



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.
SECTOR 1 —CHART INFORMATION

SECTOR 1

NORTH COAST OF AUSTRALIA—GULF OF CARPENTARIA

Plan.—This sector describes the Gulf of Carpentaria from Cape York Peninsula to The English Company's Islands, and includes the offshore island groups off the S and W coasts of the gulf. The arrangement is S from Slade Point to the head of the Gulf of Carpentaria, then N to Cape Arnhem, and finally W to Arnhem Bay.

General Remarks

1.1 The Gulf of Carpentaria is a deep indentation in the N coast of Australia which is entered between the NW extremity of Cape York Peninsula and Cape Arnhem, about 300 miles WSW. The E shore of the gulf is low and regular, but the W side rises in parts to wooded hills and is indented with bays and creeks which are fronted in places by groups of numerous islands. The head of the gulf is mostly covered with mangroves up to 9m high, which restrict the view of the plains beyond.

Soundings in the gulf do not exceed 82m anywhere with general depths of 55 to 66m in the center. In general, there is deeper water closer to the W shore than the E, but the entire coast is difficult to approach because it is fronted by shoals in many places. The 6m line generally lies from 3 to 10 miles offshore, except at the head of the gulf, where it is 15 miles off most of the coast.

Winds—Weather.—The Southeast Monsoon (also known as the Southeast Trade Winds), which is generally associated with clear weather, extends from April to September and becomes well-established in July, when it dominates all the area N of 25° S, with directions varying between S and E. Within 20 miles of the coast, land and sea breeze effects are felt under suitable conditions. Away from the coast, the wind generally maintains a remarkably steady direction, with strengths of force 4 to 6; force 7 is not uncommon. This can raise a considerable sea in the western part of the Gulf of Carpentaria and low-powered vessels are recommended to stay nearer the E shore during this period.

The Northwest Monsoon blows from December to March. During December, Nw to N winds spread from W and N across the Arafura Sea and the Timor Sea and into the Gulf of Carpentaria. By January, the Northwest Monsoon has established itself over most of the sea area N of 20° S and E of 110° E and has also spread to the Torres Strait region. It continues to occupy this area through February, with the winds becoming variable in March and the Southeast Monsoon beginning to establish itself in April. In contrast to the Southeast Monsoon, the Northwest Monsoon is associated, especially at its onset, with clouds and rain, and frequently with thunderstorms. The onset of the Northwest Monsoon is preceded by a period of calms and variable winds, with high daytime temperatures. The winds of the Northwest Monsoon do not have the strength of those from the Southeast Monsoon, and become variable in the transition periods.

With the approach of the Northwest Monsoon, squalls, with thunder and heavy rain, occur first at interval of 4 to 5 days, but

their frequency gradually increases until they occur almost daily.

Characteristic squalls are reported on the S shores of the Gulf of Carpentaria on about two mornings in five, from September to November, and occasionally in April. They have the character of a line squall and are known locally by the name "MorningGlory." In general, it has the characteristic of a cold-front squall and is accompanied by an arch of clouds extending from horizon to horizon. It occurs out of calm conditions, which prevail again with a short time after the passage of the squall. The squall normally comes from the ENE, but at times can come from other directions between NE and S. In most cases, the wind speed reached is between 12 and 22 knots.

During the Northwest Monsoon period and the following transitional period, from December to April, prevailing winds are liable to be disrupted by temporary disturbances, in the form of clockwise circulations of wind accompanying tropical depressions.

Between the Northwest Monsoon and the Southeast Monsoon, there is a transitional period, generally lasting several weeks. It initially occurs before the Northwest Monsoon during some part of the period from October to December; after the Northwest Monsoon, it occurs during at least parts of March and April. The wind is unsteady in directions, but more often blows from the direction appropriate to the Northwest Monsoon or the trade wind season. It is generally light, but not often calm, and in the quieter periods there will often be no wind other than the daily alternation of land and sea breezes.

