

4655a and 4655b

4655a.4655b  
pile

Form 504

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

....., Director

State: Hawaiian Is.

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**DESCRIPTIVE REPORT**

<i>Topographic</i>	} <i>Sheets, Nos.</i>	{ 4655a
<i>Hydrographic</i>	}	{ 4655b

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LOCALITY

Hawaii

Hawaii to Maui, Kahoolawe

Lanai, Molukai and Oahu

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1927

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CHIEF OF PARTY

F. G. Engle

DEPARTMENT OF COMMERCE

AND REFER TO NO. 11-DRM

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

February 14, 1929.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet 4655 a and b

Reconnaissance lines on charts 4115 and 4116, Hawaiian Islands.

Surveyed in 1927

Chief of Party, F. G. Engle.

Surveyed by F. G. E.

Protracted and soundings plotted by Field Party.

Verified and inked by A. L. Shalowitz.

1. There are no specific instructions covering this work. The soundings were taken while coasting along the various islands to fill in blank areas on the charts. The lines were controlled principally by bow and beam bearings on prominent points and objects. The survey is to be considered as reconnaissance only and should be used only in the absence of better information.
2. The soundings were all taken with the fathometer corrected for temperature only. On account of the approximate position of the soundings corrections for slope were deemed inadvisable.
3. The verification consisted primarily of a checking of the location and depth of all the soundings. Due to the nature of the control used, the field plotting of the lines was accepted without modification.

Due to the fact that the work on H. 4655b had been charted before the verification, slight displacements in the plotted soundings were ignored in the verification in order to avoid unimportant corrections to the charts. There are, however, a number of changes that should be applied. These will be indicated on the present standard of chart 4116 (Jan. 1929).

4. The plotting of the soundings by the field party was inconsistent at times. In some cases the original sounding uncorrected for temperature was used and in other cases the corrected depth was plotted.

5. Reviewed by A. L. Shalowitz, January, 1929.

Approved:

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Chief, Section of Field Records (Charts)

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Chief, Section of Field Work (H. & T.)

C. & G. SURVEY  
L. & A  
JUN 7 1927  
Acc. No.

Log. of Sounding Lines  
Oahu to Hawaii, Maui, Kahoolawe,  
Lanai, and Molokai.

April 9 to April 15, 1927.

U S C & G S S Discoverer,  
F.G. Engle, H. & G. Engineer,  
Commanding.

TABLE OF STATISTICS  
SHEET HAWAII, CHART 4115

<u>Date 1927</u>	<u>Volume</u>	<u>Positions</u>	<u>Sdgs.</u>	<u>Statute Miles</u>	<u>Vessel</u>
April 12	1	39	229	126	DISCOVERER
" 13	<u>1</u>	<u>46</u>	<u>215</u>	<u>126</u>	"
	Totals ---	85	444	252	

SHEET -- HAWAII TO OAHU, CHART NO.4116

<u>Date 1927</u>	<u>Volume</u>	<u>Positions</u>	<u>Sdgs.</u>	<u>Statute Miles</u>	<u>Vessel</u>
April 14	1	25	145	137	DISCOVERER

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April 14	1	25	145	137	DISCOVERER

Steering Compass		Wich			Chronometer	
Course	Dev	Use True	Dir	True	Leeway	Corrections

18°						
350°						
6°						

Steering  
Various  
Courses

U/C  
 2/3 speed  
 Entrance buoy  
 U/C Left hand red  
 Steady  
 1/3 ahead  
 U/C  
 stopped  
 1/3 slow  
 2/3 slow  
 20 feet slow  
 Port 16

(165 true)  
c.c.

