

8828

original

Diag. Cht. No. 4116-2.

Form 504 U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY DESCRIPTIVE REPORT	
Type of Survey	HYDROGRAPHIC
Field No.	PF-5-1-65
Office No.	H-8828
LOCALITY	
State	HAWAII
General locality	LANAIK ISLAND
Locality	MANELE BAY (south central coast)
<u>19 65</u>	
CHIEF OF PARTY	
L.F. WOODCOCK Capt. USC&GS	
LIBRARY & ARCHIVES	
DATE	14 DEC 1970

USCOMM-DC 5087

category 1

4120
4130
4116

8828

HYDROGRAPHIC TITLE SHEET

H-8828

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.

PF 5-1-65

State Hawaii

General locality Lanai Island

Locality Manele Bay, South central coast

Scale 1:5,000 Date of survey Mar 6, 8, 9, 10, 11, 20, 21, 1965

Oct. 25, 1960, Jan. 9, 1962,

Instructions dated Dec. 17, 1963 & Nov. 9, 1964 Project No. OPR-419

Vessel Motor Launch # 2

Chief of party L. F. Woodcock, Capt. USC&GS

Surveyed by P. M. Schidrich, R. K. Woodruff

Soundings taken by echo sounder, hand lead, ~~none~~

Graphic record scaled by Various ships personnel

Graphic record checked by various ships personnel

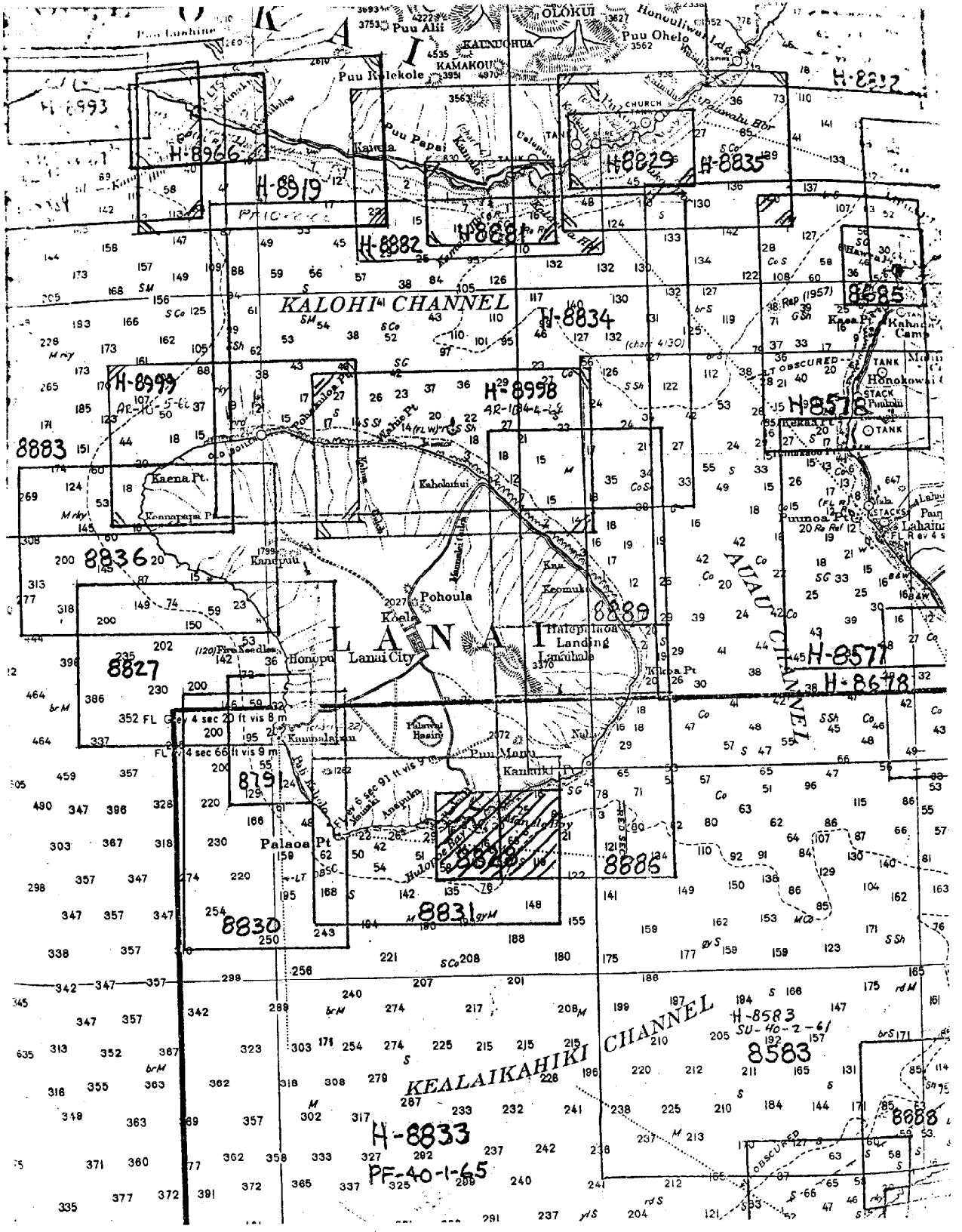
Protracted by M. G. Sanders Automated plot by _____

Soundings penciled by M. G. Sanders

Soundings in ~~XXXXXX~~ feet at ~~XXXXXX~~ MLLW

REMARKS: _____

EdK



KALOHI CHANNEL

ALAU CHANNEL

KEALAIKAHIKI CHANNEL

LANAI

H-8833

PF-40-1-65

H-8832

H-8993

H-8966

H-8919

H-8829

H-8835

H-8882

H-8881

H-8834

H-8999

H-8998

8883

8885

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8792

8886

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8831

H-8578

H-8678

H-8583

8583

8888

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SURVEY
H-8828 (FIELD NUMBER PF-5-1-65)

USC&GSS PATHFINDER
L.F. WOODCOCK, COMMANDING

1965

SCALE=1:5,000

A. PROJECT

Hydrographic survey PF-5-1-65 was accomplished under OPR-419 according to basic instructions dated 25 October, 1960, to the ship Surveyor and 9 November, 1964, to the ship Pathfinder with supplemental instructions dated January 9, 1962, and December 17, 1963.

