5536

Diag. Cht. No. 1249.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. 2 *Office No.* H-5536

LOCALITY

State Florida

General locality Florida Keys

Locality Fowey Rocks to Triumph Reef

1934

CHIEF OF PARTY

Harold A. Cotton

LIBRARY & ARCHIVES

DATE October 20, 1934

B-1870-1 (1)

5536

Form 537
Ed. Dec., 1930

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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. 2

REGISTER NO. 5536

State FLORIDA

General locality Florida Keys

Locality Fowey Rocks to Triumph Reef

Scale 1:20,000 Date of survey Jan.- June, 1934

Vessel Chartered Powerboat - Launch ROGERS

Chief of Party Harold A. Cotton

Surveyed by C. R. Case - W. O. Hinkley

Protracted by J. D. Groff - C. G. W. Swanson

Soundings penciled by C. G. W. Swanson

Soundings in ~~FATHOMS~~ feet

Plane of reference M. L. W.

Subdivision of wire dragged areas by

Inked by J. Levine

Verified by J. Levine

Instructions dated November 17, 1933

Remarks:

U. S. GOVERNMENT PRINTING OFFICE: 1932

Form 537a
Ed. Nov. 1929

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

Hyd.

[redacted]C TITLE SHEET

CONTROL SHEET TO ACCOMPANY HYDROGRAPHIC SHEET NO.2

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

Field No.

REGISTER NO. 5356 Boat Sheet

State Florida

General locality Florida Keys

Locality Soldiers Key to Point Adelle (Elliot Key)

Scale 1-20,000 Date of survey Jan. June, 1934

Vessel Launch ROGERS

Chief of party Harold A. Cotton

Surveyed by ~~XXXXXXXXXXXXXX~~ E. W. Albrecht - E. R. Cotton

Inked by

Heights in feet above to ground to tops of trees

Contour, Approximate contour, Form line interval feet

Instructions dated November 17, 1933

Remarks: No descriptive Report for this sheet - all information being included in Descriptive Report for Hydrographic Sheet No. 2 (No.2 H. A. Cotton - 1934)

D E S C R I P T I V E R E P O R T

to accompany

H Y D R O G R A P H I C S H E E T N O. 2

F L O R I D A K E Y S

P R O J E C T H. T. 158

1934

Shore Party No.3

Harold A. Cotton,
Lieutenant Commander,
U. S. Coast and Geodetic Survey,
Chief of Party.

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET NO.2
FLORIDA KEYS.

INSTRUCTIONS:

This survey was executed in compliance with the Directors Instructions dated November 17,1933 - Project H.T. 158.

LIMITS:

This sheet includes the hydrographic development of a section of the Florida reef just south of Fowey Rock Lighthouse. The northern limit is an east and west line between Fowey Rock Lighthouse and Soldiers Key where the work joins Hydrographic Sheet No. 4076 (Leypoldt 1920). The southern limit is an east and west line opposite triangulation station POINT ADELLE, near the center of the outside coast of Elliot Key. The work extends from the outside shore of the keys to just beyond the edge of the reef, developing the 10 - 15 fathom curve along the reef. Between Soldiers Key and the Ragged Keys, an extensive shoal area was developed to a junction with Hydrographic Sheet No. 5058 (Shaw 1930).

CONTROL:

The control for the survey of this area consisted of a main scheme triangulation involving the following triangulation stations:-

Soldiers Key, Fowey Rock Light, Mangrove, Log, Point Adelle and Triumph Reef.

The numerous navigation beacons along Hawk Channel (following the coast about two miles off shore) were located as triangulation intersection stations and were a great help toward having excellent fixes available at all points of the sheet.

Numerous topographic signals were located along shore between the triangulation stations. These locations were determined by plane table traverses from triangulation station POINT ADELLE to triangulation station LOG, to triangulation station MANGROVE.

METHOD:

This survey was performed by a field party quartered on the houseboat ROWENA. The drag tender ROGERS was used for a great portion of the hydrography i.e. where it was considered safe and feasible to use a boat of this size. Over the southern portion of the sheet (from about Beacon 8 south) there were numerous coral heads with little water over them. In this area as

well as along shore, a smaller launch was used by the hydrographic party.