Tides—Currents.—In the Gulf of Carpentaria, during the period from December to April, the Northwest Monsoon causes a clockwise current that sets S along the E coast, W along the S coast, and N along the W coast. The rate is usually not over 0.5 knot, except along the islands on the W coast, where it combines with the tidal current to attain a somewhat greater rate.

During the period from April to September (the Southeast Monsoon), the current is weak and variable, with little effect except in the extreme N part of the Gulf of Carpentaria, where the drift is about 0.5 knot to the W.

In the Gulf of Carpentaria, the tides rise somewhat uniformly, although various differences are in effect, mostly in the Groote Eylandt and Sir Edward Pellow groups. In general, the tidal rise is about 2.3m on the E side of the gulf, 3.5m at the head of the gulf, and 1 to 3m on the W side of the gulf.

Offshore currents.—The currents of this region are highly variable and are affected to a considerable extent by the changing monsoon winds, so that the predominant direction of the current reverses with the season. During the Southeast Monsoon, from April to November, the predominant direction of the current is W through the Torres Strait, WSW through the Arafura Sea and the Timor Sea, and then W as the beginning of the South Equatorial Current. During the Northwest Monsoon,

the predominant direction of the current is reversed over the area, becoming NE or ENE through the Timor Sea and the Arafura Sea.

Offshoots of this E current reach into Joseph Bonaparte Gulf (14° 15'S., 128° 40'E.) and the Gulf of Carpentaria (14° 00'S., 139° 00'E.), where they may develop weak clockwise circulations. Another offshoot recurves into the large, but shallow, indentation in the coastline between Cape Leveque (16° 23'S., 122° 56'E.) and Port Hedland (20° 19'S., 118° 34'E.), to set SW as a countercurrent in the region of Eighty Miles Beach (18° 56'S., 121° 33'E.).

The mean rate is usually less than 1 knot but, on individual occasions, rates of between 2 and 3 knots, setting either E or W, sometimes opposed to the predominant directions, have occurred in both seasons.

The tidal currents of the coastal areas are sometimes very strong and usually completely override the outer offshore currents.

Visibility.—Fog is very rare and in the coastal waters its frequency is either nil or less than 2 percent throughout the year. In November and December, more than 20 percent of observations report mist or haze from some part of the N coast of Australia, but from April to June there are very few reports (less than 5 percent) of even haze.

Dust, and smoke from bush fires, are common causes of coastal haze, which is frequent during the Southeast Monsoon.

In the Gulf of Carpentaria, the few occasions of true fog occur mainly in the dry season, and most frequently in some lagoons and estuaries. Visibility is also liable to be reduced to fog limits in some of the heavier downpours of the wet season.

Radiation fog, which occasionally forms towards dawn near the coast, clears quickly after sunrise.

Caution.—Information on the shores and soundings of the Gulf of Carpentaria is imperfect, and in some cases is taken from very early surveys. Great care is therefore necessary when navigating in these waters.

Slade Point to Duyfken Point

1.2 Slade Point (10° 59'S., 142° 08'E.), about 30 miles SW of Cape York, is low and sandy and forms the NE entrance point of the Gulf of Carpentaria. Extensive sandy shoals, including the low Crab Island, lie off the point and extend over 15 miles NW, almost completely across the entrance of Endeavour Strait. The E side of the Gulf of Carpentaria, between 11° S and the entrance to Wenlock River, about 60 miles S, has been satisfactorily surveyed. A stranded wreck lies 10 miles S of Slade Point.

Carpentaria Lightfloat, marking Carpentaria Shoal, lies about 65 miles WNW of Slade Point and is primarily placed for vessels approaching Torres Strait. It is equipped with a racon.

Vrilya Point (11° 14'S., 142° 07'E.), about 15 miles S of Slade Point, is fringed with cliffs 15 to 20m high, and a steep bare 30m hill close E. A rock, which dries 0.7m, lies 1 mile SSW, and depths of less than 5m extend up to 1 mile from the point.

A rock, with a depth of 25m, position doubtful, lies 50 miles W of Vrilya Point.

Cullen Point (11° 57'S., 141° 54'E.), marked by a conspicuous clump of trees, extends N from the coast about 46 miles SSW of Vrilya Point.