En route Honolulu to Hilo

1927	Watch Time		Log. No.	Factor 1000		Engine Revolutions		Standard Compass				
	Hr.	Min. Sec.		Reading	Per Hour	Reading	Per Hour	Course	Dev.	Var.	True	Mean of
April 9	12:50											
	1:09											
	1:10								125°			
	1:23		0.0									
	1:40		2.6						101			
	2:00		6:00						101			
	3:00		15.4	9.4	587575				101			
	4:00		24.8	9.4	593620				101			
	4:34:30									26 1/2	port bow	Lean
	4:42:30		31.4	6.6					45°	"	"	"
	4:49:30		32.5							pt beam		"
	5:00:00		34.1	9.3	599950	6330			101°			
	5:27:00		100 fm mark									
	6:00		43.6	9.5	606370	6320			101			
	6:15											
	6:35		100 fm mark									
	7:00		53.4	9.8	612645	6375			101			
	7:02		Light bears 48' true									
	7:46		60.5						126°			
	8:00		62.8	9.4	619000							33 fm
92	8:15		66.1									
2.5	8:40		69.2									
166 2.6 159950	9:00		72.5	9.7	625400				126°			
	9:14		75.0		631537				130°			
	10:00		82.2	9.7	631837				130°			



Steering Compass			Wind			Chronometer
Course	Dev.	Var.	True Dir.	Force	Leeway	Corrections
149			standard ahead			
97						
97						
97			NE	1		
97			NE	1		
P.L.T.						
"						
"						
97°			NNE	1		
97°			NE	1		
97						
120°			NE	2		
			NE	2		
120			ESE	2		
124						
124						

Cast off lines from Poir #16  
various courses & speeds out of harbor.  
Entrance buoy ahead  
Streamed Log 0.0  
Diamond Head buoy ahead  
.6 mi. distant.

Note

No soundings received  
for this run.

A.L.S.

distant 1.2 miles

Kaunakakai Lt. ahead.

797°

ENE.  
Lahina Harbor Lt 4 pts on  
port bow.  
Lahina Harbor Lt abeam

C.C.



Steering Compass			Wind			Chronometer	
Course	Dev.	Var.	True	Dir.	Force	Leeway	Connections
124							Molokini Lt 4 pts on port bow. Molokini Lt abm 0.8 mi dist Hanamanio Pt Lt 4 pts on port bow Hanamanio Pt Lt abm 2.3 mi dist. c.c.
124							
111							
99°							c.c.
99°							
99°				E	3		
99°				E	3		
99°				E	3		
99°				E	3		
104°				E	3		
104°				E	3		
105							
105				ESE	3		
105				ESE	3		
108							
108				ESE	3		
125							
129°				ESE	2		
160°							
174							
180							
182							

J.C.P.

S.H.

sdg 150

S.H.

c.c.  
Paepaepa Pt Lt 4 pts on stb bow  
Paepaepa Pt Lt abm 1.06

c.c.

c.c.

c.c. hauled in log



Steering Compass      Wind      Chronometer  
Course Dev. Var. True Dir. Force Leeway Correction

140

175

Entrance buoy #1 abm  
C.C. to 140

CC  $\frac{2}{3}$  ahead

~~Let go~~  
Let go anchor  $4\frac{5}{16}$  fms  
water 30 fms clear

46

Hilo to Maui  
Chart 4115


1927	Watch Time	Log. No.	Factor	Engine	Revolutions	Standard Compass				
	Hr. Min. Sec.	Reading	Per hour	Reading	Per hour	Course	Dev.	Var.	True	Magn. Dif.
Pr <sup>1</sup> Apr. 12	6:09 -					<del>147</del>				9.8 <sup>stg</sup> <sub>comp</sub>
	6:11	0.0								
Pr <sup>2</sup>	6:17	0.8								100.6 <sup>stg</sup> <sub>comp</sub>
	6:20	1.0								
	6:42	4.1								
Pr <sup>3</sup>	6:48	5.3								
4 <sup>9c</sup>	7:00	7.2				147	-1.5	+10.6	156.1	
5 <sup>9c</sup>	7:42	13.9				134	-1.3		143.3	
6 <sup>9c</sup>	8:00	16.4	9.2			114	-1.9		122.7	
7 <sup>9c</sup>	8:09	18.0				120	-1.9		128.7	
8 <sup>9c</sup>	8:27	20.6				115	-1.9		123.7	
	8:34	21.6				?			124.7	<sup>stg</sup> <sub>comp</sub>
9 <sup>9c</sup>	8:42	23.1				?			169.7	<sup>stg</sup> <sub>comp</sub>
10 <sup>9c</sup>	8:48	23.8				9				
	9:00	25.8	9.4	723090		187	+1.2	10.5	198.7	
	9:06	26.5				187	+1.2		198.7	
	9:42	32.2				218	+2.8		231.3	
	10:00	35.0	9.2	729260	6170	218	+2.8		231.3	
	10:24	38.8								
12 <sup>9c</sup>	10:31	39.8				232	+2.2		244.7	
	11:00	44.4	9.4	735420	6160	232	+2.2		244.7	
Pr <sup>13</sup> <sup>9c</sup>	11:43	51.1				243	+1.2		254.7	
Pr <sup>14</sup>	11:53	52.7								
<sup>9c</sup>	12:00	53.9		741650	6230	264	+0.6		275.1	
	14:00	56.1								
Pr <sup>15</sup> <sup>9c</sup>	18:00	56.8				260	+0.6		271.1	