Most soundings were taken with an 8 - 12 pound lead line. Beyond 8 - 10 fathoms a 20 pound lead was used. Sampson bronze center tiller rope was used for lead lines and maintained its length excellently. In shoal areas of less than 8 - 10 feet, soundings were taken with a 16 foot sounding pole with flat disc on its lower end.

Positions of the sounding launches were determined by the usual three point fixes.

In areas of possible coral heads, the left angleman took an elevated position on the lookout for any coral heads or other shoals visible from the sounding line. A record was made of any shoals thus picked up, the record consisting of notation that a coral head or otherwise had been noticed a certain distance off a certain point of the sounding line. This distance off the sounding line was determined by measuring the angle between the shoal and the sea horizon beyond. A table was prepared giving this distance for the particular heighth of eye. All such points were later investigated.

DEVELOPMENT:

In general the entire area was developed by a system of 200 meter lines run east and west crossed by north and south lines spaced half a mile apart.

Closer development (generally about 50-100 meter lines) was executed over extensive shoal areas coming within the limits of the sheet. These shoal areas consisted principally of two ridges extending across the sheet in a north and south direction, one along about the center of the sheet and the other just inside the off shore edge of the reef; there was also an extensive shoal area between Soldiers Key and the Ragged Keys.

A great deal of development work was done by simply investigating areas of shoal indications at times when the bottom was clearly visible. Under favorable conditions of light, sea and water clearness, the sea bottom is plainly visible and at such times, rocks and shoals can be picked up quite readily by simply cruising over an area. During such examinations a water glass was generally in use. It is believed that such visual examinations gave more positive results than a system of sounding lines. About one hundred and fifty shoals were picked up in this manner.

COMPARISON WITH OLD SURVEY:

There is general agreement with the old survey over the area of this sheet,

The new survey has been critically compared with a section of the present chart enlarged to the scale of the smooth sheet. The only variations of importance were the following

(a) Lat 25-33.8 Long 80-07.4 An old fifteen (15) foot sounding. Present development showed flat bottom 20-21 feet. At the point of a 9 foot sounding 3/4 mile S. E. of this position, nothing shoaler than 12 feet was found. Otherwise soundings in this locality agreed well with the old survey. 14

(b) The old chart shows soundings of 10, 15 and 16 feet extending N. E. from Beacon 5. The shoalest soundings found during the present survey were 13, 17 and 26 feet respectively. Just east of the above 15 ft. sounding there is a 23 foot spot on the old chart. During the present survey 31-32 feet was found in this area. they are detached shoals and the existence of the 15 is not disproved

(c) Lat. 25-30.6 Long. 80-07.7- Nothing less than 25 feet found in the locality of an old 20 foot sounding altho several surrounding shoaler spots verified.

(d) Lat 25-27.2 Long. 80-09.8 Shoalest sounding of 16 feet on old 7 foot spot. Numerous shoal spots a short distance to the westward. Bottom visible during examination.

(e) Lat 25-27.4 Long 80-07.4 An old 14 foot sounding. 20-21 feet found. Thirteen (13) feet spots to eastward and southward verified. Bottom visible during examination.

(f) Triumph Reef was closely developed during the present survey but the depths found were slightly greater than those charted.

As already noted, a great deal of the development work on this sheet consisted of examining shoal areas during periods of good visibility i..e. when the bottom was visible fairly clearly. Many rocks (coral heads, etc) were found and located during these examinations. Such shoals are considerably more extensive over the southern portion of the sheet, particularly to the south and east of Beacon 8.

