

6755a 6755b

6755a 6755b

Diag. Cht. No. 4000

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. 1041 & 1041a Office No. H-6755a & b.

LOCALITY

State Territory of Hawaii

General locality Midway Islands

Locality

1941

CHIEF OF PARTY

F. B. T. Siems

LIBRARY & ARCHIVES

DATE July 9, 1942

B-1870-1 (1)

~~CONFIDENTIAL~~

Form 537
Ed. Dec. 1930

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. H6755

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. 1041

REGISTER NO.

H6755

State Territory of Hawaii

General locality Midway Islands

Locality

Scale 1-10000 Date of survey November 1941, 19

Vessel U. S. C. & G. S. S. EXPLORER

Chief of Party F. E. T. Siens

Surveyed by C. J. Wagner, Max G. Ricketts

Protracted by G. Albion Smith

Soundings penciled by C. J. Wagner & G. Albion Smith

Soundings in ~~FATHOMS~~ feet

Plane of reference Mean Lower Low Water

Subdivision of wire dragged areas by

Inked by G. B. LITTLEPAGE

Verified by G. B. LITTLEPAGE

Instructions dated September 24, 1941

Remarks:

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. H6755

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. 1041a

REGISTER NO. H6755

State Territory of Hawaii

General locality Midway Islands

Locality Vicinity of Tanker Pier

Scale 1"=50 ft. Date of survey December 1, 1941

Vessel U. S. C. & G. S. S. EXPLORER

Chief of Party F. B. T. Siems

Surveyed by E. R. McCarthy & C. J. Wagner

Protracted by C. J. Wagner

Soundings penciled by C. J. Wagner

Soundings in ~~fathoms~~ feet

Plane of reference Mean Lower Low Water

Subdivision of wire dragged areas by

Inked by G. B. Littlepage

Verified by G. B. Littlepage

Instructions dated September 24, 1941, 19

Remarks:

DESCRIPTIVE REPORT

to accompany

Hydrographic Sheet 1041

Midway Islands, T. H.

U. S. C. & G. S. S. EXPLORER F. B. T. Siems, Commanding.

INSTRUCTIONS DATED: September 24, 1941 - Project CS-270

LIMITS

This sheet comprises a survey of a part of the area inside the barrier reef at Midway Islands, T. H. Sheet ^{H-6754(1941)} 0041, scale 1 to 6000, joins this sheet to north and south of Sand Island on the longitude of Midway Islands Light, east along the latitude of the Rear Range, south about the longitude of New Eastern Id. (USE) 1941, thence east along the latitude of the Midway Islands Light. The junctions are satisfactory.

SURVEY METHODS

Standard survey methods were used. The control was from the triangulation executed by this party, the triangulation executed by the U. S. Engineers and U. S. Navy, and the topographic survey by this party.

The launch used an 808 recording Fathometer to obtain the soundings, with the instrument running on the foot scale. The soundings were recorded in the volumes to the foot. Bar checks were made three times daily. The salinity and temperature corrections were computed and entered to the half-foot. The tide corrections were entered to the half-foot.

A part of the sheet was surveyed by a party using a motor whale-boat. The soundings were taken with the lead-line. The soundings were recorded in fathoms and feet, and reduced to feet. The tide corrections were entered to the half-foot. The lead-line was compared with a standard at the end of each day and as no error was found the corrections were entered as zero.

The coral areas are shown on the sheet by the conventional symbol. The coral was sketched on the boat sheets during the progress of the hydrography and noted in the sounding record. The coral was entered on the smooth sheet in pencil from the notes in the sounding record and completed by reference with the boat sheet. The spacing of the sounding lines was such that presence of coral spots between lines could be seen and noted.

DISCREPANCIES

No discrepancies were noted except some fixes or angles had to be changed to make the positions plot according to time or the boat sheet. All crossings are satisfactory.