B. AREA SURVEYED

The survey was performed on the south-central coast of ~~Mau~~ Lanai Island in and around Manele Bay and Hulopoe Bay.

The purpose of the survey being to adequately ^{survey} the bays for future development including a small boat harbor in Manele Bay. The limits of the survey are essentially 156 52' 30" and 156 54' 15" West and 20 44' 00" North to the coast line. The survey was begun on March 6, 1965, and completed on March 21, 1965. The area of this survey is included in the area of survey sheet PF-10-2-65 (H-8828³¹) at 1:10,000 scale and prior survey sheet Register No. H-5338 done in 1931 at 1:5,000 scale.

C. SOUNDING VESSEL

All depth soundings were obtained with Motor Launch No. 2. The color used to identify the day letter of the launch

is purple lower case letters. Bottom samples were obtained from Launch No. 3 using purple lower case letters to identify the positions.

D. SOUNDING EQUIPMENT

All depths on sounding lines were obtained using the DE-723 ✓
type echo-sounder No. 552 in Launch No. 2. All depths were taken in feet using scales from "A" to "BB". The first two days, difficulty was encountered in trying to record depths greater than 240-feet on the "AA" and "BB" scales. The initial of the echo-sounder on the launch was set at a +0.0 depth. A number of hand lead soundings were taken mostly inside the small boat harbor at the ends of the piers, on several submerged rocks offshore, and during the taking of bottom samples. Hand lead soundings were limited to a depth of 102-feet (17-fathoms) because of the length of the lead line on board Launch No. 2.

Bar checks were taken either once or twice a day at depths of 6, 12 and 24 feet on d, e and f days, and at 1, 2 and 4 fathoms on a, b and c days.

E. SMOOTH SHEET

To be completed by smooth-plotter.

F. CONTROL

The visual method of horizontal control was used with photo-hydro transferred from the following photogrametric

compilation:

T-11978 Advanced manuscript completed.

G. SHORELINE

The source of shoreline detail for the boat sheet was the advanced manuscript T-11978. The shoreline detail had been verified and revised previously with all changes on the manuscript. Rocks were verified by the hydrographer with notes placed on the boat sheet.

The only major shoreline change encountered by the hydrographer was the breakwater being built by the Corps of Engineers in Manele Bay. Notes on changes there and future work were written on the boat sheet. The low water line could not be delineated by hydrography because the inshore area is foul with rocks throughout and the low range of 2.10 feet of tide makes inshore hydrography treacherous.

H. CROSSLINES

The percentage of crosslines run was 10% with good agreement found at all crossings. In Hulopoe Bay hydrographic lines crossed each other, providing a secondary check with good agreement.

I. JUNCTIONS

Good agreement.

J. COMPARISONS WITH PRIOR SURVEYS

Since no corrections were applied to soundings on the boat ✓
sheet no comparisons were made.

No pre-survey review items are included in the area of ✓
this sheet.

K. COMPARISON WITH THE CHART

Same as F. The 3/4 fathom sounding from chart 4130 at ✓
latitude 20 44' 37" and longitude 156 52' 40" was searched
for and could not be found. It was probably misplotted
and should be to the northeast ^{at} ~~of~~ latitude 20°44'41"N.
and longitude 156° 52' 41"W. where a rock was found. pos 43c

L. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior ✓
surveys for charting.

M. AIDS TO NAVIGATION

At the time of survey there were no fixed or floating aids
to navigation. But as noted on boat sheet a fixed light
will built at end of breakwater by the Coast Guard.

N. STATISTICS

Launch #2	1087 positions	118.2 miles of sdg. line	22 bottom samples
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One magnetic station was observed on PUU PEHE. No tide,
current or oceanographic stations were observed within the
limits of this sheet.

O. MISCELLANEOUS

Three developements were run; one to locate the 3/4 fathoms sounding; one to delineate the shoal at latitude 20 44' 38" and longitude 156 52' 52"; and the other at latitude 20 44' 20" and longitude 156 53' 20" to delineate the 23-fathom sounding.

P. RECOMMENDATIONS

That the 3/4 fathom shoal be deleted from chart 4130. No evidence of its existence could be found. It's possible that it's misplotted and should be to the northeast where a rock was found that had not been charted.

P. M. Schidrich
LTJG USC&GS

<u>Named Used In Hydrography</u>	<u>Origin of Signal</u>	<u>Map Number</u>
ANT	Photo-Hydro	T-11976
BAN	"	"
BOB	"	"
BOW	"	"
COW	"	"
DRU	"	T-11971
FIX	"	T-11976
GAL	"	"
HAY	"	"
JIG	"	"
LOR	"	"
LUV	"	"
MAC	"	"
MAL	"	"
MOO	"	"
MUT	"	"
NIP	"	"
NOK	"	"
NUT	"	"
PAT	"	"
PEN	"	"
POP	"	"
PRO	"	"
PUP	"	"
PUU PEHE	1914-1962	triangulation

<u>Name Used In Hydrography</u>	<u>Origin of Signal</u>	<u>Map Number</u>
ROK	Photo-Hydro	T-11976
SAY	"	"
SIT	"	"
SKY	"	"
TOT	"	"
WAT	"	T-11975
ZOO	"	T-11976
ZUP	"	T-11976

TIDE NOTE

Tide reducers were obtained from one portable automatic gage located at Kaumalapau Harbor, Lania Island (Latitude 20° 47.4' N, Longitude 156° 59.7' W).

TIDE NOTE FOR HYDROGRAPHIC SHEET

October 24, 1966

~~Hydrographic Division~~ Pacific Marine Center

Plane of reference approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 8828

Locality: Maui Island, T. H.