CHANNELS AND ANCHORAGES:

The Florida Reef is about four miles wide along this section of the coast. Hawk Channel parallels the shore, being about two miles off Soldiers Key at the north end of the sheet and about a mile off of Point Adelle at the southern end of the sheet. This Channel is well marked with numerous beacons, easily intervisible and can be followed without any difficulty. The general depth in this section of Hawk Channel is about 15 feet. The channel was later dragged to an effective depth of 9½ to 10 feet and several shoals found with less than ten feet. These are listed in the Descriptive Report for Drag Sheet No.2 D. H-5540 (1934) H D

Just inside the edge of the reef, there is another north and south channel which runs just behind Long Reef, Triumph Reef, Star Reef, Ledbury Reef and Brewster Reef; to the west of the latter it merges with Hawk Channel. This outside channel is known locally as White Channel on account of the white sand bottom along most of its length, a characteristic which often aids navigation at night. This channel is not marked and is only partially protected by the reefs just outside of it; it is only used to a limited extent locally.

About a mile and a half south of Soldiers Key a very convenient channel was developed connecting the inside bay with Hawk Channel and the outside. This channel has a minimum depth of five (5) feet and during unfavorable weather offers a much more protected passage between the inside and the outside than the Cape Florida passages.

To enter the above passage from the outside, proceed from Beacon #6 for about one mile on a course 300° (true) till the Dade County Court House shows on the left tangent of Soldiers Key. Following this range for a short distance will carry between two sand banks marking the entrance to this channel. To reach Biscayne Bay, resume course 300° (true) for about 0.8 mile, thence left fork at branch on course 260° (true) for about half a mile and thence course 310° (true) into Biscaybe Bay. These courses and distances are to be used only as aid in following the sloughs.

All the passages between the keys north of Elliott Key are very shoal, the maximum depth in all of them being about two, feet.

Boats of 8 - 10 feet draft can navigate practically any portion of the reef with the use of the chart (and favorable conditions of light), but over the southern portion of the sheet special precautions must be observed.

The best anchorage within the limits of this sheet for the usual draft boats navigating this locality is just inside the above described entrance of the channel south of Soldiers Key connecting Biscayne Bay with Hawk Channel and the outside. This entrance is very narrow with a maximum depth of about 6 feet but inside the channel widens giving an available anchorage area 200-300 meters wide and nearly half a mile long. There is good holding bottom here in depths of 8 - 10 feet. This anchorage is so protected by surrounding banks that no sea enters altho of course there is no protection from the wind.

During usual weather fairly good anchorage is available at most points on the reef from Hawk Channel to the shore. Within a half mile to a mile from the beach, good anchorage areas are available with 10 - 15 feet; there is good holding bottom in spots which have to be located. Just to the north and east of B. S. Beacon #9 is a desirable anchorage area; this is shown as Bache's Bank Anchorage.

At points on the reef east of Hawk Channel, there is materially less protection. Legare Anchorage is only partially protected by Triumph Reef; is not marked and is never used at the present time.

The bad weather anchorages for this locality are either the creeks at the southward of Elliot Key (Caesar - Broad and Angelfish) or to run into Miami. There is protection from easterly winds to the westward of the keys while protection from north and northeast winds can be secured behind Cape Florida.

CLEARNESS AND COLOR OF WATER ON THE REEF:

Under favorable conditions, the bottom is clearly visible at any point on the reef; the bottom has been seen in twenty fathoms along the off shore edge of the reef.

The Most favorable conditions are on a clear calm day following several days of quiet weather. The sun should be high and shine behind toward the area being viewed. Visibility is frequently better with just a slight breeze sufficient to break the glare on a perfectly calm surface. Under these conditions a difference of three or more feet in the depth of the water can be determined in thirty feet of water.

The water always becomes milky following windy weather; after one days storm, the bottom may be completely invisible at ten feet. Passing clouds frequently cast such shadows as to practically destroy visibility in any but the shallowest water. With a breeze sufficient to cause a choppy surface, the visibility is practically destroyed. A water glass is particularly helpful with any kind of rough weather or choppy surface.

The color of the water above ten fathoms is deep indigo blue; such depth is only found beyond the off shore edge of the reef. The usual color of the water on the reef is a blue green where the shoaler rock patches show dark, shading through brown to yellow as they approach the surface. The shoal sand patches show as a bright green. At depths of ten to fifteen feet, grass patches on the bottom show quite similar to rocks.