H6755a

H6755a

H6755 a

H6755 b

DANGERS

In the area covered by this sheet are numerous coral heads. Many of these coral spots have a depth of less than two feet at mean lower low water, and consequently are a danger. As the coral is clearly visible in the clear water, it can be avoided at moderate speeds in a small boat.

CHANNELS

The small boat channel indicated on the Chart, south of Sand Island, was surveyed. The area to the southeast of Albatross (USE) was found to be very shoal on coral. It was impossible to get the motor whale boat, drawing about $1\frac{1}{2}$ feet, through this section without striking bottom.

ANCHORAGES

No anchorages covered by this survey.

COMPARISON WITH PREVIOUS SURVEYS

No comparison with the Chart was made.

GEOGRAPHIC NAMES

No new geographic names were assigned on this sheet. The charted names check with local usage.

STATISTICS

Area in square statute miles	11.0
Statute miles sounding lines	248.5
Number of soundings	10,559
Number of positions	1,879

NOTE

The boat sheet was plotted on the Plane Coordinate system in use by the U. S. Navy. Both the Plane Coordinates and Latitude and Longitude are shown on the smooth sheet. The blue triangles indicate stations located by the triangulation of the USED or U S Navy, and ~~not~~ not re-located by the triangulation of this party.

Respectfully submitted,

Clinton J. Wagner
Clinton J. Wagner, H. & G. E.,
Coast and Geodetic Survey.

Approved and forwarded:

H6755 ~~5~~

DESCRIPTIVE REPORT

to accompany

Hydrographic Sheet 1041a *H-6755b*

Midway Islands, T. H.

Supplemental to Sheet 1041

SURVEY METHODS

This survey was made at the request of the U. S. Navy, to check the shoaling in the dredged area alongside the Tanker Pier, Midway Islands, T. H.

The signals were located by taping along both edges of the pier, with a signal placed every fifty feet. These signals were placed so as to form ranges normal to the pier.

The area to the southeast of the pier was accomplished by launch No. 4, using the 808 Fathometer to obtain the soundings, and the position of the launch controlled by sextant fixes.

The area to the northwest of the pier was accomplished by the skiff. Ranges were run off each signal and distance off the pier controlled by tag line made of two leadlines ^{and} bent together. The soundings were taken with a leadline. Both the leadline and tag lines were compared with standard and the results recorded in the sounding record.

STATISTICS

Number of soundings 492

Clifton J. Wagner
Clifton J. Wagner,
H. & G. E.

Approved and forwarded:

Section of photograph containing questionable 21st soundings

H6755

H6755 a

APPROVAL NOTE

H-6755 a (1941) & H-6755 b (1941)

Sheets 1041 and 1041-a have been examined by me and are hereby approved.


The soundings on line 1 to 5 h, sheet 0641 (EXPLORER'S field number) have been transferred to 1041-a, indicating that the deeper soundings (21 feet) obtained along the sounding line pos. 19 to 20 k of sheet 1041-a are incorrect. The sounding lines 10 to 11k and 22 to 23 k, paralleling the questionable line, more or less indicate the same thing. Although no reason for faulty recording from an examination of the fathogram could be determined, the external evidence seems sufficient for rejecting the 21-foot soundings on the questionable line.

21 ft. sdps retained. Because of difference in scales of surveys difference on crosslines is not considered sufficient evidence to disprove shallower soundings. The area was dredged and the possibility exists that all removal of this shoal was not completed.

