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**SECTOR 6**—CHART INFORMATION

## SECTOR 6

### COASTS OF HONDURAS, GUATEMALA, BELIZE, AND MEXICO—CABO GRACIAS A DIOS TO CABO CATOCHE

**Plan.**—This sector describes the Caribbean coast of Honduras, Guatemala, Belize, and Mexico from Cabo Gracias a Dios to Cabo Catoche. It includes the off-lying islands, banks, and other dangers. The descriptive sequence from Cabo Gracias a Dios is W, then N.

#### General Remarks

**6.1** The coasts between Cabo Gracias a Dios and Cabo Catoche, 450 miles NW, together with the off-lying islands, banks, and other dangers are described in this sector. The coast between Cabo Gracias a Dios and the W head of Bahia de Amatique, 345 miles WNW, extends 130 miles NW to Cabo Camaron and then 235 miles W to the head of the bay. The coast of Honduras comprises 320 miles of this coast and the coast of Guatemala comprises the remaining 45 miles. The coast is generally low, swampy, and fronted by sandy beach. Cays and banks extend offshore up to 72 miles E, through N, from Cabo Gracias a Dios. Those banks and islands which lie seaward of the 200m curve are described separately under off-lying depths and dangers.

An irregular chain of mountains, Sierras La Cruz, rises abruptly from the lowlands about 10 miles S of Cabo Camaron and extends along the entire W part of this coast. This range reaches the coast in some localities and in others recedes up to 20 miles inland.

Few navigational lights are shown along this coast. Several peaks of the above-mentioned range are prominent landmarks in this area.

The principal ports within this area are Puerto Castilla, La Ceiba, Tela, and Puerto Cortes in Honduras and Puerto Barrios and Santo Tomas de Castilla in Guatemala. Few sheltered anchorages are to be found along this section of coast.

The coasts of Belize and Mexico extend NNE for a distance of 375 miles from the head of Bahia de Amatique to Cabo Catoche, the NE extremity of the Peninsula de Yucatan. This coast, with the exception of the S part, is low and offers few prominent landmarks to the offshore navigator. The coast of Belize, a distance of 165 miles to the Mexican boundary, is indented in several places by shallow bays.

This coast is fronted by a barrier reef that lies up to 22 miles offshore, and by cays and reefs which lie up to 45 miles offshore. The cays and reefs are of the most dangerous type, as they are low and very steep-to. The Mexican part of the coast, formed by the E side of the Peninsula de Yucatan, is generally steep-to and clear of off-lying dangers, with the exception of Banco Chinchoro, 25 miles E of Majaqual, and the banks and dangers off the N part of this coast between Puerto Morelos and Cabo Catoche. Lights are shown on the principal off-lying islands and dangers and on some of the principal points along the coast. The major port within this area is Belize City, Belize. There are several good anchorages off this coast.

**Winds—Weather.**—The winds along the Honduran coast are E throughout the year, with a pronounced diurnal variation in the late night and early morning calms, and light offshore winds are frequent. During the day and into the night, the trade winds are prevalent, sometimes attaining considerable strength in the afternoon.

Seldom do strong winds blow in the early morning, except during the months of November and December. Nearly every year during these months, there are a few days with N winds of gale force and with heavy rain continuing throughout the 24 hours.

Rainfall is plentiful throughout the year, with a maximum in November and a minimum in March through May. The amount increases from E to W.

The climate is hot and humid, with the temperature ranging from 23° C in January to 27° C in May

Along the coast of Belize, the prevailing winds or trades are E or SE. They reach their gales and constancy in July. The velocity of the trade wind averages 10 to 13 knots, but frequently increases to 30 knots or more.

From October to January, N winds predominate and the average velocity is slightly lower. Northers are quite frequent during these months.

The diurnal variation as observed at Belize City is not nearly as evident at Tela, Honduras, although there is some acceleration during the day due to the sea breeze and some deceleration during the night and early morning due to the land breeze.

Tropical cyclones that form in the W Caribbean during June, late September, October, and early November do not as a rule attain sufficient strength to be damaging until they have passed Belize. Of those which form in the Atlantic and pass through the Caribbean, occasionally one may follow a more S course and pass inland. A well-developed storm of this type may cause great damage. The hurricane of September 10, 1931, which passed through Belize, is an outstanding example of this type.

Rainfall is abundant throughout the year, with the least amount falling in March, April, and May. The amount increases from N to S, averaging 1,252mm at Corozal and 4,290mm at Punta Gorda.

The climate would be very oppressive were it not for the prevailing winds which blow off the sea during the hot months. May to September are the warmest, with an average of temperature of 27° C; December and January the coolest, with an average temperature of 23° C.

#### Cabo Gracias a Dios to Punta Castilla

**6.2 Cabo Gracias a Dios** (15° 00'N., 83° 09'W.) is low, swampy, and covered with trees. The radio masts, up to 46m high, which stand close W of the disused lighthouse are the best landmarks in this area during the day.

**Caution.**—Lesser depths than charted have been reported to lie 4 miles SE and between 4 miles and 10 miles E of the cape. Vessels should stay at least 10 miles from the cape and, in thick weather, should keep in depths of more than 18m.

### Off-lying Banks and Cays

**6.3** The 200m curve lies up to 134 miles ENE of Cabo Gracias a Dios, then extends 105 miles NW to a position lying 125 miles NE of the cape. From this position, it extends SW toward the coast to a position lying 18 miles N of Punta Patuca. This area contains numerous cays, reefs, and other dangers and is generally known as the N part of the Miskito Bank.

The 200m curve, from its position N of Punta Patuca, extends 104 miles W to a position lying 8 miles N of Punta Caxinas.

The outer edge of the 200m curve is steep-to on all sides and contains general depths of 18 to 64m within its limits. In the deep water off the edge of the bank, the bottom is mostly coral sand with a few small broken shells. The E and NE parts of the bank have similar bottoms. In the vicinity of small patches, where the depths decrease to less than 18m, the bottom is generally rocky. As the cays are approached, the bottom changes from fine sand and minute shells to blue mud. Nearer the cays, this bottom has been reported to be of a light gray color which is easily agitated.

The numerous cays on the bank are small and have little or no vegetation. In heavy weather, the sea breaks completely across them. The cays and reefs are generally steep-to on the windward side, but slope gradually on the lee side. When navigating over the bank, it is advantageous to have an observer aloft, the sun directly overhead, the sea clear and smooth, and no haze or mist.

**Caution.**—Coral reefs in this region have been known to grow at a rate of about 6cm annually, and depths less than charted may be encountered. Seaward of the 200m curve, which defines the limits of the N part of Miskito Bank, there are several banks and two small islands which lie NE, N, and NW of Cabo Gracias a Dios. These dangers are described first, followed by a description of the dangers within the 200m curve.

**6.4 Rosalind Bank** (16° 26'N., 80° 31'W.) lies with its S extremity located 167 miles ENE of Cabo Gracias a Dios. This bank, as defined by the 200m curve, is 63 miles long and 35 miles wide. General depths range from 18 to 37m, coarse sand and coral.

Several 7.3 to 11m patches lie on a 14 mile long coral ledge located 2 miles within the SE edge of the bank. A detached 11m patch lies near the SW edge of the bank, 13.5 miles WNW of the S end of this ledge. A depth of 10.9m, first reported in 1983, lies close to the N edge of the bank.

**Tides—Currents.**—The current generally sets NW at a velocity of 1.5 knots over Rosalind Bank. On striking the ledge near the SE edge, it causes a race which has the appearance of breakers.

**Caution.**—An extensive bank, 41 miles long and 10 miles wide, lies 11 miles W of Rosalind Bank. Depths over this bank range from 7 to 66m. The shallowest detached patches are

found along the E edge of the bank. A detached 11m patch lies on the N part of the bank.

**Thunder Knoll** (16° 27'N., 81° 20'W.), about 11 miles in extent and composed of coral sand, lies 4 miles W of the N part of Rosalind Bank. Depths over this bank range from 11 to 27m. Two detached shoals, with depths of 12.8 to 15.5m and 35 to 37m, lie between 4.5 miles and 8.5 miles W of Thunder Knoll. A detached 11m patch was reported to lie about 4 miles SW of the SW part of Thunder Knoll.

**6.5 Islas Santanilla** (Swan Islands) (17° 25'N., 83° 56'W.) (World Port Index No. 9720), located 150 miles NNW of Cabo Gracias a Dios, are two small islands lying close together near the W part of a narrow bank about 18 miles long. The E island is 1.5 miles long, 18m high, and has a bold rocky shore. The island is densely covered by trees and bushes. The W island is 1.8 miles long and flat, and covered also by trees about 18m high. A Honduran Navy post and a cattle farm exist on the SW end of the W island. A narrow foul passage separates the two islands.

Islas Santanilla (Swan Islands) have been reported to be radar conspicuous. A light with an aero radiobeacon stands on the NW side of the W island.

**Pilotage.**—Pilotage is not compulsory, but pilots are available, if requested, both by day and night, about 0.5 mile offshore.

**Anchorage.**—Anchorage can be taken, in a depth of 12m, off the sandy bay at the W end of the W island.

It is necessary, in fair weather, to select a clear berth, which can easily be done by eye, but the NW extremity of the island must not be brought to bear more than 054° in order to avoid the foul ground on the N edge of the bank, which has a depth of about 8.2m

During N winds, sheltered anchorage can be taken close inshore S of the W end of the island; during S and SW gales, anchorage can be taken N of the island, nearer the E than the W end.

**Caution.**—A bank, with depths of 27 to 91m, extends about 13 miles E from a position about 44 miles SE of Islas Santanilla. In 1972, a 8m patch was reported to lie about in the center of this bank.

**6.6 Misteriosa Bank** (18° 51'N., 83° 50'W.), about 24 miles long and from 2 to 7 miles wide, lies centered about 87 miles N of Islas Santanilla. Depths over this reddish coral bank range from 12.8 to 49m.

**Rosario Bank** (18° 30'N., 84° 04'W.), about 10 miles in extent, lies about 62 miles N of Islas Santanilla and has depths of 18 to 64m.

In the general vicinity of the above two banks, there are several other small banks and patches, with depths ranging from 20 to 64m. A detached 7.3m patch was reported to lie about 6 miles E of the E side of Rosario Bank.

**Arrecife de La Media Luna** (Half Moon Reef) (15° 13'N., 82° 38'W.) has its N extremity about 34 miles ENE of Cabo Gracias a Dios and forms the N end of a group of reefs and cays which lie on a bank, as defined by the 20m curve, extending 20 miles S to Cock Rocks. This bank has a maximum width of about 11 miles, 6 miles S of its N end.

Logwood Cay (Cayo Modera) stands on the W side of Arrecife de La Media Luna.

Cayo Media Luna (Half Moon Cay) lies about 2.5 miles S of Logwood Cay; a crescent-shaped reef extends about 0.5 mile E and then 0.8 mile N from it. A coral patch, with a least depth of 8.2m, lies about 2.5 miles E of Cayo Media Luna.

A coral patch, with a least depth of 12.8m, lies 7 miles NNW of the N end of Arrecife de La Media Luna. A 7.3m detached patch was reported to lie close W of the 12.8m patch.

Bobel Cay stands about 4 miles SSE of Cayo Media Luna, and Hall Rock, with a depth of 6.4m, lies about 2.5 miles farther SSE. Two cays stand close together between 6.3 miles and 7 miles ESE of Cayo Media Luna. Several rocky heads lie in the vicinity of these cays.

Savanna Cut, a narrow passage with depths of 11 to 18.3m, lies between Arrecife de la Media Luna and Savanna Reefs (15° 10'N., 82° 25'W.), about 5 miles E.

South Cay, an isolated cay, lies 6 miles SW of Savanna Reefs. Isolated rocks lie 4 miles ENE and 2 miles WNW, respectively, from South Cay.

Alargate Reef (Arrecife Alagardo), the E visible danger on Miskito Bank, lies about 5 miles E of Savanna Reefs. The sea breaks heavily on this reef. During the season of fresh NE winds, there is often a strong set toward the E side of the reef, which adds considerably to its danger. It has been reported (1986) that Alargate Reef lies 2 miles E of its charted position.

**6.7 Banco del Cabo** (Main Cape Shoal) (15° 16'N., 82° 57'W.), nearly awash in places and steep-to, lies about 17 miles NE of Cabo Gracias a Dios. This shoal is about 4 miles in length, but the sea seldom breaks over it. The discolored water may be seen from aloft in clear weather.

Main Cape Channel, the passage between Banco del Cabo and Arrecife de La Media Luna, is clear of known dangers and has general depths of 18 to 29m.

A 7.3m patch was reported in 1970 to lie about 13 miles NE of the N end of Banco del Cabo.

**Gorda Bank** (15° 36'N., 82° 13'W.), with depths of less than 20.1m, extends about 52 miles NW from a position about 18 miles ENE of the NE extremity of Alargate Reef. Lesser depths than charted may exist on this bank. The bottom is clearly visible. On its N side there are a number of patches of flat coral, covered with dark weed, but the depths appear to be regular. Vessels of deep draft should avoid this bank.

In 1981, lesser depths than those charted were reported between 15° 40'N, 82° 08'W and 15° 07'N, 82° 00'W. Also in 1981, a depth of 10.1m, whose position is approximate, was reported to lie about 14 miles N of the S extremity of Gorda Bank.

**Cay Gorda** (15° 52'N., 82° 24'W.) stands on the N edge of Gorda Bank. This barren cay is 4m high and composed of sand, broken coral, and large stones. A reef extends about 1.8 miles NW from it, but its E and S sides are steep-to.

**Caution.**—An obstruction lies about 4.5 miles SW of Cayo Gorda.

**6.8** Farrall Rock, 5 miles E of Cay Gorda, breaks only in heavy weather and can be identified by its dark appearance, in contrast to the white sandy bottom of the bank on which it lies.

The two parts of the stranded wreck near the rock were reported to be radar prominent.

**Bancos del Cabo Falso** (False Cape Bank) (15° 32'N., 83° 03'W.), a dangerous, steep-to, breaking bank, lies about 32 miles NNE of Cabo Gracias a Dios. A 16.4m patch was reported to lie 9 miles SSW of the S end of Bancos del Cabo Falso.

**Cayos Cocorocuma** (15° 43'N., 83° 00'W.), a reef about 5 miles long and convex-shaped to the E, lies about 44 miles NNE of Cabo Gracias a Dios. A detached coral patch that breaks lies about 0.8 mile W of its N end. A group of seven small cays, not over 0.6m high and about 1 mile in extent, lie on the S end of the reef. The S and largest cay is covered with bushes and some coconut trees on its E end. Another cay, about 1 mile N of this cay, has a square clump of brushwood, about 4.6m high, which resembles an isolated rock when seen from a distance.

**6.9 Cayos Pichones** (Pigeon Cays) (15° 45'N., 82° 56'W.), two in number, lie 3 miles E of Cayos Cocorocuma. The W is a small islet at the S end of a dangerous, steep-to, half-mooned reef, about 0.8 mile in extent, over which the sea breaks in heavy weather. A steep-to reef lies about 2.8 miles SE of this islet.

**Banco Vivorillo** (Vivario Bank) (15° 54'N., 83° 22'W.), a coral bank about 10 miles long, lies with its NW extremity about 59 miles N of Cabo Gracias a Dios. Depths over this bank range from 2.7 to 10m.

**Cayos Vivorillo** (Vivario Cays) (15° 50'N., 83° 18'W.) consist of several tree and bush-covered cays which lie on a coral reef at the SE end of Banco Vivorillo. A light stands at the SE end of this reef. A continuous line of breakers front the steep-to E side of the reef. Practically all of this reef is usually dry or just awash.