~~SEE WIRE CARD~~

magnifying compass

124.7

123456  
78910

Steering Compass		W. I. M. J.			Chronometer Corrections	Remarks	
Course	Dev. Var.	True	Dir.	Force Leeway			
0°	-0.8 +10.6	9°.8			Pos 1	New Hills Har. Bury  B.R.I. Biscay on starboard beam 75 yds distant Streamed Log.	
1/2 90°	-0.0	100.6			2	Paukaa Pt. abeam. Started fresh water supply. Lelini Pt. - 4 pts. abtd.	
						3	" " abeam
<del>144</del>	-2.2 +10.6	152.4			4	" coast about 1 mile dist.	
1/2 131	-2.4	139.2			5	Kalolo Pt. abeam.	
1/2 117 <sup>3</sup>	-1.8	121.8			6		
118	-2.0	126.6			7	J.C.P.	
114	-1.9	122.7			8		
116	-1.9	124.7		123.7			
160	-0.9	169.7			9	Cape Kumukahi abm c.c.	
184	+0.3 +10.5	191.8	1		10		
181	+0.3	191.8	5	1			
215 <sup>4</sup>	+3.9	228.4			11	Abreast of Opihikao church	
214	+3.9	228.4	5	1			
230	+4.2	244.7			266.5 122.3	Kalapana Church 4 pt. on stb bow.	
230	+4.2	244.7			12	Kalapana Church abm. c.c. 1.0 mile	
230	+4.2	55 W	1				
23	+3.7	253.2			13		
264 <sup>5</sup>	+1.8	278.8			14	Kahuae on stb beam 1.2 miles	
264 <sup>5</sup>	+1.8	55 W	1			" " " " J.C.P.	
260	+2.1	272.6			15	Keahau Pt 4 pp. stb. " " " " abeam 7 miles dist. c/c	





1/2 28

Steering Compass			Wind		Chronometer		
Course	Dev	Var.	True	Dir.	Force	Leeway	Corrections
		+10.4					reefs 9pts. stbd.
230°	+4.2	+10.4	244.6				Pos 16 c/c abeam 6 midist
230°	+4.2		244.6				stone reef 9pts. stbd. " " abeam 2 midist
196°	+1.4		207.8	SSE	2		17 18 c/c
196	+1.4		207.8				
222	+4.3		236.7				19 c/c
							reefs off beam 4pts. stbd.
							20 " " " abeam 5 midist
240°	+3.6		254.0				21 c/c Mt. Cairn 4pts. stbd. bow
240	+3.6		254.0				144. Cairn 4pts. stbd. bow
							22 cairn abeam .9 mi. dist.
240°	+3.6		254.0	S	1-2		
198°	+1.8		210.2				23 c/c abeam church Kamilo Pt.
192	+1.1	+10.4	203.5				24 c/c
							Ehy; Honuapo 4pts. stbd. bow
							25 Ehy " abeam 1.0 mi. dist
174°	0		184.4				1945 267 c/c 171
194 1/2	+1.3		206.2				27
							28 K. Paepae abeam ? 8 mi. dist. " 4pts. stbd. quarter
194	+1.3		205.7	S	1-2		
							Δ Kamilo Pt. 4pts. stbd. bow
220°	+4.2		234.6				29 c/c abeam 8 mi. dist
							Kālae Lt. 4pts. stbd. bow
							30 " " abeam 0.6 miles

