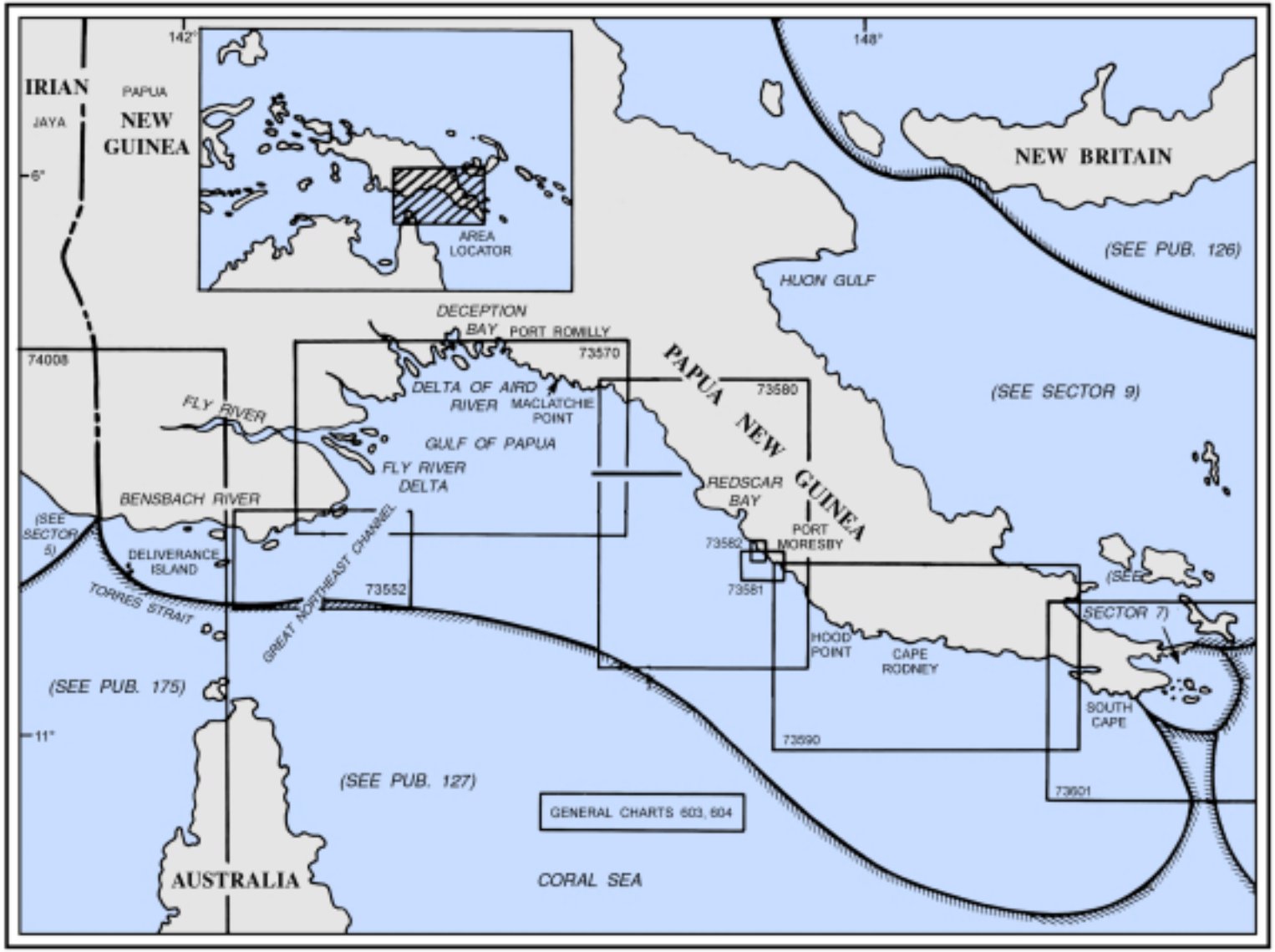

Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR **6** — CHART INFORMATION

Table of Contents

SECTOR 6

SOUTH COAST OF PAPUA NEW GUINEA—BENSBACH RIVER TO SOUTH CAPE

Plan.—This sector describes the S coast of Papua New Guinea from its W limit, the **Bensbach River** (9˚07'S., 141˚02'E.), which is the boundary between Irian Jaya and Papua New Guinea, E to **South Cape** (10˚43'S., 150˚14'E.).

General Remarks

6.1 The coast from the Bensbach River to about 145˚30'E, about 300 miles, is low, composed mainly of mangrove swamps, and is fronted by shoals and reefs extending about 30 miles seaward. Navigable channels probably exist within this area, but until it is surveyed it should be avoided by strangers. The chart is the best guide to off-lying dangers.

Many little-known rivers, forming an immense delta with many creeks and mouths are across the great plain along this stretch of coast. No entrance except for light-draft vessels has yet been found to any of these rivers, although the Fly and Aird Rivers, the principal rivers, have deep and navigable channels inside the bars, and there may be a good entrance to the Fly River.

East of 145˚30'E, the coast becomes gradually higher, and the water is, for the most part, clear of dangers as far as the vicinity of Cape Suckling, a distance of 90 miles, where the reefs begin. From this point to the E extremity of the Louisiade Archipelago the coast is fringed with reefs forming barriers within which there may be good anchorages, but because they have not been properly surveyed, they are mainly an impediment to navigation.

Bensabach River to Gulf of Papua

6.2 **Bensbach River** (9˚07'S., 141˚02'E.) is navigable only by small craft. An extensive spit with depths of less than 5.5m extends S and SSW for about 25 miles from the river mouth. On this spit is a drying reef and several sandbanks which dry up to about 1.2m.

The mouth of the Bensbach River is at the boundary between Irian Jaya and Papua New Guinea.

Shoalwater Point (9˚14'S., 141˚08'E.) lies midway between the entrance to Morehead River and Bensbach River. From Shoalwater Point a sand bank, which dries 1.8m on its outer end, extends 8 miles SE and 7 miles SSE.

Between the Bensback River and Shoalwater Point, a sand bank which dries 0.9m, extends up to 5 miles offshore. Depths of less than 1.8m, with several drying sand banks, extend 18 miles SSW from the 0.9m drying bank. Tidal streams set WNW and ESE across the flat extending from this coast.

Caution.—A dangerous submerged wreck lies in an approximate position about 32 miles SW of Shoalwater Point.

From Bensbach River the coast trends E for about 15 miles to a low point marked by a clump of coconut palms then trends ESE for another 15 miles to Parliament Point, marked by a grove of tall mangrove trees. The open bight thus formed is Heath Bay. The water appears to be shallow for 5 miles or more offshore.

Morehead River, navigable only by small craft, discharges at the head of Heath Bay. Anchorage can be obtained in 7m, 8.5 miles SSE of the entrance to the river.

The coast between **Heath Bay** (9˚10'S., 141˚24'E.) E to the Talbot Group of islands is shoal up to 4 miles offshore. Beyond the shoal area are numerous reefs which extend up to 26 miles S of the shoreline between Bensbach River and Wassi Kussa River.

6.3 **Thompson Bay** (9˚12'S., 141˚46'E.), about 25 miles E of Morehead River and between Walarter Point and Naguara Point, is fringed by a sandy beach on which are coconut palms and behind which is dense forest. The coast to the E is lined with mangrove. Walarter Point is easily distinguished by its red banks and coconut palms. This point can only be approached by small craft and boats can be landed here.

Deliverance Island (9˚31'S., 141˚35'E.), about 19 miles S of Walarter Point is about 0.3 to 0.9m high and covered with trees, the tallest of which are about 31m high. The island is surrounded with extensive reefs. There is anchorage S of the reefs about 4 miles E of the island. Another anchorage is 2 miles S of the island. The island abounds with turtles.

Kerr Islet, a sandbank on a reef 3.5 miles S of Deliverance Island, is covered with vegetation and has a conspicuous tree. A 3.6m shoal is about 3 miles ESE of the islet. A spit with a depth of less than 1.8m extends 2 miles N, a submerged rock is 3 miles WNW, and a 5.2m shoal is 3 miles SW, respectively, from the islet.

Shoals extend in an almost unbroken line from a position 5 miles NW of Deliverance Island to the W end of Boigu Island, but there appears to be a channel between these shoals and the shoal water fringing the shore of New Guinea.

Talbot Islands (9˚14'S., 142˚10'E.) consist of one large island and six smaller ones. Boigu Island, the largest of the group, together with two small islands off its N side, are about 5 miles S of the entrance to Maikussa River. Kawai Islands, constituting the rest of the island group, are close off the entrance to Wassi Kussa River.

6.4 **Boigu Island** (9˚16'S., 142˚14'E.) is 9.25 miles E-W and has a greatest width of 5 miles. The island, low and swampy, has a large cultivated patch near a village on its N side and two fishing stations are on the S side of the island. A bank of mud and rock that dries extensively and which has not been examined extends 5 miles offshore from the SW end of the island and 2 miles offshore elsewhere. West of the island there is foul ground up to 3 miles offshore from the mainlands. A conspicuous tree is on the W side of the island.

A rock, with less than 1.8m was reported, about 3 miles ENE of the Boigu Island.

The channel between the Talbot Group and the shore should only be used with local knowledge. A drying reef 3 miles NW of the N point of Boigu Island is marked by a beacon. A reef that dries is 4 miles W and another 5 miles WSW of the W end of the island. Red Sands, which dry at 2.7m, and are subject to change lie on the outer end of the unexamined bank, which extends 5 miles WSW from Boigu Island.

Wassi Kussa River and Mai Kussa River are two arms of the sea surrounding **Strachan Island** (9˚05'S., 142˚08'E.). They unite 20 and 25 miles above their mouths. To that point they have depths of 9.1 to 18.3m. The approaches to the rivers have not been surveyed. The shores are generally mangrove swamps. Strachan Island is low and wet and covered with mangrove and eucalyptus trees.

The coast from the entrance to Mai Kussa River trends ESE for 24 miles to a point abreast the W end of Saibai Island; it is a low mangrove shore with low wooded country behind it. For the greater part this coast is fronted by a bank which dries for a distance of 0.25 to 1.5 miles offshore.

Bugi Village is on the mainland abreast Boigu Island and about 1.5 miles E of the entrance to Mai Kussa River.

Kussa Island is close offshore about 4 miles SE of the entrance to Mai Kussa River.

A reef awash and a submerged reef are about 16 miles ESE of the entrance to Mai Kussa River and about 2.25 miles offshore.

Dauan Island (9˚25'S., 142˚32'E.), about 16 miles SE of Boigu Island, is roughly triangular in shape, each side about 1.5 miles long. The island rises to Mount Cornwallis, 259m high, near its center. A village is on the NE side of the island. Spring tides rise about 3.7m at Dauan Island.

A 2.7m depth is about 3 miles NE and a 4.5m depth is about 2.5 miles ESE, respectively, from Mount Cornwallis.

Phipi Reef (9˚33'S., 142˚36'E.) is awash, with Adrian Reef, which dries, 1.25 miles NW of it. Another drying reef lies 1.5 miles E of Adrian Reef.

6.5 Saibai Island (9˚24'S., 142˚42'E.), the W extremity of which is 2.5 miles E of Dauan Island, is 12 miles long E-W and has a maximum width of 3.75 miles. The island is mostly low and swampy, but a large portion of the NW side is under cultivation. The bank of mud, coral, and stones encircling the island dries up to 1 mile off at the W end and up to 3 miles at the E end of the island.

Saibai Village is on the NW side of the island and Churum Village is on the SW side. In the village of Saibai there is a church and a mission. A radio tower is located on the W side and a conspicuous tree stand 1.25 miles ENE of Saibai village.

Kauamag Island, close off the N shore of Saibai Island, is little more than a mangrove swamp. The channel between it and Saibai Island is nearly blocked at its E end.

Anchorage may be obtained for small vessels with local knowledge between the small island W of Kauamag Island in the middle of the W entrance to the channel separating the islands.

There is a channel 2 to 4 miles wide between Saibai Island and the mainland that can be used by vessels with up to a 3.6m draft with local knowledge. Some of the reefs in the channel are marked. The water is much discolored. North Reef which lies 3.75 miles WNW of Saibai village, dries and has foul ground extending 0.75 mile on the W and S sides. South Bank is located 1.5 miles WNW of Saibai village and is marked by a beacon. There are two other drying reefs 1 mile NNE of the South Bank. The area 1 mile E of South Bank, about 0.75 mile N of Saibai village extending E to the N coast of Saibai Island was reported dry.

The area between Saibai Island and Warrior Reefs and for 20 miles S is unexamined.

Discolored water was reported, in 9˚28'12"S, 142˚54'00"E. There is a 3m shoal 3.5 miles NW of this discolored spot.

Pahoturi River (9˚17'S., 142˚45'E.) is entered about 6 miles NNW of the E end of Saibai Island. The approach to the river is obstructed by reefs and shoals but there is deep water in the river for many miles above the mouth.

