

# 8966

Original

Diag. Cht. No. 4116-2.

<b>Form 504</b> U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY  <b>DESCRIPTIVE REPORT</b>	
Type of Survey	Hydrographic
Field No.	AR-5-3-67
Office No.	H-8966
<b>LOCALITY</b>	
State	Hawaii
General locality	Molokai Island
Locality	Kaunakakai Harbor
<u>1967</u>	
<b>CHIEF OF PARTY</b> LCDR Ronald L Newsom	
<b>LIBRARY &amp; ARCHIVES</b>	
DATE	November 25, 1968

USCOMM-DC 5087

8966

**HYDROGRAPHIC TITLE SHEET**

H-8966

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

AR-5-3-67

State Hawaii

General locality Molokai Island

Locality Kaunakakai Harbor

Scale 1:5000 Date of survey October-November, 1967

Instructions dated 7 June 1967 Project No. OPR 419

essel USC&GSS McARTHUR (CSS-30)

Chief of party LCDR Ronald L. Newsom

Surveyed by LTJG Arthur P. Sibold

Soundings taken by echo sounder, hand lead, pole all three

Graphic record scaled by Ship personnel

Graphic record checked by LTJG A. P. Sibold

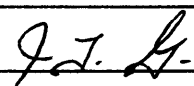
Protracted by \_\_\_\_\_ Automated plot by \_\_\_\_\_

Soundings penciled by \_\_\_\_\_

Soundings in ~~x fathoms~~ feet at ~~MLLW~~ MLLW \_\_\_\_\_

REMARKS: This survey was accomplished using Launch AR-1 & Skiff #2

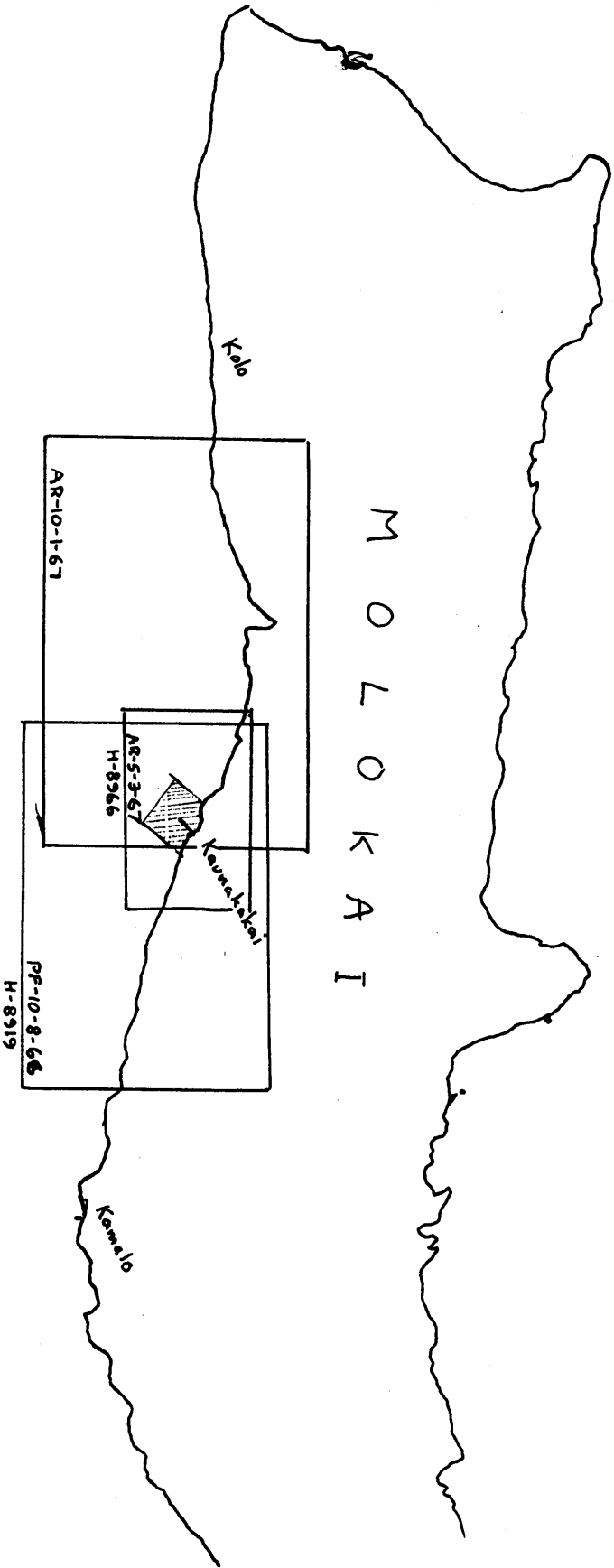
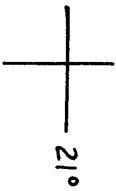
from McARTHUR...





Scale of Chart 4116

157°



DESCRIPTIVE REPORT  
to Accompany  
HYDROGRAPHIC SURVEY AR-5-3-67 (H-8966)  
OPR 419  
October-November 1967

USC&GSS McARTHUR (CSS-30)

Scale 1:5000

Ronald L. Newsom, LCDR, USESSA

Chief of Party

---

A. PROJECT:

Hydrography on this boatsheet was accomplished in accordance with Project Instructions OPR 419 dated 7 June 1967 (CFS 4060/02).