Chief of Party: L. F. Woodcock, 1965

Plane of reference is mean lower low water

Tide Station Used (Form C&GS-681):

Kaunalapau Harbor

Height of Mean High Water above Plane of Reference is as follows:

1.7 feet

Remarks


Chief, Tides and Currents Branch

GEOGRAPHIC NAMES PENCILED ON H-8828

KEALAIKAHIKI CHANNEL

LANAI ISLAND

MANELE BAY

PUUPHENE ROCK

HULOPOE BAY

LEINUHAUNUI PALI

KALAEOKAHAINUI POINT

STATION #4 LANAI

4/10/65

Velocity corrections to be applied to PF-5-1-64
and PF-5-1-65.

Corrections in feet to depths:

	To
0.0	14.2
0.2	18.3
0.4	22.8
0.6	27.1
0.8	31.3
1.0	35.7
1.2	39.9
1.4	44.1
1.6	48.3
1.8	52.8
2.0	57.0
2.2	61.3
2.4	65.7
2.6	70.0
2.8	74.0
3.0	94.0
4.0	116.0
5.0	137
6.0	159
7.0	180
8.0	202
9.0	223
10.0	246
11.0	268
12.0	289
13.0	311

USC&GS Pathfinder
Capt. L.F. Woodcock, Comdg.

Echo Corrections

PF 5-1-65


Vessel	Date	Day	Corrections
ML # 2	3-6-	a	+ 2.0 ft
"	3-8	b	2.0
"	3-9	c	2.0
"	3-10	d	2.0
"	3-11	e	2.0
"	3-20	f	2.0
"	3-21	g	2.0

Transmittal Sheet

H-8828

PF 5-1-65

The field work, completion and examination of records and plotting of smooth sheet were completed under previous commanding officers. The assembling of data in this descriptive report and transmittal of records to the Pacific Marine Center have been effected by this command.


G.L. Short
Cdr., USESSA
Comdg. Pathfinder

Ref. # CFS2312/6-04-68

SPECIAL REPORT
ON
REPORTED OBSTRUCTION IN
MANELE BAY, LANAI ISLAND, HAWAII
29 JANUARY 1968

OPR-419, Lanai and Molokai Islands, Hawaii
Dated 7 June 1967

Change No. 1: Supplement to Instructions
Dated 20 June, 1967

In accordance with Change No. 1: Supplement to Instructions of OPR-419, dated 20 June 1967, an investigation for obstructions in Manele Bay, Lanai, was conducted. Three divers searching for two hours failed to find any boulders in the position reported by Notice to Mariners 11/67.

It seems hard to believe that any boulder could have slid off the breakwater and traveled 120 feet underwater across a flat mud bottom to the position indicated by NM 11/67. With this thought in mind, the source of the report was traced through local authorities and the results presented here in chronological order.

1] Jerry D. Parker, employee of the Corps of Engineers, ran aground in his private sloop (6' draft) and red hull, while leaving the bay in early 1967.

2] A Corps of Engineers survey party equipped with divers and headed by George Davis was sent to investigate the bay. The party uncovered a cluster of boulders (subsequently reported in NM 11/67) projecting 1 to 1 1/2 feet above the channel bottom, and bearing scrapings of white paint. The boulders were then marked by a buoy and its position determined by triangulation.

3] On 4 November 1967, three Coast Survey divers searched for two hours and failed to find any boulders other than a few close to the breakwater toe. The marking buoy was no longer there. On the same day our launch with fathometer was run across the position without results. A fisherman pointed out this position to be that of a sloop grounding (other than Mr. Parker's) earlier this year.

4] In December, 1967, a talk with Bill Spencer of the Hawaii State Department of Transportation, Harbors Division, revealed that they too had searched the bay with divers without results.

5] Also in December, we contacted Jerry D. Parker, the fellow who ran aground, and he indicated that he struck bottom about 30 feet from the breakwater toe and 150 feet back from the light. He reasoned that he was too close to the breakwater toe. Note that this was not the position indicated by NM 11/67.

As mentioned in [3] above, our divers were unable to find any boulder cluster in the channel, however, the water was somewhat muddy with visibility of about 2 feet. A shoal covered by 4.7 feet (position 30) was found on the left channel edge and believed to be that which grounded Mr. Parker. It is definitely not the position reported in NM 11/67.

Three hydrographic lines were run in the channel and nine positions were taken over the boulders close to the toe. Because of the weak control inside the breakwater, sextant angles were not used; rather, ranges were established at the bay head near the small boat slips and the breakwater whitewashed at 30 meter intervals with zero at the breakwater light.

Our survey indicates that the channel has shoaled along the north-west edge with the greatest amount occurring at the right outside quarter near the slips where a stream empties into the bay. A channel range did not exist at the time of our survey. As of this date, we have heard of no plans to erect one. Hydrography is plotted on a copy of PF-05-1-65 and a small extension to the existing breakwater is indicated in red. Finger piers, not located, are built in the slip area.

Tides were reckoned from the Kolo Harbor Gage on Molokai and reduced to MLLW for use on our copy of PF-05-1-65, which was used as a boat sheet. An excellent comparison between the Kolo and Kaunapali, Lanai (7 mi. from Manele Bay) time and height tidal differences was found and no correction from Kolo to Manele Bay were applied. The following table lists hourly height measured at Kolo on 4 November 1967:

<u>Time</u>	<u>Height Above MLLW</u>
1100	0.6 feet
1200	0.4 feet
1300	0.3 feet
1400	0.3 feet

This survey is adequate for charting and should supersede all previous surveys. It should be indicated that the channel is shoal on both the right and left outside quarters, yet, a depth of 8 feet can be carried in mid-channel (20 meters NW of the breakwater toe). Our investigation revealed a least depth of 6.1 feet over the position given in NM 11/67; an excessive shoal of 2.4 feet on the right outside quarter; and numerous boulder obstructions on the left channel edge close to the breakwater toe.