Several islands at the mouth of the river include Paho, Marakara, and Sogeri Islands. Foul ground with many rocks extend S of Marakara Island and a rock awash is about 2.5 miles ESE of that island. There is another rock awash 3.5 miles SSW of Marakara Island and a submerged rock, dangerous to navigation, 3 miles SSE of the same island.

Mabudauan Hill (9˚16'S., 142˚43'E.), on the W side of the entrance to Pahoturi River, is high and covered with grass. It is the only elevation on the coast between Fly and Bensbach River. A white concrete church on the S side of the hill is clearly visible when approaching from SE.

Binaturi River is merely a creek that can only be used by boats. Villages are at the mouth of the river. Spring tides at the mouth of the river rise 3.6m.

6.6 Oriomo River (9˚03'S., 143˚10'E.) is navigable for vessels of 3.0 to 3.6m draft for about 40 miles and it is approached from Daru Roads only. There is apparently no passage W of or between Bristow and Daru Islands except for boats. A dangerous wreck which dries 1.2m is on a bank with depths of less than 1.8m, 0.75 mile S of the entrance to the river. There is another wreck, dangerous to navigation, SE of the above mentioned wreck, 0.5 mile N of Daru Island. A submarine pipeline crosses from the coastline to Daru Island 0.75 mile W of the Oriomo River entrance.

Bristow Island (9˚08'S., 143˚14'E.) is low, uninhabited, and covered with mangroves. It is about 15 miles E of Binaturi River, 5 miles offshore, and connected by a shallow bank with Daru Island, which is between it and the mouth of the Oriomo River. Coral ledges front the E and S sides of the island. The island is marked by a light close E of the NE extremity of the island.

Daru Island (9˚06'S., 143˚12'E.), close NW of Bristow Island, is about 3 miles long on its N side and about 27m high. There is a light 0.75 miles N of this island at the edge of a drying reef. An aeronautical radiobeacon is located on the N side of Daru Island, and there is an airstrip here.

Daru Roads (9˚15'S., 143˚16'E.), with depths of 1.2 to 6.7m, is NE of Bristow and Daru Islands. The approach is from the SE where there are irregular depths of 3.9 to 37m. Depths of 3 to 5.5m are between 2 miles E and 7 miles ESE of the NE extremity of Bristow Island.

Shoals with depths of 3.3, 4.9, and 3.9m are, respectively, 2, 5.25, and 6.75 miles SE of the light on Bristow Island and close SW of the recommended track through the road. On the

NE side of the channel is the shallow flat lying SW of Bampton Point, the S extremity of Parama Island. A narrow channel with a least depth of 3m in the fairway leads through Daru Roads to the entrance to Oriomo River.

The channel is partly marked by beacons.

Pilotage.—Pilotage is not compulsory. Pilots come from Port Moresby with at least 48 hours notice. The pilot boards about 2.75 miles ESE of the light on the E side of Bristow Island.

Directions.—A recommended track leads from a position 9.75 miles ESE of Bristow Island Light through Daru Roads on a course of 304.5˚ to a position 1.75 miles ENE of the head of the pier on Daru Island. The least known depth on this track is 5.5m. The 30m long pier has a depth of 3m alongside.

Narrow channels lead from the inner end of this track to the pier and to the entrance of the Oriomo River. There are depths of 1.8 to 5.5m in the former and a least depth of 3m in the latter.

The recommended track through Daru Roads should be approached on a course of 267˚ from a position 3.75 miles S of **Bramble Cay** (9˚09'S., 143˚53'E.) to the outer end of the inner track.

Daru (9˚04'S., 143˚12'E.) (World Port Index No. 53150) is on an elevation on the N side of Daru Island. It is the headquarters of a government official and there is a hospital.

Missionary Passage, between Bristow Island and Warrior Reefs has a least charted depth of 8.2m in the fairway. The N side of the passage is formed by the coral reefs extending about 13 miles SW from Bristow Island and terminates at Gimini Reef. Heavy rollers setting in during most of the year make approach to the passage dangerous. There are strong tidal currents in the passage which at springs attain a rate of 5 knots.

A submerged rock, less than 1.8m, is about 11 miles WSW of Bristow Island.

6.7 **Parama Island** (9˚00'S., 143˚23'E.) is about 10 miles NE of Bristow Island. The passage between Parama Island and the mainland is about 0.25 mile wide and 1.8 to 5.5m deep. This island, on the S side of the S entrance to Fly River, is low and thickly wooded with trees as high as 61m.

A reef with a probable depth of less than 1.8m is about 7.5 miles S of Bampton Point, the SE point Parama Island, and submerged rocks are 5.25 miles SE and 7.25 miles SSE of the same point.

There is a mission station at Tetebe, on the E coast of Parama Island near the N end, and another at Gasiri, on the S side of the island.

Ellengowan Rock (9˚00'S., 143˚31'E.) with a depth of 1.1m, is 7 miles ENE of Bampton Point, the S extremity of Parama Island.

A drying reef of rocks and sand, over which the sea breaks heavily during the SE trades, extends 5 miles SSE from Bampton Point; the same reef extends farther SSE to Merrie England Shoals, with depths of less than 2m, 7.5 miles SSE of Bampton Point.

Bramble Cay (9˚09'S., 143˚53'E.), locally known as Massaramcoer, is a small islet 28.5 miles ESE of Bampton Point; it is about 3m high and surrounded by a drying reef, close around which are depths of 4.5 to 8.2m. The cay is marked by a light with racon, on a reef 0.25 mile to the NNW. Due to the proximity of the Fly River,strong and irregular currents may be experienced in the vicinity of Bramble Cay.

Black Rocks, the highest of which uncovers 1.2m at HW, is on a reef 3 miles SW of Bramble Cay. The passage between these rocks and the cay is clear.

Gulf of Papua

6.8 The Gulf of Papua is between the entrance to the Fly River and Cape Suckling, 190 miles E. The N and W shores of the Gulf are low except for Aird Hill, about 108 miles NNE of Parama Island, and Saw Mountains, about 80 miles E of Aird Hill. There are no objects on the W or N sides of the Gulf sufficiently conspicuous to serve as landmarks when approaching from S, therefore soundings are the best means of approach especially for the W shore where sand and mud flats extend a considerable distance offshore. The bars are composed of soft sand and the bottom outside of sand. Anchorage off the bars in SE weather is not good and there are always rollers in shallow water. Good anchorage can be obtained during the NW monsoon when a vessel can feel her way on soundings. There is a lot of floating timber and logs are often encountered between Bramble Cay and the mouth of Fly River and E across the Gulf. Discolored water extends about 30 miles offshore.

For the most part the coast is slightly higher than the land behind it which is low and swampy for a distance of 10 to 20 miles or more inland, not rising above sea level. This swampy country covered with mangrove, nipa palm, and sago, is being gradually raised by the combined action of crabs who build hollow towers. These foundations are filling in with silt deposit from the rivers.

From Parama Island to the Aird River entrance, 95 miles NE, the monotonous shoreline has no landmarks. It is wooded to the waters edge, with trees 30 to 46m high. In this area, the Fly River Delta deposit forms a continuous series of mudflats and banks of hard, fine sand with outer edges having depths of less than 5.5m extending 3 to 20 miles offshore. These mudflats extend farthest from the shore about midway between Parama Island and Cape Blackwood, 96 miles NE.

On the E side of the Gulf the land rises to lofty mountains, contrasting strikingly with the low level country to the W. Of the mountains, the Owen Stanley Range, which can be termed the backbone of the SE part of New Guinea, is an almost continuous chain extending from 7˚55'S, 146˚25'E, for about 300 miles in an ESE direction, terminating near East Cape, the E extremity of Papua New Guinea, culminating at Mount Victoria, 4,036m high, about 57 miles E of Cape Suckling.

There are mission stations at Geav and Sui, on the coast about 2 and 6 miles, respectively, N of the N point of Parama Island.

In clear weather when within 25 or 30 miles of land the interior mountains about 1,829m high with three peaks on the W part will be seen. The two E peaks, about 35 miles NE of Aird Hill are very rugged. Nearing the land it is easy to know if the vessel is E or W of Maclatchie Point because, to the W of Flat-Top and Woody Hills, NNW of the point, there is no high land, and the land near the coast is low and flat. Toward the head of the gulf, off the Fly and Aird Rivers, the land is so low

it cannot be seen 6 or 7 miles offshore. Discolored water and mud bottom may be considered a certain indication of the approach to shallow water.

Tides—Currents.—Spring tides rise 4.2m and neap tides rise 3.1m on the flats fronting the W shore of the Gulf of Papua.

Near the head of the gulf the flood sets NW toward the rivers at a rate of 2 knots at springs, and at the ebb in the opposite direction at the rate of 3 knots.

Directions.—In approaching the head of the Gulf of Papua from S it is advisable to approach the area of **Maclatchie Point** (7˚57'S., 145˚25'E.) on the E side.

Caution.—Charting in the Gulf of Papua is not based on adequate surveys and uncharted dangers may exist. Tidal bores may occur on the main rivers at spring tides.

Throughout the bay, there are unsurveyed areas, of which no hydrographic survey has been conducted and accordingly, mariners attempting to enter this area should proceed with extreme caution as unidentified shoals, reefs, and other navigational hazards may exist.

In the various inadequately surveyed areas, mariners are warned to exercise care within the areas indicated. These areas are not based on adequate hydrographic surveys and uncharted dangers may exist.

During the height of the SE monsoon there is a dangerous lee shore with heavy surf breaking on it. The sea breaks in 7.3m depths.

Fly River Delta to Aird River Delta

6.9 The estuary of the Fly River is 35 miles wide at its entrance, but only 7 miles wide abreast **Kiwai Island** (8˚37'S., 143˚29'E.), which may be considered as being the river mouth. Above this island the river gradually contracts to a width of 1 mile or less.

The estuary is studded with low and swampy islands covered with mangrove and nipa palm. There are villages and cultivated areas on these islands. The land on both sides of the estuary is of the same character.

The Fly River, perhaps the largest river in New Guinea, is of great importance.

Winds—Weather.—The climate in the vicinity of Fly River is good. There are considerable thunderstorms. Daytime temperatures have been reported 24˚ to 32˚C. and night 22˚ to 24˚C.

The islands in the estuary are flat and are covered with a thick, fertile alluvial soil. The largest islands are Kiwai, Mibu, Purutu, Aibinio, and Wabuda.

Tides—Currents.—The tidal currents in the approach to the river are very strong and irregular, especially during the NW monsoon and at the change of seasons.

Springs rise 3.7m close seaward of South Entrance.

Aspect.—There are depths of 7.3 to 9.1m in the mouth of the river, but extensive flats in the approach to the estuary limit the draft of vessels until more extensive surveys are made and a proper channel found. Charted positions of shallow places are doubtful and should not be relied on.

It has been said that vessels with a draft of not more than 4.2m could enter the river by sending a boat ahead to make soundings.

Historically, a steamer with a draft of 1.8m has ascended the river for a distance of 150 miles, and a launch with a draft of 1.1m has ascended about 500 miles upriver, where rapids prevented further progress.

Returning to the entrance, the channels on either side of Kiwai Islands are known as North Entrance and South Entrance, and the pass close along the W shore is known as Neva Pass. The approach N of Wabuda Island although wide is marked by heavy rollers apparently indicating shallow depths.

Kiwai Island (8˚37'S., 143˚29'E.), the largest island, separates the North and South Entrances of Fly River. The island is about 30 miles long and averages 2.5 miles wide. The island is well wooded and only a few feet above-water. The chief village, Iasa, has a mission station and is on the S side of the island. Sumai village is on the same side of the island and 15 miles farther NW. Doropo village is about midway along the N side of the island. At the E end of the island are other small villages.

Wabuda Island, on the N side of the estuary, and Domori Island, on the mouth of the river above Kiwai, are apparently the only other inhabited islands.

The inhabitants of the Fly River delta engage in agriculture and hunting. Coconut palm, breadfruit, plantain, sago palm, and sugar cane are grown.

6.10 Bamu River (8˚09'S., 143˚42'E.) is separated from the N mouth of Fly River by a long, low peninsula whose shores are covered with mangrove and nipa palms backed by dense forests with occasional cultivated places.

The estuary of the river, about 8 miles wide, is encumbered with large, low, swamp islands covered with mangrove and nipa palms. These islands divide the estuary into three channels with charted depths of 1.7 to 6.2m, but the approach to all of these channels is over a shallow flat extending 20 miles to seaward which is reported to break in places; consequently, until the river is surveyed, it can be entered only by small craft with local knowledge. Vessels able to cross the bar apparently can ascend the river for many miles.

Naviu Island and Aramia Island are the two largest islands in the estuary. There are some villages on the various islands and on the river banks.

The current in the river is said to have a maximum rate of 6 to 8 knots when the river is in flood. Spring tides rise 4.2m; neap tides rise 3.1m. The river is subject to bores.

