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1912

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C. & G. SURVEY,  
LIBRARY AND ARCHIVES  
JUN 11 1912  
Acc. No

Department of Commerce and Labor  
COAST AND GEODETIC SURVEY

Superintendent.

State: *Canal Zone*

DESCRIPTIVE REPORT.

*Top.* Sheet No. *3251*

LOCALITY:

*Panama Bay of Panama*  
*Tobago Id. and vicinity*

1912

CHIEF OF PARTY:

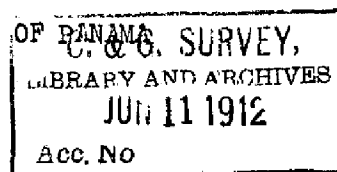
*N. A. Rhodes*

3251

DESCRIPTIVE REPORT TO ACCOMPANY TOPOGRAPHIC SHEET  
OF TABOGA GROUP OF ISLANDS, PANAMA BAY, REPUBLIC OF PANAMA

General Description

3251



The islands of this group are situated in the northwest part of Panama Bay about ten miles south of Balboa. The group comprises Taboga, Toboguilla, Urava, Chame and Melones. All except Melones are high and hilly. The most prominent point is the top of Taboga Island, 1000 feet high and the next is the peak of Toboguilla Island which is nearer to the course of passing steamers.

Taboga Island is about two miles long and its greatest width is a mile and a half. A cove on each side divides it roughly into two parts, the southeastern part being about half as large as the other. The smaller part rises to a ridge 665 feet high. The northern slope of this part is nearly bare of trees and shrubbery, but the south and east sides are wooded. There are only three or four houses on this part of the island. The town of Taboga is situated on the northeast side of the larger part of the island. In the lower part of the town are a few substantial houses, some of which extend out over the water. These are shown on the sheet. Higher up the hill are a good many grass houses placed without order or system. There are no recognizable streets in this part of the town and on account of their temporary character it was deemed impracticable to locate each of them on the sheet. They number about a hundred and sixty. Half a mile further along the shore is a flat point a few acres in extent. There are several houses on it as shown. Just off this point is a small island, Morro of Taboga, which at half tide is connected with the larger island by a sand bar. The watering station of the Pacific Steam Nav. Co. is on this Morro. Water is brought in pipes from a well in the hills in the north part of

Taboga along the beach and bar to tanks. Half way from the town to Morro is the watering place of the Pacific Mail S. S. Co. Water is piped from springs in the hills down to tanks on the shore. The Sanitarium of the Isthmian Canal Commission is on the shore midway between the town and the cove to the east. From Morro to the cove the beach is about thirty or forty meters wide. About half of this beach is rocky. Generally, the rest of the shore line is rocky and steep.

The inhabitants of the Island number about 1500. They raise some pineapples (Area on the hills enclosed by lines are cultivated) and a few other fruits. Some of the people are fishermen. Altogether their means of livelihood seems rather meager.

Toboguilla Island rises to a central peak at a height of 610 feet. It is wooded. Along the northwest side are about half a dozen houses. The shore here is low, the beach sandy and wide. A short reef extends out from the north point of the island. The east side is rocky. At the southeast part of the island are two large rocks. The nearer one only a few meters from the shore, the outer rock nearly touching the inner one. The south side rises boldly from the water from a depth of several fathoms. There are three small islands at the southwest point, the inner two being connected by a ledge with Toboguilla at low tide. The outer two are also joined at this stage of tide. Half a mile south of the island is Farallon Rock, a bare white rock with a well marked projection on top. It is 65 feet high.

Except on its southwest side Urava Island rises evenly to a peak 608 feet high; this side is vertical for about half the distance to the summit. The most note worthy feature of the island is the point running out to the southward. A wide rocky ledge extends out all around from this point. At high tide it is covered.

Terapa Island is a small rock south of Urava.

The channel between Urava and Taboga is rocky and has comparatively

strong tidal currents.

Chame Island is a small rocky ridge, uncultivated and uninhabited. Its sides are steep and the shore line rough and rocky.

Melones Island is low and even on top. It is about 80 feet high at the south end. The south, east and north sides end in a bluff, but on the west the land slopes down to high water. Here is found a short sand beach. This is the best landing place. Except on the south side, a rocky ledge runs around the island. It is widest at the north end. The island is fertile. There are a good many cocoanuts and bananas on it and part of it has been cultivated, but now most of it is covered only by tall grass about seven feet high. There is one vacant shack on the west side. No water was found on the island. There is a light on a pole at the southeast point near the triangulation station.

Vallodolid Rock is a barren precipitous rock about 80 feet high and about 200 meters long in a N. E. and S. W. direction. Its southwestern point is lower and slightly separated from the main rock.