B. AREA SURVEYED

The area surveyed consists of the commercial barge harbor of Kaunakakai, Molokai, and adjacent reef area. Covering an area of 0.6 square miles, this survey was conducted between 19 October and 3 November 1967.

This survey overlaps the following prior survey:

H-4458	1:5000	1925
--------	--------	------

This survey junctions with contemporary surveys as follows:

H-8919 (PF-10-8-66)	1:10,000 (fathoms)	1967 by McARTHUR
---- (AR-10-1-67)	1:10,000 (fathoms)	1967 by McARTHUR

C. SOUNDING VESSELS:

The survey was accomplished using Launch AR-1 in the harbor, and skiffs where the launch could not work because of shallow water and/or coral reefs. Violet ink was used to identify Launch AR-1 work; red ink was used to identify the skiff work.

D. SOUNDING EQUIPMENT:

Soundings were obtained as follows:

Launch AR-1	DE-723 Serial No. 931
Skiff	Leadline and Sounding Pole (Also used on occasion by Launch AR-1)

Corrections to echo soundings were determined as follows:

1) Instrument, Draft, Transducer corrections (combined) were determined from bar checks made twice daily. These bar checks extend to a depth of 36 feet.

2) Velocity corrections were derived from a Nansen cast taken nearby on sheet PF-10-8-66. These corrections were combined with the bar check results to obtain one velocity table for all echo soundings obtained by Launch AR-1 (Velocity Table #1)

- 3) Fathometer initial was maintained at 0.0 feet. Initial deviations are 0.2 feet or less for the entire survey.
- 4) No settlement & squat tests were run on the launch.
- 5) No scale comparisons were obtained.
- 6) Actual tides from the Kolo Tide Gage were used to determine tide reducers, which were logged on a separate tide tape.

No T/VTI Tape was logged, as TRA corrections are 0.2 feet or less for the entire survey.

No malfunctions of the echo sounder was detected. The proper checks were obtained during the survey.

#### E. SMOOTH SHEET:

The smooth sheet is to be plotted at the Electronic Data Processing Division (CFS 32) PMC, by Gerber plotter. Field data has been logged aboard ship onto the following punched tapes:

<u>DATA</u>	<u>FORMAT</u>
Positions	Position Tape - Visual Control Format
Soundings/TRA	Sounding Tape - Visual Control Format
Velocity Correctors	Velocity Tape Type No. 2
Tide Correctors	Tide Tape

As there were never two sounding vessels working simultaneously, only one position tape and one sounding tape was made, with all soundings logged chronologically, regardless of position number.

#### F. CONTROL:

Visual methods were used to control this survey. Photo-hydro signals were located on T-11959 (scale 1:5000). Four signals at the western side of the survey had to be located by sextant cuts.

#### G. SHORELINE:

Shoreline was transferred from a blue line copy of T-11959. The shoreline as shown is correct, except for a few features in the small boat mooring areas near the wharf. Corrections in these areas were located by sextant fixes and plotted on the boatsheet.

The extensive reef symbol surrounding the harbor is about 50% correct. The bottom is extremely irregular near these reefs, so that it is hard to generalize their outlines. The blue line reef symbol does not conform to any particular depth, as can be readily seen from the boatsheet. The reef symbol should not be transferred wholesale to the smooth sheet. A careful transfer of the reef and ledge symbol, taking the plotted soundings into account, is recommended.

#### H. CROSSLINES:

13.5% crosslines were run; apparent discrepancies ranged up to 33 feet. Due to the nature of the bottom, (where near-vertical drop-offs of 20 to 60 feet are found), it is believed that most of these apparent discrepancies are due to sounding lines running along the edges of these drop-offs. A careful study of fathograms and boatsheet soundings was made by the hydrographer in the field, and satisfactory resolutions of apparent discrepancies were made; where discrepancies could not be resolved, sounding lines were rejected, with bad position data being blamed. (All the discrepancies were due to bad sextant angles and rejected as such since the echo sounder operated correctly all the time).

#### I. JUNCTIONS:

Relatively good junction with soundings from PF-10-8-66 (H-8919) was obtained. Due to the highly irregular nature of the 60 foot depth curve, the poorest junctions exist at this depth:

- 1) At  $21^{\circ} 04' 32''$ , a 120 foot sounding from PF-10-8-66  
 $157^{\circ} 02' 04''$   
falls on top of a 68 foot sounding from AR-5-3-67. This is due to the drop-off (near-vertical) of the bottom in this particular spot.
- 2) At  $21^{\circ} 04' 38''$ , a 42 foot sounding from PF-10-8-66 falls  
 $157^{\circ} 02' 04''$   
inside the 30 foot depth curve of AR-5-3-67. The bottom has a near vertical drop-off here also.
- 3) In relatively flat-bottom areas, the junction with PF-10-8-66 (H-8919) is very good. However, in the grid square surrounding the channel buoy "2" ( $21^{\circ} 04' 41''$ ;  $157^{\circ} 02' 05''$ ) where the "channel" depths are approximately 60 feet deeper than the surrounding shoals, the junctions of AR-5-3-67 and PF-10-8-66 is apparently very bad in several spots, but this is due to the rapid drop-off in depth that begins at about the 60 foot depth curve.