Gama River (8˚01'S., 143˚54'E.) empties into the sea about 10 miles E of the N most mouth of the Bamu River. The submerged and uninhabitable coast between the mouths of the river are covered with mangroves. The river is nearly 1 mile wide at its entrance and is fronted for a distance of 2.5 miles by extensive sand and mud flats with depths of 0.9 to 1.8m with 1.5m over the bar, which limits its use.

Bell Point (7˚58'S., 143˚55'E.) is E of the mouth of Gama River. The coast here, covered with sago and coconut palms and along which there are several villages, turns sharply to the N forming the estuary to Turama River.

The estuary of the Turama River is about 20 miles wide. Morigio Island and Neabo Island, large, thickly-wooded islands divide the estuary into three channels. All of these

channels are probably fronted by shalLW and therefore, until properly surveyed, should only be used with local knowledge.

Historically, the river has been ascended, probably by small craft, for a distance of 80 miles. Numerous villages are on the banks of the river. The river has strong tidal currents and is subject to bores dangerous to small boats.

Goaribari Island (7˚47'S., 144˚14'E.), about 5 miles in diameter, is in the approach to Omati River. The island is covered with tall mangrove and is barely above HW. There are several villages on the island.

South of Risk Point, the E extremity of the island, is a sandbank which nearly dries at LW and extends nearly 3 miles off the SE side of the island and about 1 mile NE from Risk Point.

A bank with a least depth of 4.5m is 13 miles S of Goaribari Island.

Omati River, emptying into the sea N of Goaribari Island is about 1.5 miles wide at its entrance. The river has depths of 0.9 to 3.6m, but much less in its approach. Several villages are on the river banks; some are on land barely above HW and are built on piles.

Aird River Delta

6.11 The several mouths of the Aird River are on either side of Ibibubari Island.

Cape Blackwood (7˚46'S., 144˚30'E.), the SE extremity of the island, is about 12.5 miles E of the E extremity of Goaribari Island. The island, about 12 miles long and 2 to 3 miles wide, is barely a few feet above-water and is covered with tall mangrove and trees. Cape Blackwood was reported to lie 1.9 miles further SE than charted. There is only one small village on the W side.

Between Goaribari and Ibibubari Islands are the Newberry River, Aird River, and Nakari River mouths, while to the E are the wider mouths of Bevan Sound and Paia Inlet. There appear to be average depths of about 3.6m with shoals in places in all these rivers, which are simply water channels through mangrove with only very little dry land anywhere. The depths apparently shoal gradually from S toward Cape Blackwood, but shoals with depths of less than 5.5m extend SE from the cape for 10 miles.

The three rivers mentioned above are joined about 30 miles above the mouth at which junction the river is known as Kikori River.

Historically, a steamer of unknown but probably shallow draft entered Aird River by the Nakari Mouth and found the tide effect ceased at a small village above Aird Hill. The steamer ascended the river about 25 miles and was stopped by a series of rocky bars. A boat ascended farther upriver to a point about 87 miles above Cape Blackwood. The upper waters were found to be obstructed by rapids. The steamer returned via Bevan Sound finding good depths as far as Deception Bay. The exploration took place in March with generally fair weather during the day but only a few dry nights. The winds were W and N and the temperatures during the day ranged from 28˚ to 29˚C.

Kumul Marine Terminal (8˚0'S., 144˚6'E.), a production platform with a SBM buoy situated about 2 miles further S, is enclosed by a cautionary area. A pipeline connected to the shore leads NW from the platform. A light, with a racon, is shown from the terminal.

Anchorage.—Anchorage for tankers is situated 2 miles S of the SBM buoy and a cautionary area, radius 5 miles, centered on the production platform within which vessels should avoid navigation, anchoring, or fishing, has been established as shown on the chart.

The tanker terminal has been designed for use by tankers up to 150,000 dwt and for partially loaded ULCCs up to 300,000 dwt.

Caution.—Mariners risk prosecution if they anchor or trawl within 10 miles of a pipeline and so damage it. Gas from a damaged pipeline could cause a fire or loss of a vessel's buoyancy.

Depths have been reported to be less than charted in various areas of the bay.

6.12 **Aird Hill** (7˚27'S., 144˚21'E.), about 23.5 miles above Cape Blackwood, is a steep limestone hill about 331m high.

Bevan Sound (7˚45'S., 144˚30'E.), the most direct route for Aird Hill, is practicable for a vessel with 4.5m draft; however, there are numerous sandbanks in the sound.

Deception Bay, between Bald Head on the E and Ibibubari Island on the W, is about 15 miles wide and fronted by flats with depths of less than 5.5m for a distance of 10 miles. Little is known about the W side of the bay, which derived its name from its deceptive appearance as a deep entrance to a safe navigable river, which it is not. Numerous streams discharge into the bay, the more important of which are Paia Inlet, Era Bay, and Port Romilly. The islands separating these bodies of water are all low, swampy, and covered with mangrove and nipa palms.

The point on the E side of Paia Inlet has coconut trees and a sandy beach. A vessel passing through the inlet for a distance of 5 miles found a least depth of 9.1m; a vessel with a draft of 1.8m ascended to the junction with the Aird River at the foot of Aird Hill. At 20 miles up it was 91m wide and had a tidal rise of about 2.4m.

During the SE monsoon anchorage can be taken near the entrance to Paia Inlet.

The channel into Era Bay leads E of **Gully Bank** (7˚47'S., 144˚44'E.), a drying sandbank, 7.5 miles W of Bald Head and in midchannel. The sandbank can be passed on either hand. A depth of 5.5m can be carried through the channel. There is deep water and ample room within Era Bay. There are indications of a channel leading into Iviri Inlet, W of Bapai Point, about 7 miles NNW of Bald Head.

6.13 **Port Romilly** (7˚42'S., 144˚48'E.), on the E side of Deception Bay, is entered between Bapai Point and Mira Point, about 5.5 miles SE. A spit with depths of less than 5m and with a shoal on the outer end of which the sea breaks, extends about 7 miles S of Bald Head. The main approach channel is W of this spit. Steer about 000˚ with Bapai Point ahead, then, shortly before Bald Point is abeam, alter course to 025˚; this leads across a flat with depths of about 4m into Port Romilly. Inside the entrance the depths are greater, the channel narrowing between the sandbanks on either side, then it extends N and becomes wider and provides ample anchorage space for any vessels able to enter the port.

Another channel, with a depth of about 2.7m skirts the coast between Bald Head and Mira Point. It was said that this channel was shoaling and changing.

Port Romilly connects with Wame River and historically a vessel with a draft of 2.7m ascended the river for a distance of about 20 miles above Bald Head.

Anchorage can be taken in Port Romilly between **Plum Point** (7˚40'S., 144˚49'E.), on the W side of the entrance 3 miles N of Miri Point, and Wami Point, 5 miles farther N. During the SE monsoon, during which there is considerable swell, vessels should use the N part of the anchorage, but during the NW monsoon it is not necessary to go so far up. The holding ground is good. Tidal currents in the anchorage attain a rate of 3 to 4 knots.

The **Baroi River** (Varoi River) (7˚48'S., 144˚58'E.) is entered 5 miles E of Bald Head. Historically the river has been explored by a vessel drawing 1.8m for a distance of 80 miles above the mouth.

Directions.—In approaching Deception Bay or any portion of the coast between it and Parama Island, to the W of Fly River, soundings are the only safe guide because the water almost always shoals gradually toward the banks fronting the coast.

6.14 The Delta of the Purari River (Puari Delta) is made up of all the streams emptying into the sea between Bald Head and the Alele Passage mouth of the Purari River, a distance of about 23 miles to the ESE. Purari River proper is the E most and main mouth. Its estuary, about 3 miles long, is divided by an island into two mouths, the Alele Passage and Aivei Passage, which connect 4 miles above their mouths. The points on both sides of the entrances to these passages are fronted by shoals to a distance of a mile or more. During the SE monsoon the sea probably breaks across the mouth of each passage. The passages can be used only by small boats and then with local knowledge.

Anchorage may be taken in Alele Passage in a depth of about 7.3m.

A mission station is on **Urika Island** (7˚48'S., 145˚01'E.), in the mouth of the Urika River, about 12 miles W of Alele Passage.

Orokolo Bay (7˚53'S., 145˚18'E.) is between the mouth of Purari River and Maclatchie Point. The bay is about 12 miles across and has several villages on its shores. It has moderate depths and is clear of dangers. The highest land around the bay is near the E most village. About 1.5 miles N of the village there is a flat hill, 61m high. There is a missionary station at Orokolo village.

Vailala River (7˚57'S., 145˚24'E.) entrance, just W of Maclatchie Point, has about 1.8m over its bar; a bank extends about 1 mile off its E point. Local knowledge is necessary to cross the bar; at times it is dangerous even for boats. There are villages on each entrance point and coconut groves near the mouth of the river. The river has been explored by small craft to 100 miles above the mouth.

Maclatchie Point to Port Moresby

6.15 Maclatchie Point (7˚57'S., 145˚24'E.), the SE continuation of the E entrance point to the Vailala River, is low but is the most prominent point in the vicinity. Vessels coming from SW will see the flat and wooded hills over this point. The hills are remarkable because they are the W most limit of the highland in this vicinity; between them and Orokolo Bay the land is marshy and only a few feet above HW.

A shoal which sometimes breaks is 4 miles SSE of Maclatchie Point, and shoals extend 1 mile WNW from this shoal; otherwise the surrounding depths are more than 8.2m.

A 1.5m shoal, is 4 miles W, and another shoal 3.6m 13 miles SW of Maclatchie Point.

Other shoals are 10.3m 10 miles ESE, and 15.7m 12 miles S, respectively, from Maclatchie Point.

The coast between Maclatchie Point trends E for about 19 miles to Kerema Bay, into which the Matupe River discharges. The Kea River, a small river, empties into the sea about midway along this stretch of coast, and a bold bluff with a ledge of rocks extending nearly 1 mile S from it, is about 7 miles E of the mouth of the Keuru. A dangerous breaking shoal is reported about 2.25 miles SW of the entrance to the river. There are some isolated hills 3 to 14 miles N of the bold bluff.

Kerema Bay (7˚58'S., 145˚45'E.), the estuary of the Matupe River, is large but almost blocked by sandbanks. There is a small-boat passage along the W shore and a narrow channel between the banks. Rollers are prevalent with onshore winds. The bar is bad and shifting. There is a wreck, dangerous to navigation, just offshore of the village of Kerema. An aeronautical radiobeacon is S of the village. A depth of 14.8m lies about 10 miles SW of the radiobeacon.

Keauna Hills (8˚00'S., 145˚48'E.), 254m high, about 3 miles E of Ipisi Point and N of Cape Cupola, are prominent. The Nabo Range of mountains, about 1,219m high, is 12 miles N of these hills. The Albert Mountains, about 2,134m high are E of the Nabo Range.

6.16 Cape Cupola (8˚02'S., 145˚50'E.), the S extremity of Keauna Hills, is a bold headland; E of the cape there are coastal hills ranging from 61 to 91m high and extending nearly to Karova Creek, 8.5 miles to the E. On the E side of the creek is Karama mission station.

A radio tower is reported to stand on the coast about 1 mile NW of the Cape Cupola.

From Karova Creek the coast trends 10 miles to the SE to Mopu Inlet. **Port Chalmers** (8˚08'S., 146˚06'E.) is about 1.75 miles SE of the Mopu Inlet. This coast is lower and more heavily wooded than that to the W and is backed for a few miles by a range of moderately high hills.

Freshwater Bay is a bight off Mopu Inlet. Vessels have anchored 1 mile outside the bar.

Alice Mead Lagoon (8˚08'S., 146˚05'E.), N of Port Chalmers, has a good anchorage for small vessels in a depth of 3.6m, but there are no marks and local knowledge is necessary despite easy entry. Port Chalmers is a small inlet with depths of 2.7m.

Several villages and coconut groves are seen along this stretch of coast. The country N of Freshwater Bay is very hilly; Saw Mountains, 771m high, are 17 miles N of Port Chalmers.

The delta of the Tauri and Lakekamu Rivers, about 4 miles long, is made up chiefly of mangrove swamps. The mouths of

the rivers are apparently barred at times during strong winds but are available for small boats other times.

Narutu River, 4.5 miles SE of Lakekumu River, is apparently barred at some times like the other rivers along this coast. Some low hills back the coast for the next 10 miles SE.

Biaru River can be ascended only by boats and has been explored for 25 miles above the mouth.

Iokea is a mission station on the coast about 3 miles S of the mouth of Biaru River and Oiapu village is 7 miles farther SE.

Between Iokea and Cape Possession, the coast, trending SSE for 12.5 miles, is bolder and is backed by a ridge of rather high hills that rise abruptly from the shore. The coast near the cape consists of cliffs and valleys. One Tree Hill and Northwest Hill are NE and SE, respectively, from Iokea and Wedge Hill is E of Oiapu. Between Wedge Hill and Cape Possession is peaked and well-defined Clump Hill. The S portion of the coast is fronted by a reef extending offshore for about 1 mile. This reef breaks at LW.

