

4290 Add'l. Work

&
4290 (1922-23)

Diag. Cht. No. 904-2

4290 Add'l. Work

Form 504		
DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY, Director		
State: <u>Puerto Rico</u>		
<table border="1"><tr><td style="text-align: center;">G. & G. SURVEY L. & H. June 26, 1925 Acc. No.</td></tr></table>		G. & G. SURVEY L. & H. June 26, 1925 Acc. No.
G. & G. SURVEY L. & H. June 26, 1925 Acc. No.		
DESCRIPTIVE REPORT		
Topographic Hydrographic	} Sheet No. 4290 Add'l Work	
LOCALITY		
Vieques Sound		
Hermanos Passage to Culebra I.		
Additional Work west and northwest		
of Culebra		
1926		
CHIEF OF PARTY		
G.C. Mattison		

MAR 8 9 10 AM '27

DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY,
E. LESTER JONES, DIRECTOR,

~~RECEIVED~~

16

PORTO RICO

CULEBRA ISLAND (N.W.)

A DESCRIPTIVE REPORT
to accompany

WIRE DRAG SHEET #290. Addl. work

1926

S.S. RANGER

G.C. MATTHEWSON,
Chief of Party.

DESCRIPTIVE REPORT
to accompany
Wire Drag Sheet #4290.

This work was completed in accordance with Director's orders dated May 28, 1925. These instructions required additional dragging on sheet 4290:- covering splits, dragging some areas deeper, finding least depth on a doubtful shoal and some new area.

SURVEY METHODS

All dragging was done using "MARINDIN" and "MITCHELL" as guide and end launches respectively, and using "EDNA M" as tender. Instructions in all cases were followed as closely as practicable.

REMARKS ANENT PARAGRAPHS OF INSTRUCTIONS:

Paragraph #1--Area covered as required to 35 feet. Least depth found in vicinity of 25 foot doubtful sounding was 29½ feet. A 28½ foot depth was found 77¹²⁰ meters 344° true from 29½ foot sounding. The entire area is covered with a drag of 26 feet effective depth. Apparently the 25 foot sounding does not exist. *Lat 18° 17.48' Long 65° 18.00'*

Paragraph #2--Covered as required (as near to the 5 fathom curve as practicable) with a depth of 34 feet or more. A 35 foot sounding close to 5 fathom curve not covered. ✓

Paragraph #3--Covered as required to an effective depth of 32 feet or greater. *area undecid. fiasco*

Paragraph #4--Area covered as required. Effective depth obtained 33 feet; 32 feet required. A 30 foot sounding was obtained in grounding at the NW corner of the area. This was not covered, being on the charted 5 fathom curve. In previous drag work the beginning of a drag strip just covered this sounding at 39 feet, The beginning of this strip looks questionable. *Lat 18° 18.22', Long 65° 19.57' (strip 44-514, 1926 & 13 etc. 1926)* *1922 survey adjusted to 1925 survey. 30 ft. sdg. is on a slope.*

Paragraph #5--The limits of this area covered as close as practicable to an effective depth of 34 feet or more. Attention is called to a 34 foot sounding obtained near the right of the end of a previous drag strip of 35 feet. *Lat 18° 18.67' Long 65° 20.84'*

Paragraph #6--Instructions called for this area to be dragged to an effective depth of 55 feet. The entire area covered at 54 feet or more. Except over the bank extending S x E from the "WASHER". The soundings obtained on the bank are reported under "List of soundings obtained while dragging".

Vicinity of
Lat. 18° 22.0'
Long 65° 22.0'

Paragraph #7--This area covered as required. Attention is called to the 15 foot and 19 foot shoals found in this area. Their location is given under "List of Shoals".

Vicinity of
Lat. 18° 01.0'
Long. 65° 19.64'

Paragraph #8--Covered as required.

Vicinity of
Lat. 18° 19'
Long 65° 21'

ADDITIONAL INFORMATION FOR COAST PILOT:

There is a large white steel Beacon established by the U.S. Navy on the hill at the south end of "Luis Pena Cay". This is called St. Navy. Another white steel beacon was established by the Navy on Scorpion Point. It is Hydrographic signal SIG on the smooth sheet.