A coral ledge, with a depth of 9.6m, lies about 22 miles W of Cayos Vivorillo.

**Cayos Becerro** (15° 55'N., 83° 16'W.), about 5.5 miles NNE of Cayos Vivorillo, consists of eight small cays lying on a coral ledge about 3.5 miles long and 1 mile wide. The sea always breaks along the E and N sides of this reef. Grand Becerro Cay, the largest cay, consists of two parts and stands near the S part of the ledge. This cay is covered with mangroves and a conspicuous palm tree stands on its W side.

El Becerro, a rock over which the sea usually breaks, stands 1.2 miles SE of the largest cay, mentioned above, on a coral reef with depths of 3.7 to 9m. Several 16.5m patches lie within 1.5 miles E of this rock. Rocky pinnacles, with a depth of about 9m, lie 5.5 miles NNE of El Becerro.

Hannibal Banks, two small shoals about 0.8 mile apart, lie in the SE part of the passage which lies between Cayos Vivorillo and Cayos Becerro. The N shoal has a least depth of 10.4m while the S shoal has a least depth of 12.8m.

**Cayos Caratasca** (16° 02'N., 83° 20'W.) consist of a group of seven small cays which lie in about the middle of a shoal bank, about 9 miles NW of Cayos Becerro. The S of these cays has some vegetation, but the others are barren.

**6.10 Cayos Cajones** (Drawers) (16° 06'N., 83° 13'W.), a steep-to reef about 13 miles long in an E and W direction, lies centered about 11 miles N of El Becerro. The narrow W part

nearly always dries, but it does not always break. A small cay, with bushes and coconut trees, stands about 3 miles W of the E end of the reef. A 7m patch was reported (1970) to lie about 5.5 miles NW of the middle part of Cayos Cajones. Another patch 9.1m lies about 6 miles S of the same part of this reef.

**Caution.**—Too much care cannot be taken when approaching Cayos Cajones. Vessels approaching from the N, at night or in hazy weather, should not venture into depths of less than 55m. Depths of 37m may be found about 4 miles off the reef. It is reported that seaward of this depth, the bottom consists of mud, while inside this depth, the bottom consists of coral and sand. Off the NW end of Cayos Cajones, the mud is reported to be so soft that it is difficult to even obtain a sample of the bottom.

During the season of fresh NE winds, there is often a strong set toward the N side of Cayos Cajones, which adds considerably to the danger.

A coral ledge, about 5 miles wide and 7 miles long, lies about 26 miles ENE of Punta Patuca and has general depths of 12.8 to 16.5m. A 10m patch lies in the center of this ledge.

**6.11** Between Cabo Gracias a Dios and Cabo Falso, about 16 miles NW, the coast is low, swampy, and covered with stunted trees and brushwood.

**Cabo Falso** (15° 12'N., 83° 20'W.) is a low point backed by several isolated trees and brushwood. It should be approached with caution as a hard sand bank, with depths of less than 5.5m, extends about 3 miles NE from it; the sea usually breaks over this bank and the inner part dries in places. The 10m curve lies about 6.5 miles NE of Cabo Falso.

**Caution.**—The area in the vicinity of Cabo Falso has not been thoroughly examined and passing vessels should give it a wide berth.

**6.12** The Rio Cruta, lying about 3.5 miles NW of Cabo Falso, is marked at its shallow mouth by high trees which have the appearance of a bluff. When viewed from the W they may be mistaken for Cabo Falso. In 1973, the mouth of the river was easily identified by radar.

A light is shown from the mouth of the river.

**Punta Patuca** (15° 49'N., 84° 17'W.), a low prominent point, lies about 64 miles NW of the Rio Cruta. The coast presents the same low general aspect as the coast SE of the Rio Cruta.

The entrance to the Laguna Caratasca lies about 27 miles WNW of the Rio Cruta and can be identified by a large group of 27m high trees on either side. This large fresh water lagoon parallels the coast for about 35 miles and is separated from the sea by a narrow, low, thinly wooded ridge of sand. In 1973, the prominent point on the E side of the entrance to Laguna Caratasca was reported to be radar prominent.

Estero Tabacunta, the W outlet for the Laguna Caratasca, lies about 28 miles NW of the above entrance. Both entrances are fronted by shallow bars, but the latter entrance has a channel with a depth of 1.8m. Low white sand cliffs in the vicinity of Estero Tabacunta serve to identify this part of the coast.

The Rio Patuca lies about 9 miles NNW of Estero Tabacunta; Punta Patuca is the W entrance point. The river, about 150 miles in length, is one of the largest rivers in Honduras.

The mouth of the Rio Patuca is about 200m wide, but is difficult to make out unless a vessel is close-in. A light stands at the mouth of the Rio Patuca. The depth over the bar is about 1.8m during the dry season, and from 2.4 to 3m during the wet season. The outgoing current, even during the dry season, attains a rate of 1.5 knots. The only landmarks are a series of light-colored bluffs which stand SE of the river mouth and a low, rounded hill in which the land to the E seems to end. The E entrance point of the river is low and sandy.

## Punta Patuca to Cabo de Honduras

**6.13** The coast between Punta Patuca and Cabo Camaron, about 44 miles WNW, is low, thickly wooded, and fronted by a sandy beach.

**Cerro Payas** (Poyas Peak) (15° 45'N., 84° 56'W.), a 1,128m peak, rises abruptly from low land about 37 miles W of Punta Patuca and forms the E end of the Sierras La Cruz, an irregular mountain chain. This peak is frequently obscured by clouds, but Pico Panoche, 625m high, about 5 miles to the N, is usually visible. A vessel proceeding W will sight these peaks soon after passing Punta Patuca. The entrance to the Laguna de Brus is located at the W end of the lagoon, about 22 miles W of Punta Patuca, and is marked on its W side by a clump of trees higher than those elsewhere in the vicinity. The entrance is difficult to make out from seaward. The bar across the entrance has depths of 1.8 to 2.1m during the dry season and is usually fronted by heavy breakers. There are depths of 3 to 3.4m within the lagoon, but there are many shoals and shallow depths.

The Rio Sico discharges into the sea about 16 miles WNW of the entrance to the Laguna de Brus. The bar which obstructs its entrance has a least depth of 1.5m in the dry season and as much as 2.7m in the rainy season, and is only passable by boats during moderate weather. The land rises abruptly on both sides of this river and the mountains approach fairly close to the coast. The flat, swampy part of Honduras ends here and the land to the W is traversed by numerous ridges, which reach the coast in places.

**6.14 Cabo Camaron** (16° 00'N., 85° 00'W.), marked by a light, which lies about 5 miles WNW of the Rio Sico, is a low, rounded point topped by trees 24m high. The land is flat for some distance inland.

Because of the low sand bars on either side of the rivers between Cabo Camaron and Punta Caxinas, approaches are advised only for small boats assisted by local knowledge.

The coast between Cabo Camaron and the Rio Aquan, about 42 miles W, is indented by a bight that extends about 6 miles S. The E part of the bight is low and sandy and the W part is a low, thinly-wooded beach topped by some sand hills, 12 to 18m high.

From Cabo Camaron, the coast trends about 15 miles WSW to Piedracito, a small, distinctive rocky bluff, and then about 11 miles W to Cabeza Piedra Grande.

Iriona, a small settlement, stands 8 miles SW of Cabo Camaron. Iriona is the seat of government for the territory E to the Nicaraguan border.

A lower ridge of mountains rises S of Iriona and extends W to a position close S of Cabeza Piedra Grande.

From a position about midway between Cabo Camaron and Piedracito, as far W as Cabeza Piedra Grande, the lower slopes of the mountains inland nearly reach the coast.

**Cerro Sangrelaya** (15° 52'N., 85° 09'W.), 1,875m high, stands about 5 miles SE of Piedracito; a conical peak, 960m high, rises 7 miles S of the same point. A saddle-shaped summit stands about 5 miles SW of the latter peak.

**Cabeza Piedra Grande** (15° 54'N., 85° 29'W.) is a rocky bluff about 122m high. From Cabeza Piedra Grande, the coast trends about 35 miles WNW to Punta Caxinas (16° 02'N., 86° 01'W.), which shows a light, and is located at the W extremity of Cabo de Honduras, which is a narrow neck of low land about 5 miles in length. The cape is bordered by a beach with some scattered, scantily-wooded sand hills, 12 to 18 high..

Depths of 73m are found up to 17 miles offshore along the middle of this stretch of course, which then decrease to 18.3m about 3 miles offshore; the soundings are sparse. Within 17 miles of Cabo de Honduras, the depths become irregular, with shoals between 9.1m and 18.3m to the NE, 17.4m to the N, and 9.1 to 17.2m to the NW of the Cape.

The mountain range S of Cabeza Piedra Grande extends W for about 14 miles and then appears to terminate rather abruptly in a saddle-shaped summit, 762m high, about 8 miles S of the mouth of the Rio Aquan. A sugarloaf peak, of much less elevation, stands W of the summit. A wide valley lies between this peak and Montanas de Trujillo.

**6.15** The Rio Aquan (Rio Aguan) enters the sea by two mouths about 2.5 miles apart and extends about 120 miles inland. The E mouth lies about 16 miles WNW of Cabeza Piedra Grande. Both entrances have shallow depths. The E side of the entrance forms a distinct point, and about 3 miles SE of it and close to the coast is a hill about 24m high. It appears round when seen from the E or W, but from the N its W end appears as a flattened summit and its E end as a sugarloaf hill, separated by a chasm.

The settlement of Santa Rosa de Aquan stands on the E bank of the river, about 1 mile within the E entrance.

Vessels bound for the Rio Aquan should call at Trujillo for clearance in entering and departing.

**Anchorage.**—Anchorage can be taken, in a depth of about 8m, about 1 mile off the mouth of the river. The anchorage should be approached from the NE and continuous soundings should be taken.

Between the Rio Aguan and Punta Caxinas (Punta Castilla), about 16 miles WNW, the coast is low and has no prominent features.

## Islas de la Bahia (Bay Islands)

**6.16** The Islas de La Bahia consist of Isla Guanaja, Isla Roatan, Isla Utila, and three small islands. They front the coast for a distance of 75 miles in a WSW direction from a position about 30 miles NNE of Punta Castilla. The group belongs to Honduras.

**Winds—Weather.**—The prevailing winds on the sheltered S side of the islands are from the SE and at times attain a maximum velocity of 45 knots. During the winter months, the winds may come from any direction.

**Tides—Currents.**—The currents in and around the islands are extremely uncertain, particularly during the summer. The Equatorial Current N of the islands sets W, but when the northers have ceased, its surface influence is felt on the islands. The countercurrent generally sets in the opposite direction S of the islands.

The currents in the area may be greatly altered or even reversed by winds and tides. The range of the tropic tide at Isla Roatan is greater than anywhere else in the area. The current with a rising tide sets W and N, and with a falling tide sets S and E. A counterclockwise eddy is observed N of Isla Utila.

**6.17 Isla de Guanaja** (Bonacca Island) (16° 28'N., 85° 54'W.), the E island of the group, is about 8.3 miles long and 2.5 miles wide at its widest part. The island is composed of rugged, densely-wooded hills that rise to a height of 365m near its center. The NE extremity consists of a bold peninsula which terminates in East Cliff, 31m high and of an ochre color. Ochre Bluff, at the SW end of the island, is of the same height and color. Several anchorages are available within the coastal reefs, especially on the SE side of the island.

The island stands on a very steep-to bank of coral and sand, as defined by the 200m curve, which extends about 5 miles NE from East Cliff and from 0.8 to 2.8 miles from its other sides. The depths on the bank are irregular and numerous reefs, shoals, and small cays fringe the island, especially on its SE side.

Between East Cliff and a position about 4.3 miles SSW, a chain of small, low, wooded cays lies on the outer edge of a fringing reef. These cays lie from about 0.5 to 1 mile offshore; the intervening area is interspersed with foul ground and shoals. Various openings between some of the reefs lead into good anchorages, but their use is not recommended to those without local knowledge.

Swift Ridge and **Lark Ridge** (16° 25'N., 85° 53'W.), about 1 mile long with a depth of 2.7m, lie about 4 miles ENE of Ochre Bluff. They usually break in heavy weather and at other times are easily seen from aloft.

Southwest Cay (Cayo Suroeste), small and tree-covered, lies on a rocky reef about 3.3 miles E of Ochre Bluff. A rocky reef, with general depths of 5.5 to 7.3m, extends about 0.3 mile E from its E side. A 5.5m patch lies 1 mile SW of the SW extremity of the cay.

**Pond Cay** (16° 26'N., 85° 54'W.), a small cay marked by a light, stands 1.5 miles N of Southwest Cay. Sheen Cays, two islands joined by a bridge, with a settlement on them, stand between Pond Cay and Isla de Guanaja.

Carib Sand Bore, a reef separated from Pond Cay by a narrow deep passage, extends about 1.8 miles SW. The passage has depths of 18 to 31m and is clear of known dangers.

Good anchorage can be taken, in depths of 18 to 20m, about 0.5 mile W of Pond Cay. Other good anchorages exist in the area between Pond and Sheen Cays, in depths of 7 to 16.5m. This entire area has a sand and coral bottom.

Anchorage can be taken about 0.5 mile W of Carib Sand Bore, in a depth of 11m, with the N extremity of Southwest Cay bearing 116°. Smaller vessels can anchor, in 5.5 to 7.3m, on the same bearing, about 0.8 mile W of Southwest Cay. The reef that extends SW from Carib Sand Bore should be given a wide berth when approaching these anchorages.

The area between Southwest Cay and Ochre Bluff provides sheltered anchorages from northers, but care must be taken to avoid the many shoals.

Southwest Cay should be approached from the S and a course laid between the cay and Swift Ridge, putting Pond Cay on the port bow. The reef that extends SW from Pond Cay and the N side of Carib Sand Bore are both steep-to; the water is deep and clear alongside. The reefs are clearly seen.

**6.18 Guanaja** (16° 26'N., 85° 54'W.) (World Port Index No. 9710), a small settlement, stands on Sheen Cays, 0.3 mile off the SE side of the island. Some of the buildings stand on piles around the cays. In 1953, the controlling depth in the approach channels and entrance was 9.1m. In 1948, a vessel with a draft of 6.7m entered and anchored within 0.3 mile of the piers. Three small piers off the settlement have depths of 3 to 5.5m alongside.

The usual anchorage lies about 0.3 mile W of the settlement. Vessels are met by fishermen about 0.5 mile E of Pond Cay, who direct them to the loading places. The settlement can be contacted by radiotelephone. Recommended courses to the anchorages are shown on the area chart.

**6.19 Isla de Roatan** (16° 25'N., 86° 23'W.), the largest island of the group, stands about 15 miles W of Isla Guanaja and is about 28 miles long and 2 miles wide. Isla Morat and Isla Barbareta stand close off its E end.

The island is densely-wooded and hilly, with general heights of 91 to 152m. A 224m peak rises about 7 miles from the E end of the island while a 244m peak rises about 6 miles from the W end of the island.

Punta Oeste is the SW extremity of the island. A light is shown from the point. A conspicuous white church, with a red roof and a square bell tower, stands about 2 miles ENE of Punta Oeste. Coxen Road and Puerto Real, both on the S shore, provide the best anchorage for larger vessels. Other bays and coves indent the S side of the island, but are available only to small craft. The population of the island is concentrated along the S shore.

The W and SW parts of the island are steep-to, but elsewhere the island is fringed by a steep-to reef that extends up to 1 mile offshore. Isla Barbareta, off the E end of the island, is fronted by a reef that lies up to about 2 miles off its E and S sides.