Kerr Reef (11° 48'S., 141° 50'E.), a rock, which dries 0.3m, lies about 10 miles NNW of Cullen Point; in 1975, a reef with a depth less than 2m was reported to extend from 1 to 3 miles NW of Kerr Reef.

A spit, with depths of less than 5m, extends 7 miles from the coast a short distance S of Kerr Reef.

Port Musgrave (12° 00'S., 141° 55'E.), entered between Cullen Point and the coast 2 miles E, forms a good natural harbor for the protection of small vessels seeking shelter from either monsoon. The entrance channel is narrow and intricate, with a least charted depth of 3.3m, and local knowledge is necessary.

A sandbar, with a depth of 0.3m, extends nearly 3 miles NNW from Cullen Point and caution is required.

The estuary is about 3 miles in diameter with the Wenlock River entering from the S and the Ducie River from the E. Numerous shoals and flats lie within the entrance, but good anchorage is reported available in a depth of 11m, sand, about 1 mile S of Cullen Point.

Mappon Mission Station, established in 1891, is situated about 1 mile SW of Cullen Point and maintains radio communication with Thursday Island. There is an airstrip between the mission and the point.

Two unexamined shoals, with depths of 9.1m and 10.1m, lie 15 and 18 miles SW, respectively, of Cullen Point. A stranded wreck lies on the coast about 3.25 miles NE of Cullen Point.

The coast between Cullen Point and Duyfken Point, about 41 miles SSW, consists of low sand dunes backed by swampy ground.

Albatross Bay

1.3 Duyfken Point (12° 34'S., 141° 36'E.), consisting of four low, sandy, tree-covered points, has low red cliffs on its SE side. A few hillocks, 21m high, lie along the S edge of the point and are the only noticeable natural features along this part of the coast. Drying reefs and foul ground extend up to 1 mile S and W from the point.

Duyfken Point Light is shown from a stainless steel framework tower, 28m high, on the SW extremity of the point. A monument stands between the shore and the light structure. Duyfken Point Light has been reported difficult to identify in daylight. The light is equipped with a racon.

Caution.—Due to the coast being fronted by shoals and surveys in certain areas being incomplete, recommended routes between Albatross Bay and Torres Bay are indicated on the chart.

Janssen Shoal (12° 35'S., 141° 34'E.), with a least depth of 5.5m, lies 2 miles WSW of Duyfken Point. There is a drying reef between the shoal and the point, and no attempt should be made to pass inside this danger.

Albatross Bay (12° 40'S., 141° 40'E.), entered between Duyfken Point and Boyd Point, about 21 miles to the S, is the estuary for Pine River in the N and the Mission River and the Embley River in the NE. The head of the bay is generally shoal with the 5m line lying up to 6 miles offshore, mostly in the NE

part. There are sand banks and shoals off the mouths of all the rivers and caution is required.

The Mission River is approached over depths of 3m and is available to small vessels with local knowledge.

The Embley River, entered between Kerr Point on the N and Urquhart Point to the S, contains the main facilities for the bauxite port of Weipa; it can be approached by a natural channel on the N or a dredged channel to the S.

Fairway Lighted Beacon (12° 42'S., 141° 41'E.), a red and white metal tripod, marks the entrance to South Channel, the dredged approach to Weipa. A spoil ground lies from 2 to 4 miles N of Fairway Lighted Beacon.

Anchorage.—Anchorage is permitted anywhere in Albatross Bay, except in the area shown on the chart, extending for 3 miles to seaward of Fairway Lighted Beacon and 1 mile either side of the leading line for South Channel. Anchoring is also prohibited in South Channel.

Good anchorage for light draft vessels seeking shelter from NW winds can be taken ESE of Duyfken Point in 5.5 to 6.4m, good holding ground, about 1 mile offshore.

Small craft can anchor in any of the sheltered coves, clear of the tidal currents.

Weipa (12° 40'S., 141° 52'E.)