1927	Watch Time		Log. No. Reading	Factor 1000 Per hour	Engine Revolutions		Standard Compass				
	Hr.	Min. Sec			Reading	Per hour	Course	Dev.	Var.	True	Mean st.
Pr 31	3 12	56:00	(91.2)							316.4	
		4:00	91.7	9.6			308	-2.0	+10.4	316.4	
	<del>4:27:30</del> <span style="margin-left: 100px;">abeam</span> <span style="margin-left: 50px;">Pakini Hill</span>										
Pr 32		4:31:00	96.6				287	-1.5	+10.4	295.9	
Pr 33		4:49:00	99.5				285	-1.5	+10.4	293.9	
		5:00:00	101.2								
		5:10:00	102.9								
34		5:15:00	103.5								
		<del>22:00</del>	<del>4.7</del>								
35		5:25:00	105.0				323	-1.8	+10.4	331.6	
		44	108.0								
		47	(8.4)								
36		5:57:00	110.1								
		6:00:00	110.5	9.3							
37		:05	111.2								✓
38		:08	(11.5)								✓
39		:23	113.5								
		:25									

*Planchy 2010*

Steering Compass			W / M / d		Chronometer	
Course	Dev.	Var.	True Dir.	Force	Leeway	Corrections
300	-2.5	+10.4	317.1			Pr. 31 etc.
287	-1.5		295.9			32 To abeam Hill
285	-1.5		293.9			33 etc.
						34 Pelé Hill was 4 pts. on E. side 1.8 miles distant approx. tangent " " " abeam 73° 30' Hill to outer base 45° on jib's beam
325	-2.2		333.2			35 E. of Kaunua Pt. abeam. Hill 243' E. of house about Left true 141° 12' 3/4 mile opposite house on beach the 36 1/2 mile off shore abeam Hill 199' Hill 70° 50'
0°	-0.8		9.6			37 Kaunua Pt. abeam, 1 mi. dist.
9°	-0.3		19.1			38 Heady for Hanalei Pt.
						39 full speed astern stop. Manoeuvring for anchorage. E.H.B. 13 fms ft. sky bottom Okos Bay
						157 Still 101° 169°
						182 S tangent ship head 194°
						33.2 N tangent Okos Bay 344°

52

 $\frac{684}{10.5}$ 

1927	Watch Time Hr. Min. Sec.	Log No. Reading	Factor-1000 Per hour	Engine Rev. Reading	Per hour	Standard Compass Course Dev.	Van. True	Mean of
Apr. 13	5-35-							
Pm # 40	38	0.0						
# 41	45	0.5				358	-0.6	+10.4
	50	1.2						7.8
		0.0						
# 42	6:00	1.7						
	:05							
	6:42	8.2						
# 43	6:48	9.1						
# 44	7:46	9.1				358°		7.8
# 45	7:48	(9.2)						
# 46	7:57	10.6				333°	-1.5	+10.5
	8:00	11.0						3.42
	8:03	11.5						
# 47	8:13	13.1						
	8:41	17.2						
# 48	8:50	18.5						
# 49	8:59	(19.8)						
	9:00	20.0						
# 50	9:01	(20.1)						
# 51	9:04	(20.4)						
# 52	9:09							
# 53	9:13							
	9:15							
	9:16	0.0						
# 54	9:17	(0.1)						
			streamed log					

