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Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

....., *Director*

State: Porto Rico

DESCRIPTIVE REPORT

Topographic / ~~*Hydrographic*~~ *Sheet No.* 4322

LOCALITY

Porto Rico - S. Coast

Maunabo, Cape Mala Pascua to Pt. Quebrada

Honda

1927

CHIEF OF PARTY

G.C. Mattison

GOVERNMENT PRINTING OFFICE

DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

E. LESTER JONES, DIRECTOR.

PORTO RICO

A DESCRIPTIVE REPORT

to accompany

TOPOGRAPHIC SHEET # 11. 4322

1926-1927

S.S. RANGER

G.C.MATTISON,
CHIEF OF PARTY.

DESCRIPTIVE REPORT

TO ACCOMPANY

TOPOGRAPHIC SHEET #11.

LIMITS OF SHEET:

This survey extends from Point Quebrada to Cape Mala Pascua on the south coast of Porto Rico.

The sheet lies between the limits of the meridians 65 49' and 65 57' and between the limits of the parallels 17 58' and 18 03'.

GENERAL DESCRIPTION OF SHEET:

This sheet embraces Maunabo Valley and the mountainous areas that enclose it. The cane covered valley is about a mile and a half wide and extends about two and a half miles inland in a northwesterly direction. The range of mountains on the north marked by the peaks Pandura, Sombrerito and Santa Helena is rolling and has numerous small rock outcrops and is strewn with bowlders. The range terminates in three ridges enclosing small valleys, between Point Toro, Point Yeguas and Point Quebrada Honda. This range has an elevation of from 1400 to 1800 feet; the highest peak being Santa Helena. The mountains are covered with grassy pasture lands, occasional trees, bush, cactus and numerous patches of cultivation. On the south the range of mountains is covered with a similar vegetation at the lowers levels, but is heavily wooded near the summits and wooded on the southern slope. The most southern mountain in the range; Mala Pascua, terminates in high rocky bluffs at the seashore. The coast line is irregular, having rocky points and fine sand beaches. Some of these beaches are bordered by cocoanut palm groves.

DESCRIPTION OF COAST:

Sheet includes coast from Point Quebrada Honda to Cape Mala Pascua.

Point Quebrada Honda lies on southern end of sand beach forming Port Yabucoa. It is well marked by a brown sandstone mass of rock about 50 feet across and 30 feet high; mass is connected to land by a neck of sand. Dark bluffs, 30 feet high extend 200 meters to south of point and some distance to northward. A small hill 237 feet high topped by a pillar of rock 30,feet high lies 450 meters to northwest of point. Triangulation station RO is located on seaward side of pillar. A round topped grass covered hill 483 feet high strewn with large white bowlders lies about 900 meters N.W. from Point Quebrada Honda on range with lesser hill. A sand beach extends south by east from the Point, fronting a small valley. In about the middle of this valley, 200 meters from the beach is a square redish brown stack 60 feet high; remains of a sugar mill. This chimney stands in a group of palm trees.

The valley is bordered on the south by a cane and grass covered ridge extending to the beach; ending in three rocky points. The most southern and sharpest of these is Point Yeguas. The highest bluffs at Point Yeguas are of soft sandstone and are erroding, especially on the south side. The top of Point Yeguas is smooth and grassy. The valley between Point Yeguas and Point Toro has little cane; is generally grassy with a few trees. The beach between the two points is of fine sand becoming coarse gravel near Yeguas. At Point Toro a mountainous ridge sparsely covered with trees and grass shears off to brown rocky bluffs. The shore line at Point Toro is strewn with large bowlders and parts of it are abrupt cliffs that are impassable. West of Point Toro is a valley that extends to a ridge terminating at Point Tuna. A fine sand beach runs from Point Tuna eastward over half the distance to Point Toro; where it is broken up by numerous low bluff points and intervening gravel beaches. A palm grove runs north of the sand beach east from Point Tuna. Point Tuna is about 85 feet high with rocky cliffs at the water. A lighthouse consisting of a flatroofed building surmounted by a tower stands on the flat top of the point near the edge of the bluff. About a half mile north of the point is a hill about 400 feet high. Just west of Point Tuna is the Port of Maunabo. The coast indents slightly, but affords very little shelter as an anchorage. The Port consists of a sugar warehouse with a chute to load lighters. The port has numerous small thatch and wooden shacks, but no permenant buildings other than the warehouse. The cove shelters some small fishing craft.

From the port southwest to the foothills of Mala Pascua there is a fine sand beach bordered by a palm grove. About one half mile west of the port is the mouth of the Maunabo River. This river drains Maunabo Valley.