An excellent junction with survey AR-10-1-67 was obtained, with no discrepancies occurring.

#### J. COMPARISON WITH PRIOR SURVEYS:

No presurvey review items existed for this survey.

#### K. COMPARISON WITH THE CHART:

Comparison with Chart C.S. 4121 (5th Edition/June 66) reveals the following discrepancies which should be corrected as specified:

<u>LOCATION</u>	<u>ITEM (from AR-5-3-67)</u>	<u>RECOMMENDATION</u>
$21^{\circ} 05' 09''$	Boat Ramp	Add to chart
$157^{\circ} 01' 49''$		

<u>Location</u>	<u>Item (from AR-5-3-67)</u>	<u>Recommendation</u>
21° 04.8' 157° 02.2'	Shoal	30 foot depth curve extends 60-70 meters seaward of its charted limits.
21° 04.7' 157° 02.1'	Shoal	30 foot depth curve extends 40-50 meters seaward of its charted limits.
21° 04' 41" 157° 02' 07"	49 ft depth	38 foot depth charted here should be deleted. The <del>49</del> foot depth is the <sup>NL</sup> shoal depth at this point.
21° 04' 42" 157° 02' 07"	45 ft shoal	The survey shows a 45 ft shoal in the area where the chart has depths of 100 foot. This 45 foot shoal is part of the western edge of the entrance channel, and should be added to the chart.

*This 45ft depth was transferred from the boatsheet and we find it to be incorrect. The charted depth agreed satisfactorily with the verified sheet. This notation by the hydrographer should not be considered*

*NL (verified)*

**L. ADEQUACY OF SURVEY:**

The survey is complete and adequate to supersede prior surveys for charting. There is no substandard work on this survey; all questionable fathogram traces have been rejected; all bad position fixes have been rejected; depth curves reveal no features needing further development.

**M. AIDS TO NAVIGATION**

Four floating aids to navigation and two fixed aids to navigation are in the survey area. In addition, numerous pipes, stakes, and markers exist; all are privately located and maintained by local fishermen and boatmen for their own purposes. The more important of these private markers were located during the survey. The shoal inside the reef can be crossed only by small outboard skiffs, and only at high tide. Numerous stakes and markers exist in these shoal flats; these private markers were not located during the survey.

The four buoys and the harbor range lights, all Coast Guard maintained, are as described in the Light List. The buoys are well located so as to mark the harbor and its fringing reefs.

**N. STATISTICS:**

Nautical Miles Sounding Lines.....	46.8
Square Nautical Miles Surveyed.....	0.6
Number of Positions.....	643
Bottom Samples.....	13

O. MISCELLANEOUS:

None

P. RECOMMENDATIONS:

None

Q. REFERENCES TO REPORTS:

None

*Arthur P. Sibold*  
Arthur P. Sibold  
LTJG, USESSA

Approved and Forwarded:

*Ronald L. Newsom*  
Ronald L. Newsom  
LCDR, USESSA  
Commanding, USC&GSS McARTHUR



TIDE NOTE

Field No. AR-5-3-67

H-8966

Tide Station	Kolo Kolo Harbor Molokai Island, Hawaii
	Latitude 21° 05.6' Longitude 157° 11.8'
Plane of Reference:	MLLW = 2.9 ft on 1967 tide staff
Time Meridian:	150° West
Time Correction:	None
Height Correction:	None
Area Covered:	Entire survey area of AR-5-3-67
Time of Coverage	19 October to 3 November 1967

MLLW was determined from a 30 day tidal record. Portable Automatic Tide Gage No. 118 was installed at Kolo.

FINAL SIGNAL LIST

H-8966

AR-5-3-67

001	ski	sextant cuts
002	art	sextant cuts
003	vet	sextant cuts
004	ego	sextant cuts
005	jim	t-11959
006	ran	GPs, p 112
007	bac	GPs, p 112
008	tel	t-11959
009	wal	t-11959
010	gab	t-11959
011	day	t-11959
012	yel	t-11959
013	nuk	t-11959
014	key	t-11959

GEOGRAPHICAL NAMES

Kalohi Channel

Kaunakakai

Molokai Island

VELOCITY TABLE NO. 1

H-8966 (AR-5-3-67)

To be applied to echo soundings by Launch AR-1 only.

FATHOMETER DEPTH

CORRECTOR

From

To

0.0 ft 1.4 ft  
 1.5 3.8  
 3.9 6.3  
 6.4 9.8  
 9.9 10.3  
 10.4 13.8  
 13.9 16.2  
 16.3 18.7  
 18.8 21.2  
 21.3 23.7  
 23.8 26.2  
 26.3 28.7  
 28.8 31.2  
 31.3 33.6  
 33.7 36.1  
 36.2 38.4  
 38.5 40.8  
 40.9 43.3  
 43.4 45.7  
 45.8 48.2  
 48.3 50.7  
 50.8 53.3  
 53.4 56.0  
 56.1 58.9  
 59.0 61.9  
 62.0 65.0  
 65.1 69.0  
 69.1 78.4  
 78.5 87.8  
 87.9 97.1  
 97.2 106.6  
 106.7 116.0  
 116.1 125.5  
 125.6 ft 135.0 ft

+ 0.4 ft  
 0.6  
 0.8  
 1.0  
 1.2  
 1.4  
 1.6  
 1.8  
 2.0  
 2.2  
 2.4  
 2.6  
 2.8  
 3.0  
 3.2  
 3.4  
 3.6  
 3.8  
 4.0  
 4.2  
 4.4  
 4.6  
 4.8  
 5.0  
 5.2  
 5.4  
 5.6  
 6.0  
 6.5  
 7.0  
 7.5  
 8.0  
 8.5  
 + 9.0 ft

VELOCITY TABLE NO. 4

H-8966 (AR-5-3-67)

To be applied to all pole/leadline soundings by Skiff #2,  
Skiff #3, and Launch AR-1...

