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Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

..... Director

State: Porto Rico

G. & B. SURVEY
L. & A.
JUN 29 1928
Acc. No.

DESCRIPTIVE REPORT

~~Topographic~~ }
Hydrographic } Sheet No. 4725

15

LOCALITY

Vieques Island

Pt. Arenas and West End of

Vieques Island

1927

CHIEF OF PARTY

G. C. Mattison

GOVERNMENT PRINTING OFFICE

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

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET #15 4725

Point Arenas, P.R.
Vieques Island

S.S. RANGER

G.C. MATTISON,
Chief of Party

1927

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET #15

Instructions dated July 3, 1926.
Feb. 28, 1927

LIMITS:

The sheet comprises the area between N. Lat. 18 05' and 18 07' 30" and W. Long. 66 33' and 66 35' 30". A survey of Point Arenas.

GENERAL DESCRIPTION OF COAST:

The coast in the vicinity of Point Arenas Roadstead is low and flat, the shore line is fringed with coconut groves and bushes. The beaches are of white sand and the points rocky with coral reefs making off.

SURVEY METHODS:

All previous soundings had been transferred to the boat sheet and such additional lines as were deemed necessary to give a close development were added.

The first soundings were taken by two parties working from the ship. Lieut. Auld in charge of party #1 - W.R. Porter recording. Party No. 2 in charge of Lieut. (jg) H.E. Finnegan in the wire drag tender M4. Soundings taken by these two parties were not deemed sufficient so Lieut. (jg) R.F.A. Studds on the launch MARINDIN returned and finished the survey. Standard Coast Survey practice was followed in making the survey. Three point sextant fixes taken on shore objects previously located were used for the control.

The following signals were used in the survey:

Triangulation station - - ARENAS 2

TOPOGRAPHIC SIGNALS

Nut	Tank	How	Stone	Ked	Bo
Rig	Souse	Las	Cot	Sell	Wheel
Oil	Can	Stan	Hack	Tar	Napa
Wind	Nipa	Tow	Cor	Bow	Red
	Low Black Tank	Old Well	Ged.	No	

The following shoal spots were found:

A shoal spot with a least depth of 18 feet was found in Lat. 18 06' 1263 meters, Long. 65 34' - 1474 meters. Tank lies .4 miles away and bears 41.5° true.

A shoal spot with least depth of 17 feet was found in Lat. 18 06' - 1506 meters, Long. 65 34' - 1609 meters. Tank lies .4 miles away and bears 62.4° true.

A ridge with a least depth of 18 feet running almost east and west was found in Lat. 18 06' - 1550 meters Long. 65 34' - 1640 meters, Tank lies .4 miles away and bears 66.3° true.

A shoal spot with a least depth of 17 feet was found in Lat. 18 06' - 1676 meters, Long. 65 34' - 1550 meters. Tank lies .35 miles away and bears 74.2° true.

A shoal with a least depth of 17 feet was found in Lat. 18 06' 1738 meters, Long. 65 34' - 1610 meters. Tank lies .35 miles away and bears 81.7° true.

A shoal with a least depth of 17 feet was found in Lat. 18 07' 52 meters Long. 65 34' - 1635 meters. Tank lies .35 miles away and bears 95.8° true.

CHARACTER OF BOTTOM:

Bottom is sandy with coral growths. In the shoal areas are numerous grassy spots.

TIDES AND CURRENTS:

Tides run parallel to the shore in the anchorage and average about 2½ knots.

A tide gauge was located on the dock used by the sugar central company. Observations were taken over a period of three days. The reducers for the records were taken from comparisons of these results with San Juan tides. *The Humacao gauge was used for one day's work.*

PLANE OF REFERENCE AND LEAD LINE:

Soundings were plotted on the sheet in feet. Plane of reference, mean tide level minus 0.5 foot.

Plane of reference reading on gauge	3.4 feet
Lowest tide observed " " "	2.3 "
Highest " " " "	3.2 "

Bronze center lead lines was used on this survey; no lead line corrections were used.

*Forwarded.
J. M. Mathison
Cp. S. S. Range.*

Respectfully submitted
Benjamin H. Rigg,
Benjamin H. Rigg,
Jr. H. & S. Engineer

STATISTICS
HYDROGRAPHIC SHEET #15

Date 1927	Letter	Vol.	Pos.	Soundings	Miles stat.	Vessel
Mar. 24	a	1	4	75	0.3	Motor dinghy
Mar. 25	b	1	75	497	9.5	" "
Mar. 25	a	2	107	373	9.0	Tender
June 9	b	2	104	475	10.7	"
Totals			290	1420	29.5	

Area surveyed -----1.8 square stat. miles.

The instructions called for sounding lines around Point Arenas, and to the eastward of it. These were not run in, as conditions were unfavorable whenever an attempt was made to do the work. Instructions dated February 28th, stressed the necessity for completing the work in the West Indies before hurricane season set in, and to have waited for suitable weather conditions would have delayed the return of the vessel to the States.

Gen.

March 8, 1928.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
8 volumes of sounding records for

HYDROGRAPHIC SHEET

4725

Locality:

VIRQUES ISLAND, PORTO RICO.