The only other known off-lying dangers lie off the coast in the vicinity of Coxen Road.

**Puerto Real** (16° 24'N., 86° 17'W.), a small harbor on the S side of the island, provides anchorage, in depths of 9 to 18m. Shelter is provided from the S by George Reef, George Cay, and Long Reef. George Reef extends about 1 mile W from the E side of the harbor and George Cay, low and wooded, with the ruins of a fort at its W end, stands about 230m from the W end of the reef. Long Reef, separated from George Reef by a channel about 0.1 mile wide, is a nearly dry ledge, 0.8 mile long, that protects the W side of the harbor.

In 1938, the 0.1 mile wide channel between the reefs had a reported depths of 5.5 to 8.2m. The eye is sufficient guide, as the reefs are steep-to and easily seen. A good landmark is the 224m peak that stands about 0.8 mile W of the harbor.

The best anchorage is in a depth of 11m, sand, about 0.4 mile NW of George Cay.

Oak Ridge Harbor is located about 4 miles W of Puerto Real and is entered through a narrow channel, with a least depth of 6.1m, which leads N to the anchorage off the town. Coastal vessels, with drafts up to 4.9m, can anchor here, in depths of 6 to 7.6m.

A conspicuous, stranded wreck lies close W of the entrance of the channel and is a good mark in the approach. A pier extends from the shore of the harbor.

**6.20 French Harbor** stands about 10 miles W of Puerto Real. The town of French Harbor is almost surrounded by water, as an extensive lagoon backs it. There are anchorages, in depths of 22 to 36m, but local knowledge or the services of a local pilot is necessary.

**Coxen Reef** (16° 18'N., 86° 35'W.), the principal harbor on the island, occupies the E part of a bight on the S shore of the island, about 3.8 miles ENE of Punta Oeste. Its W side is bordered by dark, 6.1m high cliffs, and its E and S sides by the reef upon which Coxen Cay stands. Carib Point, about in the middle of the bight, has high coconut trees on it. Hendricks Hill, a conspicuous 91m hill, stands about 0.5 mile N of the point. A 274m peak rises about 0.8 mile NE of Hendricks Hill. Coxen Hole is the name of the settlement on the shore of the bight N of Coxen Cay. A small craft anchorage NE of Coxen Cay is also referred to as Coxen Hole. Coxen Cay stands on a reef that extends 0.8 mile SW from the E side of the bight.

Banco Becerro (Seal Bank), nearly awash near its center and with depths of 2.7 to 5.5m elsewhere, lies about 0.3 mile SW of Coxen Cay. A 275m wide channel, with depths of 9.1 to 18m, leads between Banco Becerro and the reef SW of Coxen Cay. The use of this channel is not recommended because of the dangers which lie S and SE of the entrance.

An isolated shoal, with a depth of 9.1m, was reported (1962) to lie about 11 miles SSE of the light at the SW end of the island. A 15m shoal was reported (1985) to lie 4.5 miles SW of the light.

**Banco Smith** (16° 17'N., 86° 35'W.), with a least depth of 5.5m, lies about 1 mile SSW of Coxen Cay and Banco Cordelia, which dries, lies about the same distance ESE. A bank, about 1 mile in extent with depths of 5.5 to 22m, lies 1.5 miles SE of Coxen Cay.

Daring Shoal, a detached 4.6m patch, lies 2.5 miles E of Coxen Cay and is reported joined to Banco Cordelia by a narrow ridge with depths of less than 18m.

**Pilotage.**—Pilots are available and board about 2 miles ENE of Punta Oeste Light. The signal for a pilot is one long blast on the whistle or siren in addition to the prescribed flag hoist.

**Anchorage.**—The best anchorage lies off the NW side of Coxen Cay, in a depth of 12m, with the SW extremity of the cay bearing 156°. Other good anchorages are available in the vicinity, in depths of 26 to 29m, but they are generally more exposed. The bottom in Coxen Road is sand interspersed with coral beds.

**Coxen Hole** (16° 18'N., 86° 35'W.) is the principal settlement and port on the island. It is the only port of entry for the Islas de La Bahia, and is also the seat of government. Vessels must enter here first before proceeding to the other islands in the group. A small wharf fronts the settlement and has depths of 1.8 to 3m alongside.

**6.21 Isla de Utila** (16° 06'N., 86° 56'W.), the W island of the group, stands about 18 miles SW of Isla de Roatan. The island is about 7.5 miles long and varies from 1.3 to 2.8 miles wide. It is generally low, swampy, and thickly wooded, and marked by a range of 18 to 21m high hills near its E end. Pumpkin Hill, 88m high and conical, stands near the NE extremity of the island. A disused, black, framework, light structure, stands near the W extremity of the island.

The island, with the exception of its SW side, is relatively steep-to and has general depths of 29 to 37m lying about 0.1 mile offshore; in many places deep water extends to the shore. The N side of the island is indented by several shallow bays.

An area of foul ground extends about 4.8 miles SW from the SW side of the island and is about 3 to 4 miles wide. Several good anchorages lie within this area, but their use is restricted to those with local knowledge.

A 12.8m shoal was reported (1973) to lie 10 miles NW of the W end of Isla de Utila and an 11m shoal was reported to lie about 7 miles SSW of the same point.

An 11m patch lies about 6.5 miles S of the SE extremity of the island, with several soundings of 12.8 to 14.6m being found in between.

**6.22 Puerto Este** (East Harbor) (16° 06'N., 86° 54'W.) (World Port Index No. 9665), the principal and only deep-water harbor on the island, stands about 1 mile W of the 6m black and red cliffs that form the SE extremity of Isla de Utila. The harbor is about 0.8 mile in extent and provides anchorage, in depths of 7 to 11m, lay over coral.

The entrance leading into the harbor is narrowed to a width of 275m by reefs extending from the E and W sides of the harbor. Depths in the entrance channel range from 9.1 to 11m, shoaling to a depth of 7.3m about 0.2 mile from the shore within the harbor. Sheltered anchorage is available for two or three moderate-size vessels.

Pilotage is compulsory and reliable pilots are available and should be used. Pilots board vessels about 0.5 to 1 mile seaward of the entrance. The signal for a pilot is one long blast on the whistle or siren.

The entrance must be navigated by eye to avoid the reefs on either side of the entrance and two small coral heads that lie within the harbor, about 0.3 mile from the E shore. A church steeple, in line bearing 020° with a prominent tree, is the leading mark used by local pilots.

It was reported that to enter the harbor a vessel should steer 040°, passing about 0.1 mile off a stake on the coral reef on the E side of the entrance. Careful use of the lead is important.

There is a small settlement at Puerto Este. Cargo is lightered in large canoes.

## Punta Caxinas to Punta Caballos

**6.23 Punta Caxinas** (16° 02'N., 86° 01'W.), a low, rounded point with a narrow beach backed by swamps and woods, stands at the W extremity of Cabo de Honduras and is the N entrance point to Bahía de Trujillo.

Bahía de Trujillo is 7 miles wide between Punta Caxinas and the coast to the S, and recedes 5 miles to the E.

The coast from the S entrance point of Bahía de Trujillo extends W for 115 miles to Punta Caballos. The shore is generally low,

wooded, and bordered by sandy beaches. Mountain ranges, that reach the shore in some localities and recede up to 10 miles in others back the coast from Bahía de Trujillo to Tela, about 85 miles W. South of Tela, the mountain ranges curve inland and extend to the SW. An extensive low, densely-wooded plain lies between the base of the ranges and Montañas de Omoa, about 30 miles to the W.

The above ranges rise to high prominent peaks S and SW of Bahía de Trujillo and S and SE of Punta Congrejal. These peaks are good landmarks from the offing, particularly Cerro Congrejal, a 2,454m peak that stands 10 miles SW of Punta Congrejal.

Few navigational aids exist along this stretch of coast.

## Off-lying Banks and Islands

**6.24** The 200m curve generally follows the trend of the coast and lies up to 24 miles offshore; N of Punta Sal, the curve turns abruptly and extends S to the coast. Soundings are irregular in the area within the curve between Tela and Punta Sal. West of Punta Sal, the 200m curve lies 1 mile off the Rio Ulua and about 4 miles N of Punta Caballos.

A 9.1m patch lies 7 miles WNW of Punta Caxinas; a depth of 14.6m lies 4.5 miles NW of the same point. A depth of 17.4m lies 7.5 miles N of Punta Caxinas.

**Cayos Cochinos** (15° 58'N., 86° 34'W.) lie about 9 miles N of Punta Catchabutan and 27 miles W of Punta Caxinas. The E island of the group is densely wooded and rises to a height of 131m. The N side of the island is steep-to, but a coral spit, with depths of 7.3 to 11m, extends 1.3 miles from the E side. A group of cays and rocks lies a short distance off the S side. A light stands on the E side of the island of Cochino Grande.

Cochino Pequeño, another island lying 1 mile farther SW, rises to a height of 152m; it is wooded. A steep-to coral ledge, with numerous cays and sandbanks, extends about 3 miles SW from the islands. The channel between the islands has depths of 26 to 29m. Depths of 7.6 to 11.3m lie off the NW side of these two islands.

**Banco Providencia** (15° 55'N., 86° 38'W.), a dangerous bank, lies 9 miles NW of Punta Catchabutan.

**Caution.**—Dangerous uncharted shoals are likely to be encountered anywhere within the 200m contour in this area.

**6.25 Banco Salmedina** (15° 55'N., 87° 05'W.) lies 25 miles W of Banco Providencia and 10 miles offshore; it is a dangerous steep-to coral patch. There is a least depth of 0.6m near its E end, which breaks when there is any swell. A detached 7.3m patch lies about 1 mile SSE of the bank and a 4.6m patch lies 6 miles NE of it. The bank should be given a berth of at least 2 miles.

**Winds—Weather.**—The winds along the coast of Honduras are E throughout most of the year, with a pronounced diurnal variation. Calms and light offshore winds are frequent during the late night and early morning. Strong winds seldom blow in the early morning, except during the months of November and December. During these months, there are several days with N winds that attain gale force.

**Tides—Currents.**—The usual set of the current off this coast is E within the 200m curve. This current is uncertain, however, due to the influence of the tides and winds.

**6.26 Bahia de Trujillo** (15° 58'N., 86° 00'W.) is about 7 miles wide at its entrance and recedes 5 miles E to its head. Puerto Castilla stands on the N side of the bay and Trujillo on the SE side. A shallow channel at the E end of the bay leads into a spacious lagoon. Depths in the central part of the bay range from 11.9 to 56m. An 18m depth was reported (1984) to lie 1 mile SSW of the W extremity of Cabo de Honduras and a 10m depth was reported to lie 2.3 miles WNW of the same point.

Vessels approaching Bahia de Trujillo should direct their course to pass 1 to 1.5 miles off Punta Caxinas.

The tank situated in Puerto Castilla is higher than the surrounding vegetation and can be seen about 12 miles from the N.

The N and E shores of Bahia de Trujillo are low, swampy, and wooded; they offer no prominent landmarks. The S shore is backed by a high mountain chain which extends almost to the shore at Trujillo. Pico Colentura, a 975m peak, stands 3 miles S of the town and the Vigia, or lookout hill, 762m high, stands at the NE end of the mountain chain. These mountains are sometimes referred to as Montanas de Trujillo.

The twin spires of the church in Trujillo are conspicuous.

The 20m curve lies just off the pier at Puerto Castilla and extends E and W about 0.3 mile offshore. Callo Blanco, a dangerous reef, lies about 5 miles S of Punta Caxinas.

**Tides—Currents.**—Within Bahia de Trujillo, there is very little current during calms or E winds; with W winds the current sets E and counterclockwise around the bay at rates ranging up to 2 knots.

During strong NW to NE winds, a heavy swell is experienced in the bay.

**Pilotage.**—Pilotage is compulsory when entering Bahia Trujillo. Vessels may enter and depart only during daylight hours. Vessels are advised that there are only a few navigational aids available, and those few are unreliable.

**6.27 Puerto Castilla** (16° 00'N., 85° 58'W.) ([World Port Index No. 9690](#)) stands about 2 miles SE of Punta Caxinas on the N side of Bahia de Trujillo. There is a marginal wharf, 150m long and 38m wide, with a depth alongside of 14m.

Pilotage is compulsory for vessels over 300 grt. Pilots must be ordered 24 hours in advance. The port and pilots utilize VHF channel 16.

Anchorage, sheltered from all except W winds, may be taken about 0.2 mile S of the pier head at Puerto Castilla, in a depth of 30m, hard sand and mud.

**6.28 Trujillo** (15° 55'N., 85° 57'W.) ([World Port Index No. 9680](#)), a port of entry, stands on a slight eminence, with a small fort in front, on the S side of Bahia de Trujillo. The town pier is 61m long and has a least depth of 4.9m alongside its S face. The coast between Bahia Trujillo and Punta Catchabutan, about 27 miles W, is indented by Ensenada Quemada, a bight that recedes about 5 miles S from the general line of the coast. Shoals extend from both entrance points and the depths off the bight are irregular and necessitate caution. The bight itself is apparently clear of dangers.

High, rugged, wooded mountains back the coast from Bahia Trujillo to Balfate, a small town on the S shore of Ensenada Quemada. These mountains nearly reach the shore just S of

Balfate. In the vicinity of the town the shore is rocky, uneven, and heavily wooded.

Between Punta Catchabutan and Punta Congrejal, about 17 miles to the W, the coast is low, wooded, and backed by a high mountain chain. This chain rises to Cerro Nana Cruz, a 1,859m peak, located 9 miles SE of Punta Congrejal.

**Punta Congrejal** (15° 47'N., 86° 51'W.), a low sandy point, is marked by the trunks of trees. Discolored water from the Rio Congrejal extends some distance seaward from the point. Depths of less than 11m extend up to 1.5 miles off this point. A tall tree, prominent from the E, stands about 0.8 mile W of the point.

The mountain chain that backs this part of the coast rises to Cerro Nana Cruz, SE of Punta Congrejal, and to Cerro Congrejal (Bonito Peak), about 10 miles SW of the point. This 2,454m peak, when seen from the NE, appears above the neighboring mountains as a well-defined, sharp cone, but when seen from the NW, a small flat shoulder projects E just below the summit.

### **Puerto la Ceiba (15° 46'N., 86° 50'W.)**

[World Port Index No. 9670](#)

**6.29 Puerto la Ceiba**, an open roadstead, is situated about 1 mile SW of Punta Congrejal. It is one of the principal ports of Honduras and is a port of entry.

**Winds—Weather.**—The prevailing winds during the day are NE while the prevailing winds at night are SW. Normally the weather is calm with gentle breezes, except during the season of the northers, when winds of gale force occur.

**Tides—Currents.**—The current in the area has been reported to be W, attaining a velocity of 2 knots at times. During the northers the current sets S.

**Depths—Limitations.**—The 10m curve lies about 0.3 to 0.5 mile offshore, decreasing gradually to the shore. Vessels with a maximum draft of 8m can enter the harbor.

Berthing is available on both sides of a finger pier. The S berth is for side-door loading. The N berth is used for unrestricted operations. The wooden pier is 434m long and has a depth of 6m alongside.

**Pilotage.**—Pilotage is compulsory. Pilots board about 1 mile NW of the pier. Vessels should send ETA no more than 24 hours and no less than 8 hours prior to arrival. Pilot should be requested 2 hours prior to arrival. Docking and undocking can be done at anytime.

**Anchorage.**—Vessels may anchor as convenient, but anchorage is prohibited E of the pier. In 1985, a vessel with a draft of 10.7m anchored 1 mile NW of the pier, in a depth of 15m, sand and mud, good holding ground. On the approach of a norther, vessels are advised to proceed to sea.