Cape Possession (8˚35'S., 146˚23'E.) is a bold point forming the S end of the coastal range mentioned above. The water is deep off Cape Possession, but closer in no soundings have been taken. There is heavy surf at times as there is along the entire coast between this cape and Parama Island.

Tides—Currents.—For a distance of 10 to 20 miles offshore between Cape Blackwell and Cape Possession the flood and ebb current were found to set nearly W and E, respectively, following the general direction of the coast at a rate of 2 to 3 knots.

The SE portion of Papua New Guinea E of the Gulf of Papua rises to lofty mountains, contrasting very strikingly with the low level country to the W. Of these mountains the Owen Stanley Range, which may be termed the "backbone" of this part of Papua New Guinea extends as an almost continuous chain from Mount Victoria to the head of Milne Bay.

6.17 Mount Victoria (8˚55'S., 147˚33'E.), 4,036m high, the summit of the Owen Stanley Range, about 72 miles ESE of Cape Possession is remarkable for its square top, and unmistakable height; a sharp ridge descends from it SW towards the sea.

Ten miles NW of Mount Victoria there is a sharp slope from this lofty mountain chain where there is a joining of two ranges of less height; one of these extends SW for about 25 miles to Redscar Bay and the other trends NW for about the same distance at a much greater elevation. Mount Cameron, the highest point in the latter range is 2,216m at its SE end.

Mount Yule (8˚12'S., 146˚47'E.), 33 miles NE of Cape Possession, is a remarkable table-topped mountain, 3,275m high, the crowning summit of a detached portion of the Owen Stanley Range; the dividing gap in the range is a deep valley about 20 miles S of Mount Yule. This mountain has been seen at a distance of 117 miles. The country between this mountain is hilly but apparently fertile.

The coast for the first 9 miles SE of Cape Possession is a sandy beach backed by wooded hills. Between these hills and the shore is a strip of level land with several villages backed by a continuous forest of coconut palms extending to the base of the hills.

From the end of the beach to Au Point, 4 miles farther E, the land is very low and covered with dense jungle. Very few soundings have been taken off this part of the coast.

South of Cape Possession to Au Point, for about 13 miles, the coast is thickly populated. The principal villages are Kevori Poe and Maiua, which are mission stations.

Au Point (8˚46'S., 146˚31'E.), the NW end of Hall Sound, is low and sandy; the ground is swampy and covered with mangrove trees. Pinupaka Village, a mission station is 0.5 mile N of the point. A depth of 16.5m is reported to lie about 11 miles W of the point. About 3.5 miles NW of the 16.5m depth, a depth of 10m has been reported (1993).

Yule Island (8˚50'S., 146˚32'E.), the N end of which is about 1 mile off Au Point, fronts Hall Sound. The island is 4.5 miles long NW-SE and 0.5 to 1.75 miles wide. It has many peaks the highest of which is 1.75 miles from the S end of the island and is 160m high. The hills slope gently to the sea. The N end of the island is wooded, but there are many clearings with clusters of huts at the S end. There are several caves along the coasts of the island.

The seaward side of Yule Island is fronted by a moderately steep-to reef varying from 0.2 mile to 1 mile off. The inner side of the island, within the entrance to Hall Sound is clear of reefs, the depths shoaling gradually toward the shore of the island.

Anchorage.—Good temporary anchorage may be taken about 1 mile W of the N end of Yule Island in depths of 18.3m, mud.

A white conspicuous house stands close N of Maura Point.

Caution.—Depths of 14.6m and 7.4m lie about 11.5 and 4.75 miles W, respectively, of Maura Point.

6.18 Chiaria (Tsiria) (8˚49'S., 146˚31'E.), a village, is on the W side of Yule Island and a mission station is between the village and Maura Point. The climate on the island is considered to be less healthful than that on the mainland.

Hall Sound (8˚50'S., 146˚34'E.), E of Yule Island, affords sheltered anchorage in 7.3 to 21.9m, mud, good holding ground, and is available to all types of vessels. The S entrance, S of Yule Island, is 1.5 miles wide but is reduced by reefs on both sides to 0.75 mile with depths of 22 to 44m in midchannel. The water in the channel is frequently so turbid that the reefs cannot be seen.

The N channel is 0.5 mile wide between the mudflat of Au Point and the reef extending N from the N end of Yule Island. There is a least depth of 2.7m in the fairway of this channel.

Musgrave Reef (8˚53'S., 146˚31'E.), 0.5 mile long has a least depth of 4.9m near its S end, 2.5 miles SSW of Mauru Point. The reef is directly in the approach to the S entrance to Hall Sound.

Reefs extend 0.8 mile into the S entrance from Kapripata Point, a grove-covered point on the mainland S of Yule Island. Reefs also extend into the passage from the hilly point N of Delena Village, which is nearly 2miles NE of Kapripata Point. An 11m shoal lies about 6.25 miles W of Kapripata Point.

Mauru Mauru Reef (8˚51'S., 146˚33'E.), on the N side of the S passage into Hall Sound, is the S part of an extensive reef projecting out from the W coast of Yule Island.

The E shore of Hall Sound is a mangrove swamp into which the Bioto River and St. Joseph River discharge; it is fronted by an extensive drying mudflat that makes the rivers accessible to boats and then only at half-flood to half-ebb. The depths shoals gradually toward this flat.

A cable area is abreast the S entrance to Hall Bay. Anchorage is prohibited in the area.

6.19 St. Joseph River (8˚48'S., 146˚34'E.), emptying into Hall Bay, has depths of only 1.5 to 1.8m at HW. Bioto River, also emptying into the sound has a depth of 2.7m and is narrow.

Tides—Currents.—In Hall Sound springs rise 1.5 to 2.1m and neaps 0.6 to 0.9m. In the S entrance to the sound the flood runs NE at a rate of 1 knot and the ebb at a rate of 1 to 2 knots.

Directions.—To avoid Musgrave Reef when approaching Hall Sound from the N steer for Naruru Hill, 219m high and the N high peak of the range on the S side of the S entrance, bearing 106˚, then when the E extremity of Yule Island bears 025˚, change course to 039˚ and continue on that course through the fairway into the sound.

Vessels coming from the S should steer for the W extremity of Yule Island bearing 350˚, passing between Musgrove Reef and the shore reef that extends out abreast Kapripata Point. When the SE extremity of Yule Island bears 025˚, steer for it until Naruru Hill bears 106˚, then steer 039˚ up the fairway into the sound.

The reefs make night entry into the sound dangerous.

There are several villages in the Hall Sound area including the mission station Delena Village, on the S side of the S entrance to the sound.

6.20 Cape Suckling (9˚02'S., 146˚38'E.) lies about 12 miles SSE of Hall Sound; the intervening coast is backed by a range of hills 152 to 213m high. Mount Ripachina, 229m high, is the highest peak in the N portion and Mount Boria, 223m high and 2.5 miles NE of Cape Suckling, is the highest peak in the S portion. The latter part of the range consists of sand hills covered with scrub. The cape is low, gradually rising to Mount Boria, which, with Mount Kupata, at the termination of the range, serves to identify the cape. Mount Lolopata, 261m high and 8 miles NNE of Cape Suckling, is also a prominent landmark.

When the rivers are in flood there are often large quantities of driftwood in the open sea off this coast and the sea has a muddy discolored appearance.

A 9.1m coral shoal is about 5.5 miles W of **Gubbins Point** (8˚57'S., 146˚34'E.), and two shoals of 4.5m and 4.9m, respectively, are within 0.6 mile W of the same point. An 8.2m shoal is about 1.5 miles offshore, 2.5 miles S of Gubbins Point. A shoal with a least depth of 6.4m is about 1.5 miles WSW of Cape Suckling.

Pike Shoal, with a depth of 8.5m, coral, is 2.5 miles S of Cape Suckling. Two shoals, with depths of 7.3m and 9.1m are 3.75 and 4.5 miles, respectively, SE of Cape Suckling and about 2 miles offshore.

From Cape Suckling the coast trends ESE for about 16 miles to Redscar Bay; the first 8 miles of this coast is fronted by a coral reef extending 0.5 to 1 mile offshore.

Aroa River (9˚04'S., 146˚48'E.) discharges about 11 miles from the cape; its mouth is apparently dry at LW.

Kekeni Rocks, three in number and the highest of which is 21m high, are 1.75 miles S of the entrance to Aroa River on the W part of a drying reef and are nearly connected with the shore flat. These rocks, showing against the low mangrove swamp at their back, are conspicuous from seaward.

Redscar Bay (9˚09'S., 146˚50'E.) is between Kekeni Rocks and Lagava Island, 11.5 miles to the SE. The shores of the bay are low, swampy, and thickly wooded. A light is shown from Redscar Head.

A 9.1m shoal has been reported 4.7 miles 312˚ from Varivari Island; the position of this shoal is doubtful. An 11m shoal is located about 9 miles WSW of Kekeni Rocks; a 9m shoal is located 12 miles SW of Kekeni Rocks. An 7.4m shoal is located about 14 miles W of Varivari Island and another shoal is reported about 16 miles WNW of the same island.

6.21 Galley Reach (9˚07'S., 146˚35'E.), which goes through the bar across the estuary into which Vanapa River and other rivers discharge, is at times dangerous to boats and, being formed by the deposit brought down by the rivers, is liable to shifting. A depth of 1.8m may be found in the channel over the bar at LW. Abreast of Manumanu there are general depths of 6.1m and possibly more in Galley Reach, which is bordered by mangrove swamps.

Anchorage.—A submarine cable extends from Manumanu to the opposite shore. Anchoring or fishing is prohibited within 0.25 mile of the cable.

Directions.—Leading beacons are at Manumanu Village, and in line bearing 048˚, lead across the inner end of the bar. There is a conspicuous tree on the coast about 1.5 miles W of the beacons. Vessels with local knowledge can cross the bar with the conspicuous tree bearing 359˚ until the beacons are in line, then they should be kept in line for about 1.25 miles. The track over the outer part of the bar leads between two reefs, about 0.3 mile apart, upon which the sea almost always breaks.

The Vanapa River drains a large part of the Owen Stanley Range of mountains and discharges into the sea through Galley Reach. The river junction with the reach is hidden by mangrove. The river has been ascended by boat for about 40 miles and found to be a rapid stream with numerous snags and boulders. Laloki River also enters Galley Reach from the SE.

There is a mission station and a sawmill at Manumanu village on the S side of the entrance to the Vanapa River. There are also several villages in the clearings hidden from the river and there are several rubber plantations at the head of Galley Reach.

The coast between Galley Reach and Lagava Island, 9 miles to the S, is low and swampy.

Lagava Island (9˚17'S., 146˚55'E.), at the SE extremity of Redscar Bay, is about 2 miles long and 0.5 mile wide; it attains a height of 110m near its center and is very conspicuous. The W extremity is a bold point rising to a hill with cliffy patches

on its S side. The island is on a coral reef extending 0.3 mile from its W and SW sides; it is connected to the shore by a mangrove swamp. A light is shown from Redscar Head.

Varivari Island (9˚15'S., 146˚53'E.), about 2 miles NW of Lagava Island, is about 0.5 mile long in an E-W direction and has at its S and W extremities two peaks, respectively, 35 and 43m high. These peaks, connected by a strip of low land, appear as two islets from a distance. The island is on a reef extending 0.3 mile NW and SE from it and to a lesser distance elsewhere. Two rocks, one of which is 28m high, are on the S part of the reef.

Several small unimportant rivers discharge through the mangrove swamps into the bight E of Varivari Island.

Anchorage.—Redscar Bay is an exposed anchorage during the SE trades. Vessels should not anchor in less than 18.3m and Kekeni Rocks should not bear less than 329˚ if in the N part of the bay. Better anchorage may be obtained in about 10m, mud and sand, with the 77m hill on Lagava Island bearing 151˚, distant 0.85 mile, with shelter during the SE trades; smaller craft may anchor closer inshore. There is considerable swell here in the NW monsoon but, by anchoring in the lee of Varivari Reef, fair shelter might be obtained in a depth of about 21.9m from 0.2 to 0.3 mile from the reef.

Caution.—Approaching Varivari anchorage or Caution Bay, to the S, a good lookout should be kept aloft when nearing the edge of the barrier reef because soundings taken in the area are very scattered. This caution applies equally to other parts of the reef.

6.22 **Darebo Hill** (9˚16'S., 146˚57'E.), 2.5 miles E of the summit of Lagava Island, is isolated and rises abruptly from the lowland to a height of 160m; from the S it appears wedge-shaped, but from the N and W it has a rounded appearance.

