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Form 504	
DEPARTMENT OF COMMERCE	
U. S. COAST AND GEODETIC SURVEY	
....., Director	
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State: Porto Rico	
DESCRIPTIVE REPORT	
Topographic Hydrographic	Sheet No. ^{II} 4323
LOCALITY	
Southeast Coast of Porto Rico	
Ports Humacao and Naguabo	
Pt. Lima to Morro de Humacao	
1927	
CHIEF OF PARTY	
G. C. Mattison	

GOVERNMENT PRINTING OFFICE

C. & G. SURVEY
L. & A.
FEB 20 1928
Acc. No.

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

PORTO RICO

A DESCRIPTIVE REPORT

to accompany

TOPOGRAPHIC SHEET # 12. 4323

1927

S.S. RANGER

G.C. MATTISON,
CHIEF OF PARTY.

DESCRIPTIVE REPORT

to accompany

TOPOGRAPHIC SHEET #12.

LIMITS OF SHEET:

This sheet extends from Point Lima to Morro de Humacao on the south east coast of Porto Rico. The survey includes Batata and Santiago Cays.

The sheet lies between the limits of the meridians 65 41' and 65 48' and between the parallels 18 06' and 18 13'.

INTRODUCTION:

This sheet comprises the shoreline between Point Lima and Morro de Humacao. It includes the ports of Naguabo and Humacao. A cane covered valley lies between Morro de Humacao and Point El Morrillo. At this point a range of rolling hills make off to the northwestward. Between El Morrillo and the Port of Naguabo lies another valley having large cocoanut groves on the seaward side; a swamp forest in the middle of the galley and cane fields in the interior. Another range of rolling hills lies inland from Point Lima to Naguabo Port. The shoreline on this sheet is a fine sand beach except that east of Naguabo Port, which is rugged and rocky.

DETAILED DESCRIPTION OF COAST LINE:

Point Lima is marked promontory on the southeast coast. It is a tree covered hill about 260 feet high, terminating in rocky cliffs at the waterline. To the west of Point Lima are two small bays having coarse gravel beaches. There are several bluff rocky points between Point Lima and the Port of Naguabo.

The port shelters numerous small fishing craft and has one small dock for loading sugar lighters. Ships anchor off between the Port and Santiago Cay. The most prominent buildings in the port are the sugar warehouse on the north side and the new white school-house on the bluff to the east side of the bight.

A short way to the west of the Port is a prominent brown bluff point which marks the beginning of the fine sand beach that extends all the way to Morro de Humacao. The beach is broken by a rocky bluff at Point El Morrillo. The beach is bordered by palm groves that extend inland as much as half a mile.

The port of Humacao lies in from Santiago Cay. It has railroad connections with the City of Humacao. It is postal village and lies on a good hard surfaced road that also passes thru the port of Naguabo. It has two small docks for loading and unloading lighters. Lumber in any quantity is available at the port.

DESCRIPTION OF INTERIOR:

A large number of coconuts are harvested and shipped from the groves along the beach. A large swamp forest lies about half a mile inland from the Port of Humacao. It is about 2 miles long and three quarters of a mile wide, extending in a northwesterly direction.

Three sugar factories operate in the vicinity; El Ejemplo factory near Humacao, owned by A Roig; Pasto Viejo factory, a branch of the Caguas Sugar Co. and Triunpho Factory near Naguabo, owned by Garzot and Fuertes. The raw sugar from these factories is shipped from the Ports Naguabo and Humacao.

The hills in the vicinity are low and rolling and many of them are cane covered.

The valleys are well drained by rivers and ditches running into them.

SURVEY METHODS:

Plane table and stadia were used.

The triangulation stations BAT (on Batta Cay) and SAN (on Santiago Cay) and TIP (on Point Lima) were recovered.

*1901 Batata P.25 office files P.25 files
F.B.T. Sheets 1923- Access No. 81552*

Signals were built along the beach from El Morrillo Point to prominent point west of Point Lima.

Theodolite cuts were taken from the three triangulation stations mentioned, to those signals as far as possible and they were located graphically. A traverse was run from the Custom House (triangulation station) at Port of Humacao and east to signal TIP locating roads and shoreline and checking location of signals.

The old signal MOR on Point El Morrillo was recovered and a traverse was run from there to Morro de Humacao and to the Port of Humacao.

Traverses were run along the main road to limits of sheet.

In running these traverses, three point fixes were taken and the traverse checked at several points; no error above that allowable was accumulated.

CHANGES IN SHORELINE:

The shoreline has not changed appreciably except at the Port of Humacao, where the beach is continually building outward.

OTHER CHANGES:

The sugar warehouse at Naguabo Port is new and its gable is slightly west and south of gable of old warehouse.

A new school house just completed at Naguabo Port was located by cuts and plane table.

A new sugar factory, Triumpho lies ^{North} south of the city of Naguabo. It is known as Triumpho. Its stack; a tall black steel stack was located by plane table cuts.

Respectfully submitted.

A.C. Thorson

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

*Forwarded
G. Mettison
Chf. S. S. Ranger.*

Inspected and found adequate. The magnetic meridian is not shown.

E. P. Peck

March, 1928

Notes -

An interpolation has been made in the office of the contours on this sheet that were transferred from T-2540. The topographer in making the transfer failed to note that the contour interval on the old sheet was 10 meters whereas on the new survey it is 50 feet. All necessary adjustments have therefore been made.
Approved by S. S. Borden, Chief Section Field Work.
(See letter attached).
a. L. Shalant
Dec. 1928.