**Caution.**—A vessel with a maximum draft of 5.5m was sighted laying aground about 0.3 mile NE of the pier head; the depth in this position is 10.4m.

**6.30** Between Punta Congrejal and Punta Izapo, about 34 miles to the W, the flat coastal plain gradually widens as the mountains become more sloping and recede inland. There are swamps and marshes a short distance inland and numerous

streams discharge into the sea. The shore is covered with trees and thick vegetation that almost reaches the water's edge.

**Punta Izapo** (Obispo) (15° 51'N., 87° 23'W.), a bluff, rocky, tree-covered headland, is the termination of a conspicuous, conical, grassy hill. The Clerks, a group of rocks 6m high, lie close off the point; depths of 37m lie within 0.5 mile or less of the rocks.

The entire area from the NE through N to NW of Punta Izapo have depths as little as 6.4m; these depths may best be seen on the chart.

Punta El Triunfo, a bold rocky projection, stands about 4 miles SW of Punta Izapo.

**Bahia de Tela** (15° 47'N., 87° 27'W.), entered between Punta El Triunfo and Punta Sal, about 12.5 miles NW, is bordered by a low sandy coast, but is backed by a high mountain ridge, about 8 miles S of Punta Izapo. A mountain range, 610 to 914m high, backs the coast in the vicinity of Tela, but just W of the town it veers inland and extends S.

Laguana de los Micos, a large, shallow, body of water, backs the bay and is entered about 6 miles NW of Tela.

**6.31 Tela** (15° 47'N., 87° 27'W.) ([World Port Index No. 9660](#)), an open roadstead, is situated in the SE part of Bahia de Tela, close within the E entrance point. This is the second ranking port in Honduras.

**Winds—Weather.**—The prevailing winds are E and NE, but several strong northers may be experienced in the winter months. During a N wind of any significance, it is impossible to remain at the pier.

The average tidal range is about 0.3m, but the water level is also raised or lowered by the wind. The current off the pier has been reported to set W in the morning and E in the afternoon.

**Depths—Limitations.**—A pier, about 610m long, extends N from shore abreast the town. There is 222m of berthing space available on the E side with depths of 7.6 to 9.5m alongside. There is 146m of berthing space on the W side, with depths of 9.1 to 10.7m alongside. Vessels up to 175m in length and 9.4m draft can be accommodated alongside.

It is reported that a tanker, with a maximum length of 183m and a draft of 10.4m, has been handled alongside the pier.

**Aspect.**—A few houses and a prominent bridge standing E of the pier are the first objects to be sighted on approaching the town.

**Pilotage.**—Pilotage is compulsory for vessels over 300 grt. Pilots are available and embark about 1.8 miles NNW of the pier head. The approach to the pilot station should be from the N, passing between the 9.1m and 8m shoal depths charted about 4.3 miles N and 5.3 miles NNW, respectively, of the pierhead. An ETA should be sent 96 hours, 72 hours, 48 hours, and 24 hours in advance.

**Anchorage.**—Anchorage can be taken N or NW of the pier head, in depths of 14 to 18m. It is recommended that the main engines remain on standby during the months from December to May at this anchorage, as the vessel may need to put to sea quickly due to an occasional and sudden build up of swell.

**6.32 Punta Sal** (15° 55'N., 87° 36'W.), a bold, rocky promontory, projects about 2 miles NE from the coast and rises to wooded, irregular hills. It appears as an island when viewed against the low land to the S. A light is shown from the N end

of Punta Sal. Four islets, similar to The Clerks, but much higher, lie about 0.5 mile off the E extremity of the point.

The coast between Punta Sal and Punta Caballos, about 22 miles WSW, is low, sandy, and densely-wooded. Montanas de Omoa back the latter part of this coast.

Puerto Escondido, a cove, lies 2 miles SW of Punta Sal, and the entrance to Laguna Tinto lies 1 mile farther SW; they are available only to small coasters.

Punta Ulua, a low-defined point, stands on the E side of the entrance to the Rio Ulua, about 4 miles W of the entrance to Laguna Tinto. This large river is navigable by small river steamers for about 139 miles. The muddy discharge from the river discolors the sea for some distance offshore.

The Rio Chamelecon entrance, about 6 miles WSW of the Rio Ulua, may be identified by an isolated 194m conical hill nearby.

Punta Caballos stands about 9 miles WSW of the Rio Chamelecon. The low, wooded intervening coast is backed by a mountain range. Shoals border about 5 miles of this section of coast and extend up to 2.3 miles offshore in places.

The 20m curve lies about 0.5 mile off Punta Sal, while it runs close under Punta Ulua. About 8 miles SSW of Punta Ulua, a dangerous rock lies close within the 10m contour, about 1 mile offshore.

A dangerous below-water rock lies 1.5 miles NW of Cerro Cardona and a 12.8m shoal was reported (1960) 1.5 miles farther NW. A shoal, with a depth of 9.1m, lies about 3.3 miles WNW of Cerro Cardona. These dangers are best seen on the chart.

Shoals, with depths of 9.1m and 10.1m, have been reported 2.5 miles NNE and 3 miles N, respectively, of Punta Caballos.

**Anchorage.**—Anchorage may be taken about 0.5 mile off Laguna Tinto in moderate weather, in a depth of 14m, mud. The bottom is rocky farther out.

## Punta Caballos to Belize City

**6.33 Punta Caballos** (15° 50'N., 87° 58'W.) is the W extremity of a low, wooded peninsula that forms the N side of the harbor of Puerto Cortes. Numerous detached shoal patches, with depths of 8.2 to 15.5m, have been reported at various times to lie within an area bounded by a line extending 4 miles WSW from Punta Caballos Light, then 4.5 miles N, then 3.8 miles E, and then S to the shore. The positions of these shoals can best be seen on the chart.

The coast from Punta Caballos to Cabo Tres Puntas, 39 miles WNW, forms a bight that indents the coast about 11 miles to the S. Puerto Cortes occupies the E part of this bight while Ensenada de Omoa occupies the S part. The Rio Motagua enters the sea near the W part of Ensenada de Omoa and forms the boundary between Honduras and Guatemala. The E side of the bight is bounded by the base of the Montanas de Omoa, which rise to several prominent peaks. This range extends inland to the SW from the head of the bight and the land to the W becomes low and swampy.

Bahia de Amatique (Honduras Bay) is entered between Cabo Tres Puntas and Punta Gorda, about 13.5 miles NW. The E side of the bay recedes about 13 miles S to the narrow entrance of Bahia de Santo Tomas, which recedes an additional 2.5 miles to its head. The W side of the bay extends about 23 miles NW,

then curves NE for 10 miles to Punta Gorda. The Sarstoon River, which defines the boundary between Guatemala and Belize, lies about 5 miles SSE of the W head of the bay.

The coast of Belize extends about 102 miles NNE between Punta Gorda and Belize City.

This coast is fronted by a barrier reef which lies from 10 to 22 miles offshore, and numerous cays, reefs, and shoals are interspersed in the area between the barrier reef and the coast. The passages between these dangers and the coast are known as the Inner or Main Channel.

Few landmarks are to be found along the coast and on the cays, but lights mark most of the principal points along the coast and some of the cays and off-lying dangers.

The 200m curve lies about 4 miles NW of Punta Caballos and follows the general trend of the coast for about 18 miles to a position 6 miles NNW of the Rio Motagua. From this latter position it extends 13 miles to the shoals S of the S part of the barrier reef off the coast of Belize. It then extends in a general N direction for 94 miles to a position about 8 miles E of Belize City.

In the approach to Punta Caballos, Cerro Cardona (15° 53'N., 87° 51'W.), an isolated conical hill 158m high, is located 7.5 miles ENE of the point. Several radio masts situated on the point are good landmarks.

**Caution.**—Care is necessary when navigating in the vicinity of Punta Caballos as the area has not been completely examined.

### Puerto Cortes (15° 50'N., 87° 57'W.)

#### World Port Index No. 9650

**6.34** Puerto Cortes, the major importing town of Honduras, is situated on the N side of the Bahía de Cortes, close within the S side of the peninsula terminating at Punta Caballos.

**Winds—Weather.**—The prevailing winds are from the E and NE. West and SW winds raise moderate to heavy surf within the bay. The harbor is sheltered from northers, but storms are infrequent.

**Tides—Currents.**—The current within the harbors is uncertain and large vessels approaching the piers should do so with caution, as unexpected currents and winds may be experienced. The current is often contrary to the wind. It has been reported a significant E current was experienced 2 miles N of Punta Caballos.

**Depths—Limitations.**—The North Channel access to the terminal is 1,200m long and 400m wide. It has a depth of 12m and is marked by beacons and lighted beacons.

Pier No. 1, Texaco Oil Terminal, is used for discharging clean products, LPG, and fuel oil.

Pier No. 1A is the molasses and bulk liquids pier. It is located between Pier No. 1 and Pier No. 2.

Pier No. 2, the old banana wharf, is 247m long and has a depth of 9.1m alongside. A 2.7m shoal lies close S of the W end of the pier. This pier has been reported (1993) to be in ruins and out of service.

Pier No. 3, the general cargo and ro-ro pier, is 182m long and has an alongside depth of 9.1m.

Pier No. 4, the general cargo and ro-ro pier, is 323m long and has an alongside depth of 9.1m.

Pier No. 5, a container terminal that also handles dry bulk cargo, is 323m long and has an alongside depth of 10.1m.

The piers are exposed to W and SW winds, which may cause berthing problems.

The maximum drafts allowable are 13.1m at Pier No. 1 and 9.1m for the general cargo berths.

**Aspect.**—On approaching Puerto Cortes, the radio masts on Punta Caballos; the towers of the refinery, about 0.3 mile E of the light on Punta Caballos; Saddle Hill, 536m high, 5 miles SSE of Punta Caballos; the red roof of the hotel in Puerto Cortes; and the water tank 2.3 miles SE of Punta Caballos are good landmarks.

**Pilotage.**—Pilotage is compulsory for vessels greater than 300 grt. An ETA is required 72 hours, 48 hours, and 24 hours prior to arrival.

Vessels will be given clearance from 0600 to 2000. Special arrangements may be made with local authorities to obtain clearance at any other time. Vessels may enter and depart at any time provided prior arrangements have been made. Tugs are required for vessels of more than 1,000 grt.

Pilots may be contacted on VHF channels 16 and 6. They will embark 2 miles N of Punta Omoa, 1 mile NNW of Punta Caballos or 0.5 mile WSW of the piers.

**Anchorage.**—Good anchorage, sheltered from northers, can be taken, in depths of 11 to 16.5m, mud or sand, about 0.5 mile from shore. Once a vessel enters the bay and no berthing space has been indicated, the vessel should anchor more than 0.5 mile from the closest pier and await the official boarding party for clearance.

**6.35** For about 2 miles WSW of Punta Caballos (15° 50'N., 87° 58'W.), the coast, which is low, sandy, and wooded, is backed by high wooded mountains; it is fronted by a bank, with depths of less than 5m, which extends up to nearly 1 mile offshore.

The Rio Tulian discharges into the bay, about 2.5 miles SSW of Punta Caballos; the Rio Chivana, a small stream discharges into the bay about 1.8 miles farther WSW.

**Punta de Omoa** (15° 47'N., 88° 03'W.) is a low, but prominent, point about 6.3 miles SW of Punta Caballos. Red cliffs stand on the coast about 3 miles E of the point; the intervening low sandy coast is backed by high, wooded ground and mountains. A disused lighthouse stands on Punta de Omoa.

Omoa, a small sheltered port, stands close S of Punta de Omoa. A small wharf fronts the town.

Ensenada de Omoa is a bight which lies between Punta de Omoa and the mouth of the Rio Montagua, about 10.5 miles WSW. There are depths of 37 to 55m lying about 1 mile offshore, and the bight is clear of any known dangers. A heavy swell rolls in after northers.

The mountain range that backs this section of coast is known as Montanas de Omoa. This range terminates about 9 miles SW of the head of Ensenada de Omoa in Pico de Montagua, a 2,228m peak. The other prominent peaks in this range are usually obscured. The two most useful peaks are Saddle Hill, S of Punta Caballos, and a prominent 997m peak which stands about 3.5 miles S of Omoa and has a sharp cone. When viewed from the NW, this peak has a small shoulder projecting from it, just below the summit.

**Caution.**—A submarine pipeline extends from the shore to a group of mooring buoys about 0.5 mile N of Punta de Omoa.

**6.36** The **Rio Montagua** (15° 44'N., 88° 13'W.), a fairly large, shallow river is navigable by river boats up to about 35 miles above its mouth. This river marks the boundary between Honduras and Guatemala.

Between the Rio Montagua and Cabo Tres Puntas, about 27 miles NW, the low, swampy coast is bordered by a dark sandy beach backed by trees.

The Rio San Francisco del Mar discharges about 14 miles NW of the Rio Montagua; a branch of this river leads to Bahia La Graciosa.

A conspicuous 183m high tableland stands about 8 miles SW of the mouth of this river.

**Cabo Tres Puntas** (Cape Three Points) (15° 58'N., 88° 37'W.), a prominent, well-wooded point, is the NW extremity of a low, wooded peninsula about 11 miles long which borders the NE side of Bahia de Amatique. A conspicuous tower stands on the cape. Steep-to foul ground, which usually breaks, extends about 0.5 mile W from the cape.

A detached 11m patch lies about 2.5 miles ENE of Cabo Tres Puntas; a detached 14.6m shoal patch lies about 3 miles farther in the same direction.

## Bahia de Amatique

**6.37** **Bahia de Amatique** (Honduras Bay) (15° 56'N., 88° 44'W.) is entered between Cabo Tres Puntas and Punta Gorda, about 13.5 miles NW. It has general depths of 9 to 31m over its central part, shoaling gradually toward the shore. The E side of the bay recedes about 13 miles S to the narrow entrance of Bahia de Santo Tomas de Castilla, which recedes an additional 2.5 miles S to its head. The land on the E side of the bay is generally flat, swampy, and densely wooded. From the entrance to Bahia de Santo Tomas de Castilla, the W side of the bay extends about 23 miles NW and then about 10 miles NE to Punta Gorda. The land on the W side of the bay is higher, densely wooded, and backed by mountain ranges.

From Cabo Tres Puntas the E side of the bay extends about 1.5 miles SSE to Punta Manabique, and then about 5.8 miles SE to Firewood point.

Bahia La Graciosa (Hospital Bight) is a shallow bight that recedes about 4 miles to the SE and is entered between Firewood Point and Punta Manglar. A sand bar, with a depth of 4.3m, extends across the entrance.

**Ox Tongue Shoal** (15° 53'N., 88° 38'W.), a narrow shoal with depths of 5.5m and less, extends about 7.5 miles WNW from Punta Manglar. A light stands on the W extremity of Ox Tongue Shoal. It has been reported (1984) that due to reef buildup, this light should be kept at least 1.3 miles to the E when entering or leaving port.

Heredia Shoal, with a least depth of 5.5m, lies 3 miles SSE of Ox Tongue Shoal and is marked by a light on the N side.

Shoals, with depths of 8.5m and 12.8m, lie 3.3 miles and 4.8 miles SE, respectively, of Heredia Shoal Light.

Joseph John Shoal, with a depth of 4m, and Key Shoal, with a depth of 4.6m, lie 1 mile SW and 1.8 miles SW, respectively, from Heredia Shoal.

**Bajo Villedo** (15° 45'N., 88° 37'W.), marked by a light, has a least charted depth of 4.7m; it lies W of the range lights leading to Puerto Santo Tomas de Castilla.