World Port Index No. 54672

1.4 The port of Weipa is primarily engaged in the export of bauxite and generally only ore vessels enter to load.

Weipa is also a center of the shrimp industry and a fleet of trawlers is stationed here.

Ports Corporation of Queensland Port Profiles

http://www.pcq.com.au/html/02_ports.htm

Winds—Weather.—Albatross Bay is generally calm for the greater portion of the year. Strong SE winds will raise a chop in the bay that is difficult for boats. From May to August an occasional swell from SW enters the bay caused by strong S winds at the head of the gulf. From November to March, a W swell occasionally up to 3m in height enters the bay and breaks heavily on the shallow banks. During the Northwest Monsoon the visibility may sometimes be reduced by heavy rain squalls.

Tides—Currents.—Mean spring tides rise 2.3m and mean neaps rise 1.8m. The Northwest Monsoon, when blowing with strength from the W, has raised tide levels as much as 4.3m.

During the Northwest Monsoon, when water levels are higher, the ebb currents may reach 4 knots at springs off Lorim Point. The flood attains rates of 2 or 3 knots at springs, but is considerably less at neaps.

The currents flow generally in the direction of the channels, except at the outer portion of the dredged South Channel, where the flood current sets in a NE direction, diagonally across the channel. Care must also be taken at the inner end of the dredged channel off Urquhart Point, as the currents set strongly across the channel entrance.

At the berth at Evans Landing, both the flood and ebb currents set perpendicular to the berth towards the shore. Off

Lorim Point, both the flood and ebb currents set parallel to the berth.

Depths—Limitations.—South Main Channel is dredged to a depth of 10.5m. Cora Bank, with a least depth of 0.6m, divides the harbor into two channels. The main channel on the N side has a depth of 10.8m, and Cora Bank Channel on the S side has a depth of 7.3m.

Export Wharf, off Lorim Point, is equipped for bulk loading of bauxite. The wharf consists of 13 caissons lying parallel to the shore, and can accommodate vessels up to 254m long at each berth, in a depth of 12.3m in 2000. The center of the wharf is connected to the shore by a bridge structure. There are mooring dolphins about 50m off each end of the wharf. Vessels berth heading NW, at high water slack.

Evans Landing, with a depth alongside of 9.9m in 2000, can accommodate vessels up to 30,000 dwt, and up to 191m in length; it is used for the discharge of petroleum products. The bottom at this berth is soft silt. Two conspicuous oil tanks are situated close NE of the berth.

Humbag Point Wharf, designed to receive heavy equipment, has a length of 130m and a depth alongside of 9.5m in 2000. The berth will accommodate vessels up to 152m in length. The bottom at this berth is mainly sand.

Vessels up to 92,800 dwt and 259m in length have entered the port. Drafts to 10m can be taken in or out on most high waters. The deepest draft accommodated to date is 12.8m. Arriving vessels must have an underkeel clearance of 0.6m; departing vessels must have a clearance of 0.9m.

The swinging basin off Lorim Point has a width of 487m and it is dredged to a depth of 9.6m.

Evans Landing swing basin has a diameter of 335m and a least depth of 9.6m.

Aspect—Landmarks.—The ore storage pile inland of the Export Wharf is conspicuous.

Entrance lighted beacons, marking the N and S sides of the entrance to South Channel, stand 1 mile ENE of Fairway Lighted Beacon. Eight additional pairs of lighted beacons mark the N and S sides of the channel, which has a bottom width of 106m.

Range lights are established for South Channel and, in line bearing 078°, lead through the center of the fairway.

The inner channels are marked by lighted beacons and buoys.

An aeronautical radiobeacon is situated about 5 miles E of the river entrance.

Pilotage.—Pilotage is compulsory for vessels greater than 35m long. Pilots must be requested 48 hours prior to arrival and amended or confirmed 24 hours prior to arrival. If, after the 24-hour notice, the vessel's ETA changes by more than 1 hour, the vessel's agent shall notify the pilots. The request message should include the following information:

1. Vessel name.
2. ETA and ETD.
3. Draft fore and aft.
4. LOA and beam.
5. GRT.
6. Whether propeller is fixed or variable pitch.
7. Whether vessel has an operable bow thruster.
8. Preferred side alongside.
9. Whether line launch has been ordered.