128  
45  
83  
12

Steering Course	Dev.	Compass Var.	True	W. Dir	M. Force	d Leeway	Chronometer Connections	
298	-2.0	+10.4	306.4				Po 40	Okoe Bay to Kawahae Bm Anchor up & under way Slow speed
358	-1.0		7.4				41	Standard speed
							42	Streamed log 0.0 Hoopuloa low flow abm, 1 mi. E 6 02 - 60 W 6 11 33 C-W 09 - 33 - <del>Hill 150 4 pts on bow</del> (full left)
							43	Stop 1 mill Stop SW of Kaulawa Pt. to repair main engines
							44	1/3 ahead
							45	Standard ahead
3350	-2.1	+10.5	343.4				46	yc Kaulawa Pt abm
							47	Pahoehoe 4 pts stb bow abm 1.6 mi Church back of Puhanua Pt 4 pts on stb bow
37°	+1.6	+10.5	49.1				48	c.c.
							49	2/3 ahead
25°	+0.4	+10.5	35.9				50	c.c.
							51	Stop
							52	1/3 ahead - full left
264	+2.0	+10.5	276.5				53	2/3 ahead
							54	Napoopec Lt Standard ahead 4 pts stb bow Napoopec Lt abm 1/3 mi dist

7<sup>15</sup> x 4<sup>15</sup>  
428  
30

1927	Watch Time	Log No.	Factor 1000	Engine Rev.	Standard	Compass	
Pr. Hrs	Hr. Min. Sec.	Reading	Per hour	Reading	Per hour	Course Dev. Var. Time Year of	
Apr 13	9-23	(1.1)				✓	
#56	9-37	1.8			336 -1.64 +10.5	344.9 ✓	
#57	9-43	4.1			345 -1.4	354.1 ✓	
	9-56	6.1					
#58	10-00	6.6			345 -1.4		
	10-03	7.1					
#59	10-07	7.7			315 -2.0 -2.23 +10.5	328.5 ✓	
	10-27	10.7					
#60	10-32	11.4			291 -1.7 +2.27 +10.5	299.8 ✓	
#61	10-46	13.4			331 -1.6 +3.36 +10.5	339.9 ✓	
	11-00	15.4	8.8		331	340 ✓	
	11-21	18.4					
#62	11-25	19.0			357 -0.7 -0.30 +10.5	07 ✓	
#63	11-51	22.9			37 +1.3 +10.5	49 ✓	
	12-00	24.1	8.7	812473	37		
#64	12-05	25.2					
	-16	26.6					
	-32	28.9					
#65	38	30.0					
#66	1:00	33.0	8.9	818410	5937	37 +1.3 +10.5	48.9 ✓
#67	1:10	35.8			13 +10.8	10.5	24.5 ✓
	25:00	37.6					
	32:00	38.4					
#68	1:57:00	42.8					

124  
18

Steering Course	Compass Dev.	True Dir.	Wind Force	Miles	Leeway	Chromometer Corrections	Notes
315	-2.8	+10.5	322.7			55	c.c.
315	-2.1	+10.30	344.4			56	c.c.
344	-2.1	+10.5	352.4			57	c.c.
344	-2.1					58	Keanhou 4 pts stb bow " abm 0.5 mi
315	-2.8	+10.5	322.7			59	Kahaluu Church 4 pts c.c. " abm 0.6 mi
290	-1.6	+10.5	298.9			60	Kailua Lt 4 pts stb bow " abm 0.7 mi c.c.
331	-2.1	+10.5	339.4			61	c.c.
331							
355	-0.9	+10.5	04.5			62	Keahole Pt. Lt. 4 pts. stb bow 0.6 mile abm. c.c.
36	+0.8	+10.5	47.3			63	c.c.
36							
						64	Kaunaoa Hill 4 pts. stbd bow " abeam 4.4 mi 9 beam dist.
						65	Maui Pt. 4 pts. stbd. bow " " abeam. 1.0 mi. dist.
36	-0.2		21.3	N	1-2	66	Kapalapa 4 pts. stbd. bow
14.0	8.30	10-30	22			67	" " abeam 2.8 mi dist.
						68	Lahii-paa abeam. 2.8 X mi dist. " 4 pts. quarter
							Stawaike Lt. 4 pts stbd.
							" " bears E. mag. hailed in log.