From Punta Manglar, the low and swampy coast extends about 7.5 miles SSW to the E entrance point of Bahia de Santo Tomas de Castilla.

Good anchorage can be taken, in depths of 9 to 10m, about 2 miles N of Bajo Villedo.

Bahia de Santo Tomas de Castilla is entered between the point mentioned above and Punta Palma, about 1.5 miles WNW. Its densely wooded shores are bordered by a mud flat, leaving a navigable basin about 2 miles in extent between the 5m curves. There are general depths of 5.3 to 10.5m in the bay. An isolated 4.1m patch is located in the W side of the bay, about 0.8 mile SSE from Punta Palma. Although the bay is open to the N, it is quite safe as winds from that direction do not affect this part of the coast.

## Puerto Barrios (15° 44'N., 88° 36'W.)

[World Port Index No. 9620](#)

**6.38** Puerto Barrios, the principal port of Guatemala, stands on the E side of Bahia de Santo Tomas de Castilla, close within the entrance. This port handles about 75 percent of the import trade of Guatemala.

**Winds—Weather.**—Land and sea breezes are the predominating winds at Puerto Barrios. The sea breeze blows from the N quadrant during daylight hours and gradually diminishes by evening. The land breeze blows from the S quadrant from about midnight until sunrise. This regular cycle is altered by northers which occur during the winter months.

**Tides—Currents.**—The current off the pier is reported to be diurnal in nature. During the morning, the current sets NW at a rate of 0.4 knots and occasionally at 2.3 knots. The velocity increases after a strong norther has abated and during periods of heavy rain. In the afternoon, the current reverses and sets SE at a rate of 0.2 to 0.6 knots. The mean rise and fall of the tide is less than 0.3m.

**Depths—Limitations.**—The approach channel was dredged to a depth of 11m in 1996.

A pier, 305m long, extends W from the shore in Puerto Barrios. A submerged ruined extension of this jetty, extending 335m further WNW, is marked by lighted buoys. There are berths on both sides of the pier. Berth position is indicated by a white flag. There is a minimum depth of 7.3m on the N side and a minimum depth of 9.2m on the S side.

**Aspect.**—The most conspicuous landmarks to be seen when approaching Puerto Barrios are the pier and the buildings of the town.

**Pilotage.**—Pilotage is compulsory. The pilot embarks in the vicinity of Bajo Villedo; if requested, the pilot will embark in the vicinity of Cabo Tres Puntas. Entry is normally permitted only in daylight, but can be arranged at night if sufficient notice is given. Departure is permitted at any time. An ETA should be sent 72 hours and 24 hours in advance.

**Regulations.**—Port regulations require that a vessel sound three long blasts on the whistle or siren when requesting the port officials to board. When the quarantine flag is hauled down, one short blast must be sounded.

Two long blasts are required on arrival off the pier. Two long blasts and two short blasts are sounded when the vessel is berthed alongside.

**Anchorage.**—There is unlimited anchorage space available SSW of the pier, clear of the channel, in depths of 5.6 to 7.5m, mud. The holding ground is not good.

Anchorage is prohibited N of the pier due to incoming traffic.

**Directions.**—A dredged channel leads S from a position located 2 miles NNE of Bajo Villedo. Range lights at Santo Tomas de Castilla, bearing 188°, indicate this channel.

### **Puerto Santo Tomas de Castilla (15°42'N., 88°37'W.)**

World Port Index No. 9625

**6.39** Puerto Santo Tomas de Castilla, a modern general cargo port, is approached through a dredged channel. It is the main port of entry for Guatemala.

**Winds—Weather.**—Sea breezes predominate between 1100 hours and sunset, reaching force 4, or occasionally force 6, at about 1500 hours; at other times it is calm, or there are light S winds. This pattern is disturbed by the passage of a depression to the N, when squalls and SW winds may be expected.

**Tides—Currents.**—A weak current, seldom exceeding 0.5 knot, sets SW across the turning basin.

**Depths—Limitations.**—The berthing facility consists of a single wharf, about 914m long, with a depth of 10.1m alongside. Six vessels, each up to 152m in length, can berth alongside, but it is usual for vessels to moor stern to the wharf because of limited maneuvering room and the strong onshore winds. Vessels with drafts up to 11m can safely enter port and moor alongside the pier. There is a berth for tankers with depths of 9 to 11m.

The approach channel was dredged to a depth of 11m in 1993.

It has been reported (1993) that the turning area off the wharf has been extended about 400m to the NE and was dredged to a depth of 11m. The wharf is being extended by a further 500m. There are transit markers on the W side of the port to assist in letting go the anchor when berthing. Anchors are liable to drag.

**Pilotage.**—Pilotage is compulsory for vessels of greater than 500 grt. An ETA is required 72 hours and 24 hours in advance. Pilot boards on request off Cabo Tres Puntas or 1 to 3 miles N of Bajo Villedo.

**Anchorage.**—Anchorage can be taken S of the pier at Puerto Barrios, in the center of the bay, clear of the dredged channel.

Between Punta Palma and Punta Herreria (15°49'N., 88°44'W.), about 7 miles NW, the S shore of Bahía de Amatique is backed by high ground that reaches an elevation of 341m about 3 miles S of Livingston Bay. The entire terrain is heavily wooded.

Livingston Bay is entered between Punta Herreria and a point 1.3 miles NW. The Rio Dulce enters the head of the bay. The 2m curve extends across the entrance to the bay and about 0.5 mile farther seaward. The 5m curve lies about 0.5 mile farther seaward.

**6.40 Livingston** (15°50'N., 88°45'W.) (World Port Index No. 9610) is important for the transit of goods by river from the interior. The winds in the area are mostly NE and are most often strong from May to September, with frequent heavy thunder squalls at night. The air is moist in all seasons, with May to October being the unhealthiest time.

A channel 1.8m deep, marked by buoys, leads to the custom house wharf at Livingston.

Vessels usually anchor about 2 miles NE of the town, in depths of 7.3 to 11m, soft sand. Cargo is worked by the means of lighters.

The **Rio Quehueche** (15°51'N., 88°46'W.) discharges into the sea, about 1.3 miles NW of Livingston. It may be identified by a waterfall about 1 mile NW of it. A refinery, with four conspicuous chimneys, is situated 1 mile NW of Livingston.

**Punta Cocoli** (15°53'N., 88°49'W.) is a prominent round bluff located 3.8 miles NW of the entrance to the Rio Quehueche. The Rio Cocoli flows into the sea 0.8 mile SW of this bluff. Vessels can anchor 1 mile NW of the bluff, in a depth of 7m.

From Punta Cocoli, the coast trends 2.5 miles WSW to Punta San Martin and then about 3 miles NNW to the mouth of the Sarstoon River. The coast is low, but about 2 miles inland it is backed by heavily-wooded mountains which rise to a height of 425m, about 2.8 miles SSW of the mouth of the Sarstoon River. The mountains extend about 6 miles W at the same height.

The Sarstoon River forms the boundary between Guatemala and Belize. The river's banks are low, swampy, and covered with mangroves. The entrance is about 0.5 mile wide, and the bar, which generally breaks heavily, has a depth of 1.8m.

The depths off the mouth of the Sarstoon River decrease regularly towards the coast. Depths of less than 11m extend about 4 miles ENE, and depths of less than 5.5m lie about 1 mile ENE from the river's mouth.

**6.41** Between the Sarstoon River and **Orange Point** (16°05'N., 88°49'W.), 12 miles NNE, the coast and the land for a considerable distance inland are flat and densely wooded; some trees reach a height of 61m. About 9 miles NNW of the mouth of the Sarstoon River, a small isolated hill rises to a height of 122m.

From the mouth of the Sarstoon River, the coast trends about 5 miles NNW to the mouth of the Temash River, then about 5 miles NE to Mother Point, a prominent high bluff. Red cliffs are formed between the Temash River and Mother Point. The River Moho enters the sea about 1.5 miles NNE of Mother Point. Orange Point lies about 2.8 miles NE of the mouth of the River Moho; Punta Gorda lies about 1.5 miles farther NNE.

Orange Point is readily identified, as the land in the vicinity is about 9m high, and falls abruptly to the coast. Punta Gorda is marked by a light.

The sea breaks heavily on the bars of the Moho River and the Temash River. Their banks are swampy and fringed with impenetrable mangroves for about 40 or 50 miles, where they become firm and covered with mahogany trees. The current in these rivers attain a rate of 1 knot.

Between the Temash River and Orange Point are a number of off-lying patches, the positions of which may best be seen on the chart.

Several anchorages are available off the mouths of the rivers. The depths in the channels leading to the anchorages are deep, but intricate, and the water is muddy; they should not be attempted without local knowledge.

A small pier lies close SE of Punta Gorda Light.

**6.42** Between **Punta Gorda** (16° 06'N., 88° 48'W.) and the Monkey River, about 26 miles NE, the flat, densely-wooded coast is indented by numerous shallow bays and bights.

Gorda Hill, a conspicuous saddle-shaped hill, 222m high, stands about 2.8 miles NNW of Punta Gorda. A mountain range rises to an elevation of 305m about 6 miles W of Gorda Hill. This range forms part of a chain of mountains that parallels the coast, lying from 10 to 20 miles inland, to within 13 miles SW of Belize City.

The 20m curve lies about 7 miles SE of Punta Gorda and extends in a general NE direction about 17 miles to a position 5 miles SE of Punta Negra. It then extends in an irregular NNE direction to a position 5.5 miles SE of the Monkey River. The area within this curve is foul and is interspersed with numerous cays and shoals.

The **Snake Cays** (16° 12'N., 88° 32'W.), which lie just outside the 20m curve, S of Punta Negra, are about 8 miles long from SW-NE direction and about 4 miles wide. They consist of four densely-wooded cays and numerous shoal patches with depths of 2 to 9m. East Snake Cay, marked by a light, is the farthest NE; it has trees about 27m high.

**6.43** **Pork and Doughboy Point** (16° 11'N., 88° 44'W.) lies about 6 miles NE of Punta Gorda. The Rio Grande flows into the sea about 2.3 miles SSW of Pork and Doughboy Point.

Port Honduras, an extensive, but foul bay, is formed between Pork and Doughboy Point and Punta Icacos (Ycacos Point), about 9.5 miles NE.

The Deep River (Rio Hondo) flows into the N part of Port Honduras, about 4.5 miles NW of Punta Icacos. There are depths of 0.6m over the bar, and of 3.7 to 5.5m within it. There is anchorage for vessels with local knowledge, in depths of 4.5m, off the W side of the entrance to the Deep River.

**Punta Icacos** (16° 15'N., 88° 35'W.) is the S extremity of a small cay located close S of a tongue of land which extends 1 mile S; the cay is covered with pine trees.

Wilson Cay is located about 0.8 mile S of Punta Icacos, and about 1.5 miles WNW of the same point are Bedford Cays. There are numerous cays in Port Honduras; their positions may best be seen on the chart.

**Punta Negra** (16° 16'N., 88° 33'W.) is a conspicuous bluff which stands about 2.8 miles NE of Punta Icacos. Between Punta Negra and the Monkey River, 6.5 miles NNE, the coast is more elevated and is bordered by a sandy beach.

The Monkey River may be identified by some of the prominent houses in the town, centered principally on the S bank. A light is situated on the S bank of the river at its entrance.

From the Monkey River, the coast extends in a NNE direction about 11 miles to Placentia Point, then continues NNE another 19 miles to Sittee Point.

The 20m curve in the vicinity of the Monkey River is ill-defined and follows no definite limit. The 10m curve off this coast is defined and lies 1 mile E of the mouth of the Monkey

River, about the same distance off Placentia Point and 0.5 mile off Sittee Point. Vessels that use the Inner Channel or the Main Channel should keep outside its limits, as numerous dangers lie within the curve.

**6.44** **Monkey Shoal** (16° 23'N., 88° 25'W.), a 4m patch with a 5.5m patch close W of it, lies about 4 miles ENE of the light at the Monkey River. A 6.5m patch lies about 0.7 mile SSW of Monkey Shoal; other isolated shoal patches lie in this area. A lighted buoy is moored 1 mile E of Monkey Shoal.

A 5.5m patch and a 5m patch lie 2 miles SSW and 2.3 miles ENE, respectively, from Monkey Shoal; they lie close E of the Main Channel.

Penguin Shoals, with a least charted depth of 3m, lie about 3 miles NNE of Monkey Shoal. There is a 7.5m detached patch about 1.3 miles E of the 3m depth.

Middle Shoal, 0.5 mile NNE of Penguin Shoals, has a least depth of 4m; a lighted buoy is moored 1 mile NE of it.

Potts Shoal, with a least depth of 3.7m, lies about 1.5 miles N of Middle Shoal. A shoal, with a depth of 5.6m, lies 1.3 miles SE of Potts Shoal.

**Bugle Cays** (16° 29'N., 88° 19'W.) lie about 3 miles SE of Placentia Point; these two cays are located on the E side of the channel. Without local knowledge, these cays will not be distinguished from a distance of more than 4 miles.

Shoals, with depths of 1.8 to 5.5m, extend about 4.8 miles S of Bugle Cays. The Narrows lie between these dangers and Potts Shoal and the other dangers on the W side of the passage. The narrows are about 1.5 miles wide with general depths of 10 to 26m.

From the Monkey River, the coast extends about 11 miles NNE to the entrance to Placentia Lagoon and is low, swampy, and wooded. This shore is fringed by low, wooded cays and intersected by numerous small creeks and streams. Harvest Cay, about 2 miles S of the entrance to Placentia Lagoon, has a conspicuous 24m wooded table hill on it.

**6.45** **Big Creek** (16° 30'N., 88° 25'W.), a narrow river, lies about 2.5 miles W of Placentia Point. It is approached through a buoyed channel, dredged to a depth of 6.7m, entered E of Harvest Cay. A small pier, about 10m long across the face and with a depth of 5.5m alongside, extends from the right bank of the creek. Vessels up to 70m in length can berth port side-to heading downstream.

**Pilotage.**—Pilotage is compulsory. Pilots will board off English Cay at the entrance to Belize City, provided prior arrangements have been made through the respective agents. A vessel with no appointed agent can sometimes contact the pilot station on 2182 kHz, but Belize Customs Control maintains a constant watch on 2750 kHz. Vessels consigned to Eurocaribe (local) can make contact on 2182 kHz or VHF channel 16. The small boats used are owned by the individual pilots.

Placentia Lagoon, a shallow body of water bordered on its seaward side by a narrow ridge of low land, parallels the coast for about 10 miles. Placentia Point is the S extremity of this ridge. Placentia Cay stands close E of this point.

**Anchorage.**—Anchorage may be taken close inside the 10m curve, about 0.3 mile S of Placentia Cay.

**Caution.**—The buoys marking the channel may be unlit.

**6.46** From **Placentia Point** (18° 31'N., 88° 22'W.), the coast trends 8.8 miles NNE to Jonathan Point. A series of small bays are formed on this coast by Rum Point, False Point, and Rocky Point, which lie 1.8, 4.3, and 5.3 miles N, respectively, of Placentia Point.

From Jonathan Point, the coast trends about 4 miles N to the mouth of South Stann Creek, then about 3 miles N to the entrance to Sapodilla Lagoon. The 10m curve lies up to 1.5 miles off this part of the coast.

The coast between Placentia Point and the mouth of South Stann Creek is backed by an extensive plain of ridges from 15 to 30m high, bound about 10 miles inland by mountains which reach a height of 1,122m, about 18 miles W of Sapodilla Lagoon. Two peaks, 620m and 512m high, rise about 11.3 miles NW and 9.5 miles WSW, respectively, of the entrance to Sapodilla Lagoon.