Chief of Party:

Plane of reference *G. G. Mattison, 1927.*

2.9 ft. on tide staff at *M L W*
PT. ARENAS

2.8 ft. *do* *Humacao*

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.

J. H. Manna
Chief, Division of Tides and Currents.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 11-DEM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON August 9, 1928.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4725

Pt. Arenas, Vieques Island

Surveyed in 1927

Instructions dated July 3, 1926; February 28, 1927 (RANGER)

Chief of Party, G. C. Mattison.

Surveyed by R. A. Auld, H. E. Finnegan, R. F. A. Studds.

Protracted by J. M. Baker, Jr.

Soundings plotted by B. H. Biggs.

Verified and inked by J. G. Ladd.

1. The records conform to the requirements of the General Instructions.
2. The plan and extent of the work satisfy the specific instructions with the exception that additional work should have been done off Point Arenas and to the eastward. (See descriptive report, page 3.)
3. By combining the earlier surveys H. 2528, H. 2584 and H. 2585 with the present survey, the usual depth curves can then be drawn.
4. The sounding line crossings are adequate considering the irregularities of the bottom.
5. The junction with the old survey H. 2528 (surveyed in 1901) is generally satisfactory. The development in the roadstead south of Point Arenas appears sufficient. For the most part little change appears to have taken place here. Along the 18 foot curve there are deepenings in places of as much as 3 feet. Sixteen feet was the least depth found on the shoal 600 meters W. x S. of the dock near Pt. Arenas. It should be noted that a 19 foot drag on H. 4287 (surveyed in 1923) apparently passed over this shoal as well as a number of other

17 and 18 foot soundings in this vicinity without grounding. It is difficult to explain this unless an improper allowance was made for lift. The drag records were examined and it was found that at the end of the strip (15 U') the drag was aground, but no mention made of what point of the drag. It is possible that the drag was hung up on the 16 foot shoal, although with the length of drag used it would be difficult to stretch the drag around the shoal. This of course could be explained by assuming that the corresponding end and guide launch positions at 15 U' were not taken simultaneously. The drag sheet was changed accordingly. As for the other soundings of 17 and 18 feet that were dragged over, the inconsistency will have to remain. There is no reason for questioning the accuracy of the hydrographic survey, and since it agrees generally with the former survey, they should be given preference over any effective depth established by the drag.

6. Additional work should be done off Point Arenas to a point where the new and the old work agree. Split lines should also be run to the eastward of Point Arenas. The work should also be extended further inshore in the area between © Tow and © Souse.

While there remain some areas between the 18 and 30 foot curves that might have been developed in greater detail, no further work is necessary here since they have been covered by the drag to an adequate depth.

7. Reviewed by A. L. Shalowitz, July, 1928.

Approved:

Chief, Section of Field Records (Charts)

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

Sheet # H 4725

Surveyed by, - R.A. Auld, H.E. Finney, - R.F.A. Study
Chief of Party G. C. Mattison
Projected by J. M. Baker, Jr.
Revised sounding by B. H. Biggs
Verified and indexed by J. B. Reed

1. The records conform to the requirements of the General Instruction.
2. The Plans and Character of development fulfill the requirements of the General Instruction.
3. The sounding lines are adequate for crossing.
4. The usual depth curves could be drawn.
5. The field plotting was complete and accurately done.
6. I do not think that further survey is necessary to properly develop the area.
7. In a few cases overlapping lines did not check well with previous lines, ~~was~~ but as the bottom is very irregular

anyway, this fact may be minimized.

a few of these locations are,

line 62a to 65a and 85b to 87b.

also 91b to ~~92b~~ 93b^(blue) and 73b to 75b (green)

17b to 19b (green) and 30b to 31b (blue).

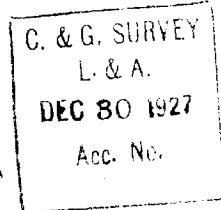
J. L. Loo
jr. Cat. Co.

The soundings on H 2528 between position
(700 meters 246° from Δ Arenas)
82 d day, and end of line, should not be
considered in compiling chart for the following
reasons: The distance between L 82 and end of
line is excessive for correct spacing of sound-
ings. It is also probable that sounding boat
slowed down on approaching shore. These as-
sumptions are corroborated by work on H 4725
which shows 16 and 17 feet where H 2528 shows
9 and 11 feet.

ams.

(A.M. Sobieralski)
Mar. 19, 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY



HYDROGRAPHIC TITLE SHEET

REG. NO. 4725

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. 15

REGISTER NO. 4725

State Porto Rico

General locality Vieques Island

Locality Point Arenas and W. End of Vieques I.

Scale 10,000 Date of survey March-June, 19 27

Vessel Str. RANGER

Chief of Party G.C. Mattison

Surveyed by R.A. Auld, H.E. Finnegan, R.F.A. Studds

Protracted by J.M. Baker Jr.

Soundings penciled by B.H. Rigg

Soundings in ~~fathoms~~ feet

Plane of reference M.L.W. - 5 Ft.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated July 3, 19 27

Remarks: See Wire Drag Sheet Covering same Area