1927	Watch Time Hr. Min. Sec.	Log No Reading	Factor 1000 Per Hour	Engine Reading	REV. Per Hour	Standard Course			
						Course	Dev	Var	True
Pass 69 April 13	2:00.00		82050	824470	5066	vt. rudder			
	↳ 70 04								
	↳ 71 111								
	3:20:00								
↳ 72	3:23:00	0 0.5 mi				306	-2.0	+10.7	314.7
↳ 73	3:30:00	0.0							
	4:00.00	4.7		828500		306	-2.0	+10.7	
↳ 74	4:22.30	(8.0)							
	4:45.00	11.3		832800		306			
↳ 75	4:57.00	(13.0)							
↳ 76	5:00.00	13.4	8.7			306			
↳ 76	6:00.00	22.2				306			
↳ 77	7:00.00	31.2	9.0			306			
↳ 78	7:44	37.8				301	-2.0	+10.7	309.7
↳ 79	8:00.00	<del>42.2</del>	8.9			301			
↳ 80	8:17.60	43.6	4.8 <sup>1.5</sup>			298	-2.0	+10.7	306.7 307
↳ 81	8:28.00	(44.2)	1.6						
↳ 82	8:32.00	(44.8)	0.6						
↳ 83	8:45	(46.8)	2.0						
↳ 83	8:45	(46.8)							
↳ 84	8:48	(47.0)							
↳ 85	8:54	(47.1)							



Steering Compass			True	Wind		Ch	Remarks
Course	Dev	Var.		Dir	Force		
VARIOUS				NW	1-2	#69	2/3 abt. #69
						#70	1/3 abt. coming to anchor at 10.00 am. E. Lt. H. 7 fms. water. 357 ms. chain
						#71	
						⊥	
							heave round.
305	-2.3	+10.7	313.4			#72	2/3 abt. ⊥ secure.
						#73	std. abt. log streamed.
305				NW	2	#74	Malukuana Lt 4 pts. abt. dist 3.3 miles
305				NW	1		Malukuana Lt 4 pts. stb. quarter
306	-2.3	+10.7	314.4	NW	1	#75	at 5.27 pm Hill 3383 27° 30'
306				NW	1	#76	Pinna Bone in main 117° 10'
306				NW	1	#77	7 <sup>th</sup> Sighted Hanamanio Lt dead ahead
301	-2.1	+10.7	309.6	"	"	#78	c/c
301						#79	<del>c/c</del>
298	-2.0	+10.7	306.7			#80	<del>c/c</del>
290	-1.7	+10.7	299.0			#81	Malukuana Lt bearing 295° p.c.
284	-1.3	+10.7	293.4			#82	
						#83	c.c. Hanamanio Lt on stb bow 1.1 mi.
						#83	1/3 ahead
						#84	stop
						#85	let go anchor 14 fms water. 50 fms chain

1927	Watch Time H. M. S.	Log No. Read.	Factor 1,000 per hr.	Engine Reading	Rev. per hr.	Standard Compass Co.				
						Co	Dev.	Var.	True	True
	0.00									
Apr. 14	5:35		(0.0)							
#87	5:40		(-0.2)			217	+2.8	+10.8	230.6	
	6:20	0.0	(-5.1)							
#88	6:28	0.7				252	+0.8		263.6	
#88	6:35	1.6	0.9							
	6:49	3.9	3.0							
#89	7:57	4.9	1.0							
	7:00	5.4								
	7:15	8.0								
#90	7:28	10.0	2.0			300	-2.0		308.8	
#91	8:00	14.7	9.3			300				
	9:00	23.7	9.0			300				
#91	9:25	27.6				332	-1.6		341.2	
	9:48	31.1								
#92	9:55	32.2				340	-1.2		356.6	
	10:00	33.0	9.3			347	<del>1.5</del>	+10.8	356.6	
	10:05	33.7								
#93	10:09	34.3								
#94	10:26	37.0				398	-2.0	+10.4	306.8	
	10:45	39.9								
#95	10:50	40.6								
#96	10:55	41.3				342	-1.3	+10.8	351.8	
	11:00	42.1	9.1			342				
	11:05	42.8								
#97	11:10	43.6								
#98	11:13	44.2				24	+0.9		35.7	