From Lagava Island the coast trends E to Lealea River and then S to Boera Head, forming Caution Bay, which has not been completely surveyed. The bay is about 8 miles wide and encumbered with numerous shoals including Pullen Shoals, in its central part and on which there are depths of 1.4 to 9.8m. Reefs and foul ground are in the S and SW approach to the bay and extend from Idihi Island, marked by a light, to within 1 mile of Boera Head. Strong tide rips have been encountered about 3 miles N of the island.

Piri Patch, with a depth of 3m, is close off the edge of a shore reef N of Boera Head. A 4.5m shoal is 9.5 miles NW of Idihi Island with shallow water in places between. The shoal may be considered the beginning of a barrier reef. A 10m shoal depth and an unsurveyed shoal area are between 5.5 to 6.75 miles NNW of Idiha Island at the entrance to Caution Bay. Bavo Island, with some tall trees on it, is on a reef 3 miles E of Idiha Island. Lealea River empties into the head of Caution Bay.

Boera Head (9˚23'S., 147˚01'E.), marked by a light, is a conspicuous red cliff, 50m high, at the S end of a short range of coastal hills. Because it is separated by a plain from the Pyramdal Hill Range, which rises to a height of 305m to the NE, this point is conspicuous from S.

Anchorage.—There is good anchorage in 26m about 1 mile NE of Idihi Island with shelter against the SE monsoon. In approaching this anchorage a good lookout aloft is necessary to avoid the reef extending nearly 1 mile N from the island and a shoal spit N of the island.

A submarine cable crosses Caution Bay in a NW direction from Boera Head to a point 1 mile SW of Lagava Island. Anchorage is prohibited within 0.75 mile on either side of the cable.

Boera Village, a mission station, is just E of Boera Head, Buropada village is 2.5 miles farther SE.

A barrier reef, which begins abreast Caution Bay and extends to the E of Louisiade Archipelago, is a remarkable line of barrier reefs about 450 miles long and composed of living coral. In many places it does not reach to the surface of the sea and in such places is known as the "sunken barrier". From 1 to 10 miles offshore it has many breaks and passages, but still may be considered as a unit. A remarkable feature of the reef is that where it is submerged depths up to 9.1m are not uncommon. The outer edge of this barrier reef, in those places it has been surveyed, has been found to be very steep, 183m being found close to the reef.

There is passage inside the barrier reef mentioned above from Redscar Bay to San Roque Passage, about 200 miles to the ESE, but it is suitable only for small vessels with local knowledge.

6.23 From **Boera Head** (9˚23'S., 147˚01'E.) the coast, fringed by a coastal reef and backed by hills ranging from 122 to 183m high and which are mostly wooded, has a generally SE direction for 7.5 miles to Palli Palli Point ,where it turns to the N, forming the W side of Port Moresby.

Haidana Island (9˚27'S., 147˚02'E.), 7.9m high and consisting of a coral plateau covered with sand and grass, is on the coral reef which fronts the coast to a distance of 2 miles. The island is about 2.75 miles S of Boera Head.

There is protected anchorage W of Haidana Island in 14.6 to 16.4m, sand and mud, with the N extremity of the island bearing 079˚ and the SW extremity bearing 137˚. Small craft with local knowledge can find sheltered anchorage E of the island, the only approach being from S through a break in the reef between the island and the mainland. A light is shown from the reef fronting the SW side of Haidana Island.

Clarke Patches, in the fairway SE of Liljeblad Passage and S of Haidana Island, are scattered shoals with depths of 3.6 to 5.5m.

Idlers Bay (9˚28'S., 147˚05'E.), the entrance of which is about 3 miles SE of the S end of Haidana Island is almost choked by reefs with anchorage only for coasters in the E corner. The shores of the bay are fringed with mangroves. Roku Village is at the head of the bay.

There is a channel inside the barrier reef passing from Caution Bay close along Boera Head and Haidana Island which leads to Port Moresby, but it is limited to small coastal craft with local knowledge.

A wide valley that trends NW behind the coastal hills extends from the head of Bootless Inlet to Redscar Bay and the mouth of Lakloi River.

The coastline from Boera Head to Tupusulei Haed, about 20 miles long, has been surveyed. It has an off-lying barrier reef and includes Port Moresby and Bootless Inlet. There are several islands and islets in the area, those on the fringing coast

reef are low, sandy, and rocky with a few trees and scrub, while those which are detached are higher.

The area consists of hills, some wooded and others with patches of cultivation. They rise from the shore to heights of almost 274m on the E side of the port to 387m NW of the port.

Caution.—Dangerous mine areas, laid during World War II, still exist in the approaches to ports. See Pub. 120, Sailing Directions (Planning Guide) Pacific Ocean and Southeast Asia for details.

Port Moresby (9˚28'S., 147˚08'E.)

World Port Index No. 53160

6.24 Port Moresby Harbor is about 4.5 miles long and 1 to 2 miles wide with general depths of 12.8 to 21.9m. Strong SE winds drive a heavy sea into the port, but there is sheltered anchorage in 10.9 to 14.6m in the E part of the bay; in the bays in the N part of the harbor, the principal being Fairfax Harbor; there is secure anchorage at all times for vessels of moderate draft.

Winds—Weather.—The town of Port Moresby, the seat of government of Papua New Guinea, is on the E side of Port Moresby Harbor between Paga and Tuaguba Hills. This vicinity is considered more healthful than the neighborhood of the villages to the N.

The principal exports are rubber, copra, cocoa beans, and shell. The principal imports are machinery, agricultural products, and textiles.

The dry Southeast Trades, from April to November, often blow strongly and raise a short sea in the harbor, which makes boatwork uncomfortable.

During the wet NW Monsoon, from October to March, strong gusty winds, known locally as "gubas", sometimes blow, generally at night.

Tides—Currents.—In August springs rise about 2.7m; neaps rise about 1.8m. The tidal range is said to be the greatest in July and least in January. During January and February the rise is reported to be imperceptible.

The tidal currents generally are regular and vary in direction according to the positions of the openings of the barrier reef and the strength of the prevailing winds. Small tide rips may be experienced S of Lolorua Islands, off Pyramid Point, and in the three entrance channels leading to the port.

Depths—Limitations.—The port can accommodate vessels up to 62,000 dwt, with a maximum length of 236m and a maximum draft of 10.5m.

Vessels are berthed port side-to and are normally taken to berths during daylight. The Government wharf, or Old Port, extends offshore almost as a T-shape; it is used by large vessels and has a 213m long frontage with a depth of 7.6m alongside. Its inner or S side wharfage is used by coastal and smaller craft. The W inner face is 67m long with a depth of 3.8m alongside and the E inner face is 113m long with a depth of 4.5m alongside.

Close NE of the Old Port, a container wharf or the New Port is built on reclaimed area. It has a frontage 125m long with a depth of 10.6m alongside. The S end of the container wharf is subject to silting.

Lancron Wharf, about 0.5 mile NE from the Old Port, has a least depth of 4m along its N side.

Two mooring berths for tankers lie 1.25 and 1.75 miles NNW, respectively, of Old Port. A submarine oil pipeline extends NE to shore from each mooring area. Tankers, with a maximum draft of 13m can be accommodated; vessels are moored on a SE heading.

An LPG berth, consisting of a steel framework manifold platform in a depth of 15m, lies about 2 miles NNW of Old Port and can accommodate a vessel up to 107m in length.

A reclaimed area behind the main wharf is to be provided and an additional berth will be constructed, giving berths 4 and 5 a total length of 390m.

Three passages, Liljeblad, Basilisk, and Padana Nahua, lead through the barrier reef to Port Moresby.

Liljeblad Passage is between foul ground S of Caution Bay and Sinaui Reef, 8 miles W of the port and involves a circuitous route through an area encumbered with reefs, and, because of a shoal patch in the fairway, the shoals between it and the entrance to the port, the lack of any definite marks, and strong tidal currents it should be used only by shallow-draft vessels with local knowledge.

Basilisk Passage (9˚32'S., 147˚08'E.), abreast the port between Sinavi Reef and Nateara Reef, is deep and clear and is the recommended channel into the port. The passage is marked by a light, from which a racon transmits, and a lighted range. A depth of 10.5m was reported, near the range of the fairway in this channel. A N set of 1.5 knots was reported on flood tide.

Padana Nahua Passage, at the E end of Nateara Reef, is about 0.5 mile wide and very deep; but, because of its inferiority to Basilisk Passage, its use is recommended only by vessels with local knowledge. The passage is partially marked by beacons.

Sinavi Reef is part of the barrier reef fronting the shore and shore reefs at an average distance of 1.5 miles between Liljeblad and Basilisk Passages. Beginning about 1 mile S of the foul ground S of Caution Bay, this reef extends 9.5 miles to the SE. The seaward edge of the reef is well defined and plainly visible in clear weather. The reef dries in places.

Daugo Island, near the middle of Sinavi Reef, is 2.5 miles long, about 0.5 mile wide and 6.1m high. This island and the smaller islands close E of it are low, flat, sandy, and covered with trees; the E most of the small islands is 6.1m high.

Lark Patch (9˚31'S., 147˚08'E.), with a least depth of 3.6m, is 0.5 mile NE of the NE end of Sinavi Reef on the W side of Basilisk Passage. Depths of less than 10.9m extend SE and E from the above 3.6m shoal within a position close NW of the entrance range.

Two small pinnacles were reported to lie 1 mile NE of Lark Patch Light, with a least depth of 16.5m above them.

Nateara Reef, E of Sinavi Reef and separated from that reef by Basilisk Passage, is a main part of the barrier reef fronting Port Moresby. The seaward edge of the reef is well defined except toward the SE submerged section. The reef dries in places. The NW point of the reef is marked by a light, from which a racon transmits.

A stranded wreck was reported (1993) in position 9˚34'S, 147˚10'E about 3 miles ESE of the light. The wreck is breaking up; large sections of the wreck are covered at HW.

A sunken rock is 0.2 mile N of the N end of the reef which forms the E side of Padana Nahua Passage.

The W side of Padana Nahua Passage is formed by the E end of the sunken barrier reef extending about 3.5 miles ESE from the drying section of Nateara Reef. Shoal depths fringe the E and NE part of the sunken reef and vessels rounding this area should exercise caution.

South Patch (9˚34'S., 147˚19'E.), with a depth of 2.4m and marked by a beacon, is SW of Tupusulei Head and close N of the turning point after entering Padana Nahua Passage.

North Patch (9˚34'S., 147˚17'E.), with a depth of 2.7m, is about 0.75 mile NNE of the beacon on South Patch.

A 9.4m shoal is about 0.6 mile SE of the beacon on South Patch. There are two 12.8m patches 0.25 mile and 0.75 mile, bearing 039˚ and 130˚ respectively, from the beacon on South Patch. Middle Patch a 6.9m shoal is 0.6 mile N of South Patch.

The S end of Hanudamava Island, on the W side of the entrance to Port Moresby, in range with the S extremity of Manubada Island bearing 297˚ leads close SW of South Patch.

Aspect.—From seaward **Taurama Hill** (9˚32'S., 147˚14'E.), above Pyramid Point, the W point of Bootless Inlet, is a pyramid-shaped hill, 183m high. **Tupusulei Head** (9˚34'S., 147˚18'E.), the E entrance point of the inlet is 51m high. The E side of the inlet is composed of valleys and small hills that rise gradually from the coast to the Astrolobe Mountain Range which attains heights of 610 to 1,219m. **Mount Lawes** (9˚20'S., 147˚14'E.), in a plain about 9 miles N of the head of Bootless Inlet, is a conspicuous hill, 488m high.

From seaward, the coast in the vicinity of Port Moresby is not distinctive due to the mass of the Owen Stanley and Astrolobe Mountain Ranges in the background. On the W side of the entrance to Port Moresby is Mavarololo, a conspicuous 195m high hill with a clear summit. Huhunamo, 387m high and Lovobada, 378m high, are two conspicuous tree-covered mountains close N of the head of the bay. On the E side of the port is **Mount Pullen** (9˚27'S., 147˚09'E.), 254m high and nearly 2.5 miles NNE of Bogirohodobi Point. An obstruction light is shown from the summit of a hill 252m high, about 0.5 mile SSE of Mount Pullen. The white houses between Paga Hill and Tuaguba Hill are easily distinguished in clear weather approaching Basilisk Passage.

The port area gives a good radar return from a distance of 20 miles.

Pilotage.—Pilotage is compulsory. The pilot boarding area, shown on the chart, is about 1 mile SW of the entrance to Basilisk Passage. Pilots are available at all times. In bad weather pilot boards inside the passage at about 0.5 mile NW from the entrance; or with prior permission, a vessel may proceed directly to the anchorage 0.75 mile W of Manubada island and await pilot boarding. Ship are not berthed during hours of darkness. An ETA message should be sent 24 and 12 hours prior to arrival and should be confirmed or amended not more than 5 hours or less than 4 hours prior to arrival. Radio frequency information used is VHF channels 6, 12 and 16.

Water, fuel oil, and some provisions are available. There is a hospital and an airport is nearby.

Port Moresby maintains a port radio station.