DESCRIPTION OF INTERIOR:

The village of Maunabo lies about a mile from the port. It is small postal town on a good road between Guayama and Yabucoa. It has telephone and telegraphic communications with the rest of the island. Accomodations in the village are poor: shops carry only the limited stock necessary to supply the meagre needs of the surrounding community.

A short way to the southwest of the village lies the Columbia Sugar Central. This mill grinds all the cane raised in the valley; turning out approximately 200,000 bags of raw sugar during the grinding season.

Cane is raised on all suitable and available ground. The hills just above the cane limits are pastured and serve as grazing ground for the oxen used in the cane fields. Most of the cane workers live up in the hills in small thatch and wood huts and have small patches under cultivation.

SURVEY METHODS:

Attempts were made to recover old triangulation stations, Mala Pascua, Pandura, Santa Helena and Yeguas so as to obtain a system

of control. None of these were recovered.

Of the available recovered triangulation stations, Point Tuna Lighthouse, Columbia Central Stack, Mercedita Chimney and Ro, no two were intervisible. To establish control, a triangulation station was established on top of Sombrerito Mountain. Observations were made from this station on triangulation stations Mercedita, Point Tuna Lighthouse and Columbia Sugar Central, using six direct and six reverse pointings. Triangulation station Guayenes was recovered and a signal erected. A signal was erected on Yeguas and located by a three point fix. Signals, Mal, Nude, Cross, Bush, Hub, Palm and Pear were located by theodolite cuts. All other signals were located by the plane table.

Starting at signal Mal, the entire shoreline was traversed by plane table, ending traverse at triangulation station Ro. The traverse between signal Mal and Point Tuna Lighthouse was in error 15 meters, so it was re-run and a 5 meter error adjusted. From Point Tuna to signal Nude the traverse checked. From Nude to triangulation station Yeguas traverse was in error and an adjustment was made. Traverse from Yeguas to Ro checked within allowable error.

Limits of vegetation and contours were located with the plane table.

A traverse was run from signal Mal along road to Guayama and down to sharp rock (distance computed North and South location of rock was determined by theodolite cut from Point Tuna), from there along beach back to signal Mal and it checked. The traverse was continued to the Central Sugar factory now called Columbia Central. The traverse checked. It was carried on along the Guayama-Yabucao road thru Maunabo to the top of the divide. Three point fixes were taken along the road going up the mountain and traverses were run between these fixes.

The private and unimproved roads and the rivers were located by sextant cuts and plotted with a protractor.

CHANGES IN SHORELINE:

North east of the Mala Pascua Bluffs between signals Kat and Coco the beach has built up and cut about 30 meters.

Northeast of Point Tuna the beach has been cut in from 60 meters, close to Lighthouse to 10 meters at signal Last.

In the bay south of Point Quebrada Honda the beach has been cut into 10 to 15 meters.

The rocky mass at signal Brown has been almost cut away from the shore being connected by a narrow sand spit.

The bluffs at Mala Pascua, Point Tuna and Point Toro have not changed. The sandstone bluffs at Point Yeguas have erroded to some extent on the south side.

OTHER CHANGES:

Columbia sugar factory was formerly charted as Central sugar factory.

The rivers in the valley have changed their course just slightly. The mouth of the Maunabo River is undergoing a constant change.

CONTROL:

Control for this sheet was established by the use of the triangulation stations, Point Tuna Lighthouse, Cloumbia sugar factory stack. Mercedita Chimney, Yabucao spire, Guayanes 2 and Ro: taken from previous surveys.

MAGNETIC DECLINATION:

At signal Yeguas on February 3,1927 the magnetic declination was found to be 5° and 15'.

Respectfully submitted.

A.C.THORSON,
Jr. H. & G. Engineer,
Topographer.

Forwarded
G.G. Mattson
Cdg, U.S.S. Ranger.

Inspected and found adequate
E. Rice
Mar, 1928

See correspondence in descriptive report of H.4740 relative to dock at Maunabo.
E.P.E.

STATISTICS

Topographic sheet #11

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New area surveyed in square statute miles	5.5
Area resurveyed in square statute miles	9.2
Length of detailed shoreline in statute miles	10.47
Length of shoreline, rivers and creeks resurveyed in statute miles	4.0
Length of roads in statute miles	17.06

LIST OF PLANETABLE POSITIONS

Topographic Sheet #11.