**6.47 False Cay** (16° 36'N., 88° 20'W.) lies about 0.8 mile offshore and about 5 miles NNE of Placentia Point. The cay is low, narrow, and covered with bushes and palms. Foul ground extends about 0.3 mile from it NE through E to its SW side. The W and NW side is steep-to, with depths up to 10m between it and the shore. Sheltered anchorage may be found off the W side of False Cay in depths of 10m.

A pier extends about 150m from shore at the village of Riversdale, about 2.8 miles N of Jonathan Point.

South Stann Creek flows into the sea across a shallow bar about 2 miles NNE of Riversdale.

Anchorage may be taken about 0.5 mile NE of its mouth, in a depth of 7m.

**Sittee Point** (16° 48'N., 88° 15'W.), marked by a light, is a defined, wooded point that extends about 0.8 mile from the coast; it forms the S entrance point to the Sittee River.

The **Sittee River** (16° 48'N., 88° 15'W.) has a depth of 0.9m over the bar at its entrance; dead tree stumps rise from the bottom. Depths of less than 5.5m extend about 0.5 mile E from the river.

There are some ledges located 3.8 miles SE and 4 miles NE of the light on Sittee Point; there are least depths of 4m and 4.5m, respectively, on these ledges. The ledges restrict the fairway of the Inner Channel to 3 miles.

False Sittee Point, a narrow projection of land, stands 2 miles NNW of Sittee Point. Shoal ground extends about 0.8 mile E and NE from the point.

Commerce Bight, entered between False Sittee Point and a point about 6.5 miles NNE, recedes about 3 miles W. The depths within the bight decrease gradually from 11m in the entrance to 5.5m about 0.3 to 0.5 mile offshore.

A conspicuous white building stands close to the coast 2 miles NNW of False Sittee Point.

A pier, with depths of 1.5m alongside the W and S sides, lies 0.5 mile E of the mouth of Yemer Creek, about 5.3 miles NNE of False Sittee Point. A road connects the pier with Stann Creek Town, about 2.3 miles NE. A light stands on the pier.

**Caution.**—Less water than charted has been reported (1994) to lie within Commerce Bight.

**6.48 Stann Creek Town** (16° 58'N., 88° 13'W.) stands close N of Commerce Bight, on the N and S sides of North Stann Creek. The village, which fronts the coast for about 1 mile, is

the seat of government for the district of Stann Creek. A resident officer resides here.

A jetty, about 122m long, available only to boats, stands about 0.3 mile NNW of the mouth of the creek. There are many prominent buildings between the jetty and the creek. A private jetty, about 183m long, is situated 0.5 mile S of the mouth of the creek.

In 1972, it was reported that a church with a white tower, and a conspicuous square tank on a metal framework tower, stood in the town. Two conspicuous radio mast stands close W of the tank.

Anchorage can be taken, in a depth of 7.3m, less than 0.5 mile off the entrance to North Stann Creek.

From North Stann Creek, the coast trends 6.3 miles NNW to Colson Point (17° 04'N., 88° 15'W.), which is marked by a light. The 10m curve lies about 2.3 miles off this point. A rock, with a depth of 2m, lies 0.3 mile NNW of the point.

From Colson Point, the coast trends about 1.3 miles W, then turns NNW. The Mullins River flows into the sea 2.8 miles NW of Colson Point. A town, by the same name, stands on the N side of the mouth of the Mullins River. The bar of this river shifts frequently and is dangerous.

**6.49 The Manatee River** (17° 13'N., 88° 18'W.) enters the sea about 7.8 miles N of the Mullins River; it leads to a shallow lagoon. The bar of this river shifts frequently and is dangerous. A light is occasionally exhibited from a post on the S side of the river mouth.

Dolphin Head, a 122m high hill, rises about 5 miles NW of the Manatee River Light. The Paps, 107m high, and Saddle Hill, about 91m high, are hummocks located about 2 miles and 5.3 miles NNW, respectively, of Dolphin Head. These heights are the N terminus of the mountain range that backs the coast of Belize. The coast to the N and the terrain well into the interior is low and swampy in places. The 10m curve lies 3.8 miles off the mouth of the Manatee River. There are several isolated patches between the 10m curve and the W edge of the barrier reef; their positions may best be seen on the chart.

**Mutine Shoal** (17° 15'N., 88° 09'W.), with a least depth of 6m, lies 9 miles E of the Manatee River; another shoal, with a least depth of 6m, lies 7.5 miles ENE.

Belize City is situated on the S branch of the Belize River, about 17 miles NNE of the Manatee River. The Rio Sibun flows into the sea about 12 miles NNE of the Manatee River. The 10m curve is irregular off this section of the coast. Its limits may best be seen on the chart.

**6.50** The barrier reef which fronts the coast of Belize lies with its seaward or E side, from 10 to 22 miles off the coast. It extends from the Sapodilla Cays, which lie about 31 miles E of Punta Gorda, in a general N direction for about 118 miles to Ambergris Cay. Abreast of Belize City, the barrier reef lies about 8 miles offshore. There are general depths of 1.8 to 5.5m on the reef, but numerous small cays, rocks, and coral banks are interspersed along its entire length. The seaward side is extremely steep-to, with depths of over 200m close off the outer edge. A heavy sea usually breaks along the entire seaward extremity. In the area off the W side of the reef between Sapodilla Cays and Blue Ground Range, about 44 miles NNE, foul ground and numerous cays and shoals extend

W to the fairway of the Inner Channel or the Main Channel. In the vicinity of Blue Ground Range, the W side of the barrier reef becomes regular and fairly steep-to as it extends N to the dangers on the S side of Belize City.

Navigation through the various intricate openings in the barrier reef should not be attempted without local knowledge or the assistance of a pilot. The following description of the cays and dangers which comprise the barrier reef is given with the view of assisting the mariner in the use of these various openings in the event of necessity.

Many of the cays have been planted with coconut palms and some have houses on them. Hurricanes periodically devastate the area or some part of it, and the descriptions of the cays which follow may require update. Though the vegetation normally recovers quickly, the shape of individual cays may be permanently altered and some may disappear completely.

**6.51 Sapodilla Cays** (16° 07'N., 88° 16'W.) are a group of small cays located about 20 miles SE of Punta Icacos. This group is the farthest S on the barrier reef off the coast of Belize.

The barrier reefs extend about 32 miles NNE from Sapodilla Cays to Gladden Spit. Some of the cays in this area are not described, but the location of all the cays may be seen on the chart. Sapodilla Cays extend about 3.8 miles NE from Sapodilla Cay to Grass Cay.

**Sapodilla Cay** (16° 05'N., 88° 17'W.) has a conspicuous clump of coconut trees on it. Hunting Cay and Nicolas Cay, the middle cays of the group and which are separated by a passage through the reef, are densely wooded with coconut trees and are inhabited. There are numerous dangerous heads and irregular depths that range from 3.7 to 55m in an area that extends from 5 miles SW through 8.5 miles W of Sapodilla Cay. Several detached shoal patches, with depths of 7.3 to 17.4m, lie between 7.8 miles S through 6.5 miles SSW of Sapodilla Cay.

**Seal Cay** (16° 10'N., 88° 20'W.), an islet with a few trees on it, is located on the NE part of a small circular reef enclosing a lagoon. The former Seal Cays, 2.5 miles S, are reported to have been destroyed by a hurricane in 1945, and in 1972, only a sand bore remained. Shoal patches, with depths of 4.6 to 8.2m, lie in the area W and N of the ledge and extend up to about 4 miles off.

**Lawrence Rock** (16° 10'N., 88° 24'W.), with a least depth of 1.2m, lies about 3.3 miles W of Seal Cay. This rock is dangerous because the water over it is not sufficiently discolored to indicate its position. A 5.5m coral patch, about 1 mile SSW, and an 11m patch, about 1.8 miles WNW, of Lawrence Rock are the SW dangers on the E side of the entrance of the Inner Channel or Main Channel. The ground is foul between Lawrence Rock and Seal Cay.

Between Sapodilla Cays and Gladden Spit, the barrier reef is generally broken and there are numerous cays, rocks, and openings along its entire length.

**6.52 Ranguana Cay** (16° 20'N., 88° 10'W.) lies about midway along this section of the reef and about 1.3 miles from the seaward side. Trees up to 15.2m high cover the cay. Ranguana Entrance, an opening through the reef about 0.3 mile

wide, lies about 1.5 miles SE of the cays. There are depths of 6.1 to 7.3m in this passage.

**Pompion Cay** (16° 24'N., 88° 06'W.), actually a group of wooded islands, stands about 4.8 miles NE of Ranguana Cay and is reported to be inhabited.

Little Water Cay and Hatchet Cay, both wooded, lie about 3 miles N and 4.3 miles NNE of Pompion Cay. The two cays have been reported to be good radar targets.

**Gladden Spit** (16° 31'N., 87° 59'W.) is the E projection of the barrier reef. This spit has been reported to lie about 2 miles E of its charted position.

The entrances to Gladden Cay and Queen Cay lie about 1.5 miles and 4.5 miles SW of Gladden Spit and have least charted depths of 2.5m and 4m. These openings lead to the Inner Channel or Main Channel through narrow intricate passages. They should not be attempted without local knowledge or the services of a pilot.

Victoria Channel is the navigable passage which lies between the dangers extending E from Bugle Cays and those extending W from Gladden Spit. Victoria Channel may be used as an alternate route to the Inner Channel or Main Channel and is the passage through which vessels passing through the barrier reef by Queen Cay Entrance, Gladden Entrance, and the smaller openings in the reef to the S can reach the Inner Channel or Main Channel.

For about 14 miles, to South Cut, the barrier reef extends NNW in a solid coral barrier, with no cays; then for about 6 miles farther NNW to Water Cay, it is broken, with numerous dry sandbanks and some above-water rocky heads. There are several cuts along this part of the barrier reef, which are available to small vessels with local knowledge. The W side of the reef is irregular and the area W to Inner Channel or Main Channel is interspersed with numerous cays and shoals.

**6.53 South Water Cay** (16° 49'N., 88° 05'W.) is a fairly large, wooded cay, with trees about 18m high.

**Blue Ground Range** (16° 48'N., 88° 09'W.) are a group of cays located on the W side of the barrier reef opposite South Water Cay and about 5.5 miles E of Sittee Point; they are about 2.5 miles in extent in a N and S direction.

**Tobacco Cay** (16° 54'N., 88° 04'W.), a small wooded cay, has trees on it which reach a height of 21m. The cay lies on the N side of Tobacco Cay Entrance, 5 miles N of South Water Cay.

Tobacco Reef, which is nearly dry in many places, lies between South Water Cay and Tobacco Cay Entrance.

Tobacco Cay Entrance is a 4m passage that leads W toward Tobacco Range, 1 mile W of the entrance; the passage leads to the Inner Channel or Main Channel, and enters the channel about 2.5 miles N of Cocoa Plum Cay (16° 53'N., 88° 07'W.).

From Tobacco Cay to Glory Cay, about 12.5 miles N, the reef is almost continuous and practically dry; this section of the reef is known as Columbus Reef.

Cross Cay, with trees 18m high, and Columbus Cay, with trees 15m high, lie close W of the barrier reef 5 miles and 6.5 miles NNE, respectively, of Tobacco Cay. Several cays lie W of Cross Cay and Columbus Cay.

**6.54 Glory Cay** (17° 06'N., 88° 01'W.), small and sandy, is located 0.7 mile NW of Columbus Reef. Southern Long Cay,

which is wooded, is located inside the barrier reef; it lies about 1 mile SW of Glory Cay.

From Glory Cay the barrier reef, which is broken in many places, trends NNW about 28 miles to Saint Georges Cay. The cays W of the barrier reef and NW to NNW of Glory Cay are wooded.

**Skiff Sand** (17° 13'N., 88° 03'W.), 1m high, lies 7.3 miles NNW of Glory Cay. Rendezvous Cay stands about 1.5 miles N of Skiff Sand in the middle of a break in the barrier reef; it is covered with bushes; coconut trees, 13.7m high, and a clump of palm trees, 14m high, stand on the cay.

Bluefield Range, a group of mangrove-covered cays, stand near the W side of the barrier reef, WNW of Skiff Sand.

The barrier reef between Rendezvous Cay and English Cay, about 5 miles N, is broken and marked by numerous banks, cays, and coral reefs. Immediately N of English Cay is Eastern Channel.

Goffs Cay, 1.3 miles NNE of English Cay, is small and sandy; a coral head, which dries, lies about 0.5 mile SE of it.

**Paunch Cay** (17° 24'N., 88° 02'W.), which is barren, lies close to the edge of the reef about 3 miles N of Goffs Cay.

From Paunch Cay, the reef, which is steep-to, extends about 9.5 miles N to Saint George's Cay, skirting Drowned Cays at a distance of 1 to 2 miles.

Saint George's Cay lies about 2.5 miles N of Drowned Cays and about 1.5 miles within the edge of the reef; it is low and sandy and is easily identified by the houses and coconut palms on it.

**6.55** The dangers which lie off this part of the barrier reef consist of Glover Reef, Lighthouse Reef, and Turneffe Islands.

**Glover Reef** (16° 50'N., 87° 47'W.) lies with its S extremity about 13 miles NNE of Gladden Spit; it is about 14 miles long and 6 miles wide. It presents a barrier reef which is impassable, except for a small opening at its S extremity. A light is shown on the SW cay, near the opening in the reef. The reef is a large coral atoll with a number of low, wooded cays and soundings give little or no indication of approaching danger.

The N point of the reef is known as Amounme Point. A light is exhibited on the NE edge of the reef 4 miles SE of Amounme Point.

**Caution.**—Glover Reef must be approached with care, especially from the N, as the reef is low and not always visible from a distance. A strong W current has been experienced on several occasions between Glover Reef and Lighthouse Reef.

**6.56 Southwest Cays** (16° 43'N., 87° 51'W.) are the farthest S of the five cays located on the S extremity of Glover Reef.

The opening, close W of Southwest Cays, will accommodate vessels with local knowledge and drafts up to 3.7m. Larger vessels can find temporary anchorage about 1.5 miles W of Southwest Cay in depths of 11 to 12.8m.

**Lighthouse Reef** (17° 16'N., 87° 32'W.), the farthest E danger off this coast, lies about 13.5 miles NNE of the NE extremity of Glover Reef. The reef is steep-to and unbroken except in the vicinity of Half Moon Cay, and is marked by several cays.

Lighthouse Reef should be approached with caution, as there is considerable doubt about the exact position of the edges of the reef.

**Half Moon Cay** (17° 12'N., 87° 32'W.), marked by a light, lies within the reef near its SE extremity. Numerous coral heads surround the islet, but there is a shallow opening about 0.5 mile to the W. The islet has been reported to be radar conspicuous.

Good anchorage can be taken, in a depth of 9m, sand and mud, about 0.2 to 0.3 mile off the sandy beach on the S side of Half Moon Cay.

**Sandbore Cay** (17° 28'N., 87° 30'W.), a tree-covered islet, lies near the N extremity of Lighthouse Reef. Four small white buildings and a wooden jetty stands close to the lighthouse on the N side of the cay. Northern Cay, about 0.8 mile SW of Sandbore Cay, is wooded.

**6.57 Turneffe Islands** (17° 22'N., 87° 51'W.), which lie about 12 miles W of Lighthouse Reef, are an extensive group of mangrove-covered islands and cays which lie on a coral and sand reef. The barrier reef surrounding these islands is about 30 miles long and up to 10 miles wide. These islands are so closely grouped together that from a distance they appear as one large flat island. It was reported (1964) that radar returns from Grand Point, the S end of the islands, may be easily mistaken for Cay Bokel.