RECORDED DEPTH

From To

CORRECTOR

0.0

60.0 ft

0.0 ft

TIDE REDUCER ABSTRACT

H-8966 (AR-5-3-67)

DATE	DAY/DAY LETTER	TIMES	REDUCER
1967			
19 OCT	a (292)	09 18 00	- 0.8 ft
		10 00 01	- 0.6
		12 00 01	- 0.8
		13 28 01	- 1.0
20 OCT	b (293)	11 50 00	- 0.6
21 OCT	c (294)	09 04 00	- 1.6
		09 18 01	- 1.4
		09 43 01	- 1.2
		10 11 01	- 1.0
		10 40 01	- 0.8
22 OCT	d (295)	07 01 00	- 2.2
		08 00 01	- 2.0
		08 45 01	- 1.8
		09 20 01	- 1.6
		10 00 01	- 1.4
		10 41 01	- 1.2
		11 20 01	- 1.0
		12 00 01	- 0.8
24 OCT	e (297)	08 13 00	- 2.2
		09 00 01	- 2.0
		10 00 01	- 1.8
		11 00 01	- 1.6
		11 40 01	- 1.4
		12 17 01	- 1.2
25 OCT	f (298)	07 02 00	- 1.8
		07 30 01	- 2.0
26 OCT	g (299)	09 25 00	- 2.0
2 NOV	j (306)	11 26 00	- 0.4
		12 00 01	- 0.6
		12 43 01	- 0.8
		13 29 01	- 0.1
		14 29 01	- 1.2



(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET, POSITIVE

AR-5-3-67

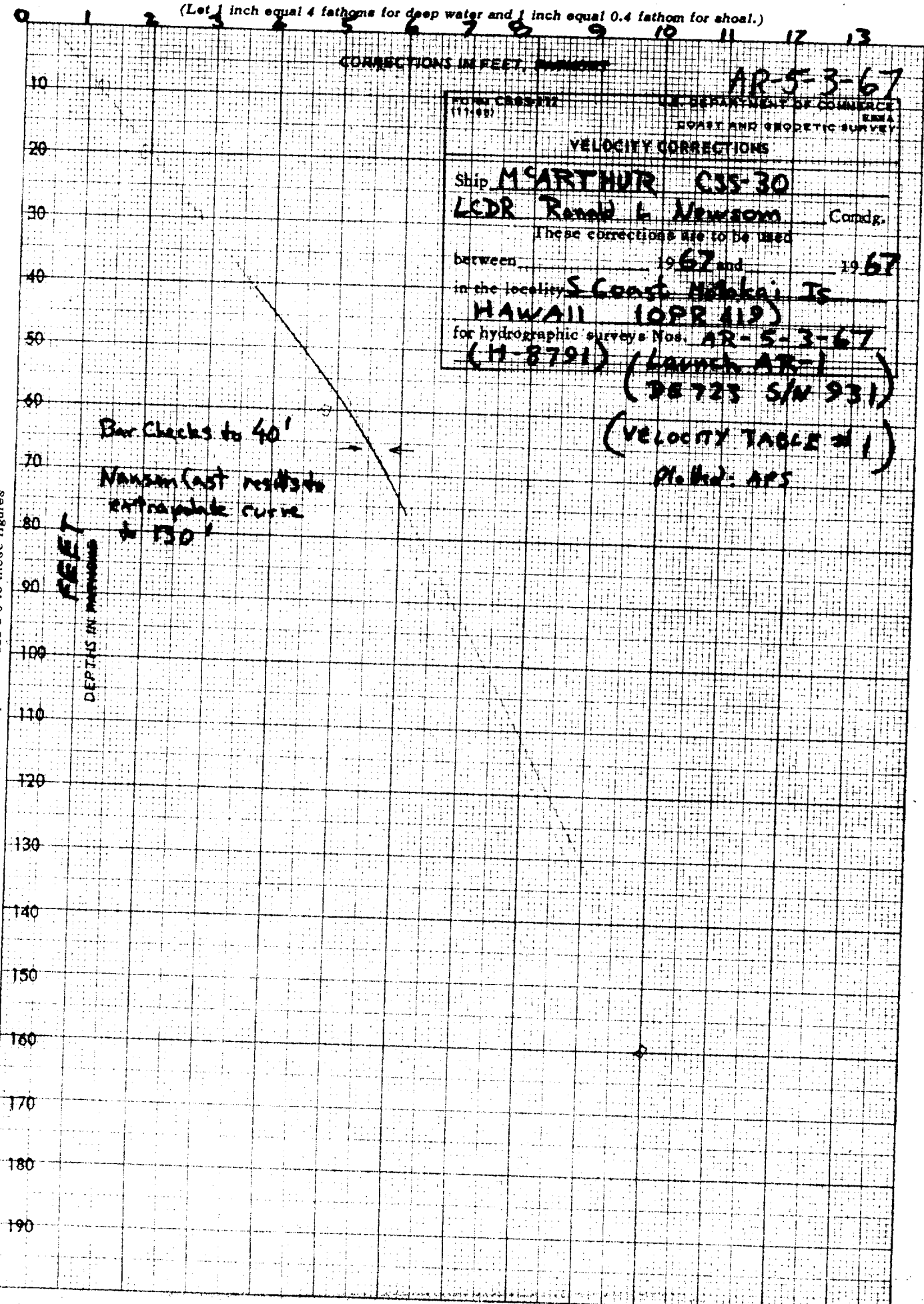
FORM CROSS-72 (11-60)	U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY KAMA
VELOCITY CORRECTIONS	
Ship <u>MCARTHUR CSS-30</u>	Comdg.
LCDR <u>Ronald L. Newson</u>	
These corrections are to be used	
between <u>1967</u> and <u>1967</u>	
in the locality <u>S Coast, Nihoa Is</u>	
<u>HAWAII (OPR 119)</u>	
for hydrographic surveys Nos. <u>AR-5-3-67</u>	
<u>(H-8791) (Launch AR-1)</u>	
<u>(DE 723 S/N 931)</u>	
<u>(VELOCITY TABLE #1)</u>	
Method: <u>APS</u>	