Anchorage.—Port Moresby is commodious and sheltered with good holding ground of mud and affords anchorage for classes of vessels at all seasons. Anchorage areas W, NNW, and SSW of the town of Port Moresby are shown on the chart. There is also an area marked unsafe for anchoring on the W side of Port Moresby extending S to Sinavi Reef and W to Daugo Island. Vessels navigating this area should also refer to the chart for location of a spoil area between Vahunabada Reef and Napa Napa.

A good anchorage is in the outer harbor, centered in position N Point Manubadfa Island bearing 090˚, 1,275m; depth of water 27m.

The SE monsoon often blows strongly and raises a short sea in the harbor making boat work uncomfortable. At this season vessels are advised to anchor as close inshore as possible under the lee of the town peninsula.

During the NW monsoon season strong gusty winds, locally known as Gubas, sometimes blow, generally at night. At this season vessels should anchor more toward the W shore, off the shipyard at **Napa Napa** (9˚28'S., 147˚06'E.).

Anchoring is prohibited in an area SSW from Paga Point, where an outfall extends about 1.75 miles offshore.

Directions.—Liljeblad Passage should be used only by small shallow-draft vessels with local knowledge.

Basilisk Passage is used almost exclusively and is the recommended entrance. From seaward steer a course of 017˚ for the white houses at Port Moresby as soon as they are identified until the light beacon on Nateara Reefis made out. The range lights at Vabukori Point in line bearing 054˚ lead through the passage and should be followed until clear of Lark Patch when course should be altered to bring Baruni Range Lights in line bearing 354˚. There is a dangerous wreck 0.3 mile S of Paga Point whose position is approximate. Steer into port on that range line passing Logulu Motu Motu 0.2 mile off. When past the reef alter course for the desired anchorage.

If visibility is low when making for Basilisk Passage, the stranded wreck on Nateara Reef may be identified before getting into dangerous proximity to the reef.

Padana Nahua Channel can be used when approaching from E, but is less preferred than Basilisk Passage. Steer in with Mount Sadowa, 394m high, in range with the N extremity of Loloata Island, bearing 010˚, then, when the barrier reef on the E side of the entrance is abeam, change course slightly to the E in order to bring Mount Sadowa into range with the S end of Loloata Island, bearing 006˚; this course will give safe berth to the shoal fringing the E extremity of Nateara Reef. When abreast the end of that reef change course in sufficient time to bring the S end of Gemo (Hanudamava) Island in range with the S end of Manubada Island bearing 297˚; this leads S of South Patch. Then pass S of Manubada Island and, when S of Bogirohodobi Point, bring Baruni Range in line; then proceed as directed for Basilisk Passage. Care should be taken to avoid the wreck S of Bogirohodobi Point previously mentioned. During the SE monsoon season, Mount Sadowa is often obscured by haze and vessels should proceed with caution. As noted on the chart, this area is considered unsafe for anchoring.

Caution.—See Pub. 120, Sailing Directions (Planning Guide) Pacific Ocean and Southeast Asia, for danger area in the vicinity of Port Moresby and approaches.

Port Moresby—Aspect Inside Barrier Reef

6.25 Manubada Island (9˚31'S., 147˚10'E.), about 3 miles SE of the town of Port Moresby is 65m high, and is surrounded

by a reef. A narrow channel with depths of 18.3 to 26m is between the island and the mainland.

Good anchorage can be obtained during the SE monsoon in 18.3m, mud, off the NW side of Manubada Island.

A shore reef, extends from 0.13 to 1 mile offshore between Vabukori Point, close NNE of Manubada Island and Pyramid Point, about 4 miles to the SE.

Some houses inthe valley NE of Kila Kila, a prominent 157m hill N of Point Vabukori, are visible from SE when approaching Port Moresby.

Walter Bay (9˚29'S., 147˚09'E.) is a semicircular recession in the coast between Vabukori Pointand Bogirohodobi Point, 2.5 miles NW. A reef extends out 0.15 mile from the shores of the bay. Gabatu Motu Motu Islet, 13.7m high, is on this reef near the head of the bay. Danuagua Islet is in the E part of the bay, close off the shore reef. A rocky islet, 6.7m high, is about 0.5 mile NW of this last islet.

Arakuti Reef, in the W part of Walter Bay close S of Bogirohodobi Point, is separated from the mainland reef by a narrow channel with a depth of about 7.3m.

Local craft obtain good anchorage in NW weather between Arakuti Reef and the mainland reef to the N.

Gemo Island (Hanudamava Island) (9˚29'S., 147˚06'E.), at the W entrance point to Port Moresby, is 87m high and covered with grass and brushwood on its W side; it is connected to the mainland by a reef which also extends E from the island.

Lolorua Island, actually two small islands joined at LW, are S of Gemo Island and the S most island is 29m high. A channel, 0.13 mile wide between the island and Gemo Island, has midchannel depths of 1.8 to 7.3m.

6.26 Bogirohodobi Point (9˚29'S., 147˚08'E.) is 1.5 miles E of Loloru Island and is the E entrance point to Port Moresby. The point is dominated by Paga Hill, 110m high, on which there is a signal station with a flagstaff. A conspicuous building is 0.33mile ENE and an aeronautical radiobeacon is 2.5 miles ENE, respectively, from Paga Hill.

The entrance to Port Moresby, slightly more than 1 mile wide between Bogirohodobi Point on the E and Lolorua Island on the W, has depths of 14.6 to 26m.

North of Gemo Island isolated reefs extend out to 0.15 mile offshore; the largest of these is Esade Motu Motu.

The W side of Port Moresby Harbor is clear of dangers at a distance of 0.6 mile offshore. Most of the E side of the port is fronted by a solid reef extending more than 0.5 mile off. Tatana Island, 126m high, is on the extension of the shore reef in the N part of the harbor and is connected to the mainland by a causeway.

Coglan Head (9˚25'S., 147˚07'E.) about 0.6 mile N of Tatana Island and at the head of Port Moresby Harbor, is 78m high and fringed with mangroves. Reefs extend as much as 0.55 mile off the head and from the shore to the E; between this reef and Tatana Island there is sheltered anchorage for small vessels in all weather.

6.27 Logolu Motu Motu (9˚29'S., 147˚08'E.), a drying reef 0.15 mile long, is 0.15 mile off Elakurukuru, the N extremity of the E entrance point to Port Moresby harbor. The reef is marked by a light at each end. A 10m shoal is about 180m E of the S end of the reef.

Liberty Patch (9˚28'S., 147˚08'E.), about 0.5 mile NE of Logolu Motu Motu is marked by a light and is surrounded by several charted dangers.

Vahunabada Reef, a drying reef about 0.75 mile N of Logulu Motu Motu, is marked by lights and other aids. **Elevala Peninsula** (9˚28'S., 147˚08'E.), a small rocky peninsula, 20.4m high projecting from the shore, is about 0.75 mile E of Vahundabada Reef. A jetty, in ruins, extends 0.25 mile SE from the peninsula and foul ground extends 0.45 mile from the peninsula.

An offshore pipeline berth equipped with mooring buoys is N of Vahunabada Reef; its use is not recommended during the SE monsoon.

Fairfax Harbor (9˚26'S., 147˚06'E.), the NW part of Port Moresby harbor, is a landlocked basin with a 0.25 mile wide entrance between Idumava Point and Raven Rock. Depths of 6 to 10.5m are in the harbor which is a safe anchorage in all weather; its use is not recommended, however, because of the unhealthy locality. There are several reefs in the harbor and mudbanks, extending a considerable distance from the shore restricted the anchorage area. Motukea, a small islet, 54m high and covered with scrub, is in the N part of Fairfax Harbor.

The landing place and alignment of a submerged pipeline laid across the entrance to Port Moresby harbor is marked by tripod beacons 0.33 mile N of Bogirohodobi Point.

Bootless Inlet (9˚31'S., 147˚16'E.) is about 4 miles wide between Pyramid Point and Tupuseleia Head. Both sides of the inlet are encumbered by reefs, but a narrow deepwater channel leads to the head of the inlet between Manunouha Island, 23m high, and Loloata and Motupore Islets, 41 and 61m high, respectively. Manunouha Island is locally known as Lion Island because of its resemblance to a crouching lion. Reefs, S and W of Manunouha Island are marked by beacons. There are depths of 37m in the entrance to Bootless Inlet decreasing to 18.6m at the entrance to Bogoro Inlet, on the E side of the inlet about 0.5 mile N of Motupore Islet. The shores of Bootless Inlet are fringed with mangrove and backed by hills, except at the head, which is low-lying and foul.

Tupuseleia Head (9˚34'S., 147˚18'E.) is a long point surrounded by a reef. Tupuseleia Village is about 0.5 mile N of the head.

Bogoro Inlet, about 0.25 mile wide between the reefs on either side of the entrance has depths of about 9.1 to 18.3m in its central part. The reef on its W entrance point is marked by a beacon. The ruins of a jetty and an abandoned copper mine are on the E side of the inlet.

Directions.—A vessel with local knowledge can approach Bootless Inlet through Padana Nahua Passage which has been described above. When abeam of Nateara Reef steer NNW to bring Manunouha Islet in range about 355˚ with Idumava Hill, the 113m summit on the W side of Bogoro Inlet. Maintain this range until North Patch is abeam, then steer NE to the entrance of the inlet. Anchorage is available in 21.9 to 26m, mud, in midchannel abreast Motupore Islet.

Astrolabe Mountain Range has a remarkable square flat-topped mountain about 7 miles ENE of Tupuseleia Head. This flat top extends about 15 miles in a NW-SE direction and

terminates abruptly at each end, but from the SE shoulder a sharp ridge of barren looking hills with scrub and some trees gradually descends to Round Hill.

Near the edge of the mountain are precipitous cliffs, but on the SW side below these cliffs it slopes gently toward the sea with numerous valleys with rich vegetation. There are many villages with patches of cultivation high on this side of the mountain.

Tupuseleia Head to Hood Point

6.28 From Tupuseleia Head, a low coast with hilly points and several off-lying rocky islets, the coast trends SE 9 miles to the village and mission station of **Gaile** (9˚40'S., 147˚24'E.), on a sloping point of the mainland. From here the shore assumes a bolder and more regular aspect extending another 14 miles farther to Round Point. From Gaile village to Round Point extends a low coastal range, the SE and greater portion of which consists of sterile-looking sandy hills covered with shrub and stunted bushes.

Round Point (9˚52'S., 147˚30'E.) a flat, heavily-wooded point, is not distinguishable from a position outside the reef when seen against the high dark background. Round Hill, 202m high, 2.75 miles ESE of the point, is very conspicuous from NW and looks like an island when seen from the vicinity of Port Moresby. Because of incomplete surveys in the area, vessels should proceed with caution while navigating in the area of Round Point. Round Hill is reported to give a good radar return at a distance of 23 miles.

The edge of a reef SW of Round Hill is marked by a beacon.

South of Padana Nahua Passage the barrier reef follows the general trend of the coast at an average distance of 2.5 miles offshore to Round Point; S of Round Point the distance increases to nearly 7 miles offshore.

Immediately S of Padana Nahua Passage, there are several openings in the reef that should not be entered without local knowledge. In the vicinity of Round Hill there are two openings, the S of which is named Round Hill Entrance.

The main part of the reef up to a few miles of Round Point is awash and plainly marked by breakers. To the S the continuation of the reef is submerged but is easily discernible by the pale green color of the water over it.

Inshore channel.—The channel between the barrier reef and the mainland between Port Moresby has been found to be clear of dangers, except for a few coral shoals which are easily seen. In the vicinity of Round Point reefs are more numerous. This channel is considered navigable only by small light-draft vessels. It is stated that after passing S of South Patch the course inside the reef is 141˚, with the SW side of the summit of a peak in range with Manunouha Islet bearing 321˚ as a stern mark.

6.29 Round Hill Entrance (9˚59'S., 147˚29'E.) is nearly 1 mile wide and is entered on a course of about 028˚ steering on Round Hill. Because the barrier reef that forms the NW side of the entrance is always covered, the sea does not break on it in fine weather, but the reef on the SE side of the entrance is nearly awash and breakers on it distinctly point out the channel.

Anchorage.—There is good anchorage, sheltered against all winds, in 28m, 0.5 mile inside the reef on the SW side of Round Hill Entrance.

Directions.—A summit about 6 miles E by S of Round Point bearing 046˚ leads in through Round Hill Entrance in a least depth of 11.6m.

A 4.9m shoal is about 0.5 mile W of the above 046˚ track, about 2.5 miles inside the entrance.

Beagle Entrance (10˚02'S., 147˚35'E.), 6.5 miles SE of Round Hill Entrance, leads to Beagle Bay. There is enough depth over the reefs for a draft of 5.8m.

Beagle Bay, close E of Beagle Entrance, affords fine anchorage. There is a village on the E shore of the bay.