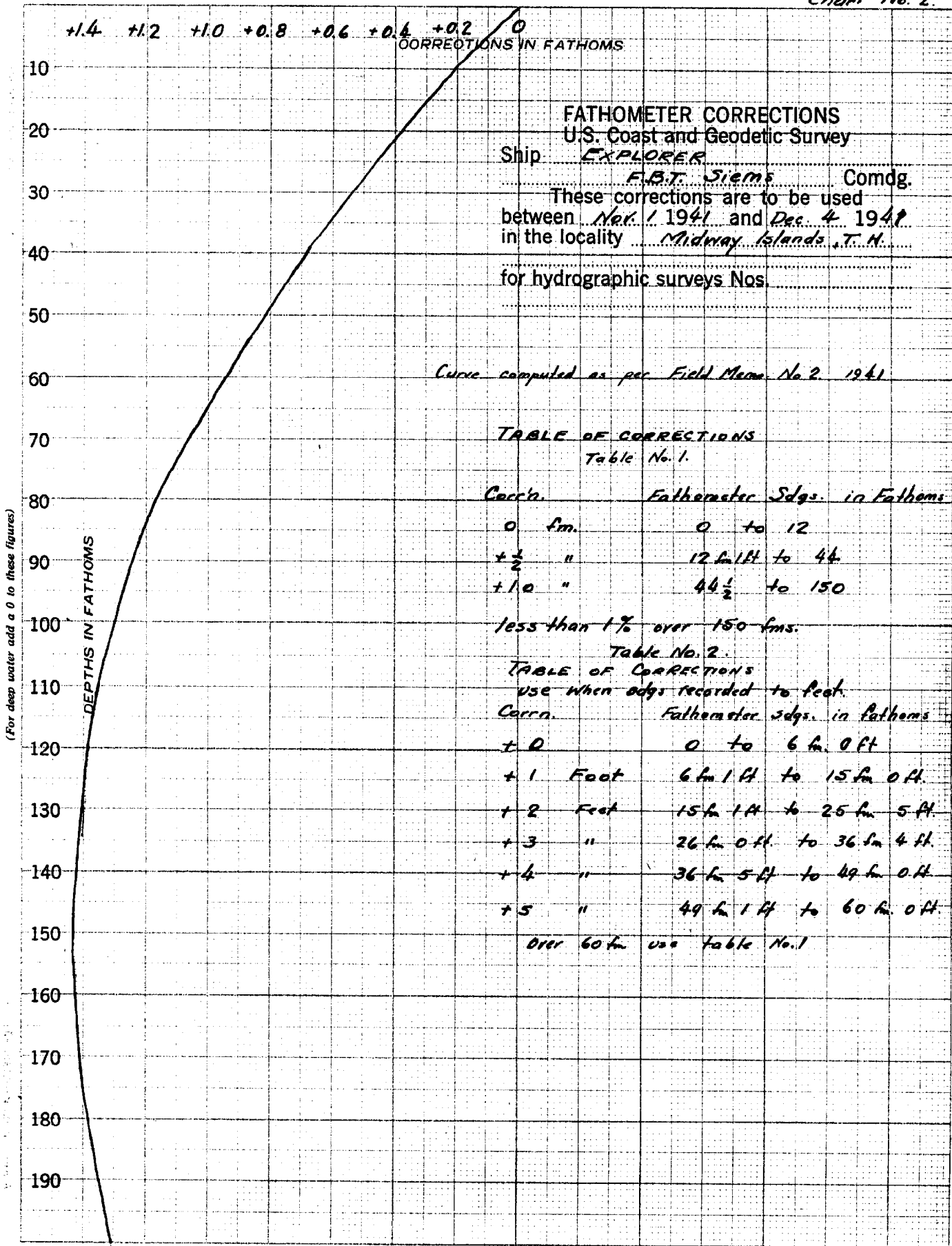
Reference is made to the note on sheet 1041 as follows:

"All coral shown in pencil on this sheet is not in the conventional coral symbol for sunken coral. It is shown in the symbol for bare coral reefs. It should all be shown in the symbol for coral reefs below the chart datum. See published symbols and abbreviations of January 1941. (Signal FOUR on sunken reef in 4 ft. of water)."

correct symbols applied by verification


F. B. T. Siems
Comdg., Ship EXPLORER

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



For deep water add a 0 to these figures

FATHOMETER CORRECTIONS
 U.S. Coast and Geodetic Survey
 Ship EXPLORER
F.B.T. Siems Comdg.
 These corrections are to be used
 between Nov. 1 1941 and Dec. 4 1941
 in the locality Midway Islands, T.H.
 for hydrographic surveys Nos. _____

Curve computed as per Field Memo No. 2, 1941

TABLE OF CORRECTIONS
 Table No. 1.

