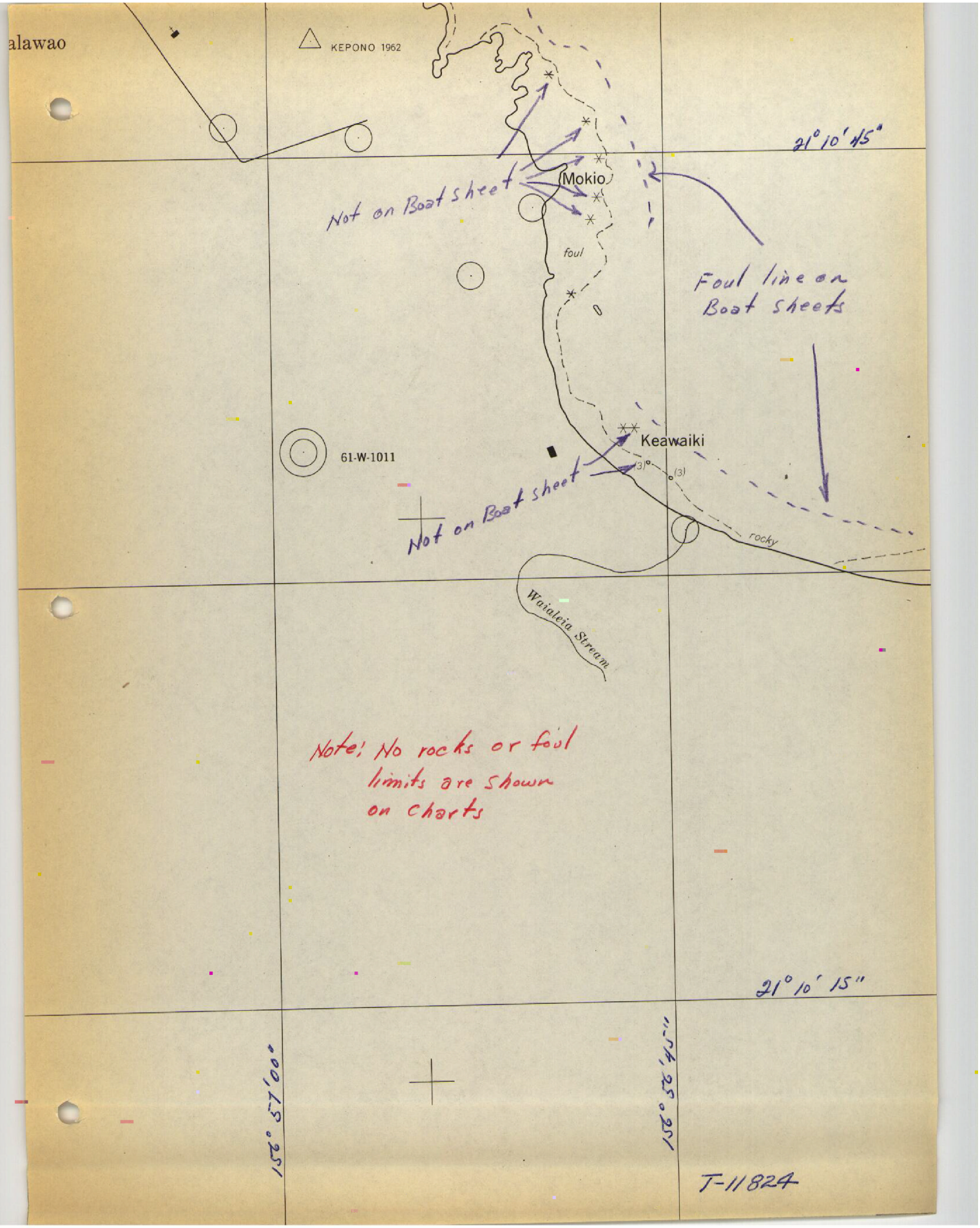
Approved by:

