

4590

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Form 501
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: Porto Rico

11-6613

DESCRIPTIVE REPORT.
8
WIRE DRAG Sheet No. 4590

LOCALITY:

Virgin Passage

N. and E. of Culebra

1925-'26

CHIEF OF PARTY:

C. G. Mattison

56414 71

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WIRE DRAG
HYDROGRAPHIC TITLE SHEET

(Prepared in Office of F. R.)

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. 8

REGISTER NO. 4590

State Porto Rico

General locality Virgin Passage

Locality N. and E. of Culebra

Scale 40,000 Date of survey Dec. 18, 1925 - May 6, 1926

Vessel Ranger

Chief of Party C. G. Mattison

Surveyed by C. G. M., C. K. Green, H. E. Finnegan

Protracted by

Soundings penciled by

Soundings in fathoms feet

Plane of reference

Subdivision of wire dragged areas by

Inked by

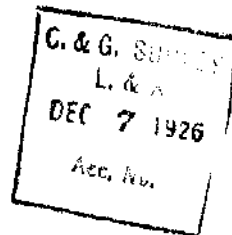
Verified by

Instructions dated May 28, 1925

Remarks:

REG. NO. 4590

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



PORTO RICO AND VIRGIN ISLANDS.

A DESCRIPTIVE REPORT
to accompany
WIRE DRAG SHEET # 8, (VIRGIN PASSAGE)

1925-1926

S.S. RANGER

G. C. MATTISON,
Chief of Party.

DESCRIPTIVE REPORT
to accompany
WIRE DRAG SHEET #8.

PORTO RICO AND VIRGIN ISLANDS.

VIRGIN PASSAGE.

This work was done in accordance with instructions dated May 28, 1925. The drag work was started on December 8, 1925 and completed on May 6, 1926. It joins the wire drag work between Porto Rico and Virgin Islands. Lieutenants Green and Finnegan were in charge of the drag launches.

The drag work was done using the launches "MARINDIN" and "MITCHELL" and Tender "EINA M". Standard drag equipment was used. The work was hampered somewhat by rough weather and strong currents. The heavy swells would cause grounding below the depth set, probably due to lowering of the drag in the trough of the sea. The height of swell was noted in all cases in the records and a correction applied to the drag depth equal to one half the height of swell or sea. Drag tests were made, when weather conditions permitted, to obtain amount of lift due to pull of launches. An attempt was made to use ice scales of 500 pound capacity to obtain uniform towing speed, but they were not satisfactory in rough weather. It was necessary to reduce the tension on the scale by means of a whip to one half the pull in order to keep within the limits of the scale. In a seaway the tension would vary in a few seconds from 50 to 750 pounds.

The presence of "branch" or "finger" coral in Virgin Passage also caused the drag to hang up, and caused doubt as to whether the drag had caught on a piece of this coral or had sagged to a greater depth. Several times thin branches of coral several feet in length were hauled to the

surface. It is almost impossible to obtain a sounding on a specimen of this kind.

It will be noted that the least sounding obtained in several cases of grounding was greater than the drag depth. This was most probably due either to heavy swell or grounding on branch coral, as explained above.

No shoals of any importance were found, almost all of them being outside of paths of deeper draft vessels.

The following shoals were located by the drag.

A depth of 74 feet was found one mile 64° true from Pilot Rock in Lat. $18^{\circ} 22'$, 140 meters, Long. $65^{\circ} 19'$, 1598 meters.

A depth of ~~62~~ ^{plotted drag depth 60 ft.} feet was found 1.8 miles 86° true from Pilot Rock in Lat. $18^{\circ} 21'$, 1410 meters, Long. $65^{\circ} 19'$, 20 meters.

A depth of 47 feet was found $1/8$ mile 125° true from Whale Rock in Lat. $18^{\circ} 20'$, 1680 meters, Long. $65^{\circ} 14'$, 250 meters.

A depth of 68 feet was found $7/8$ mile 38° true from Culebrita Island Light House, in Lat. $18^{\circ} 19'$, 1170 meters, Long. $65^{\circ} 13'$, 225 meters.

A depth of 80 feet was found 80 meters 160° true from the 68 foot sounding above.

A depth of 77 feet was found $1-1/4$ miles 89° true from Culebrita Island Light House in Lat. $18^{\circ} 18'$, 1784 meters, Long. $65^{\circ} 12'$, 635 meters.

A depth of 59 feet was found 1 mile 93° true from Culebrita Island Light House in Lat. $18^{\circ} 18'$, 1650 meters, Long. $65^{\circ} 12'$, 1140 meters.

A depth of $19\frac{1}{2}$ feet was found $1/2$ mile 121° true from Culebrita Island Light House, in Lat. $18^{\circ} 18'$, ¹⁴²⁰ 1280 meters, Long. $65^{\circ} 13'$, 390 meters.