CURRENTS:

In Luis Pena Channel while dragging a comparatively strong S.E. current was noted. The time was about 45 minutes after low tide,

While dragging NW in the area south of FUNGY BOWL a set to the NW about 1 to 2 knots was noted, during ebb tide. The wind was ESE - 2 -3.

During the time of the dragging north and north west of Culebra there was apparently a prevailing current to the NW varying in strength with the trade winds.

LIST OF SOUNDINGS AND SHOALS:

A depth of 30 1/2 feet was found 0.74 miles 16° true from Flamingo Point, in Lat. 18 21'- 191 meters Long. 65 18'- 703 meters.

A depth of 31 feet was found 300 meters 64° true from Flamingo Point in Lat. 18 20'- 907 meters, Long. 65 18'- 729 meters.

plotted drag depth 30ft.

A depth of 34 1/2 feet was found 659 meters 74° true from Flamingo Point in Lat. 18 20' - 917 meters, Long. 65 18' - 449 meters.

A depth of 36 feet was found 0.93 miles 346° true from Flamingo Point, in Lat. 18 21'- 606 meters, Long. 65 18' - 1517 meters.

A depth of 35 feet was found 1.03 miles 340° true from Flamingo Point, in Lat. 18 21' - 679 meters Long. 65 18' - 1723 meters.

A depth of 19 feet was found 0.68 miles 51/75° true from point de Molinas in Lat. 18 21'-580 meters Long. 65 19'- 1171 meters. A depth of 23 1/2 feet was found 13 meters 38° true from the above 19 foot sounding. Another

sounding of $21\frac{1}{2}$ feet was found 16 meters 70° true from the above 19 foot sounding.

A depth of 15 feet (on a coral shoal) was found 0.68 miles 95° true from Point de Molinas in Lat. $18^{\circ} 21'$ - $18\frac{1}{2}$ meters Long. $65^{\circ} 19'$ - $11\frac{1}{2}$ meters. Depths of 19 feet, 22 feet and 34 feet were found 27 meters 164° true; 53 meters 164° true; and 82 meters 181° true respectively from the above 15 foot sounding.

The following depths were found on a coral point extending in a S~~W~~^Ely direction from Botijuela Rocks. A 46 foot depth 0.56 miles 325° true from NW point of Fungy Bowl in Lat. $18^{\circ} 22'$ - 541 meters, Long. $65^{\circ} 22'$ - 957 meters. A 52 foot depth 72 meters, 157° true from the 46 foot sounding. A 54 foot depth 180 meters, 154° true from the 46 foot sounding. And a 59 foot depth 175 meters 159° true from the 46 foot sounding.

A depth of 74 feet was found 4627 meters 352° true from the NW point of Fungy Bowl in Lat. $18^{\circ} 22'$ - 338 meters Long. $65^{\circ} 22'$ - 452 meters.

A depth of 52 feet was found 100 meters 309° true from the NW point of Fungy Bowl in Lat. $18^{\circ} 21'$ - 1624 meters, Long. $65^{\circ} 22'$ - 449 meters.

A depth of $30\frac{1}{2}$ feet was found 1.39 miles 334° true from the SW end of Stream Point, in Lat. $18^{\circ} 20'$ - 1253 meters Long. $65^{\circ} 20'$ - 926 meters. Another depth of 35 feet was found 90 meters 140° true from ~~from~~ the above sounding. 226

A depth of 34 feet was found 727 meters 334° true from the SW end of Stream Point, in Lat. $18^{\circ} 19'$ - 1523 meters, Long. $65^{\circ} 19'$ - 1732 meters.

covered by 26' drag 1922 work, which has been changed to 24' off depth.
A depth of 24 feet was found 491 meters 292° true from the SW end of Stream Point in Lat $18^{\circ} 19'$ - 993 meters, Long. $65^{\circ} 20'$ - 245 meters. Another depth of 30 feet was found 49 meters 7° true from the above sounding.

A depth of $30\frac{1}{2}$ feet was found 316 meters 213° true from the SW end of Stream Point, in Lat. $18^{\circ} 19'$ - 538 meters, Long. $65^{\circ} 19'$ - 1724 meters.