Cor'n.	Fathometer Sdgs. in Fathoms
0 fm.	0 to 12
+ 1/2 "	12 fm 1 ft to 44
+ 1 0 "	44 1/2 to 150

less than 1% over 150 fms.

Table No. 2.

TABLE OF CORRECTIONS
 use when sdgs recorded to feet.

Cor'n.	Fathometer sdgs. in Fathoms
+ 0	0 to 6 fm 0 ft
+ 1 Foot	6 fm 1 ft to 15 fm 0 ft
+ 2 Feet	15 fm 1 ft to 25 fm 5 ft
+ 3 "	26 fm 0 ft to 36 fm 4 ft
+ 4 "	36 fm 5 ft to 49 fm 0 ft
+ 5 "	49 fm 1 ft to 60 fm 0 ft

Over 60 fm use table No. 1

HC 55

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Corr'n's in FEET

1.4 1.2 1.0 0.8 0.6 0.4 0.2 0 (Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

Chart No. 1.

F E E T
CORRECTIONS IN FATHOMS

LAUNCH

FATHOMETER CORRECTIONS
U.S. Coast and Geodetic Survey

Ship EXPLORER
F. B. T. Siems Comdg.

These corrections are to be used
between Nov 1 1941 and Dec 4 1941
in the locality Midway Islands, T.H.

for hydrographic surveys Nos.

Curve Computed as per Field Memo. #2 1941

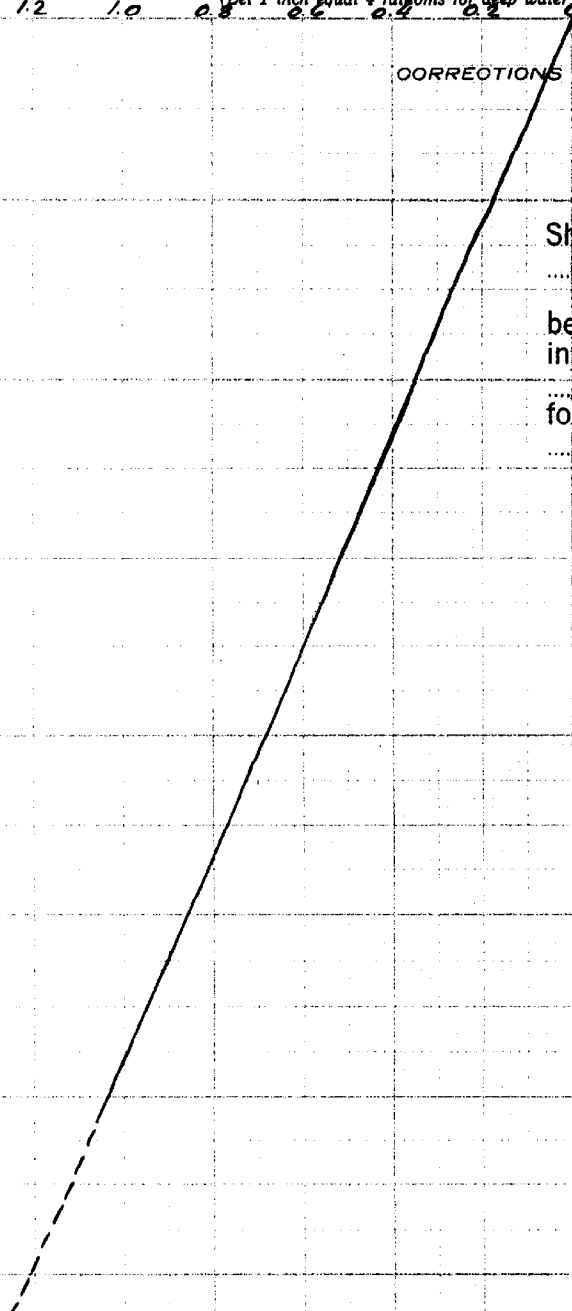
TABLE OF CORR'N'S

Corr'n.	Fathometer sdgs. in feet.
0 feet	0 to 13
+ 1/2 "	13 1/2 to 43
+ 1 "	43 1/2 to 72
+ 1 1/2 * "	72 1/2 to 90
+ 2 * "	90 1/2 to 108

*from Chart No. 2.