Submitted by,

Mark E. Harbert

Mark E. Harbert
LTJG, USESSA

Approved and Forwarded:

Ronald L. Newsom
Ronald L. Newsom
LCDR, USESSA
Commanding Officer

GEOGRAPHIC NAMES
Survey No. H-8828

Name on Survey	Source of Name										
	A	B	C	D	E	F	G	H	K		
Hulopoe Bay											1
Kalaeokahana											2
Kealaikahiki Channel											3
Lanai Island											4
Leinohauwi Fali											5
Manele Bay											6
Puupehe Rock											7
											8
											9
											10
											11
											12
											13
											14
											15
											16
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											22
											23
											24
											25
											26
											27

PREPARED BY

Frank W. Rickett
CARTOGRAPHIC TECHNICIAN

APPROVED BY

A. Joseph Wraight
CHIEF GEOGRAPHER

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-8828 (PF-5-1-65)

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		0	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES	1					
CAHIERS						
VOLUMES	87					
BOXES						
T-SHEET PRINTS (List) <u>T-11976 & T-11971</u> (Signal Unit T-11975)						
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				1110
POSITIONS CHECKED		617		
POSITIONS REVISED		12		
DEPTH SOUNDINGS REVISED		225		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		None		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		None		
	TIME (MANHOURS)			
1 TOPOGRAPHIC DETAILS		5		
2 JUNCTIONS (chains over fathoms to feet)		21		
3 VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		40		
4 SPECIAL ADJUSTMENTS		6		
5 ALL OTHER WORK		118		
TOTALS		190		
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY <u>Comelius A. J. Pann</u>	Aug. 21, 1967		Sept 25th, 1967	
REVIEW BY	BEGINNING DATE		ENDING DATE	

SOUNDING EQUIPMENT

Noastylus arm error was found on the fathograms for this survey. There was an apparent phase error, which was applied to effected soundings by showing corrected soundings in the "Office Column" in the sounding record. The phase correction for the various scales is as follows: "B" = +1.0ft, "C" = +0.7 ft, "D" = +0.2 ft, "E" = -0.3 ft. and "F" = -1.0 ft.

SMOOTH SHEET

The projection was ruled in the Washington Office on the ruling machine. The shoreline and control were transferred and plotted by Ship Personnel.

CONTROL

Signal "DRU", from T-11971 (1/10,000) was added to the Signal List. Signal "WAT", Lat, 20°44'20.5", Long. 156°54'35.8" was made the same as on H-8831.

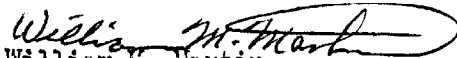
COMPARISON WITH CHART

This survey has been compared with Chart 4130, 6th Ed., Feb. 10, 1969. Four charted soundings on the Manele Bay Insert, which came from the boat sheet, are in error. The fathogram was rescanned during the smooth plot of the soundings on line 93 to 96e, approx. Lat. 20°44.5', Long. 156°53.3', and found to be from 1 to 11 feet deeper. The $\frac{1}{2}$ fm. sounding charted on the Insert at Lat. 20°44'38.8", Long. 156°52'55.0" should be moved about 20 meters west and changed to $\frac{3}{4}$ fm., five feet on smooth sheet. On the main Chart the charted $4\frac{1}{4}$ fm. sounding at Lat. 20°44.02', Long. 156°53.5' appears to be about 190 meters too far south. The $\frac{3}{4}$ fm. sounding at 20°44.65', Long. 156°52.63' should be $\frac{1}{2}$ fm. See section of Chart 4130 attached to this report for items above, which are shown in reddink.

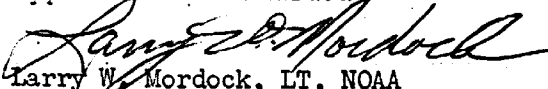
Approval Sheet

This smooth sheet has been inspected and meets the requirements of the Hydrographic Manual. (Note: Exceptions are noted in the verifier's report.)

Examined and Approved


William M. Martin
Supervisory Carto. Tech.

Approved and Forwarded


Larry W. Mordock, LT, NOAA
Acting Chief, Processing Division
Pacific Marine Center

VERIFIER'S REPORT
HYDROGRAPHIC SURVEY, H BB28 (PF-5-1-65)

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>Note: 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 SUPERSEDED.</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>Part IV - VOLUMES 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:</p>		
<p>Part II - SHORELINE AND SIGNALS 4. Source of shoreline signals Remarks Required: -- List all surveys</p> <p>a. Give earliest and latest dates of photographs ?</p> <p>b. Field inspection date</p> <p>c. Field Edit date</p> <p>d. Reviewed-Unreviewed</p>	✓		<p>(a) rocks <i>ok</i></p> <p>(b) line turns <i>ok</i></p> <p>(c) position values of beginning and ending of lines <i>for missing</i></p> <p>(d) bar check or velocity correctors <i>✓</i></p> <p>(e) time recording <i>ok</i></p> <p>(f) notes or markings on fathograms <i>ok</i></p> <p>(g) was reduction of soundings accurately done? <i>ok</i></p> <p>(h) was scanning accurate? <i>No</i></p> <p>(i) were peaks at uneven intervals missed? <i>Some</i></p> <p>(j) were stamps completed? <i>yes</i></p> <p>(k) references to adjacent features <i>None</i></p>		
<p>5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences. <i>See discussion signed "Wat"</i></p>	<i>Good</i>	✓			
<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>	<i>None</i>		<p>Part V - PROTRACTING 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>Part III - JUNCTIONS Note: 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>	<i>Yes</i>		<p>14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None</p>	<i>yes</i>	
<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>	✓	

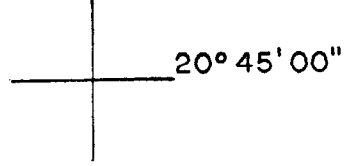
Part V - PROTRACTING (Continued)	CL	R	Part VIII - AIDS TO NAVIGATION	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable reploting or adjustments.	Satisfactory		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.	None	
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number. <i>Aug 21 st. 1967</i> <i>Coast</i>	/		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	None	
Part VI - SOUNDINGS			Part IX - BOATSHEET		
18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None	/		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	Yes	
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.	Satisfactory		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	/		Part X - GENERAL		
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None	/		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	/	
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.	ok		31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None	/	
Part VII - CURVES			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	/	
23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected. <i>C.A.J.P.</i> 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	/	Not shown see report.	33. The bottom characteristics are adequately shown. Remarks Required: -- None	/	
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.	ok		Part XI - NOTES TO THE REVIEWER		
			34. Unresolved discrepancies and questionable soundings.	None	
			35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.	?	
			36. Supplemental information.	None	