Bearing in mind the above water characteristics, it is quite feasible to navigate with safety among the reefs when conditions of light etc are favorable.

DESCRIPTION OF AREA SURVEYED:

This section of Florida Reef can be briefly described as a shoal area with numerous reefs and coral heads extending about four miles off the Florida Keys. There are general depths of 8 - 10 feet about half a mile off shore with depths of 20 - 30 feet just inside the outer reefs marking the outer edge of the main reef proper. Beyond these outer reefs the depth increases rapidly to 100 feet and again quickly to 100 fathoms.

There are two distinct ridges of reefs and shoals extending along the reef; one along the outer edge as noted above and another about midway between the shore and the outer edge of the reef. This center ridge is quite wide and includes a good portion of the reef. Hawk Channel extends along the inside of this ridge.

From Hawk Channel to the shore, the bottom is generally sandy with few coral heads, while outside Hawk Channel the areas of coral bottom and dangerous coral heads are frequent and extensive.

The only land area coming on this sheet are Soldiers Key, the Ragged Keys, Sand Key and the northern portion of Elliot Key. These are all low coral islands thickly wooded with decidous growth with occasional pine and palm. Thick mangrove line the shore along the bay (Biscayne Bay) and along the passages between the keys. Along the outside coast there are intermittent beaches of coral rock and sand with frequent growths of mangrove coming down to the water.

The outside coast of Elliot Key is a nearly continuous stretch of coral and sand beach with less mangrove than elsewhere. Along this coast there are several old cocoanut and lime plantations. A few inhabitants still live in several old houses along the beach but frequently remaining here only while picking limes or while on some other particular task. There are numerous old cisterns along this stretch of Elliot Key, remains of former buildings destroyed by storms.

There is no natural water at any point in this area but in emergency, small quantities can be obtained at the few dwellings or from the old cisterns.

CONTROL SHEET:

A control sheet accompanies this hydrographic sheet, It was used for the location of topographic stations to the south of triangulation station MANGROVE and for, the location of the extensive flats between Soldiers Key and the Ragged Keys. Originally it had been intended to locate the Hawk Channel navigation beacons on this sheet but these were finally located by triangulation.

Between triangulation station LOG and triangulation Station POINT ADELLE, there are several old shacks which are neither of sufficient prominence nor permanence to qualify as "Landmarks" but it is believed advisable to chart them simply as buildings for they are the only objects which break the otherwise green landscape. These shacks were located on the control sheet for Hydrographic Sheet No._____(No.4 - H. A. Cotton - 1934)

There are no prominent objects suitable for use as Landmarks, coming within the limits of this sheet.

TOPOGRAPHIC STATIONS:

In addition to the triangulation stations, two topographic stations were permanently marked on this sheet viz Topographic station ABE and Topographic station ONE. These descriptions accompany the control sheet.

TIDES:

The Soldiers Key tide gage was used for the reduction of all soundings on this sheet. At this gage, Mean Low Water reads 2.0 on the staff.

STATISTICS:

Total Miles sounding lines (Stat)	606.1
Total number of positions	4045
Total number of soundings	22129
Number of rocks	137
Aera Square Stat. Miles	46.4

This report complied by the undersigned with liberal use of notes prepared by Mr. W. O. Hinkley, Surveyor who executed about fifty per cent (50%) of the hydrography.

Respectfully submitted

Harold A. Cotton

Harold A. Cotton, Lieutenant Commander,
U. S. Coast and Geodetic Survey,
Chief of Party No. 3.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. ..5536

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

Number of positions on sheet	4045.
Number of positions checked	239
Number of positions revised	3
Number of soundings recorded	22129
Number of soundings revised	0
Number of signals erroneously plotted or transferred	0

Date:.....

Cartographer:.....

[redacted] J. Levine [redacted] 112 } 397 hrs.
[redacted] J. Levine [redacted] 285 }
[redacted] R.J. Christman [redacted] 55 hrs.

To: Mr. Bacon
From L. S. S.