Co.	Steering Compass		True	Wind		Remarks
	Dev.	Var.		Dir.	Force/Leeway	
212	+3.8	+10.8	228.6			Anchor up & underway - slow speed. 87 stb speed streamed log
249 349	+2.9		262.7			SW pt of Kahoolawe - 4 fts " " a beam Running 11 south coast about 1 mile distant #89 ← Highest Pt. off N side 4 fts " " a beam
				NE 2		Kaalaikakahu Pt. - 4 fts
302	-2.2		310.6			#90 " a beam
302				NE 2		
333	-2.1		341.7			#91 Cape Keen 4 pts stb bow c.c. " " 4 pts " "
350	-1.7		359.1			#92 " a beam c.c.
350				NE 2		
						Kaunulapan Lt 4 pts stb bow #93 " a beam
300	-2.0		308.8			#94 Fine needles a beam c.c. Sharp Pt. W coast Lanai 4 pts #95 " " " a beam
345	-2.1		353.7			#96 c.c.
345				NE 2		Kaena Pt. 4 pts stb bow Kaena Pt 4 pts stb bow #97 " a beam
26	+0.4		72 38.4			#98 c.c.

1927 Apr 14	Watch time A.M.	Log No	Factor 1.00 per hr.	Engine reading per hr.	Rev per hr.	Standard Compass		
						Obs	Dev	Var True
	11-25	46.0				56	+1.0 <sup>✓</sup>	67.2 <sup>✓</sup>
	12-00	<del>51.4</del> 51.4	9.3	895590		56	+10.8 <sup>8</sup>	
	12:41	58.8 <sup>(57.8)</sup>						
100	46	59.3						
	1:00	60.7	9.3	901780	6190	56		
101	1:09	62.1				65		(65) past
102	1:20	63.7				43	+1.7 <sup>✓</sup>	55.5
	2:00	69.7	9.0	908016	6236	43	+	
103	2:07	70.8				351	-1.0 <sup>✓</sup>	0.8 <sup>✓</sup>
	2:15	72.1						
104	2:20	<del>73.4</del> 73.4						10.9 (312.6) stg.
	2:35	75.0						
105	2:45	76.5				257	+0.7 <sup>✓</sup>	268.6 <sup>✓</sup>
	3:00	78.8	9.1	914310	6294	257		
	3:10	80.1				257		
106	3:16	81.1				265	+0.6 <sup>✓</sup>	276.5 <sup>✓</sup>
107	3:45	85.7				298	-2.0 <sup>✓</sup>	307.9
	4:00	88.1	9.3	920525	6215	298		
108	4:12	89.8				259	+0.6 <sup>✓</sup>	270.5 <sup>5</sup>
90188A	4:21	91.3		922800		218	+2.8 <sup>✓</sup>	231.7 <sup>✓</sup>
109	4:39	94.1		924650		273 <sup>2</sup>	+0.2 <sup>✓</sup>	283.1 <sup>✓</sup>
	5:00	97.3		926870		273		
	5:35	2.6				272		
110	5:50	49				247	+1.0 <sup>✓</sup>	258.9 <sup>✓</sup>
	6:00	6.3	9.0					

67.8  
90.0  
157.8

Steering Compass			Wind		Remarks
Co	Dev	Var	True	Dir Force	
56	+3.0 <sup>v</sup>	10.8	69.8		R 99 c.e
5				NE 2	
					100 Manalo Hbr. <sup>4 pts port.</sup> Fl. red buoy 5 mi. dist abeam.
56				NE 2	
65	+2.5 <sup>v</sup>		76.3		101 c/c
43	+2.3 <sup>v</sup>		56.1 <sup>v</sup>		102 c/c
43				W 2	
351	-1.6 <sup>v</sup>		0.2 <sup>v</sup>		103 c/c Molokai nos. n. to 1/2 pt bow 1/2 mi. dist abeam
304	-2.2	10.8	312.6		104 Cape Halawa. 4 pts port bow abeam. 1.5 mi. dist
254	+2.4 <sup>v</sup>		267.2 <sup>v</sup>		105 Lamaloa Mt 45° port bow c/c abeam. 1.5 mi. dist
254				W 2	
262	+2.0 <sup>v</sup>		274.8 <sup>v</sup>		106 c/c Kikiptua Pt. 45° port bow abeam. 1 mi. dist 2 mi. dist.
298	-2.0 <sup>v</sup>		306.8 <sup>v</sup>		107 Pahu Pt abeam c/c
298				NW 1-2	
25	+0.4 <sup>v</sup>		354.7 <sup>v</sup>		108 c/c Tangitang Light 46° 10'
218	+3.8 <sup>v</sup>		227.6 <sup>v</sup>		
277	+1.5 <sup>v</sup>		283.3 <sup>v</sup>		109 Lt to Island 37° 55'
271					Rhy Pt 4 pts
242	+3.4 <sup>v</sup>		256.2 <sup>v</sup>		110 c/c
				NW 1-2	