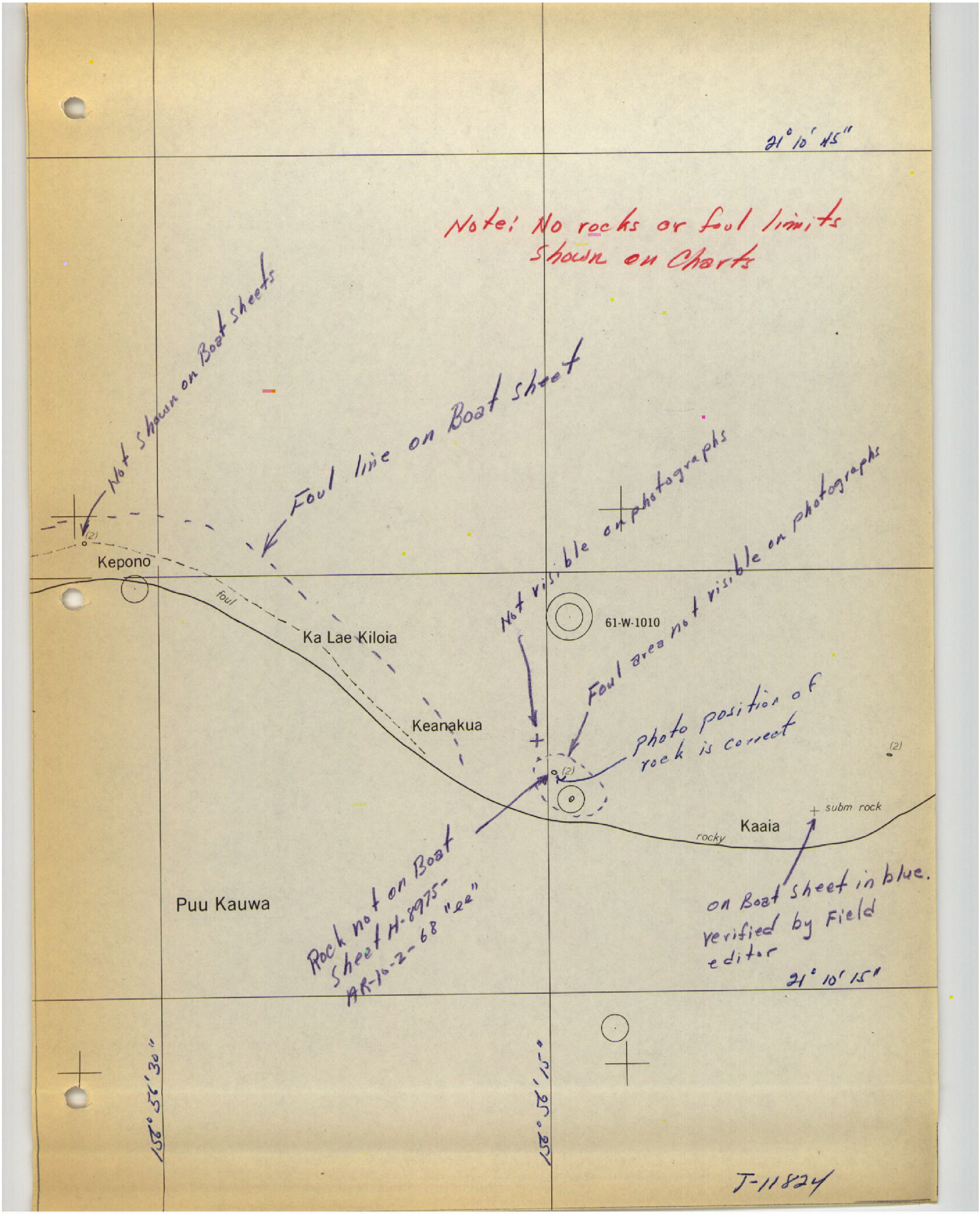
Charles Thomas
Chief,
Photogrammetric Branch

Jack E. Guth
Chief,
Photogrammetry Division


57'30"
x=402,000 FT.
57'15"
21° 12'00"
156° 57' 00"
foul
(5)
Not on Boat sheet
Rock & Foul line not shown on chart
KAUPIKAWA 1890
Foul line on Boat sheet
21°11'45
Shoreline on Boat sheet
156°57'00"
foul
T-11824


A
21°11'30"
Not on Boat sheet
157°57'15"
foul
Note: Rocks of Foul line
not shown on Charts
a
(6)
(6)
foul
Foul line on Boat sheet
21°11'00"
157°56'45"
foul
Not on Boat sheet
Makalii
T-11824


alawao
KEPONO 1962
21° 10' 45"
Mokio
Not on Boat sheet
foul
Foul line on Boat sheets
61-W-1011
Keawaiki
(3)
(3)
Not on Boat sheet
rocky
Waialeia Stream
Note! No rocks or foul limits are shown on charts
21° 10' 15"
157° 51' 00"
157° 50' 45"
T-11824


21° 10' 45"
Note: No rocks or foul limits shown on Charts
Not shown on Boat sheets
Foul line on Boat sheet
Not visible on photographs
Foul area not visible on photographs
Kepono
foul
Ka Lae Kiloia
61-W-1010
Keanakua
Photo position of rock is correct
(2)
subm rock
Kaaia
rocky
Puu Kauwa
Rock not on Boat Sheet H-8975- AR-10-2-68 "ree"
on Boat sheet in blue. verified by Field editor
21° 10' 15"
158° 52' 30"
158° 52' 15"
J-11824