A depth of $24\frac{1}{2}$ feet was found 533 meters 106° true from the SW end of Stream Point, in Lat. $18^{\circ} 19'$ - 651 meters, Long. $65^{\circ} 19'$ - 1044 meters. Another depth of 31 feet was found 47 meters 115° true from the above sounding.

A depth of 27½ feet was found 908 meters, 120° true from the SW end of Stream Point in Lat. 18 19'- 330 meters, Long. 65 19'- 791 meters. Another depth of 31½ feet was found 60 meters 291° true from the above sounding.

plotted drag depth 34 ft.
A depth of 35½ feet was found 108 meters 207° true from the southern point of Yerba Cay, in Lat. 18 19'- 297 meters, Long. 65 21'- 465 meters.

A depth of 29 feet was found 340 meters, 187° true from the southernmost point of Yerba Cay in Lat. 18 19'- 54 meters Long. 65 21'- 464 meters. Another depth of 37 feet was found 62 meters 255° true from the above sounding.

A depth of 36½ feet was found 279 meters 1.° true from the southeastern point of Agua Cay in Lat. 18 18'- 1683 meters Long. 65 20'- 1470 meters.

A depth of 44 feet was found 209 meters 40° true from the southeastern point of Agua Cay in Lat. 18 18'- 1560 meters, Long. 65 20'- 1340 meters.

A depth of 44 feet was found 344 meters 83° true from the southeastern point of Agua Cay in Lat. 18 18'- 1445 meters, Long. 65 20'- 1125 meters.

A depth of 38½ feet was found 420 meters 90° true from the southeastern point of Agua Cay in Lat. 18 18'- 1392 meters, Long. 65- 20'- 1050 meters.

A sounding of 34 feet was found 173 meters 185° true from the southeastern point of Agua Cay in Lat. 18 18'- 1238 meters, Long. 65 20'- 1466 meters.

A depth of 30 feet was found 0.85 miles 273° true from the western end of Scorpion Point, in Lat. 18 18'- 408 meters, Long. 65 19'- 909 meters.
990

A depth of 29 feet was found 704 meters 139° true from the western end of Scorpion Point in Lat. 18 17'- 1632 meters, Long 65 18'- 781 meters.

A depth of 35 feet was found 916 meters 130° true from the western end of Scorpion Point in Lat. 18 17'- 1567 meters, Long. 65 18'- 554 meters.

A depth of 59 feet was found 0.62 miles 139° true from the western end of Scorpion Point in Lat. 18° 17' - 1300 meters Long. 65° 18' - 484 meters. Another depth of 55 feet was found 90 meters 154° true from the above sounding.

A depth of 25½ feet was found 0.8 miles 130° true from the western end of Scorpion Point in Lat. 18° 17' - 1241 meters, Long. 65° 18' - 161 meters. Another depth of 25½ feet was found 45 meters 166° true from the above sounding.

A depth of 29½ feet was found 0.85 miles 139° true from the western end of Scorpion Point in Lat. 18° 17' - 982 meters Long 65° 18' - 210 meters. Another depth of 29½ feet was found 77 meters 164° true from the 29½ foot sounding. A depth of 52½ feet was found 116 meters 156° true from the 29½ foot sounding. The 25-foot sounding shown by previous drag work apparently does not exist, as a drag of 26 feet effective depth covered this area.

* Shown on D.E. 912. J.W.M.

NOTES MADE WHILE PLOTTING

"C" day drags of 54 to 55 feet covered two charted soundings of 53 feet. *54 ft. drag covers charted 53 ft. at Lat. 18° 20' 25" Long. 65° 21' 35" 55 " " " " 53 " " " " " " 18° 20' 57" " " " " 65° 21' 57"*

7 "e", 29 foot sounding not covered. Sounding plots on charted 30 foot curve. Instructions to drag as close to 30 foot curve as practicable.

Small overlap in area of A Stream.