A depth of 68 feet was found $1-3/8$ miles 95° true from Culebrita Island Light House in Lat. $18^{\circ} 18'$, 1450 meters, Long. $65^{\circ} 12'$, 20 meters.

A depth of 58 feet was found 1-5/8 miles 127° true from Culebrita Island Light House in Lat. $18^{\circ} 17'$ 1780 meters, Long. $65^{\circ} 12'$ 540 meters. A depth of 58 feet was found 140 meters 135° true from this position.

A depth of ^{plotted 68} 69 feet was found $2\frac{1}{2}$ miles, 141° true from Culebrita Island Light House in Lat. $18^{\circ} 16'$ 1818 meters, Long. $65^{\circ} 11'$ ¹⁷³⁰ 1630 meters. \leftarrow

⁶⁸ A depth of 70 feet was found 155 meters 130° true from this sounding.

A depth of 61 feet was found 5 miles 159° true from Culebrita Island Light House in Lat. $18^{\circ} 14'$ 540 meters, Long. $65^{\circ} 11'$ 1280 meters. \leftarrow

A depth of 68 feet was found 5.6 miles 159° true from Culebrita Island Light House in Lat. $18^{\circ} 13'$ 1340 meters, Long. $65^{\circ} 11'$ 910 meters. \leftarrow

A depth of ^{plotted drag depth 87 ft} 90 feet was found 5.8 miles 145° true from Culebrita Island Light House in Lat. $18^{\circ} 14'$ 350 meters, Long. $65^{\circ} 10'$ 405 meters. \leftarrow

A depth of ^{drag depth 82 ft} 86 feet was found 5.7 miles 138° true from Culebrita Island Light House in Lat. $18^{\circ} 14'$ 1430 meters, Long. $65^{\circ} 09'$ 1160 meters \leftarrow

A depth of 69 feet was found 5.4 miles 132° true from Culebrita Island Light House in Lat. $18^{\circ} 15'$ 625 meters, Long. $65^{\circ} 09'$ 840 meters. \leftarrow

A depth of ^{drag depth 84 ft} 85 feet was found 3.6 miles 121° true from Culebrita Island Light House in Lat. $18^{\circ} 19'$ 170 meters, Long. $65^{\circ} 10'$ 670 meters. \leftarrow

A depth of 85 feet was found 4.5 miles, 110° true from Culebrita Island Light House in Lat. $18^{\circ} 18'$ 700 meters, Long. $65^{\circ} 09'$ 430 meters. \leftarrow

A depth of 69 feet was found ¹²⁰⁰ 2 miles ⁹⁹¹ 104° true from Culebrita Island Light House, in Lat. $18^{\circ} 18'$, 900 meters, Long. $65^{\circ} 11'$, ⁵¹⁴ 1160 meters. \leftarrow

A depth of 74 feet was found 2 miles 95° true from Culebrita Island Light House, in Lat. $18^{\circ} 18'$, 1420 meters, Long. $65^{\circ} 11'$, 940 meters. \leftarrow

A depth of 75 feet was found 4.3 miles 90° true from Culebrita Island Light House in Lat. $18^{\circ} 18'$, 1720 meters, Long. $65^{\circ} 09'$, 410 meters. \leftarrow

A few other soundings were obtained in depths already charted.

They are not listed.

Respectfully submitted.

Nov. 27, 1926
Forwarded
G. P. Mattson
Edg. S. S. Ranger.

G. P. Mattson

STATISTICS. WIRE DRAG SHEET # 8.

Date	Letter	Volume	Drag Length	Positions	Miles Stat.	Soundings.
Dec. 18, 1925	A	1	6800	20	4.6	0
Dec. 22, 1925	B	1	7200	23	1.5	0
Dec. 23, 1925	C	1	7200	15	1.7	0
Dec. 24, 1925	D	1	7200	16	3.1	0
Dec. 28, 1925	E	1	4500	30	6.2	0
Dec. 29, 1925	F	1	5400	19	5.0	0
Dec. 31, 1925	G	1	5400	--	--	1
Jan. 4, 1926	H	1	6000	11	1.8	1
Jan. 7, 1926	J	1	6000	32	7.7	2
Jan. 8, 1926	K	1	5400	21	3.4	1
Jan. 11, 1926	L	1	4000	22	2.2	1
Jan. 25, 1926	M	1	5300	12	3.0	1
Jan. 27, 1926	N	2	4500	35	5.4	1
Feb. 8, 1926	P	2	4000	30	2.9	2
Feb. 9, 1926	Q	2	4000	8	1.4	3
Apr. 6, 1926	R	2	5400	5	1.0	4
Apr. 13, 1926	S	2	6300	6	0.5	1
Apr. 15, 1926	T	2	6300 4800	23	4.6	1
Apr. 20, 1926	U	2	3500	17	4.6	1
Apr. 21, 1926	V	2	6300	27	6.9	1
Apr. 22, 1926	W	2	7000	17	3.4	0
Apr. 27, 1926	X	2	7000	12	1.6	2
Apr. 28, 1926	Y	2	7000	23	5.1	1
May 4, 1926	Z	2-3	6300	16	5.0	1
May 5, 1926	AA	3	4500 4000	25	5.2	1
May 6, 1926	BB	3	3500	8	2.5	0
Total				473	90.3	27

Statistics (Con't)

Area dragged----47.6 square statute miles.