Bar Checks to 40'

Newson Cast results to extrapolate curve to 150'

FEET  
DEPTH IN METERS

(For deep water add a 0 to these figures)





APPROVAL SHEET

Field No. AR-5-3-67 (H-8966)

Field work on this survey was accomplished under my general supervision. Frequent inspection of the field data and boatsheet were made by me as the survey progressed. The sounding records have been inspected by me, and are approved. This survey is approved.



Ronald L. Newsom  
LCDR, USESSA  
Commanding, USC&GSS McARTHUR

March 6, 1968



**VERIFIER'S REPORT**  
**HYDROGRAPHIC SURVEY, H- 8966**

**INSTRUCTIONS** - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

**CL - Check List Items:** should be checked as having been completed during the verification processes.

**R - Report Item:** This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R	Part III - JUNCTIONS (Continued)	CL	R
<p><b>Note:</b> The verifier should first read the Descriptive Report for general information and problems.</p> <p>1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None</p>	✓		<p>10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are <b>SUPERSEDED</b>.</p>		✓
<p>2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None</p>	✓		<p><b>Part IV - VOLUMES</b> 11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes. Remarks Required: -- None</p>	✓	
<p>3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None</p>	✓		<p>12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following:  (a) rocks (b) line turns (c) position values of beginning and ending of lines (d) bar check or velocity correctors (e) time recording (f) notes or markings on fathograms (g) was reduction of soundings accurately done? (h) was scanning accurate? (i) were peaks at uneven intervals missed? (j) were stamps completed? (k) references to adjacent features</p>		
<p><b>Part II - SHORELINE AND SIGNALS</b> 4. Source of shoreline signals Remarks Required: -- List all surveys  a. Give earliest and latest dates of photographs b. Field inspection date c. Field Edit date d. Reviewed-Unreviewed</p>	✓				
<p>5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.</p>		✓			
<p>6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None</p>	✓				
<p>7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.</p>	✓		<p><b>Part V - PROTRACTING</b> 13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None</p>	✓	
<p><b>Part III - JUNCTIONS</b> <b>Note:</b> Make a cursory comparison preliminary to inking soundings in area of overlap.</p> <p>8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None</p>		✓	<p>14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None</p>	✓	
<p>9. The notation in slanted lettering "JOINS H---- (19 )" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None</p>	✓		<p>15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None</p>	✓	

Part V - PROTRACTING (Continued)	CL	R	Part VIII - AIDS TO NAVIGATION	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable reploting or adjustments.	✓		26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. Remarks Required: -- Conflicts of any nature listed.	✓	
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.	✓		27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required; -- None		✓
<b>Part VI - SOUNDINGS</b> 18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None	✓		<b>Part IX - BOAT SHEET</b> 28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None	✓	
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.	✓		29. Heights of rocks awash were correctly reduced and compared with topographic information. Remarks Required: -- Note excessive conflicts with topographic information.	✓	
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None	✓		<b>Part X - GENERAL</b> 30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None	✓	
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None	✓		31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None	✓	
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.	✓		32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: -- None	✓	
<b>Part VII - CURVES</b> 23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected.		✓ WMM	33. The bottom characteristics are adequately shown. Remarks Required: -- None	✓	
24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following: a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed Remarks Required: -- None	✓		<b>Part XI - NOTES TO THE REVIEWER</b> 34. Unresolved discrepancies and questionable soundings.	✓	
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.		✓	35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.	✓	
36. Supplemental information.				✓	
Verified by <i>Robertus J. ... et.</i>			Date <i>Oct 16, 68</i>		

HYDROGRAPHIC SURVEY STATISTICS  
HYDROGRAPHIC SURVEY NO. H-8966

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS		1	
DESCRIPTIVE REPORT		1	OVERLAYS		7	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES			1 <del>5</del>			
CAHIERS	1					
VOLUMES	4					
BOXES						