Between 5 and 6 "K", F grounded but pulled off. Tender obtained a sounding which reduces to 54 feet, but could not obtain position before drag pulled off Lat 18° 21' 51" S Long. 65° 24' 50" W 21.50

Between 6 and 7 "L", N, large weight (which hangs about 1½ feet below ground wire depth) dragged bottom and ground wire hung. Drag set at 58 feet. Least sounding obtained by tender, - 63 feet. Charted sounding of 59 feet in this area. This point very close to drag limits outlined in instructions. Lat. 18° 21' 44", Long. 65° 21' 49". *54 ft. sounding plotted (76).*

"1" sounding of 24 feet covered by previous drag of 26 feet. *Lat. 18° 19' 54" Long. 65° 21' 48" [Effective depth changed to 24 ft.]*

In a number of cases while doing this work, the drag grounded and soundings were obtained at points very close to the limits of the work as laid out by the instructions. In conformity with the instructions, (which state that all areas shall be dragged as close to the limits as practicable, without undue expense or delay) a number of these soundings were not covered, unless they differed decidedly from the charted soundings. In all cases the drag limits were followed as closely as considered practicable.

Forwarded February 25, 1927

Respectfully submitted.

G.C. Mattison
G.C. MATTISON

Henry C. Finney

LIST OF NEW SIGNALS ON THIS SHEET

\angle . Navy (Navy beacon, steel) Computed.

Cliff₂ (W.W.) Located by 3 point sextant fix. Recoverable
 (S. side of Redcliffe Pt)

Sig (Ely) (Navy beacon) Located by 3 point sextant fix and \angle cuts
 from Soldado₂ and Navy. (On Scorpion Pt) Recoverable.

Lim₂ (WW) On small offlying rock. Sextant fix, location.
 Recoverable

Sister (Navy beacon, which has fallen over.
 (2 \angle cuts and sextant cuts) Recoverable.

Ruth (WW) On small offlying rock. (Sex. fix) Recoverable.

Edge (Banner in tree) Sextant fix.

Cone Pile of stones, WW) Sextant fix. Recoverable.

Molinas₂ (Pile of stones "") Sextant fix

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

Add. Wk. 1926
REGISTRY NO. H-4290 W.D.

FIELD NO. -----

Porto Rico, Vieques Sound, West and Northwest of Culebra I.
Surveyed in May - January, 1926 Scale 1:20,000
Instructions dated May 28, 1925

Soundings:

Control:

Handlead

Sextant fixes on shore signals

Chief of Party - G. C. Mattison
Surveyed by - H. E. Finnegan, G. K. Green, A. C. Thorson,
W. R. Porter and Ehler
Protracted by - H. E. Finnegan
Soundings plotted by - H. E. Finnegan
Verified by - I. M. Zeskind and R. L. Johnson
Reviewed by - I. M. Zeskind, April 30, 1948
Inspected by - H. W. Murray

1. In recompiling charts of this area it was noted that the verification and review of the Additional Work accomplished in 1926 had not been done. This informal review is, therefore, now being made.
2. This additional work covers splits, insufficient overlaps, the redragging of areas to greater depths and new work on the north side of Culebra Island.
3. The control consists of signals of the original survey supplemented by hydrographic signals obtained by sextant fixes and triangulation station NAVY.
4. Comparisons were made between the Wire Drag, Advance Work, and the following hydrographic surveys and no discrepancies were found:

H-2469 (1903), scale 1:10,000
H-2490 (1900), scale 1:40,000

5. A comparison of the Additional Work was made with charts No. 914 (print date 6/30/47) and No. 904 (print date 3/8/48), and it was found that the effective depths are in harmony with the charted soundings, except as follows:

a. The 25-ft. sounding obtained on the original wire drag charted at latitude 18° 17.48' and longitude 65° 18.08' was covered by drag strips 26, 27 and 28 ft. deep. The sounding is considered disproved and should be removed from the chart. *approved by chart 913*

b. The 23-ft. sounding charted at latitude 18° 19.04' and longitude 65° 21.18' and which originates on H-2469 (1900), is charted approximately 50 meters out of position.