282  
271  
211

62

6.03

6.8

7/4 x 8

8 x 150  
100  
30

		Log	Factor	Eng. Reading	Rev. p. hr.	Co	Standard Compass		
							Dev	Var	True
1937	P.M.								
Apr. 14	6:03	6.8					247	+1.0	10.8 258.8 ✓
	6:14	8.4	1.6						✓
	6:17	8.8					168	+0.3	179.1 ✓
	6:26	10.2					190	+1.5	202.3 ✓
	6:53	14.6							
	7:00	15.4	9.1						
	7:08	17.0					190		
112	7:23	19.3					<del>19</del>		
113	7:41	22.1							
	7:47	22.8							
	7:49								
	:52								
114	:53								
Apr. 15	A.M.								
	5:05						278	-0.5	288.3 ✓
	5:08	0.0							
	6:00	7.3					✓		✓
	6:45	14.1					277	-0.4	287.4 ✓
	7:00	16.5	9.2						
	7:28	21.0							✓
	7:40						272	+0.3	283.1 ✓
	8:00	26.0					272		
	8:14	28.4							✓
	8:20	29.3					299	-2.0	307.8 ✓



64

8:45  
8:55  
9:07  
9:00  
9:05

Turning into Harbor  
1/3 ahead  
1/3 " "  
stop  
Ties up alongside Pier 16



June 27, 1927.

(11)

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in  
volumes of sounding records for

HYDROGRAPHIC SHEET **4655a & b**

**HAWAIIAN ISLANDS, OAHU to HAWAII.**

Locality:

**F. C. Engle, 1927**

Chief of Party:

**M L L W**

Plane of reference is

ft. on tide staff at

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks. **No tide reducers necessary because of great depth and small tidal**

**range. Range of tide about 1 foot.**

*J. W. ...*

Chief, Division of Tides and Currents.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO. 46552

HYDROGRAPHIC TITLE SHEET  
*Prepared in Office, (F.R.)*  
Reconnaissance-Fathometer Soundings

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. Chart 4115.

REGISTER NO. 46552

State Hawaiian Islands

General locality Hawaii

Locality Hawaii and to Maui

Scale 247,000 Approx. Date of survey April 12-13, 1927

Vessel Discoverer

Chief of Party F. G. Engle

Surveyed by F. G. Engle

Protracted by Field Party

Soundings penciled by Field Party

Soundings in fathoms ~~feet~~

Plane of reference

Subdivision of wire dragged areas by

Inked by A. L. Shalant

Verified by A. L. S.

Instructions dated , 192

Remarks:

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

HYDROGRAPHIC TITLE SHEET  
*Prepared in Office-F.R.*  
Reconnaissance-Fathometer Soundings

4655b

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. Chart 4116

REGISTER NO. **4655b**

State Hawaiian Is.

General locality Molokai

Locality Maui to Oahu

Scale 247,000 Approx. Date of survey April 14, 1927

Vessel Discoverer

Chief of Party F. G. Engle

Surveyed by F. G. Engle

Protracted by Field Party

Soundings penciled by Field Party

Soundings in fathoms ~~feet~~

Plane of reference

Subdivision of wire dragged areas by

Inked by A. L. Shalowitz

Verified by A. L. S.

Instructions dated \_\_\_\_\_, 192

Remarks:

Reconnaissance. Not used for compilation 4140 Z.M.A. June 1941.