T-SHEET PRINTS (List)

*FR. 1258*

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				648
POSITIONS CHECKED		648		
POSITIONS REVISED		20		
DEPTH SOUNDINGS REVISED		68		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		0		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0		
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		23		
JUNCTIONS		0		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		11		
SPECIAL ADJUSTMENTS		-		
ALL OTHER WORK		102		
TOTALS		136		
PRE-VERIFICATION BY	<i>posn overlay by Lt. A.P. Sibold</i>	BEGINNING DATE	ENDING DATE	
VERIFICATION BY	<i>Nicholas L. Tardif Lt.</i>	BEGINNING DATE	ENDING DATE	
REVIEW BY		BEGINNING DATE	ENDING DATE	

VERIFIER'S REPORT  
KAUNAKAKAI HBR., MOLOKAI ISLAND,  
HAWAII H-8966 (1967)

This survey was projected and plotted at Pacific Marine Center Seattle, Washington. Information relating to this survey will be noted under the heading by the number and letter as on the Verifier's Report C&GS 946A.

PART II SHORELINE AND SIGNALS:

5; The coral reef on the advance manuscript south of Lat. 21 degrees and 05 minutes was omitted intentionally because it does not conform to any particular depth. This should be further analyze. ~~Wellack~~ the information to do so.

The prior survey H-4458 (1925) and the chart C&GS 4121 (5th Edition/June 66) reveals a stream at Lat. 21° 05' 12" and Long. 157° 01' 42" which is not on the manuscript.

7. Unidentify Signals;  
    EGO                                   (004)  
  
    SKI                                   (001)

PART III JUNCTIONS:

This survey is an enlarged portion of H-8919 (1966) and no comparison was made except by the personnel of ship McAuthur off the boatsheet. At present H-8919 is being completed by ship McAuthur.

PART VII CURVES:

25; The curves on the inshore area could not be fully developed due to lack of soundings.

PART VIII AIDS TO NAVIGATION:

~~The floating~~ aids does not agree with the chart C&GS 4121 or the light list. The floating aids are located on this survey as follows:

<u>BOUY</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>
R "2"	21° 04' 20.8"	157° 02' 04.5"
G "3"	21° 04' 52.5"	157° 02' 07.3"
C "5"	21° 05' 12.1"	157° 01' 55.5"
N "4"	21° 04' 53.9"	157° 02' 00.5"

## X GENERAL INFORMATION:

33. These following bottom samples were transferred from the boatsheet. This information was noted to be from H-8919.

LATITUDE	LONGITUDE
21 05' 06"	157 01' 06"
21 04' 46"	157 01' 51"
21 04' 47"	157 02' 44"

## CHART COMPARISON:

A comparison was made with chart C&GS 4121 (5th Edition, June, 1966). The discrepancies are noted in the report by the hydrographer. These discrepancies were checked and corrected after verification.

## PRIOR SURVEY:

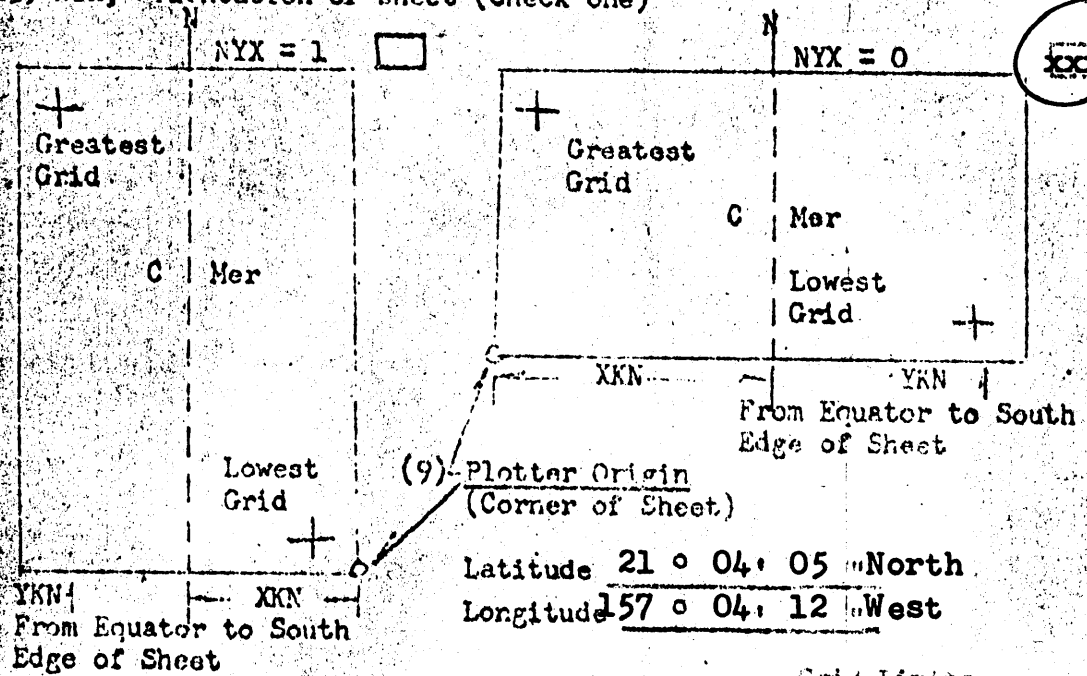
Comparison was made with Prior Survey H-4458 (1:5000) 1925. The major changes were at the dock due to dredging.