Examined and approved:

No signatures

~~I. E. Rittenburg~~
Chief, Nautical Chart Branch

~~Casper M. Durgin~~
Chief, Division of Charts

~~K. G. Crosby~~
Chief, Section of Hydrography

~~C. K. Green~~
Chief, Division of Coastal Surveys

TABLE OF STATISTICS

WIRE DRAG SHEET # 4290

Date	Letter	Vol.	Drag Length	Miles Stat.	Soundings.
Jan. 14, 1926	A	1	4500	2.6	3
Apr. 7, 1926	B	1	4500	3.1	4
			2500		
			2000		
Apr. 8, 1926	C	1	4000	10.1	1
			4500		
			3500		
Apr. 26, 1926	D	1	3200	3.6	1
			2100		
			1800		
Apr. 29, 1926	E	1	2400	5.3	8
Apr. 30, 1926	F	1	1400	2.6	4
May 6, 1926	G	1	4500	1.0	2
May 10, 1926	H	1	4200	8.3	0
			2400		
May 11, 1926	J	1&2	3500	4.8	7
May 12, 1926	K	2	1000	4.6	6
			2400		
May 13, 1926	L	2	2000	6.8	7
			2500		
May 14, 1926	M	2	1400	2.0	6
			1200		
			800		
Total-----				54.8	49

New area dragged-----8.6 Stat. sq. miles
 Total area dragged-----16.1 " " "

Plane tide staff at Culebrita Island.
 Plane of reference ---M.T.L. ---0.5 --- 1.3 on staff.
 Lowest tide observed-----1.1 on staff
 Highest tide observed-----3.0 on staff.

11

September 22, 1927.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
volumes of sounding records for

HYDROGRAPHIC SHEET 4290 add'l.

Locality: **CULEBRITA ISLAND, PORTO RICO.**

Chief of Party: **G. G. Mattison, 1926.**

Plane of reference is **M L W**

1.3 ft. on tide staff at **Culebrita Island.**

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.



Chief, Division of Tides and Currents.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

~~XXXXXXXXXXXXXXXXXXXX~~
~~XXXXXXXXXXXXXXXXXXXX~~
~~XXXXXXXXXXXXXXXXXXXX~~
WIRE DRAG
~~XXXXXXXXXXXXXXXXXXXX~~
~~XXXXXXXXXXXXXXXXXXXX~~
TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 4290 Additional Work

State PORTO RICO

General locality . CULEBRA ISLAND

Locality . WEST AND NORTHWEST CULEBRA

Chief of party G.C. MATTISON

Surveyed by . C.K. GREEN, H.E. FINNEGAN

Date of survey JANUARY--MAY, 1926

Scale 1:20,000

Soundings in FATH

Plane of reference . . M.T.L.--0.5 ft.

Protracted by . . HEF Soundings in pencil by HEF

Inked by . . HEF Verified by

Records accompanying sheet (check those forwarded):

Des. report, ~~----~~ Tide books, ~~----~~ Marigrams, 2 Boat sheets,

2 Sounding books, 4 Wire-drag books, ~~----~~ Photographs.

Data from other sources affecting sheet

Remarks:

NAUTICAL CHARTS BRANCH

SURVEY NO. *H-4290 Add'l. NR.*

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
<i>18 Jan 49</i>	<i>913</i>	<i>Nichols</i>	Before After Verification and Review
<i>31 Mar 49</i>	<i>904</i>	<i>Nichols</i>	Before After Verification and Review
<i>5 Apr 49</i>	<i>(913)</i>	<i>Nichols</i>	Before After Verification and Review
	<i>(914)</i>		
	<i>(915)</i>		Before After Verification and Review
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			Before After Verification and Review

M-2:68-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

applied to chart 913, after Verif. & Review.

Tuichols - 18 Jan. 49.

4290

WIRE DRAG

4290
WIRE DRAG

Form 504	
U. S. COAST AND GEODETIC SURVEY	
DEPARTMENT OF COMMERCE	
DESCRIPTIVE REPORT	
Type of Survey	Wire Drag
Field No. 4	Office No. H-4290 W.D.
LOCALITY	
State	Porto Rico
General locality	Vieques Sound
Locality	Hermanos Passage to Culebra I.
194 22-23	
CHIEF OF PARTY	
F.B.T. Siems	
LIBRARY & ARCHIVES	
DATE	

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

~~WIRE DRAG~~

Additional Work in 1926 is shown on same sheet - see attached Title Sheet

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 1290
Field No. 4

State PORTO RICO

General locality Vieques Sound
East Coast of Porto Rico

Locality Hermanos Passage to Gulebra I.
Vieques Sound - Vicinity of Gulebra I.