Verified by *Cornelius A.J. Bauer* Date *Sept 26, 1967*

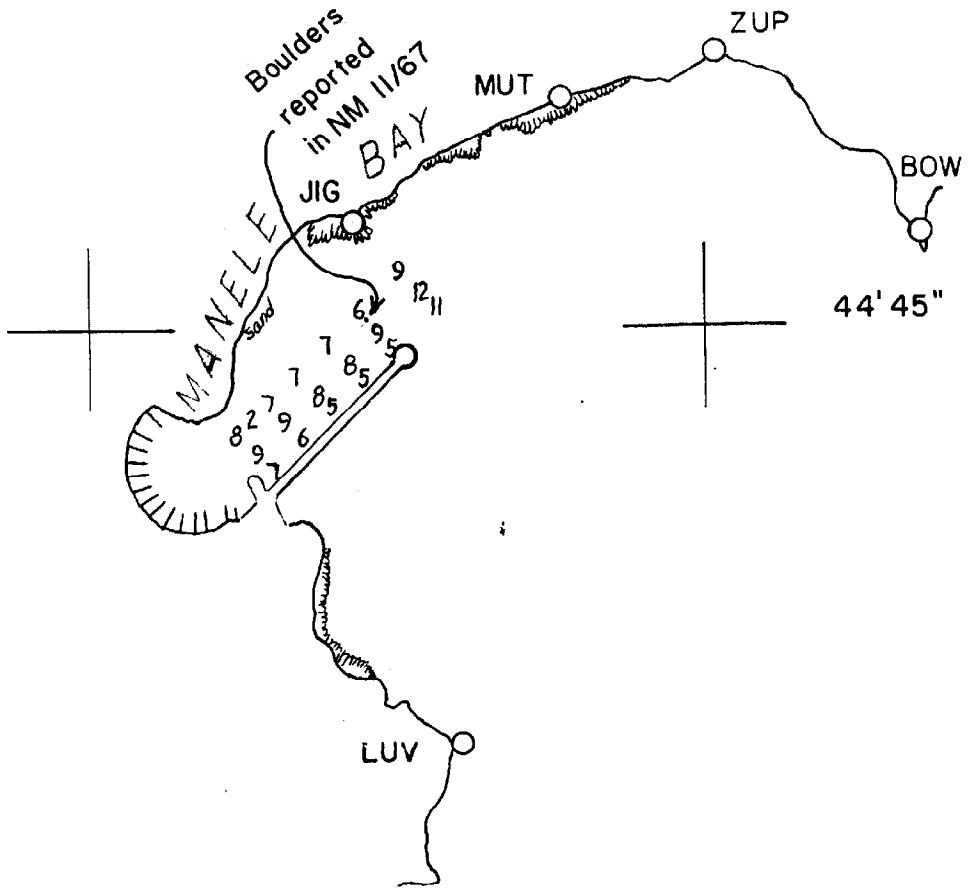
156° 53' 30"



53' 15"



20° 45' 00"



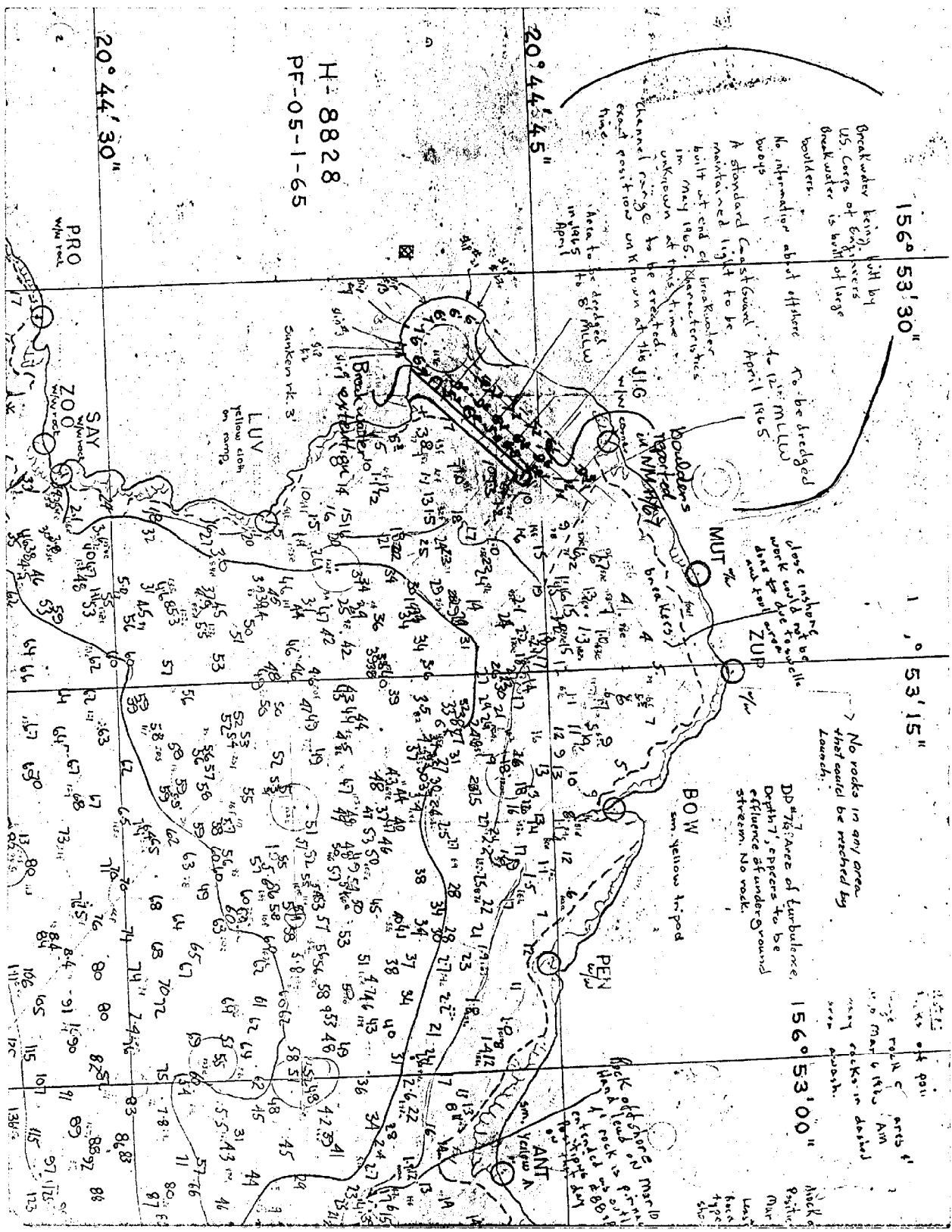
44' 45"