(For deep water add a 0 to these figures.)

DEPTHS IN FATHOMS
FEET
05
10
15
20
25
30
35
40
45
50
55
60
65
70
150
160
170
180
190

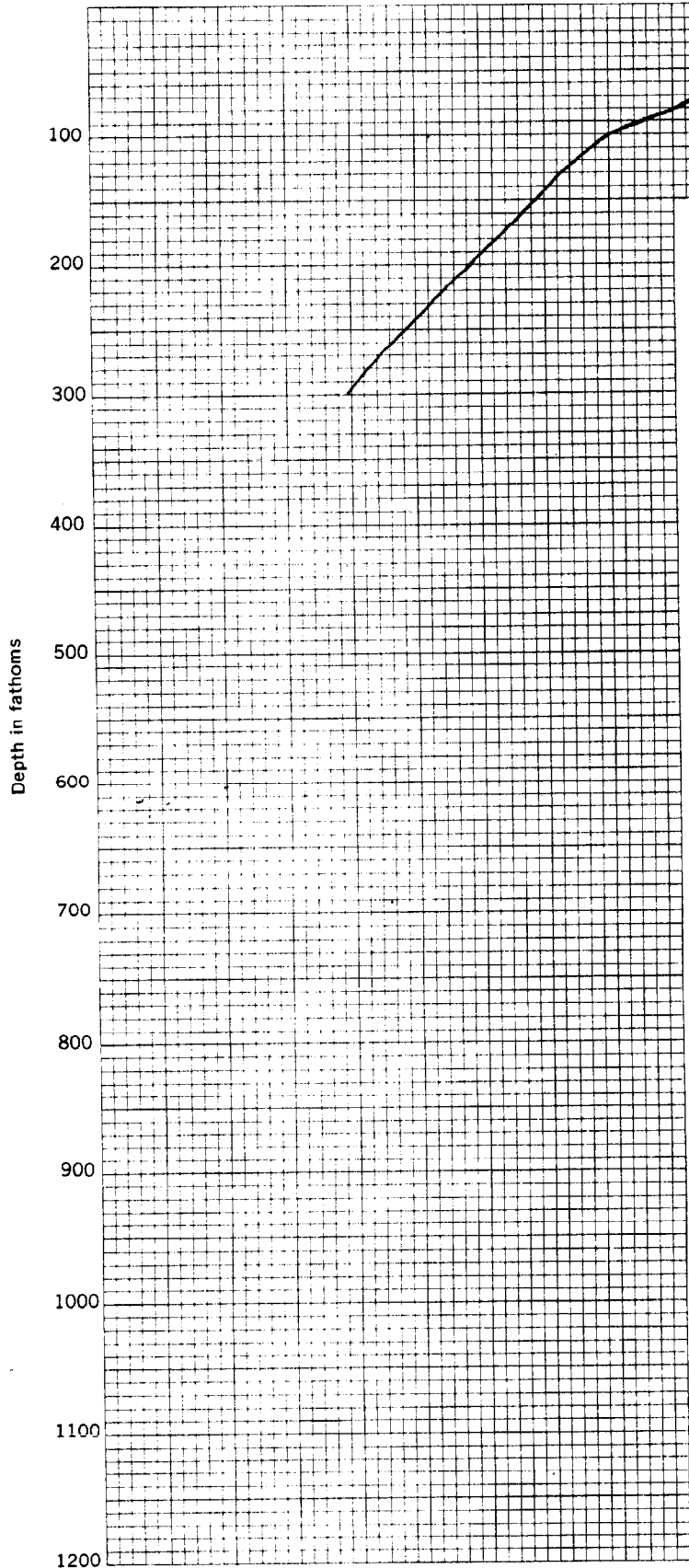


GRAPH OF WATER TEMPERATURES AND SALINITIES

H6755

Degrees Centigrade

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32



U. S. COAST AND GEODETIC SURVEY

Ship *EXPLORER*,

F.B.T. Siems Com'd'g.