Chief of party P.B.F. Siems

Surveyed by Mr. R.R. Moore

Date of survey Feb. 22 to Jan. 23, 1923

Scale 1: 20,000

Soundings in Feet

Plane of reference M.L.W.

Protracted by Mr. N. November Soundings in pencil by Mr. N. November
wire drag plotting examined by Mr. A. Ogram

Inked by Verified by

Records accompanying sheet (check those forwarded):

Des. report, Tide books, Marigrams, Boat sheets,

1 Sounding books, 3 Wire-drag books, 1 Drag Depth tracing Marigrams

Data from other sources affecting sheet

Triangulation Porto Rico 1922 - 1923
Gulebrita Id. and Rajardo tide station data.

Remarks:

See H-4292W.D. (1922-23) for combined descriptive report.

E.P.C.

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY

AND REFER TO NO. 4-DEM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON May 28, 1925.

SECTION OF FIELD RECORDS

Report on Wire Drag Sheet No. H. 4290

Surveyed in 1922 and 1923

Instructions dated July 7, 1921.

Chief of Party, F. B. T. Siems.

Surveyed by R. R. Moore.

Protracted and inked by N. November. Soundings by R. L. Johnston.

Verified by A. L. Shalowitz.

Area and Depth Sheet by H. E. MacEwen.

1. The records conform to the requirements of the General Instructions except that there were no notations in the records relative to bights of drag at beginning of strips.
2. The methods and character of operations satisfy the General Instructions except that there was a total disregard of the rule of forty in setting out the drag. This caused the effective depth of the drag to be reduced considerably in some portions of the work.
3. The extent of dragging satisfies the specific instructions except as follows:
 - a. West and northwest of Point Soldado the drag should be carried closer in to shore in order to utilize all the available anchorage area for battleships as indicated on anchorage chart "C" of the Hydrographic Office. *accomplished add. wk. 1926*
 - b. Along the entire length of the western side of Culebra Island from Pt. Soldado to Northwest Point the drag should be carried closer to the 3 fathom curve. *accomplished add. wk. 1926*
 - c. Around Luispena Cay the drag should be carried closer to shore, particularly in the area east of the southern point of the Cay. This large blank area was caused by the uncertainty of the maneuvering of the drag around here and certain positions therefore had to be rejected. (Vol. 2, page 18). *redragged. add. wk. 1926*

d. Around Mona Cay and Cayo del Agua the drag should, if possible, be extended to the 5 fathom curve. The same is true of the area surrounding Black Rock and Cross Cay.

Dragged to 5-6 fathoms curve. (add. wk. 1926)

e. The drag work should be extended from its present limits to include all the passages between the northwest end of Culebra Island and Botijuela Rock.

✓ accomplished, add. wk. 1926.

4.- The effective depths should be increased in the following places:

a. The 29 and 22 ft. areas northwest of Pt. Soldado.

✓ accomplished, add. wk. 1926

b. The effective depths in Luispena Channel and the area west and northwest of Target Bay should be increased.

accomplished, add. wk. 1926

c. The 24 and 35 ft. areas northwest and west of Luispena Cay should be increased to depths sufficient to accommodate the anchoring of battleships.

not accomplished, add. wk. 1926

d. West of Stream Pt. in vicinity of lat. 18°19' long. 65°21', the 26 and 28 ft. areas should be increased to give the battleships anchoring close by safe swinging room, leaving as small splits as possible over the 28 and 30 ft. spots.

1/2' split covers 26-28 ft. areas not redragged.

e. In the area east of The Sisters, there are numerous small areas that have been dragged to depths of 33 and 34 ft. In view of the fact that this area is laid out as an anchorage for battleships the maximum mean draft of which is 30 1/2 ft., these areas should be deepened considerably, especially so since the charted depths are far in excess.

✓ accomplished, add. wk. 1926.

f. The passage between Yerba Cay and Mona Cay was dragged to an effective depth of 20 and 26 ft. although the depths range from 39 to 66 ft. It may be mentioned that this defect was partly occasioned by the failure of the field party in setting out the drag to take into consideration the rule of forty.

✓ Redragged, 34 & 36 ft. effective depths. (add. wk. 1926)

5. The least water was found over all shoals discovered except as follows:

a. The 51 ft. sounding (grounding depth) in lat. $18^{\circ}18' 1/2''$, long. $65^{\circ}19' 1/2''$. There is uncertainty as to the exact clearance depth on this grounding on account of the uncertainty of the exact location of this spot. It should therefore be investigated.