Respectively submitted.

*N. Lestenko*  
N. Lestenko Cart. Tech.

PARAMETERS FOR DIGITAL COMPUTING  
POLYCONIC PROJECTION

- (1) Project No. OPR 419--Molokai & Lanai (4) Requested by \_\_\_\_\_
- (2) H No. H-8966 (5) Ship ~~XXXXXXXXXX~~ McARTHUR CSS-30
- (3) Field No. AR-5-3-67 (6) Date Required for smooth sheet
- (7) Visual ~~XXXXX~~ (8) Electronic  (fill out form #3)
- (10) XKN (SP 5) Distance from CMER to East Edge (NYX = 1) 3810.6  
or West Edge (NYX = 0). ~~XXXXXX~~ Meters
- (11) YKN (SP 241) Distance from Equator to South Edge of Sheet. 2,330,474.286 Meters
- (12) Central Meridian 157° 02' 00" West
- (13) Survey Scale 1: 5000
- (14) Size of Sheet (Check one)  36x60 ~~XXXXX~~  42x60
- (15) NYX, Orientation of sheet (Check one)  NYX = 1  NYX = 0



Grid Limits		
(16) Greatest Latitude	<u>21° 06' 30"</u>	" (Projection Line
(17) Lowest Latitude	<u>21° 04' 15"</u>	" Interval Page 4
(18) Difference	<u>02' 15"</u>	" Hydro Manual)
(19)	<u>00' 15"</u>	"
(20)	<u>9</u>	" YSK
(21) Greatest Longitude	<u>157° 04' 00"</u>	"
(22) Lowest Longitude	<u>157° 00' 00"</u>	" (24) <u>00' 15"</u>
(23) Difference	<u>04' 00"</u>	" (25) <u>16</u> YSN

Comp: APS



8966

Field No. AR-5-3-67

Date 2/1/68

PARAMETER CARD II

Benl major axis of the earth	6,378,206.4	RDA	1	2	3	4	5	6	7	8	9	10	
X Constant - Distance from central meridian to origin of plotter SP 5	3810.6 meters	XKN	6	11	12	13	14	15	16	17	18	19	20
Y Constant - Distance from equator to origin of plotter SP 2A1	2,530,474.286 meters	YKN	3	8	9	10	11	12	13	14	15	16	17
Central Meridian of Projection	10498.6876	CMR	21	22	23	24	25	26	27	28	29	30	
Plotter Scale/Survey Scale	1:5000	YKN	2	3	3	4	4	7	7	4	3	3	7
North/south axis of sheet - to correspond to (Y axis - 0)		SCA	31	32	33	34	35	36	36	37	38	37	40
Feet/Fathom indicator	0 - feet 1 - fathom	NYX	41	42	43	44	45	46	47	48	49	50	51
H Identification No.		POF	47	48	49	49	7	7	3	7	5	0	52
		JN	53	54	55	56	57	58	59	60	61	62	63
		YR	64	65	66	67	68	69	70	71	72	73	74

POF - 1

PARAMETER CARD III

Lowest Lat. Intersection	2 4	0 4	1 5	0 0	YST	1	2	3	4	5	6	7	8	9	10
Lowest Long. Intersection	1 5	7 0	0 0	0 0	XST	7	5	8	5	0	0	0	0	0	5
Difference between Grid		0 0	1 5	0 0	DXV	11	6	5	2	0	0	0	0	0	6
Interval (Long)					XSN	21	22	23	24	25	26	27	28	29	30
Interval (Lat)					YSN	1	5	0	0	0	0	0	0	0	2
						31	32	33	34	35	36	37	38	39	40