Date *Dec. 5, 1941*

Locality *Midway Islands, T.H.*

Position: Lat. *28° 12' N.*

Long. *177° 17' W.*

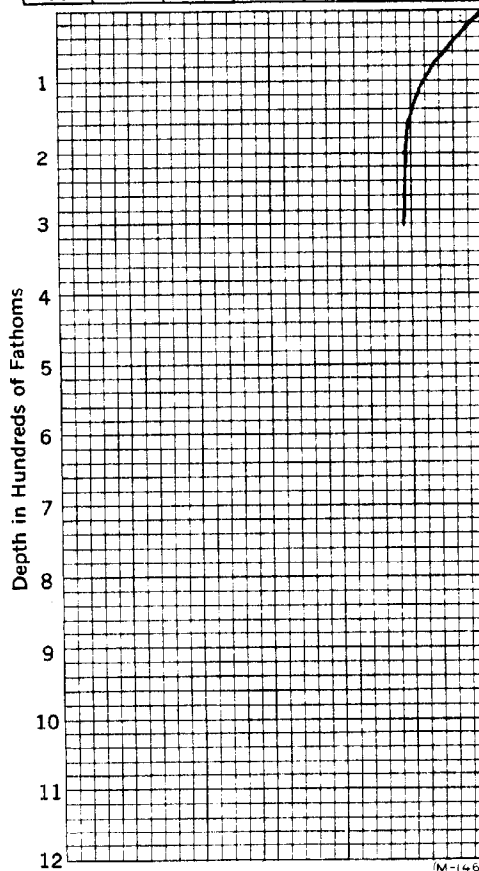
Salinities by: ~~Titration~~
 (Cross out Hydrometer.
 ones not used) ~~Both~~

Thermometer No. *32694*

Hydrometer No. *7-1258*

Salinity in Parts per Thousand

30	31	32	33	34	35	36
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Remarks

Decisions

	Remarks	Decisions
1		
2		
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27		

GEOGRAPHIC NAMES

Survey No. **H6755**

H6755a
Name on Survey

	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List	
Name on Survey	A.	B.	C.	D.	E.	F.	G.	H.	K.
Midway Islands									1
Territory Of Hawaii									2
									3
									4
									5
									6
									7
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									25
									26
									27

Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO. **H6755^a** **H6755^b**

Records accompanying survey:

Boat sheets ~~three~~; sounding vols. ⁽⁹⁰⁾....; wire drag vols.;
 bomb vols.; graphic recorder rolls ^{..(8)..};
 special reports, etc.

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

Number of positions on sheet	1879.
Number of positions checked	378.
Number of positions revised	7..
Number of soundings recorded	10,559
Number of soundings revised (refers to depth only)	64.
Number of soundings erroneously spaced	55
Number of signals erroneously plotted or transferred	0
Topographic details	Time 12..
Junctions	Time 14..
Verification of soundings from graphic record	Time

Verification by *[Signature]* Total time $\frac{159 \text{ hrs}}{H-6755b} - \frac{15 \text{ hrs}}{174 \text{ hrs}}$ Date 2/2/43

Review by *R.H. Carstens* Time 20 $\frac{1}{2}$ Date 2/2/43

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
~~PHOTOSTAT OF~~

No. H
~~NO. 1~~

~~XXXXXXXXXX~~
H6755

H6755 a

received July 9, 1942
 registered Oct. 19, 1942
 verified
 reviewed
 approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25			
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	R. W. Knox
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R.W.K.

 TIDE NOTE FOR HYDROGRAPHIC SHEET

October 21, 1942

~~Division of Hydrography and Topography:~~

✓ Division of Charts: Attention: Mr. H. R. Edmonston.