#### ANCHORAGE

There is good anchorage in the bight of Taboga Island off the town. Small boats can find very good shelter from the prevailing north winds behind the sand bar and Morro of Taboga.

#### DANGERS

Melones Rock, north of Melones Island and another rock about midway between the east sides of Urava and Toboguilla were located by hydrographic parties.

METHOD OF SURVEY

On beginning the survey a blank sheet was used as no triangulation positions necessary for orienting were then available. A plane table base was run from  $\odot$  Drag east along the north shore of Taboga to the cove about one statute mile. Cuts were taken on all signals in sight by plane table triangulation, signals were located on Toboguilla and Urava. Plane table traverse was carried to the eastward around Taboga to  $\odot$  Out 2 and around each side of Urava from  $\odot$  Brace to its south point. The traverse around Taboga with cuts from two independent traverse around Urava gave a good determination of  $\odot$  Ledge, a whitewashed rock, the highest on an off lying ledge. Traverse from  $\odot$  Drag around the west side of the island failed by 35 meters (1: 20 000 scale) to check with other traverse. After triangulation was done, signals  $\triangle$  Look and  $\triangle$  Two were computed. With  $\odot$  Drag as a center, west shore line from  $\odot$  Drag to Out 2 was swung to fit  $\triangle$  Two,  $\triangle$  Look and a theodolite cut on  $\odot$  Tree from  $\triangle$  Melones. The few remaining meters of error in azimuth were corrected by swinging the south shore line with Ledge as center to fit  $\odot$  Out 2. The distance was unchanged.

$\triangle$  Melones Light having been determined by triangulation, its position was plotted on the sheet by distances. The island was run in by traverse.

Traverse around each side of Toboguilla from  $\triangle$  Scorpion failed to meet at  $\odot$  Cat by seven meters. This error was not adjusted, but when positions of  $\triangle$  Scorpion and  $\odot$  Bog were computed it showed an error of a few meters, probably due to sharp intersections from plane table base. Whole island was shifted to agree with triangulation. In the same way Chame Id. was run in by traverse.

Contour intervals is twenty feet. They are sketched in from cuts and elevations determined from neighboring islands.

# list of Plane table positions Taboga group of islands

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	Signal	Lat.	RM.	Long	D.P.	Description
Melones Island	Hut	8° 48'	1741	79° 36'	1230	W.W. on hut, W. side Melones Island
			102		303	
	Drag	48'	214	33'	1865	Banner, corner of fence.
			1639		968	
	One	48'	549	33'	1312	W.W.
			1294		521	
	Bam	48'	569	34'	244	Banner in tree
			1274		1589	
	Boo	48'	11	34'	742	Banner on rock.
			1832		1091	
	Off	47'	42	34'	424	Tree " "
			1801		1409	
	Out 2	46'	1823	34'	261	Banner " "
			20		1572	
	You	47'	37	33'	1320	W.W. " "
			1806		1313	
	Flat	46'	1392	33'	290	W.W. " "
			551		1543	
	Turn	46'	1053	33'	199	Braced pole with banner and flag.
			790		1634	
	Ledge	46'	836	33'	93	W.W. highest point of ledge
			1007		1740	
	Run	46'	1074	32'	1451	W.W. on rock
			769		382	
	Nars	46'	1382	32'	1144	Braced pole with banner and flag.
			461		689	
	Tie	47'	409	32'	1219	Western and taller of two palms
			1434		614	
	Post	47'	497	32'	1651	Post on hill.
			1346		182	
	Palm	47'	742	33'	25	Palm on point
			1071		1808	
	Roof	47'	669	33'	322	N. gab. bath ho. in core.
			1174		1511	
	Church	47'	1453	33'	888	Cupola Taboga Church.
			388		945	

On Taboga Island

On Urava Island

On Taboguilla Island

Signal	Lat	DM	Long	DP	Description
Brace	8° 46'	1733 110	79° 32'	254 1579	Braced pole with banner and flag.
Full	46'	1010 833	32'	125 1708	" " " " " "
Thin	46'	639 1204	32'	474 1359	W.V. on rock
Rop	46'	162 1681	32'	887 946	Braced pole on Terapa.
Flag	46'	1672 171	32'	779 1054	Flag on tree.
Hope	49'	86 1757	30'	1507 326	Highest point on ledge
Tall	48'	1465 378	31'	309 1524	W. gab. two story house.
Small	48'	1101 742	31'	608 1237	E. gab. ho.
Do	48'	926 917	31'	901 930	W.W. on rock.
Up	48'	752 1091	31'	662 1171	lone palm on ridge.
Tip	48'	143 1700	31'	214 1619	W.W. on rock
Iguana	48'	636 1207	30'	1365 468	Flag and banner in tree.
Cat	8° 48'	1213 630	79° 30'	1341 492	W.W. on rock.