Wolverine Entrance (10˚05'S., 147˚40'E.) is close W of Hood Point. The N side of the entrance is marked by a beacon with a radar reflector; a small detached reef lying near the S side of the entrance is also a marked beacon. A stranded wreck lies on the S edge of a drying reef located on the W side of Wolverine Entrance.

Paira Point (10˚00'S., 147˚38'E.), a red cliff 8.5 miles NNW of Hood Point, juts out and has a bay on either side of it. A range of barren hills extends SE from Round Head. Between these hills and the coast the land is low and wooded.

Hood Point (10˚07'S., 147˚43'E.), marked by a light, is a tongue of low wooded land 5 miles long. The mission station village of Hula is near its extremity. There are extensive groves of coconut palms in the area of the point. The point is encircled by a reef extending about 1.5 miles seaward but there is a boat passage, marked by beacons, leading from Wolverine Entrance to an anchorage off Hula; this passage should only be used by shallow-draft vessels with local knowledge. The anchorage off Hula should not be used if there is any possibility of bad weather, particularly after dark.

Hood Point is reported to be a good radar target at a distance of 25 miles.

Currents have been noted setting SSE at a rate of 20 miles a day in the vicinity of Hood Point.

Hood Point to Cape Rodney

6.30 Hood Bay (10˚04'S., 147˚48'E.), immediately E of Hood Point, has low, wooded shores. Kemp Welch River discharges into the bay and Kalo Village is at the head of the bay.

Hood Lagoon (10˚05'S., 147˚53'E.), E of Hood Bay, is almost closed by the broad point of a reef extending from its E point. Only vessels with local knowledge should attempt the narrow channel into the lagoon. Discolored water from the lagoon makes it difficult to identify the reef even from aloft.

The Macgillivray Range of mountains extends for a distance of 18 miles back of the hills behind Paira Point. The range is moderately high, scantily-wooded, and sandy at the W end. The land between it and the shore is flat and thickly wooded.

From the entrance to Hood Lagoon the flat wooded coast trends E and SE for about 9 miles to **Parama Point** (10˚10'S., 148˚00'E.). Mangrove swamps, extending several miles inland, begin about 3 miles E of Hood Lagoon and continue to **Keppel Point** (10˚10'S., 147˚58'E.).

The barrier reef in this vicinity is broken and touches the coast in many places.

Aroma Passage, an opening for small craft only is marked by beacons. It was reported the reefs in the area of the passage were incorrectly charted.

Keakoro Bay is E of Keppel Point. Reefs extend S and SE of the point.

6.31 Cape Rodney (10˚12'S., 148˚24'E.) lies about 25.5 miles E of Keppel Point; the intervening coast is low and slightly indented. A barrier reef with several openings fronts the coast to a distance of 9.5 miles. The waters within the barrier reef are foul and uncharted dangers may exist. McFarlane Harbor and Cheshunt Bay indent the shores of the bay.

Anchorage.—Ships with local knowledge can find anchorage during the SE monsoon by entering Toveli Entrance, W of Coutance Islet, with 78m high Toveli Hill bearing 010˚ and anchoring on that bearing about 1.5 miles offshore in depths of 14.6 to 28m. Better protection will be found in 26m about 2.5 miles E by S of the above anchorage. Small craft can proceed to McFarlane Harbor from these anchorages with local knowledge. Caution should be taken to avoid the shoals, with least depths of 2.4m, N and NW of Coutance Islet.

A long spit extends from the W side of the entrance to McFarlane harbor with several shoal patches encumbering the entrance. The channel at the entrance is reported to be about 137m wide marked by beacons on both sides with depths between 5.5 to 9.1m.

From McFarlane there is a passage leading to **Marshall Lagoon** (10˚03'S., 148˚12'E.) marked by two sets of leading beacons as far up to N of **Kupiano** (10˚04.5'S., 148˚10.5'E.). The passage leads between a large sandbank and some mud flats, with a least depth of 3.4m in the fairway. Marshall Lagoon is about 1.5 miles wide and shallow in the middle, narrows towards its head where Imila river discharges.

At Kupiano there are two wharfs; the South or Government wharf is for small craft only. The North or Timber wharf is for small craft only. The Northor Timber wharf is 31.4m long with a depth of 4.9m alongside. Vessels up to 1,000 tons are known to have entered the harbor. The North wharf has a metal face with no fenders. It was reported to be in poor condition.

The coast for the first 7 miles E of McFarlane Harbor is high and steep, but from there to Point Rodney, about 7 miles farther E, the coast is low and wooded.

Cheshunt Bay (10˚10'S., 148˚18'E.) is about 8 miles ESE of McFarlane Harbor. A bank which uncovers at HW extends some distance from the shore at the head of the bay. Some channels to the bay have been surveyed, marked with beacons, and swept to a depth of 10.6m. The maximum recommended draft, with local knowledge, however, is 9.1m. Anchorages have been swept to 8.8m.

Some moderately high wooded hills at the head of Cheshunt Bay 5 to 8 miles NW of Cape Rodney are visible for a distance of 25 miles off.

Caution.—It was reported that the reefs in Cheshunt Bay are incorrectly charted and that entrance into the bay should not be attempted without local knowledge.

Cape Rodney (10˚12'S., 148˚24'E.), a low wooded point, is not easily recognized. Eaula Village, with a coconut plantation, is on the coast about 3 miles NW of the cape.

A shoal extends nearly 0.75 mile off Cape Rodney, and detached coral patches are between it and the barrier reef.

The barrier reef between Keppel Point and Cape Rodney is scattered and irregularly shaped. It offers numerous openings through which vessels may enter the inner waters with local knowledge, however, these are much encumbered by detached reefs which have not been surveyed. The outer edge of the barrier reef is steep-to and easily seen, but the shoal ground to the N is visible only in conditions of good light.

6.32 Sunday Entrance (10˚15'S., 148˚09'E.) has a navigable channel about 0.4 mile with a least depth of 14.6m. There are several reefs within the entrance.

Anchorage.—Entry into Sunday Entrance and anchorage inside is available in 28m about 3.5 miles N of Coutance Islet with local knowledge and affords reasonable shelter during the SE monsoon.

Paluma Entrance (10˚17'S., 148˚14'E.), about 6 miles ESE of Sunday Entrance, is about 0.75 mile wide. The entrance channel is deep, and an 11m swept channel, for use with local knowledge, leads to anchorage in Cheshunt Bay. The E side of the entrance is marked by a beacon with a radar reflector. The entrance and the swept lane leading NNE to the vicinity of Whitish Reef are not recommended for ships drawing over 9m.

Rodney Entrance (10˚16'S., 148˚26'E.), about 5 miles SSE of Cape Rodney and marked on its E side by a beacon, is about 1 mile wide with a least depth of 18.3m. A swept channel, for use with local knowledge, leads about 2 miles NNE and then about 3.75 miles WNW to a well-sheltered anchorage in 20.1m about 1 mile SW of Cape Rodney.

It is said that the breakers on the reef are a sufficient guide for vessels entering and the only precaution in picking a berth is to anchor clear of the numerous coral patches inside.

Cape Rodney to Baxter Bay

6.33 Sandbank Bay (10˚11'S., 148˚33'E.) is about 10 miles E of Cape Rodney. The E side of the bay is low and formed of sandbanks extending from a mangrove swamp. Depths of 6.4 to 9.1m are in the approaches to the bay.

Caution.—The bay has not been closely examined.

A forest of large trees lines the shore around the head of the bay. The Domara River empties into the W side of the bay and Domara Village is on the W side of the river entrance.

Anchorage can be taken in 6.4m in the approaches to Sandbank Bay by small vessels with local knowledge, but a sharp lookout must be kept for uncharted shoals.

From Cape Rodney the low wooded coast continues E to Mariamata Point, where it then curves in a NE and then a SE direction to Dedele Point, forming Cloudy Bay. Low hills are in back of this stretch of coast and the water off it is apparently shallow.

Dedele Point (10˚14'S., 148˚44'E.), a low, narrow, sandy point of land fringed with coconut palms, is on the E side of

Cloudy Bay. The point is difficult to distinguish, but **Table Top Hill** (10˚14'S., 148˚54'E.), a flat-topped elevation 9 miles E, is a good landmark for the locality.

Cloudy Bay (10˚12'S., 148˚41'E.), between Mariamata Point and Dedele Point, is apparently quite shallow and is being silted up by the several rivers that empty into it including the Robinson River. The coast around the bay is low and fringed by mangroves, but near Dedele Point it is somewhat higher and has a sandy beach. Abavi Island, a low swampy island, with 60m Orchard Inlet at its E end, is close SE of the entrance to Orchard Inlet. Abau Island, close W of Abavi Island, is covered with coconut palms; a jetty with 3.0m alongside is on the E side of the island. During the SE monsoon clouds hang low over Cloudy Bay and envelop the surrounding mountains and foothills.

Rothery Passage (10˚21'S., 148˚41'E.), leading through the barrier reef between East Reef and West Reef, is about 0.5 mile wide and has depths of 28 to 92m. For a distance of 3 miles N of the passage the channel leading to Dedele Anchorage appears to be clear, but uncharted dangers may exist. Above that point the area is encumbered by reefs and shoals. Rothery Passage is marked at its W end by a light on the E end of West Reef. The channel to the anchorage is partially marked by beacons.

Anchorage.—Dedele Anchorage is available for ships with local knowledge less than 122m long and with a maximum draft of 6.1m. There is anchorage on either side of Dedele Point. Anchorage can be taken in 10.9m W of Dedele Point, with Burumai Point, about 3 miles E, bearing 104˚, and the beacon on **Fan Reef** (10˚14.7'S., 148˚44.0'E.) bearing 208˚.

Anchorage may be obtained on the E side of Dedele Point in Henderson Bay in a depth of about 9.1m with **Clay Reef** beacon (10˚14'S., 148˚44'E.) bearing 269˚ about 0.85 mile distant. This anchorage is recommended during the NW monsoon and it will accommodate larger vessels than the W anchorage.

Directions.—Approach Rothery Passage on a course of 068˚, when the West Reef beacon bears 000˚ steer about 042˚ through the middle of the passage, taking caution to avoid the sunken reefs extending SW from East Reef. When clear of these dangers steer 000˚, to pass 0.15 mile W of **Chapman Reefs** beacon (10˚18'S., 148˚42'E.), then steer 004˚, until abeam of **Rot Reef** beacon (10˚16'S., 148˚42'E.) then alter course to 035˚ to pass about 183m NW of **Nell Rock** (10˚14'S., 148˚43'E.), then steer 079˚ to pass 137m N of **Clay Reef** beacon (10˚14'S., 148˚44'E.) and follow this course until Burumai Point bears 104˚, then steer on that bearing to the anchorage.

Vessels bound for the E anchorage follow the above directions until N of Nell Rock, when they steer to pass 183m S of the SW beacon on Fan Reef (10˚15'S., 148˚44'E.), then steer 106˚ until about 0.25 mile from **Varoe Reef** beacon (10˚15'S., 148˚45'E.) bearing 078˚, then steer 045˚ to pass about 0.25 mile around **Kerwin Reef** (10˚14'S., 148˚45'E.) until Fan Reef SW beacon bears 250˚, then change course to anchorage.

Caution.—Entrance through Rothery Passage and the area inside the reef should not be attempted without local knowledge. Passage is advised only during daylight hours.

Baxter Bay to South Cape

6.34 Between Dedele Point and Batumata Point, about 13.5 miles ESE, the low, wooded shore forms two indentations, the eastern and larger of which is **Baxter Bay** (10˚16'S., 148˚51'E.); the western, Henderson Bay, has a sandy beach lined with coconut trees. Off Burumai Point, which separates the bays, are several shoals. A passage has been reported around the point through the shoals. It is only 137m wide, but is deep. A beacon stands 0.8 mile W of Burumai Point and a second beacon stands 0.2 mile S of the point.

Batumata Point (Table Point) (10˚17'S., 148˚58'E.) is low but well defined. About 2 miles NNW of the point stands Magaubo village, at the mouth of the Bedile (Magaubo) River. Anchorage may be taken off the village. It has been reported there is good shelter during the SE monsoon.

The barrier reef from Rodney Entrance trends E for 12 miles to Grange Islet, with three openings between. Rothery Passage, the W most is marked by a light on its W side. Mindora Passage, between East Reef and Grange Islet, has not been examined, it is marked by heavy tide rips. The E opening, between Grange Reef and Grange Islet, is foul with a reported 2.8m depth. There is another passage E of Grange Islet, which appears to be the best approach to anchorage in Baxter Bay.

Grange Islet (10˚19'S., 148˚53'E.), is low and wooded. It lies on an isolated part of the barrier reef 5 miles SW of Batumata Point. A reef extends E and SE about 1.75 miles from the islet.

Owen Stanley Range trends SE from Mount Victoria for a distance of 95 miles and then turns abruptly to the NE for about 20 miles to Mount Suckling. The nearest approach of the range to the S coast is about 7 miles N of Cloudy Bay.

There is great uniformity in the profile of this mountain range between Mount Victoria and the elbow N of Cloudy Bay.