Plane of reference approved in
9 volumes of sounding records for

HYDROGRAPHIC SHEET 6755 and 6755a

Locality Midway Islands, T. H.

Chief of Party: F. B. T. Siems in 1941
Plane of reference is mean lower low water reading
-0.35 ft. on tide staff at Navy tanker pier
9.10 ft. below B. M. 1

Height of mean high water above plane of reference is 1.1 feet.

Note: The record for the gage for November 24 and 25, 1941, did not check the staff readings. As the reducers from the gage would have given consistently bad crossings, and the staff readings gave very good crossings, the error appeared to be in the setting of the gage, and the reducers for these two days entered from the staff readings. On all other days, the reducers from the gage were entered.

Condition of records satisfactory except as noted below:

C. K. Green

Chief, Division of Tides and Currents.

DIVISION OF CHARTS

SURVEYS BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NOS. 6755a

6755b

Field Nos. 1041

1041a

Territory of Hawaii, Midway Islands
Surveyed in November 1941; Scale 1:10,000
Instructions dated September 24, 1941

Soundings:

Depth Recorder 808;
Handlead

Control:

Sextant Fixes on Shore Signals.

Chief of Party - F. B. T. Siems
Surveyed by - C. J. Wagner; M. G. Ricketts
Protracted by - G. A. Smith
Soundings plotted by - C. J. Wagner; G. A. Smith
Verified and inked by - G. B. Littlepage
Reviewed by - R. H. Carstens
Inspected by - H. R. Edmonston

1. Shoreline and Signals

The shoreline and signals originate with T-6827a and 6827b (1941).

2. Sounding Line Crossings

Satisfactory.

3. Depth Curves

The depth curves could not be drawn with confidence in the areas of coral reefs where there is spacing of sounding lines of as much as 200 meters.

4. Junctions with Contemporary Surveys

A satisfactory junction was made with H-6754 (1941) on the south. No surveys to the north and west are registered.

5. Comparison with Prior Surveys

No prior surveys of the area have been made by this Bureau. The blueprints 36726-36731 (1941) of soundings taken by contractors engaged in dredging operations for the U. S. Navy are in fairly good agreement

with the present survey. In general, depths of the present survey are shoaler than those shown on the blueprints.

6. Comparison with H. O. Chart 1952 (latest print date 12-41)

The U. S. Coast and Geodetic Survey publishes no large scale chart of the area under consideration. The present survey is in general agreement with the Hydrographic Office chart but reveals many more coral heads.

7. Condition of Survey

Satisfactory, except that notes regarding the extent and nature of coral patches were not always clear.

8. Compliance with Instructions for the Project

Satisfactory.

9. Additional Field Work Recommended

The 21-ft. soundings shown on H-6755b, 420 meters south of the end of the pier should be investigated by additional hydrography. These soundings though apparently conflicting with a crossline from a smaller scale survey (H-6754 (1941)); appear to be authentic soundings on the records of the present survey and are retained pending further investigation.

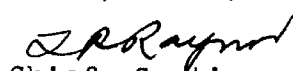
Because of the scale of the present survey the possibility must remain that some coral heads have not been located. However, the number of coral heads that have been found precludes the use of the area by large vessels until the coral heads have been removed, and, except for the previously discussed investigation, no other additional work is recommended.

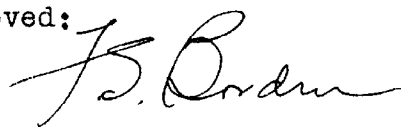
10. Superseded Surveys


None.

Examined and approved:


Chief, Surveys Branch


Chief, Section of Hydrography


Chief, Division of Charts


Chief, Division of
Coastal Surveys

Applied to compilation of new chart 4188 Aug. 25, 1943 G.H.S.
" " Chart. 4000 12/29/44 R
Applied to ~~new~~ compilation of ^{new} chart 4176 4 April 1946 R