. STATISTICS

TOPOGRAPHIC SHEET # 12

New area surveyed in Square Statute miles 6.0

Area resurveyed in Square Statute miles 3.4

Length of Detailed Shoreline in Statute miles 12.6

Length of shoreline of rivers resurveyed 1.6

Length of roads in statute miles 5.0

LIST OF PLANE - TABLE POSITIONS

Name and Description	Lat	D.M.	Long.	D.P.	Remarks.
TOR W.W. Boulders	: 18 11	: 156	: 65 42	: 915	: On Prominent point
Schoolhouse					: west of Point Lima
South gable	: 18 11	: 832	: 65 42	: 1289.5	: At Port Naguabo
Sugar					
Warehouse Gable	: 18 11	: 885	: 65 42	: 1584	: At Port Naguabo
Brown					Brown bluff west.
W.W. on bluff	: 18 11	: 846.5	: 65 43	: 517.5	: of Naguabo
Rig					150 meters east of mouth
W.W. Palm tree	: 18 11	: 588.5	: 65 43	: 1147	: of Rio Blanco-10 m from
Kit					Beach
W.W. Palm tree	: 18 11	: 57	: 65 44	: 5.5	: 550 m. W of mouth of
Post					Rio Blanco.
W.W. Telephone post	: 18 10	: 1495.5	: 65 44	: 391	: 5 m. from center of road
Jane					
W.W. Palm tree	: 18 10	: 905	: 65 44	: 697	: 70 m. W. of river
Cros					North end of Port
W.W. Palm tree	: 18 10	: 412	: 65 44	: 874	: Humacao
Tank					
Red tank	: 18 09	: 1773	: 65 44	: 1187	: At Port Humacao
Lu					
W.W. Palm tree	: 18 09	: 1605	: 65 44	: 1573	: 400 m. SW of tank
An					
W.W. Palm tree	: 18 09	: 1353.5	: 65 45	: 333	: West of 0 Lu
Hut					
W.W. Tin shack	: 18 09	: 1109	: 65 45	: 794	: Bath house on beach
Bim					
W.W. Palm tree	: 18 09	: 823	: 65 45	: 1200	: 1300 m. NW of El Morrillo
Black					Black cross on hill N.
Wooden signal	: 18 09	: 566	: 65 46	: 27	: of El Morrill Point
MOR					
W.W. on rock	: 18 08	: 1480	: 65 46	: 45	: On El Morrill Point
Mulas					
Red Brick Stack	: 18 11	: 922	: 65 46	: 274	: Ruins of Los Mulas
					Central

LIST OF PLANE TABLE POSITIONS

Name and Description	Lat	D.M.	Long	D.P.	Remarks
Triumpho					
Black steel stack	18 12	703	65 43	1614	At Triumpho Sugar Factory
Spire					
White Church Spire	18 12	1539.5	65 44	2958	At Naguabo

POST-OFFICE ADDRESS: P.O. Ex. 2512, San Francisco, Calif.

TELEGRAPH ADDRESS:

EXPRESS OFFICE:

ACT/HN

JAN 2 9 05 AM 29

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DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

SHIP DISCOVERER

Oakland, Calif.

Dec., 22, 1928.

To: The Director,
U. S. Coast & Geodetic Survey,
Washington, D. C.

Through: The Commanding Officer,
U.S.C. & G.S.S. DISCOVERER.


From: Lt.(j.g.) A. C. Thorson,
U.S.C. & G.S.S. DISCOVERER.

Subject: Topographic sheets Nos. 2540 and 4323.

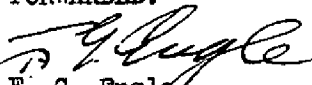
Reference: No. 10-McC.

Topographic sheet 4323 when taken into the field had contours on it transferred from an old bromide. As the plain table manual does not designate a 10 meter interval for contours I would suppose that after taking a few elevations, I reached the conclusion that the interval was 50 feet.

If I remember correctly a few elevations were taken and changes made to conform to these elevations perhaps on the basis that the interval was 50 ft. instead of 10 meters.


A. C. Thorson,
Lt.(j.g.) U.S.C. & G.S.

FORWARDED:


F. G. Engle,
H. & G. Engineer,
Commanding.

File with Desc Rpts.

7 FEB

10-McC

December 15, 1928.

To: Lieutenant (j.g.) A. C. Thorson,
U. S. C. & G. S. S. DISCOVERER,
Box 2512,
San Francisco, California.

Through: Commanding Officer, Ship DISCOVERER.

From: The Director,
U. S. Coast and Geodetic Survey.

Subject: Topographic sheets Nos. 2540 and 4323.

Relative to your topographic sheet 4323, covering the coastline of Porto Rico from Point Lima to Morro de Humacao, the following criticism is made:

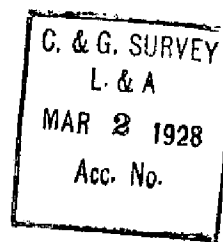
Contours having an interval of 10 meters as shown on sheet 2540 were transferred to your sheet which has a contour interval of 50 feet. The contours for the most part were by direct transfer and no attempt apparently was made to reconcile the difference in intervals. This has resulted in a confusion as to correct elevations and contouring, as it is impossible to deduce from the data on the sheet or from the subject matter in your descriptive report sufficient information to adjust these discrepancies.

Please submit as soon as possible explanations as to the methods used by you in obtaining the contours shown on this sheet.

(Signed) R. L. Faria

Acting Director.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY



REG. NO.

4323

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. 12

REGISTER NO. **4323**

State PORTO RICO

General locality SOUTHEAST COAST

Pt. Lima to Morro de Humacao
Locality ~~PORTO HUMACAO AND NAGUABO~~

Scale 1:20,000 Date of survey Feb. 10-24, 192 7

Vessel RANCER

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 50 feet

Instructions dated July 3, 1926, 192

Remarks: Contours north and east of Naguabo Playa taken from
bromides and completed by sketching.