Survey No. H 5536

GEOGRAPHIC NAMES
FLORIDA

Date. November 6, 1934

Chart No. 1249

Diagram No. 1249

Names underlined in red approved Nov. 7, 1934 H Bacon

*, Approved by the Division of Geographic Names, Department of Interior.

¢, Not Approved by the Division of Geographic Names, Department of Interior.

R, Referred to the Division of Geographic Names, Department of Interior.

Names verified from Chart 1249 which is practically the only authority in this region H.B.

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
	----- ✓	Elliott Key	----	----	
	------ ✓	Sands Key	----	----	
	------ ✓	Biscayne Bay ✓	----	----	
	----- ✓	Triumph Reef	----	----	
	----- ✓	Fowey Rocks	----	----	
	------	Hawk Channel (marked with red pencil in water) LS.S.	----	----	
		Brewster Reef in water			
		Ledbury Reef " "			
		Star Reef " "			
		Bowles Bank " "			

Section of Field Records

Report on Verification and Inking - H-5536

The records conform to the requirements of the General Instructions.

The usual depth curves can be drawn satisfactorily.

The field plotting was completed to the extent prescribed in the Hydrographic Manual.

None of the field drafting had to be revised by the verifier.

The junction with H-5578(1934) on the south is satisfactory. On the west, junction is made with H-5058 (1930 survey). On account of difference in time between dates of both surveys only critical soundings were transferred to the present sheet. (Authority: E.P. Ellis). The junction is considered fair. On the north the present survey joins with sheet H-4076, survey of 1920. On account of the great difference in time between dates of both surveys it was considered impractical to transfer soundings from the older survey to the new. (Authority: E.P. Ellis)

Between Soldier Key and Δ Mangrove field party located and developed numerous shoal flats. This work is shown on Control Sheet #2 (accompanying H-5536) from which the one foot curves were transferred (by field party) to this sheet and are shown in purple ink.

Following is a list of doubtful soundings:

Reference					Item	Remarks
Sdg. Rec.			Smooth Sheet			
Vol.	Page	Pos.	Lat.	Long		
3	41	29k	25° 33.6'	80° 10.4'	12 ft. sdg. (reduced)	R
4	33	between 26M-27M	25° 32.1'	80° 09.5'	16 ft. sdg. (")	R
4	9	between 79L-80L	25° 32.8'	80° 09.2'	16 ft. " "	R
6	45	between 60S-61S	25° 29.8'	80° 07.1'	34 ft. " "	R
7	29	between 160T-161T	25° 28.9'	80° 06.8'	19 ft. " "	
7	32	between 173T-174T	25° 28.9'	80° 09.5'	22 ft. " "	R
13	29	between 3PP-4PP	25° 31.1'	80° 10.4'	8 ft. " "	R
7	44	between 41U-42U	25° 33.6'	80° 07'	27 ~~ft.~~ " " Prob. 21	changed to 21

Appear to be 1 fm. too deep compared to adjacent hydrography

Respectfully submitted

J. Levine

J. Levine
Jr. Cartographic Engr.

May 16, 1935

~~H~~ Diff K@C

January 8, 1935.

Division of Hydrography and Topography:

✓ Division of Charts: Attention E. P. Ellis

Tide Reducers are approved in
14 volumes of sounding records for

HYDROGRAPHIC SHEET 5536

Locality Soldiers Key to Point Adelle (Elliot Key), Florida Keys

Chief of Party: H. A. Cotton in 1934
Plane of reference is mean low water reading
2.0 ft. on tide staff at Soldier Key
1.8 ft. below B.M. 1

Height of mean high water above plane of reference is 1.8 feet.

Condition of records satisfactory except as noted below:

Chief, Division of Tides and Currents.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5536 (1934) - FIELD NO. 2

Fowey Rocks to Triumph Reef, Florida Keys, Florida
Surveyed in 1934
Instructions dated November 17, 1933 (H. A. Cotton)

Hand Lead and Machine Soundings. Pole Soundings.

3 Point Fixes on Shore Signals

Chief of Party - H. A. Cotton.
Surveyed by - C. D. Case and W. O. Hinckley.
Protracted by - J. D. Groff and C. G. W. Swanson.
Soundings penciled by - C. G. W. Swanson.
Verified and Inked by - J. Levine.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual.