The reef that fringes this group lies at an average distance of 0.5 mile off the E side and 1 mile off the W side. The reef on the W side is awash in many places, but the seaward edge on all sides is steep-to. There are several shallow openings and numerous lagoons between the various islands, which are used by small craft with local knowledge.

**Caution.**—The E side of the Turneffe Islands is charted from old surveys and should be approached with caution.

**6.58 Cay Bokel** (17° 10'N., 87° 54'W.), a small patch of sand, stands at the S extremity of the reef extending S from Grand Point. A vessel reported grounding about 0.8 mile WNW of Cay Bokel Light.

There are several detached cays near the S extremity of the reef, but from a distance they appear as part of the main group of islands. On one of these, Big Cay Bokel, there are several fishing lodges.

Several detached cays stand on the reef N of the main group of islands. Mauger Cay (17° 36'N., 87° 46'W.) is the northernmost. The lighthouse on this cay is prominent.

Good anchorage can be taken during E winds in depth of 16.5m, sand, with Cay Bokel Light bearing 103°, distant 0.8 mile. Vessels of moderate draft can anchor about 2.8 miles NNW of Cay Bokel off an opening between the cays. Great care is necessary not to get into depths of less than 9 to 11m and to avoid the numerous rocky patches.

In the vicinity of Glover Reef, Lighthouse Reef, and the Turneffe Islands, the currents during November, December, and January depend on the winds; a N setting current is experienced during W winds, while a S setting current is experienced with N winds.

During February and March, the currents usually set N at a rate of about 1.5 knots. In April and May, the currents usually set S, at a rate of 1.5 knots. In June, July, and August, the current usually sets N at a rate of 1.5 knots, which increases to 2 knots during September and October.

**6.59** From Saint George's Cay, the reef trends about 19 miles N to abreast the S end of Ambergris Cay; it is steep-to.

The area W of the barrier reef between these two cays is shoal; the general depths vary from 1.2 to 4.6m. Numerous cays are located in this shoal area; their position may best be seen on the chart.

**Ambergris Cay** (18° 02'N., 87° 55'W.) is low and swampy; its N end is separated from the mainland by Boca Bacalar Chico, a narrow boat channel, but the island appears to be part of the coast. The reef skirts Reef Point, the E extremity of the island, at a distance of 0.5 to 1.5 miles, then it gradually approaches the coast of the mainland about 9 miles N of Reef Point.

**Directions.**—Vessels proceeding N to, or S from, Belize or calling at places on the coast, can do so by the Inner Channel or Main Channel, a deep channel between the cays on the W side of the barrier reef and the mainland. The least depth in the channel was reported to be 10.1m in 1972, but 7.3m should be considered as a prudent controlling depth.

To enter Inner Channel or Main Channel from the S, a vessel's position should be accurately determined to enable a course to be shaped to clear all the dangers S and W of Sapodilla Cay (16° 05'N., 88° 17'W.). East Snake Cay should be steered for bearing 339° and when it is about 4.3 miles distant, course may be shaped for The Narrows off Placentia Point (16° 31'N., 88° 22'W.). In approaching The Narrows, soundings will not indicate the position owing to the irregularity of the bottom.

In the vicinity of Monkey Shoal (16° 23'N., 88° 25'W.) a vessel should keep a little E of the track which passes near a 7.3m patch in Penguin Shoals area.

After passing about 0.5 mile W of Bugle Cay, a vessel should steer to pass about 3.8 miles W of Cocoa Plum Cay (16° 53'N., 88° 07'W.). From abeam this cay, a vessel should steer N for about 27 miles in charted depths of 14.5 to 18.5m, passing about 1 mile W of a 6m patch, 7.5 miles ENE of the mouth of the Manatee River, then steer mid-channel to the entrance to Southern Grennels Channel.

Vessels generally leave Belize in the evening in order to arrive off Placentia Point early on the following morning, so as to have full daylight while finding their way through The Narrows. With the establishment of lights on various points, and with proper precautions, vessels with local knowledge can make a safe passage through The Narrows.

**Caution.**—The current generally sets strongly toward the barrier reef, accompanied by a heavy swell, so that every possible caution should be observed in this area.

**6.60 Victoria Channel.**—Victoria Channel, about 45 miles in length, is an alternate route for approaching Belize City from the S. There are charted depths of 7.5m in and near this channel.

To enter Victoria Channel from the S, proceed as directed for Inner Channel or Main Channel. When in a position about 2.8 miles SE of East Snake Cay, a vessel should steer NE about 20 miles to a position about 3.3 miles S of Laughing Bird Cay (16° 26'N., 88° 12'W.). From this position, continue NNE to a position about 3 miles NE of the cay, when course should be changed to the N, passing 1 mile E of Moho Cay (16° 30'N., 88° 10'W.). Continue N about 1 mile until Quamino Cay

(16° 39'N., 88° 13'W.) bears 330°, when it should be steered for. When abreast Crawl Cay, a WNW course should be steered to pass midway between the reefs extending N from that cay and the reef extending S from Quamino Cay. When a vessel is W of the S extremity of the reefs off Quamino Cay, follow the directions for the Inner or Main Channel to Belize City.

**Eastern Channel.**—When approaching Eastern Channel from the N, steer for a position about 7.5 miles W of Mauger Cay (17° 36'N., 87° 46'W.). Steer a SSW course to pass near mid-channel between Turneffe Islands and the barrier reef until the lights on English Cay are in line 300°.

When approaching Eastern Channel from the S, steer for a position 2.8 miles S of Cay Bokel (17° 10'N., 87° 54'W.), then direct a mid-channel course between the Turneffe Islands Reef and Rendezvous Cay, until the lights on English Cay are in line.

To enter Eastern Channel, steer for the lights on English Cay, bearing 300°, until the E side of Water Cay (17° 23'N., 88° 04'W.) bears 340°. Alter course to this heading and maintain it until Eastern Channel opens WNW. Then proceed through the sinuous passage maintaining a mid-channel course until One Man Cay Channel is reached. The E entrance to One Man Cay Channel is about 0.2 mile wide between the reefs; each reef is marked by a light. Steer a NW course through the channel until Robinson Point (17° 22'N., 88° 12'W.), marked by a light, bears 233°, then steer as required to the anchorage.

Pilots will embark about 2 miles E of English Cay. It is reported pilots do not consider the lights in Eastern Channel satisfactory for nighttime passage and therefore night arrivals and departures should be avoided. However, freighters have made night arrivals using radar with no apparent difficulty.

## Belize City (17°30'N., 88°11'W.)

### World Port Index No. 9590

**6.61** Belize City, a roadstead harbor with limited port facilities, stands between the coast and the barrier reef at the N end of the Inner Channel or Main Channel. It can be approached as previously described. This city, which is the principal port of Belize, is situated on both sides of Haulover Creek, the S entrance of the Belize River. Berthing facilities in the port are available only for small craft. Other vessels handle cargo at the anchorages S of the city.

**Winds—Weather.**—East and SE winds prevail from the middle of February to the end of September, with the greatest period of calm at the end of February. Northeast through NW winds prevail during the rest of the year. The average wind velocity is about 10 knots. Northers are most likely to occur in November and December, but they rarely exceed force 4 or 5.

**Tides—Currents.**—The current generally sets S through the harbor at a rate of 1.5 knots, but during the season of the northers this rate may increase to 3 knots. North currents which attain a velocity of 1.5 to 2 knots may be experienced during the rainy season.

The mean range of the tide is negligible. East winds raise the water level and N winds lower it; however, during northers, the fall may be as much as 0.6 to 0.8m.

**Depths—Limitations.**—Belize City Harbor consists of a roadstead about 7.5 miles in extent, with depths ranging from

5.5 to 12.8m. The 5m curve within the roadstead follows the general trend of the W side of the barrier reef and The Flat on the S side of the roadstead. On the W side of the roadstead, the 5m curve extends up to 2 miles offshore; on the N side of the roadstead, it extends E to the barrier reef from a position about 0.5 mile S of Belize City.

There are many isolated patches within the roadstead, with depths from 3.4 to 5.5m; some of these patches are marked by lights. For their exact positions, refer to the chart.

There are several wharves lining the shore at Belize City, but none are available for deep-draft vessels. The wharf at Fort George, on the N side of Haulover Creek, is the largest; it is about 457m long, with depths of 0.3 to 1.8m alongside. King Pier, a T-head pier situated about 1.5 miles SW of Fort George, is 66.4m long at the head and has an alongside depth of 5m. A ro-ro ramp is situated on the NW side of the T-head.

An offshore oil terminal, formed by mooring buoys, lies 0.5 mile SE of the T-head pier. Vessels moor heading ESE. In the absence of tugs, difficulty may be experienced unless the weather is calm.

The controlling depth to the anchorage through Eastern Channel and One Man Cay Channels is 9.8m. It was reported (1981) that the maximum draft allowed in the harbor was 5.8m.

**Aspect.**—A group of white tanks, stacks, and two high radio masts in the vicinity of Belize City are conspicuous from the offing.

**Pilotage.**—Pilotage is compulsory. The licensed Belize City pilots maintain a station and a lookout on English Cay, but are available only during daylight hours. Vessels awaiting a pilot should keep clear of the reefs because of the strong set of the current.

An ETA should be sent 24 hours in advance.

Vessels proceeding either N or S through the Inner Channel or Main Channel must make prior arrangements with the Belize City pilots. The pilot vessel is equipped with a radiotelephone and can be contacted on VHF channel 16.



English Cay

**Anchorage.**—Anchorage may be taken, in a depth of 6m, mud, about 1.3 miles SSE of Fort George and in a depth of 8m, mud, about 2.8 miles SSW of the same point. However, the

pilot should be consulted as to the best anchorage for each vessel.

## Belize to Punta Herrero

**6.62** The coast from the Belize City peninsula extends about 22 miles NNE to the Northern River, which may be considered as the W entrance point of Chetumal Bay. This coast is low and covered with mangroves which extend to the shore. Shoal water, interspersed with cays, extends up to 15 miles offshore.

Chetumal Bay is entered between the Northern River and Cangrejo Cay, which stands about 10 miles to the E. Ambergris Cay forms the SE side of Chetumal Bay and lies with its S extremity about 2 miles NE of Cangrejo Cay.

The coast from the S extremity of Ambergris Cay extends about 90 miles NNE to Punta Herrero and is low, flat, and densely wooded. Virtually all of this coast is bordered by a steep-to reef that extends from 1 to 1.5 miles offshore.

Banco Chinchorro, an extensive steep-to bank about 26 miles long, lies 16 miles off this coast.

No sheltered anchorages for deep-draft vessels are available along this coast.

**Caution.**—The shallow depths which extend off this part of the coast from Belize to Corozal as far as the barrier reef, about 13 miles E, limit this area to small craft.

**6.63** The Northern River connects Northern River Lagoon with the sea, but it is of no importance.

Peter's Bluff, a low cay covered with trees, lies with its S extremity about 2.5 miles N of Fort George; Riders Cay, an islet, lies close off its N extremity.

**Rock Point** (17° 40'N., 88° 15'W.) is located about 12 miles NNW of Fort George. Hicks Cays lie E of Rock Point and about mid-way between the coast and the barrier reef.

The barrier reefs E of Belize City to Ambergris Cay have been discussed.

The Chetumal Bay (Bahia Chetumal) coast, N of the entrance between Cangrejo Cay (17° 52'N., 88° 02'W.) and the Northern River, is low, swampy, and densely wooded, except between the Hondo River and the Rio San Jose, where there are some red cliffs and moderately-high land. The bay is entered through the barrier reef abreast the N extremity of Cay Corker (17° 47'N., 88° 01'W.) and Cangrejo Cay 4 miles N.

An intricate channel, with a least charted depth of 1.8m, leads from the entrance to the mouth of the Hondo River. Parts of the channel are marked by stake beacons, but its use is recommended only to those with local knowledge.

**Corozal** (18° 22'N., 88° 24'W.), a small town, stands near the W head of the bay and is fronted by a small pier, with a depth of 1.2m alongside. Anchorage can be taken about 275m to the SE of the pier.

Consejo Point, about 8 miles NE of Corozal, is the S entrance point to the Rio Hondo. A small settlement stands nearby.

The Rio Hondo (Hondo River) enters Chetumal Bay between Consejo Point and Payo Obispo, a settlement about 2.5 miles to the N. This river forms part of the boundary between Belize and Mexico, and is navigable by small craft

with drafts less than 1.2m for about 70 miles. A bar, with a depth of 1.5m, fronts the river mouth.

**Payo Obispo** (Ciudad Chetumal) (18° 30'N., 88° 17'W.) is the site of a Mexican Naval Base, which maintains the radio station in the town.

A T-head pier, about 39.6m long and 24.4m across the face, with a depth of 1.8m alongside the face and 0.9m alongside its W side, extends from the shore abreast the town. Five lighters, up to 150 grt, and six tugs are used for loading and discharging cargo from vessels anchored off the W side of Cay Corker. No licensed pilots are available.

Chetumal Bay extends about 26 miles NNE from the Rio Hondo. It narrows at its N part; the Rio Kik flows into the N part of the bay.

**6.64 Boca Bacalar Chico** (18° 11'N., 87° 52'W.), a narrow boat passage, separates the N end of Ambergris Cay from the mainland.

Xcalax, a small coastal port, stands about 6 miles N of Boca Bacalar Chico. Vessels with local knowledge and drafts up to 4.5m can enter and anchor inside the reef, in a depth of about 5.5m. The bottom consists of mud, rock, and patches of white sand, providing good holding ground.

From Xcalax, the coast trends about 65 miles NNE to Punta Herrero; it is low, flat, and wooded, with the tops of the trees being about 18.3 to 24m high.

Nearly all of this stretch of the coast is fronted by a reef which lies from 1 to 1.5 miles offshore. There are several channels through the reef, but they should not be attempted without local knowledge.

**Banco Chinchorro** (18° 35'N., 87° 27'W.), a dangerous, steep-to shoal, lies about 28 miles NE of Ambergris Cay and from 14 to 16 miles offshore. The greater part of the shoal has depths which range from 1.8 to 7.3m, with numerous rocky heads and sand banks. The stranded wrecks which lie along the E side of the shoal were reported conspicuous both visually and by radar. It has been reported that Banco Chinchorro is a good radar target for southbound vessels.

Cayo Lobos, a small cay about 0.8 mile inside the 200m curve, stands near the S extremity of Banco Chinchorro. Several openings, available only to small craft with local knowledge, cut through the reef to the W and NW of Cayos Lobos.

**Cayo Centro** (18° 36'N., 87° 20'W.) stands in the middle of Banco Chinchorro, about 1.5 miles from its E side. This low cay is composed of sand about 2.5 miles long and is covered with bushes and coconut trees. A salt water lagoon, about 1 mile long, lies in the middle of the cay. A strong, dangerous current sets into Firefly Bight, about 2 miles SE of Cayo Centro.

**Cayo Norte** (18° 45'N., 87° 19'W.), two long cays, lie within the reef about 1.5 miles S of the N extremity of Banco Chinchorro. Dense vegetation and trees, about 12.2 to 15.2m high, cover the cays. A disused lighthouse and building stand close S of the light on Cayo Norte.

There are a number of wrecks on the E side of the bank which have been reported to be radar prominent.

**Caution.**—In the vicinity of Banco Chinchorro there is usually a very strong current that sets toward its entire E side.

The passage between Banco Chinchorro and the coast W is clear of dangers and has depths of 183 to 1,024m.