Tide staff at Culebrita Island.--Automatic gauge at St. Thomas was used on one or two days, when readings were not obtained at Culebrita.

Plans of reference---M.T.L.--0.5= 1.3 on staff at Culebrita Id.

Lowest tide observed at Culebrita=1.1 reading on staff.

Highest tide observed at Culebrita= 3.0 reading on staff.

List of signals
Wire drag sheet #8.

Name	Lat.	Meters	Long.	Meters	Remarks
Fungy Bowl	18 21	T	65 22	T	Large rock NW Culebra
Surf	18 20	T	65 18	T	Small tripod
Scrub Cay	18 20	550	65 17	762	Tripod
Pave	18 20	76	65 15	1194	WW
Duck	18 19	496	65 15	237	WW
Negra	18 18	T	65 14	T	Tripod
House	18 18	T	65 15	T	S.gable of house head of Mangrove Harbor.
Ade	18 17	1748.6	65 14	1710	WW
Vaca 2	18 17	T	65 15	T	Tripod-Vaca pt.
Soldado2	18 16	T	65 17	T	Cairn of rocks on Soldado pt.
Lee	18 20	280	65 15	808	WW
Nob	18 20	848	65 15	1712	WW
Mit	18 20	1120	65 15	1732	WW
Gap	18 20	1204	65 15	1020	WW
Nec	18 20	1180	65 15	692	WW
Whale	18 20	T	65 14	T	High point on rock.
Shark	18 20	T	65 14	T	High point on rock.
Pajarito Cay	18 20	T	65 14	T	Small tripod
Palada Cay	18 20	T	65 13	T	Tripod on highest point of Cay.
Davy Cay	18 19	T	65 14	T	Tripod on high point of Cay
Cape Passage	18 19	T	65 13	T	WW
Cuãbrita Lt.LH	18 18	T	65 13	T	Light house spire.
Reef Pt.	18 18	T	65 13	T	WW
Sail Rk	18 17	T	65 06	T	

List of signals
Wire drag sheet # 8.

Name	Lat.	Meters	Long.	Meters	Remarks.
Saba	18 18	T	65 00	T	Highest Pt. Saba Is.
Savana	18 20	T	65 04	T	Highest Pt. S.end Savana Is.
Dutch	18 22	T	65 03	T	Highest Pt.
Roach	18 24	T	65 03	T	Highest Pt.

Note:

T under meters = Triangulation.

HYDROGRAPHIC SIGNALS.

Wire drag Sheet # 8.

Objects and Descriptions	Lat.	DM Meters.	Long.	DP Meters.	Height	Remarks.
<u>Pave:</u> W.W. on Pavement Point N.Culebra	18 20	76	65 16	1194		Located by occupation (Sextant fixes)
<u>DUCK:</u> WW on Duck Pt. NW Culebra						Transferred from WD sheet # 4293
<u>AID:</u> WW on small rock East of Water Cay	18 17	1748.6	65 14	1710		Located by occupation. (3 point fix)
<u>LEE:</u> WW on small pt. so. of NE Cay.						Transferred from WD sheet 4293
<u>MIT:</u> WW on top NW pt. of NE Cay	18 20	1120	65 15	1762		Located by sextant cuts from launch.
<u>NOB:</u> WW on SW Pt. NE Cay						Transferred from WD sheet 4293
<u>GAP:</u> WW on small pt. NW coast NE Cay	18 20	1204	65 15	1020		Located by sextant cuts from launch.
<u>NEC:</u> WW on N. Coast NE Cay	18 20	1180	65 15	692		Located by sextant cuts from launch, and by occupation. (5 point fix)

TOPOGRAPHIC SIGNALS

Objects and discription.	Lat	DM	Long	DP	Height	Remarks
<u>SCRUB</u> : Cay on N. Culebra						Position of signal sent from Wash- ington Office. (Ref. to 9 DRM)

September 22, 1927.

(11)

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 4690

Locality: GULEBBA ISLAND, PORTO RICO.

Chief of Party: G. C. Mattison, 1925-1926.

Plane of reference is M L W

5.2 ft. on tide staff at St. Thomas

1.5 ft. -----do----- Gulebrita 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.

E. H. ...

Chief, Division of Tides and Currents.