The Descriptive Report is complete as to essential details and satisfactorily covers all items of importance.

2. Compliance with Instructions for the Project.

The plan and extent of development are in accordance with the instructions for the project.

3. Sounding Line Crossings.

Sounding line crossings are satisfactory. Differences in excess of 1 foot are generally accounted for by the irregular bottom as evidenced by other soundings in the vicinity.

4. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn including portions of the low water line. The field party located parts of the 1 foot curve on the control boat sheet. These curves are shown on the smooth sheet in purple.

5. Junctions with Adjacent Sheets.

a. Junction with H-5058 (1930) on the west is satisfactory. The area is adequately covered and though the overlapping part falls in an area of numerous shoals the depths are generally in good agreement but the shoal areas outlined on the present survey by 1 foot curves are more extensive than the corresponding shoals on the 1930 survey.

b. The present survey overlaps H-4076 (1920) about ½ mile on the north. The agreement in depth is good but there is considerable difference in details of depth curves probably due to generalization on the earlier survey. A slight deepening is indicated in the vicinity of Fowey Rocks where the earlier survey showed a 6 foot curve.

The 5 foot sounding (charted) in lat. 25°35.25', long. 80°05.8' is possibly a part of the 6½ foot shoal located by the wire drag during the 1934 survey but as it plots about 30 meters to the north of that position it has been retained and is shown in color on H-5536 (1934). No other soundings have been carried forward in this overlap as the present survey is considered adequate for charting the area.

c. Junction with H-5578 (1934) to the southward is satisfactory except for a small holiday just off △ Point Adelle, where at least two additional sounding lines should have been run.

d. Wire drag survey H-5540 (1934) falls almost entirely within the area of H-5536 (1934). All the shoals found by the wire drag within the area of the present survey are shown on H-5536 (1934) in green. For details of this work, see Descriptive Report and Review of H-5540 (1934).

6. Comparison with Prior Surveys.

H-369 (1853) and H-407 (1852).

These surveys are the basis for the present representation on the chart. The general agreement is very good but a number of coral shoals, the existence of which have not been adequately disproved, have been retained and are shown on the present survey in color. The field comparison with prior surveys was made with an enlargement of chart 1249 to the scale of the present survey (see Descriptive Report, page 3). The field party verified or disproved the existence of the shoals disclosed by the enlargement but failed to locate a number of other shoals omitted from the chart on account of necessary generalization due to the scale of the chart. Attention is also invited to the last paragraph under "Methods" and the last paragraph under "Development," Descriptive Report, page 2.

Special attention is directed to the disposition of the following shoals:

a. The charted 15 foot in lat. 25°33.8', long. 80°07.35' is one of two soundings on a detached shoal on H-407 (1852). The present survey made close development of this area at a time when seeing was good and no shoal was found. The general depths in the vi-

cinity are in good agreement on the two surveys. Probably the two soundings were recorded 1 fathom too shoal on the 1852 survey. The 15 foot shoal should not be retained in future charting.

b. The charted 9 foot in lat. 25°33.2', long. 80°06.85' is on a line of shoal soundings on H-407 (1852) where the present survey shows 19 to 21 feet of water. Although the development is not very close on the present survey, it is probable that a shoal of 9 feet would have been seen. An examination of the original sounding records of the 1852 survey shows that the soundings were taken from two small boats using the anchored steamer for the right object of the fixes which in this vicinity are very weak. The two fixes on which the shoal soundings depend are practically swingers. It is probable that the boats were about 1/4 mile to the northeastward where depths of 10 to 12 feet are shown on the present survey. The 9 foot should no longer be charted.

c. The charted 8 foot from H-407 (1852), lat. 25°34.3', long. 80° 06.65', falls among some 10 foot soundings, "hrd S" on the present survey. In view of the possibility of change in this exposed locality the 8 should not be retained.