Object and Description	Lat.	D.M.	Long.	D.P.	Remarks.
Kat Naked tree WW	17 58	1771	65 54	1077	About 20 m. from beach up slope of Mala Pasuna.
Dur 5' pile of rock W.W.	17 59	214	65 54	809	At west end of Coco. grove 400 meters from ⊕ Kat
Coco WW Palm tree trunk	17 59	510	65 54	453	475 m NE of ⊕ Dur
Cal WW Palm tree trunk	17 59	779	65 54	97	450 m NE of ⊕ Coco
Alm Almond tree WW	17 59	1090	65 53	1462	East of river outlet 110 meters from beach
High WW Palm tree trunk	17 59	1194	65 53	1153	Palm tree farthest west in group 500 m. W of sugar warehouse
Pile On SE corner of dock	17 59	1117	65 53	650	Pile on Sugar warehouse chute--Dock
Aul Boards on palm: W.W.	17 59	1200	65 52	1724	10 meters from beach 525 meters NE of Lighthouse
Fin Boards on Palm:	17 59	~~1622~~ 1430	65 52	~~1598~~ 1546	15 meters from beach, 1060 meters from Lighthouse
Last Last Palm tree:	18 00	~~650~~ 932	65 52	~~739~~ 1070	Eastern end of grove. Tree is L shaped
Cross Pole Signal nailed to tree	18 00	650	65 52	739	Tree trunk 2' in diameter. Wooden cross on trunk.
Fork Small forked tree	18 00	1024	65 52	300	Tree on knoll. Tree W.W.
Rea Bush	18 00	1039	65 51	1090	Bushy tree back of thatch hut
Nude Trunk-Pole banner	18 00	883	65 51	1090	Pole and banner signal above Nude tree
Bol W.W. Bowlder	18 00	773	65 51	862	Western point of Point Toro
Led W.W. Rocky ledge:	18 00	1049	65 51	422	On eastern Promontory of Point Toro

LIST OF PLANETABLE POSITIONS (con't)

Object and Description	Lat.	D.M.	Long.	D.P.	Remarks
Low Outlaying Rk	18 00	1338	65 50	1509	Most outlaying rock in Bay between Yeguas and Toro
Sharp Rk ROC Off Cape Mala: Pascua	17 58	1206	65 55	87	Cone shaped rock 12' high about 10 ft. from beach
Sharp Highest rock	18 01	92	65 50	1007	Most prominent rock in group- In Bight NW of Yeguas
Yeguas Tripod signal:	18 00	1630	65 50	182	On top of Point Yeguas marked by a pipe.
Off Outlaying Rk.	18 01	70	65 49	1618	N.E. of first point north of Yeguas
Bee W.W.on rocky ledge	18 01	635	65 49	1500	First point south of Quebrada Honda
Brick Brown brick	18 01	1506	65 50	112	225 meters from beach near group of Buildings
Brown Mass of rock	18 01	1597	65 49	1420	At Point Quebrada Honda
Min WW Pile of Rk:	18 00	933	65 52	35	On point projecting out from Bay East of Lighthouse.

SIGNALS LOCATED BY THEODOLITE CUTS.

Name and Description	Lat.	D.M.	Long.	D.P.	Remarks
Bush Cloth banner	17 59	1631	65 43	557	On 400 ft. Hill N of Port.
YEL Seaward gable	17 59	1059	65 54	829	Yellow house near main road
Hub House under Bush	17 59	1829	65 55	654	House fronted by large bushy tree
Palm Lone Palm tree	18 00	1008	65 55	447	South of red roofed house
Pear White house	18 00	1832	65 54	83	On hill North of town

Form 567

DIVISION OF CHARTS, FILE NO.

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

SAN JUAN PORTO RICO

DIRECTOR

MAY 20, 19 27

~~SUPERINTENDENT~~, U. S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted:

T. 4322 G.C.MATTISON *Chief of Party.*

DESCRIPTION.	POSITION.				DATUM.	Method of determination.	Charts affected.
	Latitude.		Longitude.				
	° ′	D. M. meters.	° ′	D. P. meters.			
White Schoolhouse on top of ridge	18 01	1244	65 50	1458	P.R.	P.T.	902 904

A list of objects which are of sufficient prominence for use on the charts, together with a description of the same, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report. The selection, determination, and description of these points are of primary importance.

The description of each object should be short, but such as will identify it; for example, standpipe, water tower, church spire, tank, tall stack, red chimney, radio mast, etc. Generally, flagstaffs and like objects are not sufficiently permanent to chart.

11—6048

Form 537a
11—5813

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4322

TOPOGRAPHIC TITLE SHEET

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. 11

REGISTER NO. 4322

State PORTO RICO

General locality SOUTH COAST of Porto Rico

Locality MAUNABO: ~~POINT~~ CAPE MALA PASCUA TO ~~POINT~~ CAPE QUEBRADA HONDA

Scale 1:20,000 Date of survey Dec.29,1926-Feb.9, 1927

Vessel RANGER

Chief of Party G.C.MATTISON

Surveyed by A.C.Thorson

Inked by A.C.Thorson

Heights in feet above MSL to ground to tops of trees

Contour, Approximate contour, Form line interval 100 feet

Instructions dated July 3, 1926

Remarks:

GPO