20° 44' 30"

H-8828

PF-05-1-65

Soundings by USC&GS Ship McARTHUR in 1967



156° 53' 30"

1° 53' 15"

156° 53' 00"

H-8828
PF-05-1-65

20° 44' 30"

20° 44' 45"

PRO
with net

SAY
yellow cloth
on ramp

LUV

BROOK

MUT

ZUP

BOW

PEN

ANT

Breakwater being built by US Corps of Engineers. Breakwater is built of large boulders. No information about offshore boya. A standard Coast Guard buoy maintained light to be built at end of breakwater in May 1965. Characteristics unknown at this time. Channel range to be created. Exact position unknown at this time. Area to be dredged in April 1965.

To be dredged 4-12 MILLIN. A standard Coast Guard buoy maintained light to be built at end of breakwater in May 1965. Characteristics unknown at this time. Channel range to be created. Exact position unknown at this time. Area to be dredged in April 1965.

DP #7: Area of turbulence. Depth 7. Appears to be influence of under-ground stream. No rock. No rocks in any area that could be washed by launch.

Check of shore marked. Mark A lead to 50 ft. Mark B lead to 20 ft. Mark C lead to 10 ft. Mark D lead to 5 ft. Mark E lead to 2 ft. Mark F lead to 1 ft. Mark G lead to 0.5 ft. Mark H lead to 0.2 ft. Mark I lead to 0.1 ft. Mark J lead to 0.05 ft. Mark K lead to 0.02 ft. Mark L lead to 0.01 ft. Mark M lead to 0.005 ft. Mark N lead to 0.002 ft. Mark O lead to 0.001 ft. Mark P lead to 0.0005 ft. Mark Q lead to 0.0002 ft. Mark R lead to 0.0001 ft. Mark S lead to 0.00005 ft. Mark T lead to 0.00002 ft. Mark U lead to 0.00001 ft. Mark V lead to 0.000005 ft. Mark W lead to 0.000002 ft. Mark X lead to 0.000001 ft. Mark Y lead to 0.0000005 ft. Mark Z lead to 0.0000002 ft.

Check of shore marked. Mark A lead to 50 ft. Mark B lead to 20 ft. Mark C lead to 10 ft. Mark D lead to 5 ft. Mark E lead to 2 ft. Mark F lead to 1 ft. Mark G lead to 0.5 ft. Mark H lead to 0.2 ft. Mark I lead to 0.1 ft. Mark J lead to 0.05 ft. Mark K lead to 0.02 ft. Mark L lead to 0.01 ft. Mark M lead to 0.005 ft. Mark N lead to 0.002 ft. Mark O lead to 0.001 ft. Mark P lead to 0.0005 ft. Mark Q lead to 0.0002 ft. Mark R lead to 0.0001 ft. Mark S lead to 0.00005 ft. Mark T lead to 0.00002 ft. Mark U lead to 0.00001 ft. Mark V lead to 0.000005 ft. Mark W lead to 0.000002 ft. Mark X lead to 0.000001 ft. Mark Y lead to 0.0000005 ft. Mark Z lead to 0.0000002 ft.

Check of shore marked. Mark A lead to 50 ft. Mark B lead to 20 ft. Mark C lead to 10 ft. Mark D lead to 5 ft. Mark E lead to 2 ft. Mark F lead to 1 ft. Mark G lead to 0.5 ft. Mark H lead to 0.2 ft. Mark I lead to 0.1 ft. Mark J lead to 0.05 ft. Mark K lead to 0.02 ft. Mark L lead to 0.01 ft. Mark M lead to 0.005 ft. Mark N lead to 0.002 ft. Mark O lead to 0.001 ft. Mark P lead to 0.0005 ft. Mark Q lead to 0.0002 ft. Mark R lead to 0.0001 ft. Mark S lead to 0.00005 ft. Mark T lead to 0.00002 ft. Mark U lead to 0.00001 ft. Mark V lead to 0.000005 ft. Mark W lead to 0.000002 ft. Mark X lead to 0.000001 ft. Mark Y lead to 0.0000005 ft. Mark Z lead to 0.0000002 ft.