d. The 1934 survey shows 10 foot least depth on Star Reef instead of 8 foot charted in lat. 25°32.3', long. 80°06.25' from H-407 (1852). The sunken rock symbol 200 meters southward of the 8 marks the location of an "iron beacon stub" covered 1½ foot at M. L. W. In locating the "stub" the greater part of Star Reef was covered by the wire drag sweep set at an effective depth of 7½ feet. Although this is a rock reef and the least depth obtained during the 1934 survey was 10 feet, the charted 8 falls on a 12 of the present survey and it is not considered desirable to retain the 8 in future charting.

e. The 15 foot charted in lat. 25°31.45', long. 80°08.2' (paragraph b on page 3 of the Descriptive Report) has been retained. The original sounding record shows it to be a small rocky shoal in 23 to 26 feet of water. The existence of the charted 10 and the 16 northeastward of Beacon No. 5, (paragraph b page 3 of the Descriptive Report), is considered disproved, because they fall so close to the sounding lines of the 1934 survey that the lookout would undoubtedly have spotted them at the time.

f. The charted 5 foot from H-369 (1853), lat. 25°27.6', long. 80° 10.4', has been retained although it is possible that the sounding was recorded 1 fathom too shoal. The original record shows two 5½ foot soundings on the line but no special examination was made. The surrounding soundings are in agreement with the 1934 survey.

g. Referring to paragraph e, page 3 of the Descriptive Report, the 14 foot from H-369 (1853) charted in lat. 25°27.45', long. 80° 07.3' has not been retained. The bottom was visible during the 1934 survey and the soundings in the vicinity indicate considerable change in the coral sand bottom of the 1853 survey.

7. Comparison with Chart No. 1249.

a. Hydrography.

Within the area of the present survey the chart is based on surveys discussed in the foregoing paragraphs, except the following:

(1) Referring to paragraph d, page 3 of the Descriptive Report, no authority for the 7 foot spot in lat. 25°27.2', long. 80°09.8' was found but it appears first on the 1892 edition of chart 166. The 1934 survey sufficiently disproves its existence and the 7 should be expunged from the chart.

(2) The present survey shows a 7 foot coral head and a dolphin in the approximate location of the sunken rock symbol charted in lat. 25°29.9', long. 80°08.55'. The sunken rock symbol is misleading and should be replaced by the depth.

b. Aids to Navigation.

The charted positions of beacons No. 9, 10, 11 and 13 differed from the locations determined by the 1934 survey. The corrected positions of these beacons have been applied to the 1935 edition of the chart.

There are no floating aids within the area of H-5536 (1934).

8. Field Plotting.

The protracting of positions and the plotting of soundings were excellent.

9. Additional Field Work Recommended.

The survey is complete and satisfactory except for the holiday off Point Adelle, lat. 25°27.2', long. 80°11', where two additional lines are desirable to complete the junction with H-5578 (1934).

10. Wrecks and Obstructions.

A number of reported wrecks and obstructions, no longer charted, were referred to the field party for investigation. All those affecting H-5536 (1934) and the accompanying wire drag survey, H-5540 (1934), are satisfactorily covered by the 1934 survey.

11. Superseding Old Surveys.

Within the area covered, the present survey, with indicated additions from previous surveys, supersedes the following surveys for charting:

H-369 (1853) in part
H-407 (1852) " "

12. Reviewed by R. J. Christman, May 31, 1935.

Supervised by - A. L. Shalowitz.

Examined and approved:

C. K. Green, C. K. Green
Chief, Section of Field Records.

L. O. Colbert
Chief, Division of Charts.

J. B. Gordon
Chief, Section of Field Work.

G. Rude
Chief, Division of H. & T.

Applied to Cht. 583, Aug. 20, 1935 R. Reynolds
" " " 1249 - Nov " H.S. Gamble

25 Jan 13, 1936
EAS.

Applied to chart 848 Nov. 30, 1936 H.H.R.
" " " 1248 Mar. 15, 1937 G.H.S.
Applied to chart 848 (new compilation) Sept 14, 1938 R.L.J.

11463 5-23-91 Pearce Hunt Full after verification #31