Computed

Punched

Checked

Date

MA

8966  
2/1/68

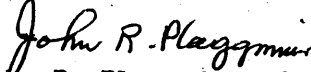
Approval Sheet

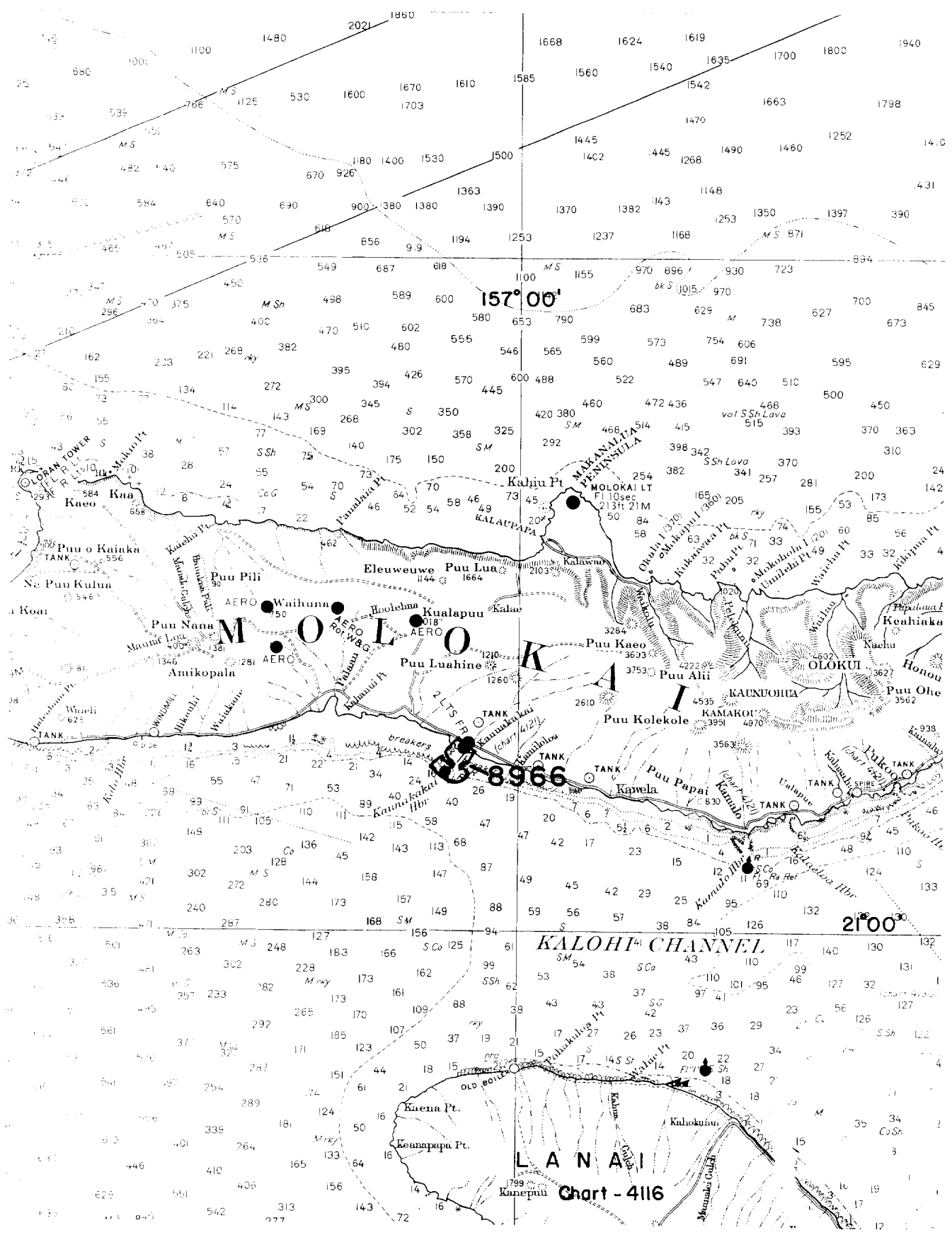
The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and Hydrographic Manual. (Note: All exceptions are listed in the verifier's report).

Examined and approved.

  
William M. Martin  
Supervisory Carto. Tech.

Approved and forwarded.

  
John R. Plaggmier CDR USESSA  
Chief Processing Division, PMC



157° 00'

21° 00'

KALOHI CHANNEL

LANAI  
Chart - 4116

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8966

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
4116	5/14/69	Oscar Chapman	<del>Full Part Before</del> <sup>After</sup> Verification Review Inspection Signed Via Drawing No. NO-CORR
4121	4-2-71	J.A. Graham	<del>Full Part Before</del> <sup>Before</sup> After Verification Review Inspection Signed Via Drawing No. 6 App'd misc. critical corrections only.
4120	4-2-71	J.A. Graham	<del>Full Part Before</del> <sup>After</sup> Verification Review Inspection Signed Via Drawing No. 9 Examined, no correction
4116	4-2-71	J.A. Graham	<del>Full Part Before</del> <sup>After</sup> Verification Review Inspection Signed Via Drawing No. 10 Examined thru chart. 4120 dup. #9 no correction
4179	5/10/71	J. McMillan	<del>Full Part Before</del> <sup>After</sup> Verification Review Inspection Signed Via Drawing No. 9 No critical corr at this scale Consider what fully applied for this scale
4102	1/27/72	J. Graham	<del>Full Part Before</del> <sup>After</sup> Verification Review Inspection Signed Via Drawing No. 28 App'd for critical corr. only thru chart 4116 dup. #16
4179	17 Sept 75	HAUSMAN	<del>Full Part Before</del> <sup>After</sup> Verification Review Inspection Signed Via Drawing No. 11 Exam for Crit Corr thru 4102.
4121	10/5/77	C.S. Forbes	<del>Full Part Before</del> <sup>After</sup> Verification Review Inspection Signed Via Drawing No. Re-examined - made minor changes to 12, 14, 30 H. curves, replaced (2) sids. Consider this a Final app.
4102	11/1/77	C.S. Forbes	<del>Full Part Before</del> <sup>After</sup> Verification Review Inspection Signed Via Drawing No. Consider application as final. No additional corrections
4179	12/5/77	C.S. Forbes	<del>Full Part Before</del> <sup>After</sup> Verification Review Inspection Signed Via Drawing No. Consider application as final. No additional corrections
4116	1-3-78	M. Sager	<del>Full, after</del> <sup>after</sup> Verification - No corrections - Examined Thru chart 4120 - consider Final application.
19351	3-11-94	William J. Pano	Adequately App'd Aug 14 - Cat I