Mount Clarence (9˚53'S., 148˚37'E.), about 20 miles NE of Cape Rodney, rises to a height of 1,930m. Its top is perfectly flat on its W side and is the nearest high mountain to the coast.

From its nearest approach to the sea, N of Cloudy Bay, the Owen Stanley Range takes a sudden turn NE for 20 miles to Mount Suckling, the summit of which is 3,422m high and flat topped on its E side. It is the second highest peak in the range.

From Mount Suckling, the range trends ESE for about 60 miles to Mount Thompson, which is 1,797m high and lies about 20 miles N of **Bona Bona Island** (10˚30'S., 149˚50'E.).

The only intermediate summits worthy of notice are Mount Dayman, 2,987m high, and Mount Simpson, 2,882m high. The top of Mount Simpson is round at each end, with a peak in the center.

Most of the peaks are visible up to 90 miles in clear weather, but within 20 or 30 miles of the coast their shape becomes difficult to distinguish. They are visible for the longest periods during the NW Monsoon and during SE Monsoon they are generally capped with clouds. No timber exists within 305m of the summit of the range.

Table Bay (10˚17'S., 149˚05'E.) lies between Batumata Point and the mouth of the Bailebu River. The shores of the bay are backed by Table Top and Inskip ranges, from 2 to 3 miles inland, the space between being a tract of thick wooded level land.

From the opening about 2 miles E of Grange Islet the barrier reef extends E across the breadth of Table Bay, with patches N and S of it. One of these, Kidd Reef, almost bare, lies about 2 miles SE of Batumata Point. Onibu Point lies about 12.5 miles E of Batumata point.

Caution.—A wreck is located about 6.5 miles S of Onibu Point in position (10˚22.4'S., 149˚10.7'E.). There may be other dangers in addition to those charted.

The depths in the entrance E of Grange Islet are not known, but is probably deep, the channel E of the barrier reef fronting Table Bay has a depth of 12.8m in the fairway. Caution should be taken in this area as it has only been scantily surveyed. There is shelter under the E side of the barrier reef. The village of Daroa lies at the head of Table Bay.

Kwaipomata Point (10˚19'S., 149˚19'E.) lies 3 miles E of the mouth of the Bailebu River. The point is bold and forms the W extremity of Selae Doudou Bay (Amazon Bay), which is shoal and fringed with reefs.

Lannokea Doudou (Mayri Bay) (10˚20'S., 149˚26'E.), about 1.5 wide at its entrance, affords well sheltered anchorage during SE winds in depths of 11 to 18.3m, mud. A spit extends 0.5 mile off the S entrance and the shores are fringed with coral reefs. The head of the bay is shoal and the shore is sandy.

Off-lying Islands and Dangers

6.35 Lopom Island (10˚20'S., 149˚19'E.), lying about 0.75 mile S of Kwaipomata Point, is low and wooded and surrounded by a coral reef. Laluoro Island lying 1.5 miles SE of Lopom Island is small, low and encircled by a reef. Sheltered anchorage will be found during SE wind NW of Laluoro Island.

Mailu Island (10˚24'S., 149˚21'E.) is nearly 3 miles in circumference and almost completely encircled by a reef. This island has been reported to lie 0.5 mile NNW of its charted position. The island is low but rises to a height of 123m at its center. It is covered with grass and coconut trees. A village is located on the N side of the island. The small island of Bonarua lies 1 mile S of Mailu Island. Anchorage can be taken in a bight in the reef off the N side of Mailu Island, but is considered poor. A reef which breaks heavily lies 4 miles SW of Mailu Island. There are apparently some shoals between this reef and the island. These shoals necessitate the use of caution when approaching Mailu Island.

Eunora Islet (10˚25'S., 149˚28'E.) lies 5.5 miles E of Mailu Island, is small and rocky with few trees. Two high rocks lie near the islet, one close to its S side and the other, 0.75 mile to the W. The reef on which the islet stands extends 2 miles to the E, with numerous shoal water patches farther E. There are several shoals midway between Eunora Islet and Mailu Island.

Imuta Islet (10˚24'S., 149˚35'E.), low and wooded, is situated 3 miles SE of Port Glasgow; it sits on the NW end of a 2 mile reef. A 5.6m patch lies 3 miles SW of the islet. A rock lies 2 miles ENE of Imuta Islet.

6.36 Sabiribo Doudou (Millport Harbor) (10˚21'S., 149˚28'E.), an excellent harbor, lies 3 miles SE of Mayri Bay, and is oval in shape. The diameter of the harbor runs E and W for a distance of 2 miles. Clumps of coconut trees and mangrove, with white sandy beaches between, surround the shores of the harbor. A coral reef fringes its shores.

Off the E entrance point are two wooded islets and a rock, and near the W entrance is an islet. In the E part of the harbor a rocky patch extends about 0.2 mile from the shore.

The entrance is about 0.5 mile wide and has a depth of 16.6m, gradually shoaling to 7.4m, the general depth over the harbor in mud. Good anchorage is obtainable in the harbor with help of local knowledge. Several small villages are situated on the shore around the harbor.

Geagea Doudou (Port Glasgow) (10˚22'S., 149˚31'E.), a landlocked inlet with high land all around, is 2 miles long in an E and W direction and 0.75 mile wide, it has a depth of 7.4 to 12.8m. The entrance is opened to the SE and has a depth of 14.6m.

It is the best small harbor on the coast, and is reported to be a good anchorage at all times. There is room for up to four large vessels in 14.6m of water. Two small villages are situated on the shore of the bay.

Orangerie Bay (10˚22'S., 149˚44'E.), between Port Glasgow and Debana Point, is about 22 miles in length and is encumbered with an extensive reef with probably some offshore dangers. The low, wooded shore forms a continuous curve from one end of the bay to the other. For the first 6 miles E of Port Glasgow the steep coast range rises from the shore, but E of these hills, a flat and wooded country extends a considerable distance inland. The greater part of this bay has not been examined.

Baibara Island (10˚22'S., 149˚36'E.) lies in the W end of Orangerie Bay, 5 miles E of Port Glasgow. There is a channel for small craft between the island and the mainland. The island is uninhabited, but there are small villages abreast of it on the mainland. The island is surrounded by a reef, the NE end of which is marked by a beacon.

Gadaisu Village (10˚22'S., 149˚47'E.) lies about 11 miles E of Baibara Island. A reef extends 1 mile S from the shore of the village and is marked by a beacon on its SW side.

6.37 Debana Point (10˚30'S., 149˚55'E.) is 11 miles SE of Gadaisu village. The point marks the W entrance to Mullins Harbor.

Mullins Harbor (10˚29'S., 149˚59'E.), located just E of Debana Point, is 10 miles long and about 5 miles wide. There are depths of 3.7 to 12.9m in the entrance and 3.7 to 5.6m within the harbor. A charted mud bank lies in the middle of the harbor. Vessels with local knowledge can anchor in the harbor.

Bona Bona Island (10˚30'S., 149˚51'E.), lying about 4 miles W of the entrance to Mullins Harbor, is hilly and nearly 3 miles in length and width. The island is thickly wooded, and in most parts rises abruptly from the sea to its summit, which is 402m high. A number of villages are situated about the island.

There are several detached rocks near the NW side of the island. The largest is 49m high and lies 0.75 mile W of the islands NW point. A rock, with less than 1.8m of water, lies 1 mile E of the NE extremity of Bona Bona Island.

The SW part of the island is connected with Delami Island, which is 126m high. The islands are connected by a reef which dries nearly its whole extent.

There are a number of shoals off the W and NW coast of Bona Bona Island. It has been reported that the sea breaks heavily over these shoals.

Anchorage.—A readily accessible anchorage, well sheltered against the SE monsoon will be found W of the reef connecting Bona Bona Island and Delami Island, in a depth of 21.9m, mud. This anchorage is somewhat restricted by the fringing reef that extends 0.5 mile from Bona Bona Island.

The best anchorage is 0.5 mile NE of the high rock off the NW point of Bona Bona Island. It can be easily reached by passing close along the N side of that rock.

6.38 San Roque Passage (10˚31'S., 149˚50'E.) is situated between the SE coast of Bona Bona Island and the mainland. It is part of the entrance into Mullins Harbor. The passage is 0.75 mile wide and has depths of 12.8 to 18.3m. Toua Island lies on the S side of the passage fairway, about 1 mile N of Eagle Point. There is anchorage in San Roque Passage in depths of 14.6 to 18.3m.

Hazard Rock (10˚29.7'S., 149˚52.5'E.), 0.5m high, lies in the middle of San Roque Passage.

Eagle Point (10˚33'S., 149˚51'E.) is the W extremity of the promontory of the mainland S of Debana Point. Eagle Point is easy to pick up as a target. About 0.5 mile W of the point is Eagle Rock, which from seaward has the appearance of a vessel under sail. Just N of the point is Argyle Bay.

Argyle Bay (10˚32'S., 149˚52'E.) affords good anchorage with a muddy bottom, well sheltered against the SW monsoon. Because of the rocks NE of Toua Island, vessels approaching the anchorage in the bay should pass S of the island.

A vessel of 1,100 grt reported anchoring in a depth of 12.8m, with Eagle Point bearing 237˚, and the N entrance point bearing 303˚.

The barrier reef from SW of Eagle Point to S of South Cape, a distance of about 25 miles, has depths of 7.4 to 11m. Caution is necessary when approaching the barrier reef because of irregular depths. The area between the reef and the shore has been sketchily surveyed and breakers have been reported at times.

The coastline in this same vicinity is irregular and is broken by lengthy bays and inlets. The country consists of wooded valleys and hills. A steep, lofty coast range trends E to Mount Gugusari, 1,351m high, 10 miles N of South Cape. When seen from the S the mount has a well rounded peak, but is not remarkable in shape from other directions.

Tides—Current.—During the NW monsoon a SE current sets up along the SE side of this part of New Guinea, during the SE monsoon there are NW currents at a rate of 0.25 to 1.5 knots, varying with the strength and duration of the wind.

6.39 Ava Point (10˚34'S., 149˚53'E.) is 2 miles SE of Eagle Point. A light is shown from a white concrete tower situated on the summit of a 183m hill above Ava Point.

Kau Kau Bay (10˚33'S., 149˚55'E.) lies about 2 miles E of Ava Point and has good anchorage in 18.3m, mud.

Gabusuaiaru Bay (10˚35'S., 149˚56'E.) lies E of Ekutoro Point about 2.75 miles E of Ava Point. Paupauri Island lies on the W side of the entrance to the bay. A village stands at the head of the bay.

Gabusunarea Bay (10˚35'S., 149˚57'E.), the next inlet to the E, is 3 miles in length and has depths of 7.4 to 18.3m. A sunken reef lies in the fairway of the entrance to the bay. A bank, in a depth of 3.6m, lies in the S approach to the bay, about 1.5 miles SSW of its W entrance point. Several small villages lie on the shores of the bay.

Gabugoghi Bay (10˚36'S., 149˚58'E.), the next bay to the E, is small but contains good anchorage, with shelter from all winds. A prominent rock lies E of the entrance, it is a good guide for entering the bay. There are a few small villages about the shores of the bay.

Fife Bay (10˚38'S., 150˚00'E.), situated E of Gabugoghi Bay, is about 2.5 miles in length and 1.25 miles in width. It is divided into two passages, the E about 0.2 mile wide and the W about 0.25 mile wide, by Opea and Seuseu Islets, which are joined by a reef. Several other islets lie off the SE side of the entrance. Geduna Islet stands on a reef at the head of the bay. A reef lies on the E shore of the bay. A number of reefs and shoals lie in the bay and can best be seen on the chart of the bay.

About a dozen or so villages are located on the shores of the bay. A number of buildings and a flagstaff are situated on the E side of the bay. Two small jetties extend from the S side of Isuleilei Point.

Anchorage in Fife Bay is considered poor. There is always a swell during both monsoons, and SW winds raise a sea in the bay. Vessels can find good anchorage off Geduna Islet. There is a depth of 16.5m, mud, about 0.5 mile off the NW point of Geduna Islet bearing 336˚.

Lawes Bay (10˚38'S., 150˚03'E.) lies between Loua Point and Bouta Point. The bay has numerous reefs and shoals best seen on the chart.

Baxter Harbor (10˚40'S., 150˚09'E.) is a deep inlet 4 miles wide at its entrance between Tree Point and Guna Isu, which is a bold, steep headland that rises to 536m high and is conspicuous when seen from the W. The N shore of the bay is low and wooded, rising to a small coast range of cultivated nature. A shoal spit projects nearly 1 mile offshore about 2.75 miles NE of Tree Point.

Anchorage has been taken in 31m, mud, just inside the entrance. This anchorage maintains calm water during the SE monsoon.

South Cape (10˚44'S., 150˚14'E.) lies about 2.75 miles ESE of Gunu Isu. The point is the S extremity of Suau Island, which is described in paragraph 7.1.

Table of Contents