50.75' E 2"

64-02 1-198
H-6858

50.75' E 2"

100.25' S 10"

100.25' S 10"



6100

1100

2100

3100

585

585

@ sta 3100
10 meters off
Peele Run

@

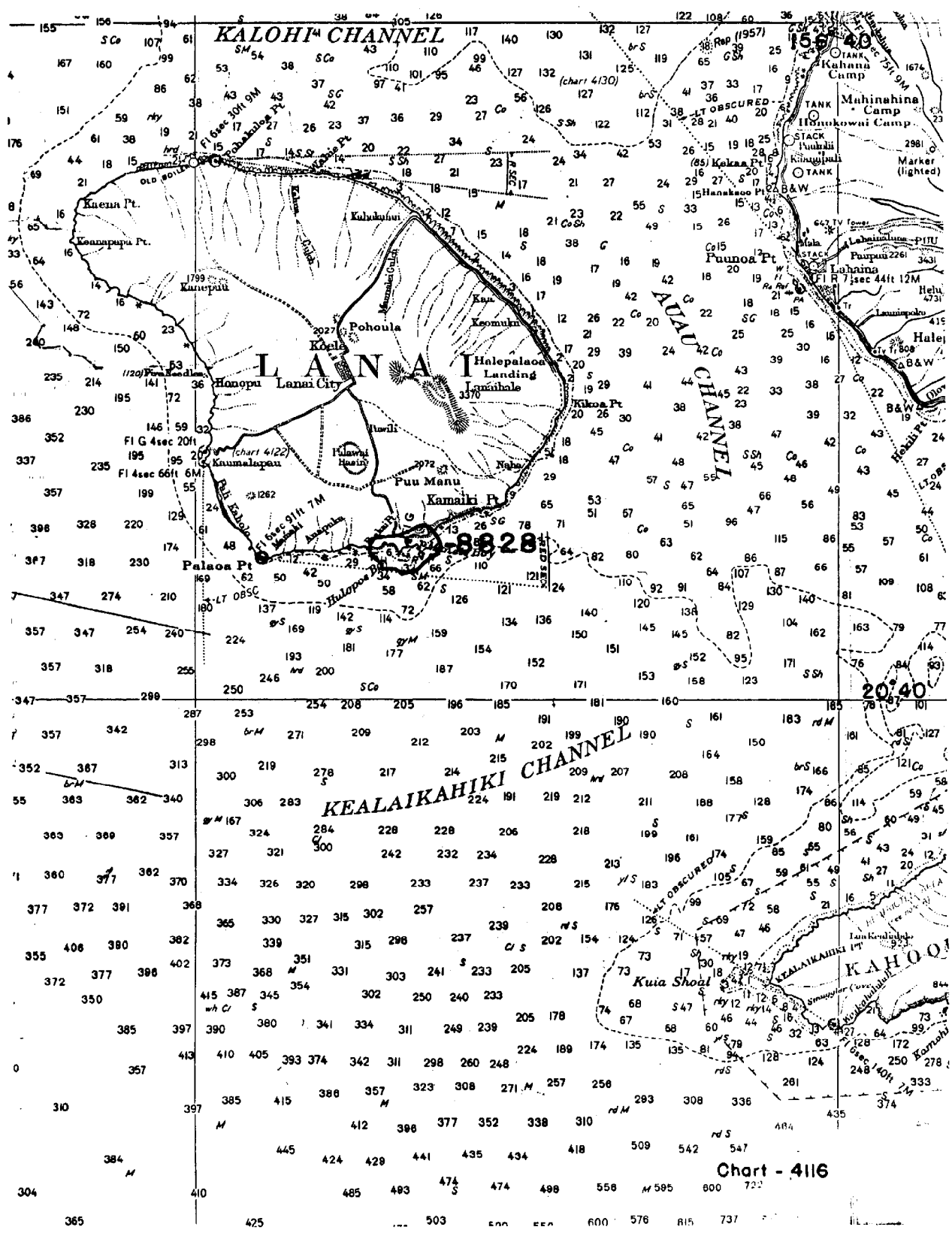
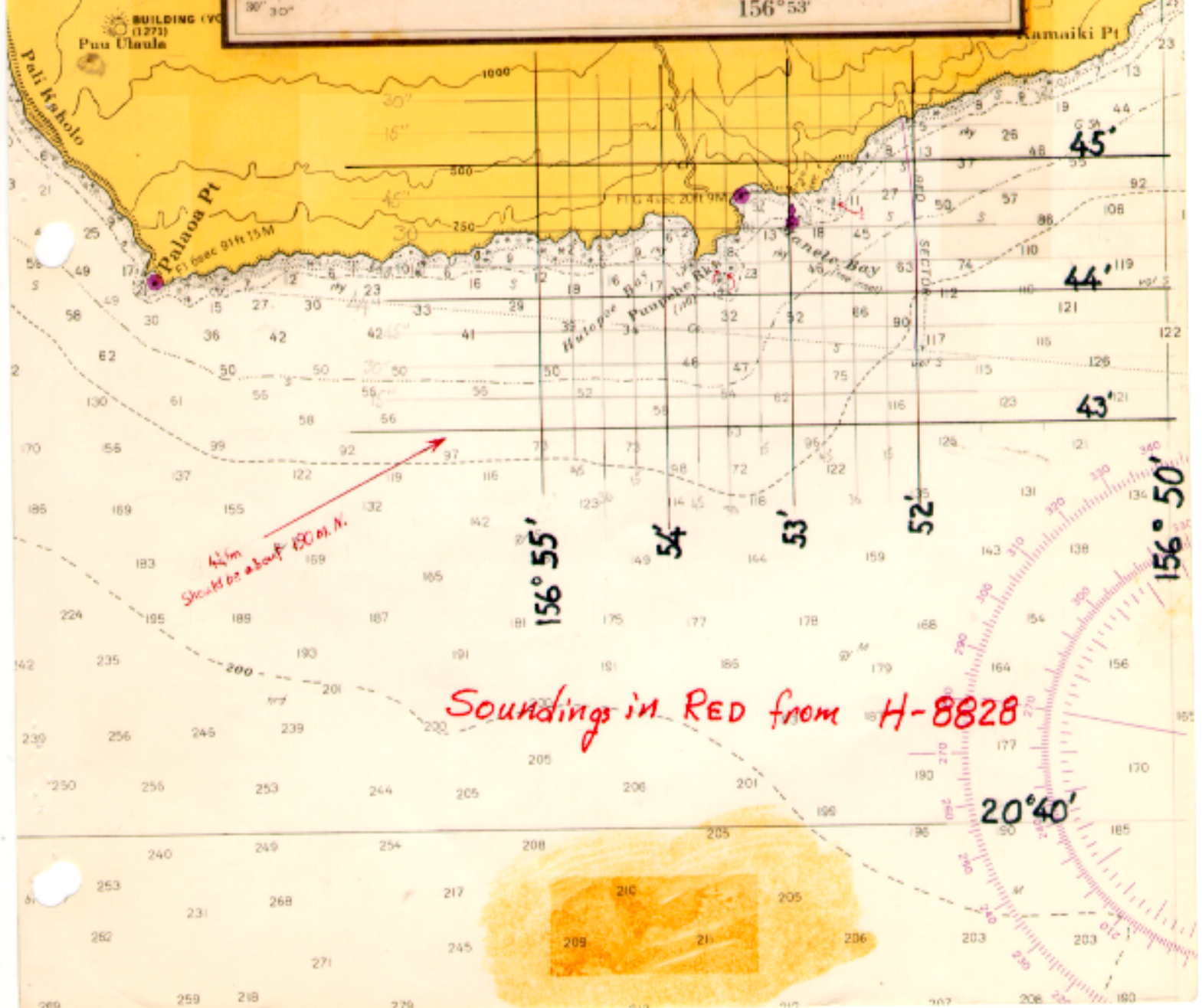
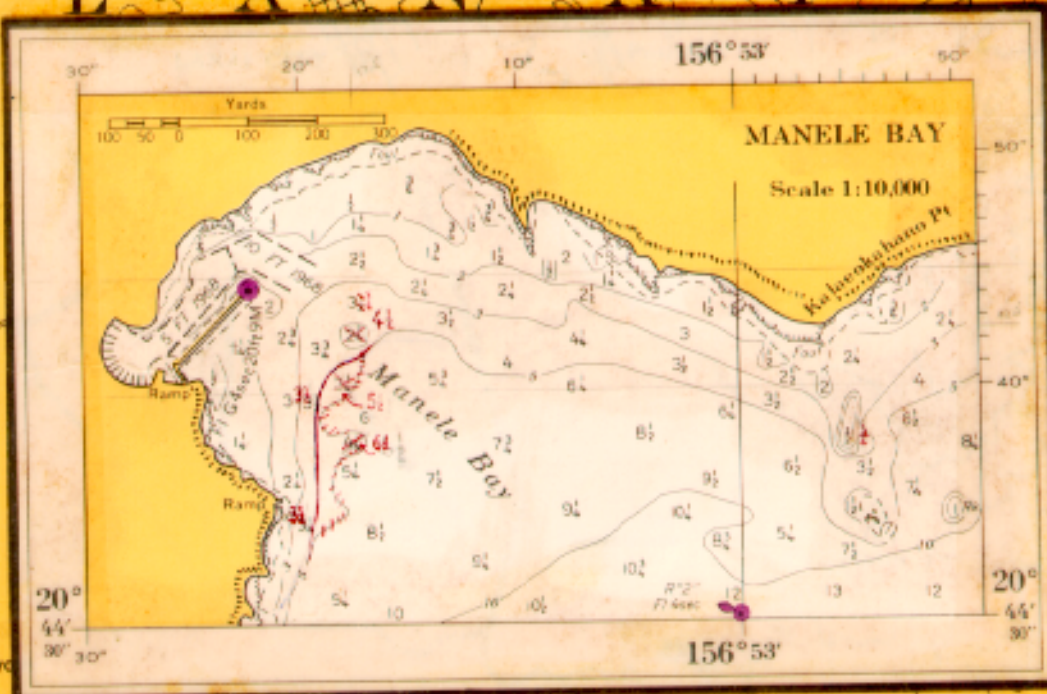
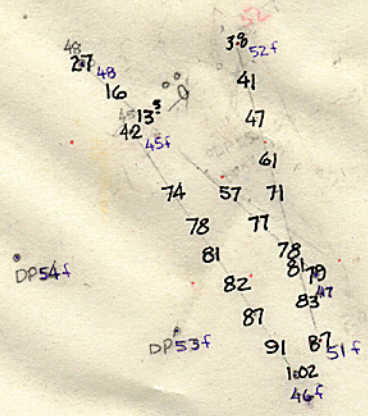