**Punta Herrero** (19° 18'N., 87° 26'W.), the S entrance point of Bahia del Espiritu Santo, is fronted by foul ground which extends up to about 1 mile offshore. In the entrance of the bay to the N the area is generally foul.

## Punta Herrero to Cabo Catoche

**6.65** The coast extends about 53 miles N from Punta Herrero to Salta Iman. The S part of this coast is indented by Bahia del Espiritu Santo, about 10 miles wide, and by Bahia de La Ascension, about 10 miles farther N.

The coast between Bahia de La Ascension and Salta Iman is quite regular, low, and densely wooded. Punta Yaan is a group of conspicuous cliffs which stand in an otherwise flat section of coast.

The coast from Punta Yaan extends NE for about 50 miles to Puerto Morelos. Moderately-elevated land extends about 6 miles N from Punta Yaan and then becomes low and flat. Isla Cozumel stands about 17 miles S of Puerto Morelos and 9 miles offshore. The coast about 5 miles SW of Puerto Morelos is fringed by a steep-to reef which extends up to 1.3 miles offshore.

From Puerto Morelos, the coast extends 14 miles NNE and then gradually curves NNW for 36 miles to Cabo Catoche.

The 200m curve, which lies about 2 miles SE of Puerto Morelos, gradually extends from the coast and lies about 37 miles E of Cabo Catoche.

Numerous islands, cays, and other dangers lie within the area enclosed by the 200m curve, which lies between 1 mile and 15 miles offshore between Puerto Morelos and Cabo Catoche.

**6.66 Bahia del Espiritu Santo** (19° 22'N., 87° 28'W.), entered between Punta Herrero, which is marked by a light, and Punta Tupac about 11 miles N, recedes about 16 miles SW and is about 7 to 10 miles wide. The depths in the entrance and for a short distance within the bay range from 6.1 to 9.1m, but in 1943, it was reported that the actual depths in this area were 13.7 to 14.6m. The general depths within the bay range from 2.4 to 4.6m, about 2.8 miles NW of Punta Herrero.

There is anchorage, in a depth of 4m, within the outer part of the bay under the reefs at the entrance.

From Punta Tupac, the coast, which is bordered by a rocky ledge, trends about 7.8 miles NNE to Punta Pajaros (19° 34'N., 87° 25'W.). A drying reef extends about 0.5 mile E from Punta Pajaros, which is also marked by a light.

Depths of less than 9.1m lie up to 0.6 mile off this part of the coast, and depths of less than 200m extend between 1 mile and 1.3 miles offshore.

**Bahia de La Ascension** (19° 41'N., 87° 30'W.) is entered between Punta Hualaxtoc (19° 37'N., 87° 28'W.), about 3.3 miles NW of Punta Pajaros, and Punta Allen, about 8 miles N. The bay recedes about 16 miles SW and is from 5 to 11 miles wide.

The entrance of the bay is obstructed by a bar with a depth of 2.4m. Cayo Culebra consists of a group of mangrove cays which stand in the middle of the entrance just within the bar.

Two yellow range beacons stand on these cays. An opening about 2 miles wide leads through the reef stretching across the entrance. Depths of 5.5 to 6.7m are found in this opening and as far W as the seaward side of the bar. There are depths of 3 to 5.5m within the bar, but the inner reaches of the bay have not been examined.

The opening between Cayo Culebra and Punta Hualaxtoc is shallow and should not be attempted. The opening N of Cayo Culebra is about 3.8 miles wide.

**6.67** The coast between Punta Allen and Punta Yaan, about 23 miles N, is low, flat, and densely wooded.

**Punta Yaan** (20° 11'N., 87° 27'W.) is conspicuous as the only cliffs along this coast are located here. They are about 24m high and front the coast for about 3 miles. The ruins of a large, square watchtower stand at their N end.

Tancah, a small settlement fronted by a white sandy beach, stands about 4 miles NNE of Punta Yaan. A conspicuous, small stone temple on a truncated pyramid stands about 0.5 mile inland and is overgrown with vegetation. A small pier extends from the shore abreast of the settlement.

The coast between Tancah and Puerto Morelos extends about 45 miles NE and again becomes low and flat. The trees along this part of the coast are about 15m high.

The only known off-lying dangers are Isla de Cozumel and Cozumel Bank, which together front this coast for almost 30 miles and lie from 9 to 13 miles offshore.

**6.68 Isla de Cozumel** (20° 26'N., 86° 53'W.), low and densely-wooded, extends 24 miles NE from its S extremity which lies 25 miles ENE of Punta Yaan. The average width of this island is about 9 miles. Isla de Cozumel is a major tourist center.

Punta Celerain (South Point), low, but defined, is fringed by a steep-to reef which extends about 0.5 mile offshore. A light is shown from the point.

The E side of the island, composed of sandy beaches separated by rocky points, extends about 24 miles NE to Punta Molas. The 200m curve lies about 1 mile offshore.

The W side of the island extends about 8 miles NNW and then about 13 miles NNE to its NW extremity. The 200m curve lies from about 0.8 to 0.5 mile offshore. The shore is bordered by a narrow coral beach and vegetation extends almost to the waters edge.

Caleta Bay, a small fairly deep body of water, lies about 8 miles SSW of the NW extremity of the island (3 miles SSW of San Miguel). The entrance channel is narrow and shoal. A wharf, some buildings, and fuel tanks stand on the shores of the bay, and a conspicuous hotel stands close SW of it.

The passage between Isla de Cozumel and the mainland to the W has depths of 200m and is clear of dangers.

## San Miguel de Cozumel (20°30'N., 86°58'W.)

World Port Index No. 9550

**6.69** San Miguel de Cozumel stands about 3 miles NNE of Caleta Bay. It is the principal settlement on the island. It was reported that San Miguel is a free port.

**Tides—Currents.**—Strong currents of up to 3.5 knots have been reported (2000) in the vicinity of the pier.

**Depths—Limitations.**—The International Pier (Muelle Consorcio), formerly known as Muelle del Transbordador, is situated about 1 mile NE of Caleta Bay. It is L-shaped, with depths of 12.8m and 14m alongside the E and W sides, respectively. The pier can accommodate deep-draft and cruise ships up to 244m in length. A second L-shaped pier, Muelle Terminal TMM, stands close NE of the International Pier. There are facilities for ro-ro vessels; a vehicle ferry runs to the mainland.

A pier (fiscal pier) extends NW from the shore adjacent to the town, about 1 mile NE of the old lighthouse; it is 55m long, with a depth of about 3.4m alongside the head. There is a dolphin berth for small tankers near the old lighthouse.

Punta Langosta Pier, 600m long and L-shaped, extends seaward from the shore NE of the Governor's Palace and is primarily for use by passenger vessels.



Cozumel Panoramic View

**Aspect.**—A new light tower stands NE of the International Pier.

A conspicuous hotel stands close E of the International Pier. A conspicuous clock tower, painted white and dimly illuminated at night, stands near the root of the pier at the town of San Miguel. A blue-domed water tower and a framework radio tower, both conspicuous, stand close NE and 0.5 mile SW, respectively, of the clock tower. A prominent airport control tower stands about 1.5 mile NE of the town.

**Pilotage.**—Pilotage is compulsory and is available during daylight hours only. Pilots board about 3 miles NW of the berth, or as requested.

**Anchorage.**—There is good anchorage off San Miguel, in depths of 9 to 11m, from 0.1 to 0.2 mile offshore. Four berths are available. Use of the anchorage should take into account the proximity of the airport runway. It is inappropriate to use the anchorage closest to the runway when a NW wind is blowing.

Additional anchorages are available off the Town Quay at Playa del Carmen on the mainland. These are overflow anchorages for use when the port is crowded and vessels are waiting to enter.



Cozumel—North International Pier



Cozumel—Conspicuous Hotel and Water Tower



Cozumel—New Lighthouse



Cozumel—Flagpole

**Caution.**—A dangerous wreck (position approximate) lies about 0.3 mile N of the lighthouse.

A submarine cable, marked by six yellow buoys, was reported (1999) to run from the island to the mainland. The cable terminates on the island close SW of the town of San Miguel.

**6.70** Punta Norte, the NW extremity of the island, lies about 3.3 miles NE of the entrance to Banco Playa yacht harbor. The shore between is lined with numerous hotels one of which, a white building, is conspicuous and can be seen from a considerable distance seaward.

The N side of the island extends about 10 miles ENE from its NW extremity to Punta Molas. A conspicuous clump of coconut trees stands about 2.5 miles E of the NW extremity of the island. A reef extends up to 1.8 miles offshore; the 10m curve lies up to 2.8 miles offshore. Some coral heads lie within this latter curve. La Laguna, an almost landlocked body of water, lies across the N part of the island.

**Punta Molas** (20° 35'N., 86° 44'W.), the NE extremity of the island, may be identified by a tall isolated tree and some huts. The point is marked by a light.

Cozumel Bank extends N from the N side of the island and lies up to 6 miles N of Punta Molas. The bank has been reported to extend up to 14 miles NNE and 4 miles E from Punta Molas. General depths on the bank range from 9.1 to 40m. Ripples, which at times have the appearance of breakers, mark the E edge of this bank.

**6.71** **Puerto Morelos** (20° 51'N., 86° 54'W.) ([World Port Index No. 9540](#)) is a small fishing and ferry port with depths of 6.7 to 10.1m. The village of Puerto Morelos stands on the mainland about 1.5 miles N of the entrance and is protected by reefs which lie 0.3 mile offshore abreast the village and up to 1 mile offshore abreast the S part of the harbor. Some of these reefs are 0.6 to 0.9m high in places. A small pier, with a depth of 4.9m alongside its head, extends from the shore N of the village.

The coast should be approached from the E to a position about 1.8 miles S of the light, which stands N of the village. When this light bears 024°, a vessel should steer for it on that bearing, which leads over a least charted depth of 7.9m, but depths of 1.8m less than charted have been reported in this channel.

Anchorage can be taken abreast the village, in depths of 8 to 9m, but it is advisable that vessels moor.

The coast between Puerto Morelos and Cabo Catoche extends about 14 miles NE and then curves NNW for 36 miles to Cabo Catoche. The terrain is generally low and wooded. Sand hills stand along some parts of the coast. The terrain in the N part of this area becomes more elevated, with trees up to 40m above the sea.

**6.72 Isla Cancun** (21° 05'N., 86° 47'W.) stands about 14 miles NNE of Puerto Morelos and is composed of sand hills 12 to 18m high. The N and S extremities of this island curve to the W and almost reach the mainland. There are two bridges connecting the island with the mainland. A 1970 report stated that the S end of the island appeared to be connected to the mainland when viewed by radar.

A conspicuous tower, marked by a red fixed obstruction light, and a structure in the shape of a truncated pyramid stand near Punta Cancun. Another tower, marked by a red fixed obstruction light, stands 2.8 miles SSW of the point.

Isla Cancun encloses a series of interconnected lagoons having shallow channels to the sea. A natural harbor for small craft is located S of Punta Nizue, the S extremity of the island, and is protected by a reef. Local knowledge is required to enter it.

**6.73 Isla Mujeres** (21° 14'N., 86° 45'W.), which stands about 4.5 miles NNE of Isla Cancun, is about 4 miles long, low, narrow, and wooded. The S part is slightly elevated and has trees about 27m above the sea. The ruins of a square watch tower stand near the S part of the island. The E side of the island is composed of fairly steep-to rocky shelves and terminates at its N end in Roca El Yungue (Anvil Rock), which is square, black, and about 1.8m high. Some white cliffs stand about midway along the E side of the island. A large, square white hotel stands on the N extremity of the island and has been reported to be a good radar target.

Puerto Juarez, a small town on the mainland, stands about 5.5 miles WSW of the light on the S end of Isla Mujeres. The town serves as a terminal for ferries servicing Isla Mujeres. A pier, about 244m long, with a depth of 1.8m alongside, extends from the shore abreast of the town. A ferry service for vehicles operates from Punta Sam, 3 miles N of Puerto Juarez.

**Bahia de Mujeres** (21° 13'N., 86° 46'W.) lies between Isla Mujeres and the mainland; it is entered between the NE extremity of Isla Cancun and the S extremity of Isla Mujeres.

A sandbank extends about 2 miles W from the S extremity of Isla Mujeres, then trends N about 2 miles toward the island; the 5m curve marks this sandbank. There are many coral heads on this bank; some of them near the S end nearly dry. The SW edge of this bank is marked by a lighted buoy.

A passage between this bank and the shoals W is about 0.3 mile wide and leads N past Puerto Mujeres, where it joins Canal las Pailas, passing N of Isla Mujeres to deep water about 0.5 mile N of Roca El Yunque.

The general depths in the area between Isla Mujeres and the mainland are from 2 to 8m; only vessels with local knowledge should attempt this passage.

A charted submarine cable and aquaduct cross the bay between Punta Sam and Isla Mujeres.

**Puerto Mujeres** (21° 16'N., 86° 45'W.) is situated at the N end of Isla Mujeres, on its W side. The harbor lies in a small bay entered between the NW extremity of the island and Roca La Carbonera, about 0.5 mile S. A channel for small vessels leads through the shoal which extend across the entrance to the bay. There are six quays, with depths of 2.4m, and a ferry berth in the bay.

There is an anchorage in Bahia de Mujeres, about 2.3 miles W of the S extremity of Isla Mujeres, in depths of 6 to 7m.

**6.74 Arrowsmith Bank** (21° 05'N., 86° 25'W.) lies about 16 miles E of Isla Cancun. The bank is about 17 miles long and from 1.5 to 5 miles wide. There are depths to 16.4 to 38m, with the shallowest part lying on the center of its E part.

The E edge of the bank is reported (1981) to lie about 4 miles farther E than charted.

A NNE current sets across Arrowsmith Bank, attaining a rate of from 2 to 3 knots; the S end of the bank is marked by strong rips.

In 1980, it was reported that an area of heavily breaking seas was observed, centered in 20° 50'N, 86° 35'W, S of Arrowsmith Bank; there was a moderate SE wind at the time of the observation.

A shoal, with a depth of 8.2m, was reported (1960) to lie near the NE extremity of Arrowsmith Bank.

From a position on the coast about 5 miles W of the S extremity of Isla Mujeres, the coast trends about 3.5 miles N to a narrow ridge of sand about 2m high, which connects a narrow neck of land about 4 miles long with the mainland. The continuation, about 5 miles farther N, is known as Isla Blanca (21° 22'N., 86° 49'W.).

From the S end of the ridge of sand, a reef fringes the coast, extending past Isla Blanca to Isla Contoy, about 4 miles farther N; there are one or two openings for boats in it.

**6.75 Isla Contoy** (21° 30'N., 86° 49'W.) stands about 4 miles NNE of Isla Blanca and 6.5 miles offshore. Its E side is composed of a narrow ridge of sandhills covered with bushes and trees to within 1.5 miles of its NW extremity. A narrow ridge of coral, with depths of 5.5m, extends about 3 miles NNW from two rocks close off the NW extremity of the island. The greater part of the W side of the island is intersected by numerous small lagoons. The island is a bird sanctuary.

A bank, with a depth of 27m, was reported (1946) to lie about 17 miles ENE of the N extremity of Isla Contoy. A shoal depth of 18.3m was reported (1968) to lie about 16 miles NE of the N end of the island.

From **Cayo Sucio** (21° 25'N., 86° 53'W.), which lies close off the coast 3 miles NW of Isla Blanca, the coast trends about 8 miles NW. This coastal section is more elevated and densely wooded, with some trees standing 37 to 40m above the sea. The conspicuous ruins of a church stand at the N end of this stretch of coast. From the ruins of the church, the coast extends about 6 miles WNW to abreast Cabo Catoche, which is the N extremity of Isla Holbox.