*redragged to offer
true depth of 33 ft.
(add. wk. 1926)*

b. The 25 ft. sounding in lat. $18^{\circ} 17' 1/2''$, long. $65^{\circ}18'$ was not cleared.

*cleared by drag
28 ft. effective
depth. (add. wk. 1926)*

6. The junctions with the adjacent sheets are adequate except as follows:

a. The junction with H. 4293 around Pt. Soldado is not sufficient.

*Accomplished,
add. wk. 1926*

b. At the northwest corner of this sheet where it joins H. 4288 and H. 4291 there should be a greater overlap.

*Additional work
to north accomplished
in 1926.*

7. The overlaps within the sheet are generally sufficient. There are one or two instances of insufficient overlap and these are clearly indicated on the A. & D. sheet.

Two splits were developed by the verification that should be covered.

*splits covered
by add.
wk. in 1926.*

8. Attention is called to the following:

The drag strip to the north of Barriles Reef from about position 31 X to 36 X if plotted according to the records by using \odot Gas₂ would make the guide launch end of the drag pass over a number of bare rocks of the reef. This discrepancy is doubtless due to the fact that \odot Gas₂ was a floating signal whose position is constantly changing. After a careful consideration of the whole problem it was decided to use \odot Gas instead of \odot Gas₂ for the plotting of the positions bordering on the reef and accept the others as shown by the field party. It is on the side of safety and eliminates the necessity for additional work around here.

9. Further dragging will be required as mentioned above, so this sheet cannot be considered as complete.
10. Extensive changes had to be made by the office cartographer for the following reasons:

a. Failure to observe the 1/40th rule in plotting. This necessitated the largest number of changes. Noticeably true on P, S, T, U, and Y days.

b. Changes due to changed tide reducers in the office. Where the change affected the color of the strip, the correct effective depth in its proper color was shown on the smooth sheet without changing the color of the strip. However, on the A. & D. sheet the correct colors are shown.

c. Faulty plotting. This includes errors made in the subdivision of the drag strips where the cuts from the guide launch to the far buoy do not check with the recorded location of the far buoy as taken from the end launch for that particular position. This is due to one of two reasons: First, the clocks of the guide and end launches may not be synchronized, and second, the entry of the end launch positions in the guide launch records made with respect to position numbers rather than to time. Of course where no depth changes occur on a strip, no discrepancies can arise due to this error, but it becomes important where depth changes occur and no time is given in the records to indicate when the end launch position was taken, even assuming that the clocks were correct. An instance of this occurred on P day where in the main channel the field plotting indicated a 51 ft. drag as having passed over a 42 ft. area. The subdivision was on the end launch side of the drag strip and was made in accordance with the guide launch time. However, in the verification it was found that the cuts to the far buoy at the time the depth change was made fall considerably to the northward from where the positions as indicated in the record for the particular time plotted. In correcting this the depth change to 39 ft. plotted so as to clear the 42 ft. shoal.

(Character and scope of operations - good.

11. Rating of the work)

(Field drafting - good

12. Reviewed by A. L. Shalowitz, May, 1925.

COPY TO FIELD RECORDS.

Oct. 9, 1923.

Division of Hydrography and Topography:

Division of Charts:


Tide reducers are approved in
1 volumes of sounding records for
3 " " wire drag " "
HYDROGRAPHIC SHEET 4290

Locality: **Visques Sound, Porto Rico**

Chief of Party: **P. B. F. Sims in 1922-23**
Plane of reference is **mean low water, reading**
1.7 ft. on tide staff at **Culebrita Is.**
5.0 " " **auto. gauge at Pajarico**

For reduction of soundings, 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.


Chief, Division of Tides and Currents.

NAUTICAL CHARTS BRANCH

SURVEY NO. _____

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
1-5-48	910	H. E. 977	<i>Examined - No amendments applied</i> Before After Verification and Review <i>used</i>
5 Apr 49	913	<i>checked</i>	Before After Verification and Review <i>MB</i>
	914		Before After Verification and Review
	915		Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
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M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.