Chart - 4116

20° 50'





44' 30"
52' 45"

20° 44' 15"
156° 53' 00"

Sheet PF 5-1-65
H-8828

+

+

44'45"

25⁺
 26
 36⁺ 25 36⁺
 32 25 29
 21 17 8
 49⁺ 39⁺ 15 38 52⁺
 70⁺ 60 28 42 53
 39 61⁺
 71⁺

H-8828

53'00"

52'45"

44'15"

PF-5-1-Lo
S.L.

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8828

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
4130 <i>LITH No. 2</i>	2/16/71	J. H. Millan	Full Part Before After Verification ^{before} Review Inspection Signed Via Drawing No. <i>14 Critical Corrections only thru D.R. recommendations from verifiers report</i>
4116	4-15-71	J. Q. Graham	Full Part Before After Verification ^{before} Review Inspection Signed Via Drawing No. <i>16 App'd misc. corrections thru chrt 4130 dwg #14x</i>
4179	5/10/71	J. H. Millan	Full Part Before After Verification ^{before} Review Inspection Signed Via Drawing No. <i>9 No critical corr at this time examined thru 4116 #16</i>
4102	4/27/72	J. Q. Graham	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>28 App'd for critical corr. only thru chrt. 4116 dwg #16</i>
4180	3/15/72	E. Frey	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>11 App'd for critical corrections only thru chrt 4102 dwg # 28</i>
4130	6/4/72	C.S. Forbes	Full Part Before After Verification ^{before} Review Inspection Signed Via Drawing No. <i>15. Revised foul area in Manele Bay inset</i>
4102	10/3/77	C.S. Forbes	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Consider application as final. No additional corrections.</i>
4179	12/05/77	C.S. Forbes	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Consider application as Final No additional corrections</i>
19004	11-5-90	R. A. Lallia	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>36 category 1</i>
19013	4-25-91	K.R. Foster	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>18 Cat I</i>
19010	3-13-91	John Pierce	<i>Adequately Applied Cat I</i>
19340	5/25/94	L. M. Kell	<i>Dwg #7 Adequately Applied (CAT I) DWG #26 thru 19340</i>