10. Whether pratique has been granted.

11. Pilot ladder boarding arrangements.

Vessels should contact Weipa Harbor 2 hours and 1 hour before arriving at the pilot boarding position, on VHF channel 16, to confirm the vessel's ETA and to obtain the pilot boarding position.

Deep-draft vessels usually sail from Weipa 2 hours before high water. Priority is given vessels loading ore.

The pilot boards within 1 mile W of Fairway Lighted Beacon.

Regulations.—There is a speed limit of 10 knots W of a line joining Gongbung Point and No. 19 beacon, and of 8 knots E of that line.

Inbound vessels must call Weipa Harbor on VHF channel 16, as follows:

1. When entering South Channel—upon passing Fairway Lighted Beacon.
2. When secure at a berth.

Outbound vessels, or vessels changing berths or anchorage, must call Weipa Harbor on VHF channel 16, as follows:

1. When leaving a berth.
2. Upon securing to the new wharf.
3. When passing Fairway Lighted Beacon.

Anchorage.—Vessels waiting for the pilot should anchor SW of Fairway Lighted Beacon remaining clear of the prohibited anchorage. There is good holding ground in this area, mud and shells, in depths of about 11m.

There is good anchorage at the E end of Jackson Channel, N of Urquhart Point, and clear of the range line, in depths of 15 to 20m, sand. There is an emergency anchorage, marked by lighted buoys, located S of Jessica Point, in depths of 7 to 15m, sand and mud. Permission to use the anchorage should be obtained from the harbormaster.

Anchorage is prohibited in South Channel and in the fairway between Urquhart Point and Evans Landing. Vessels are prohibited from anchoring or remaining at anchor, between sunset and sunrise, within 1 mile of the lighted aids marking South Channel or Cora Bank.

Boyd Point to Point Burrowes

1.5 Boyd Point (12° 55'S., 141° 38'E.) lies about 17 miles SW of the entrance to the Embley River. The intervening coast is generally low, sandy, and tree-covered, with some red bauxite cliffs about 5 miles NE of Boyd Point; shoals and reefs extend up to 2 miles from the coast.

Pera Head (Para Head) (12° 57'S., 141° 36'E.), the center of a headland about 7 miles wide, is formed with Boyd Point to the N and Thud Point to the S. The head is conspicuous because it consists of a rocky point with red bauxite cliffs, about 21m high, on either side. A mission is charted on the summit.

A rock, with a depth of less than 1.8m, lies about 2.25 miles NNW of Pera Head. Another rock, with a depth of less than 1.8m, lies about 4 miles SW of Pera Head. In 1972, a detached reef, with a depth of 0.6m and which sometimes breaks, was reported to lie 1 mile SW of Pera Head.

False Pera Head (13° 05'S., 141° 37'E.), about 9 miles S of Pera Head, is so named from its resemblance to the latter. False

Pera Head is S of Thud Point and should not be visible from Albatross Bay.

The coast from False Pera Head to Archer River, 15 miles SSE, is low, sandy, and covered with scrub. The river is available only to boats.

Caution.—Between Pera Head and the Nassau River (15° 55'S., 141° 23'E.), numerous shoal patches and obstructions lie within 20 miles of the coast. A depth of 10.3m was reported in 1985 to lie about 25 miles SW of Thud Point and about 22 miles from the coast.

The coast S of Pera Head to the head of the Gulf of Carpentaria has not been fully surveyed and vessels are recommended not to approach within 20 miles of the shore without local knowledge.

Cape Keerweer (13° 55'S., 141° 28'E.), about 48 miles S of Para Head, has no prominent features to distinguish it from the low sandy coast to the N and S.

Extensive shoaling and shallow depths have been reported in the area extending 30 miles S and SW of Cape Keerweer. A 13.3m shoal lies 12 miles NW of the cape.

An obstruction has been reported to lie in approximate position 14° 43.0'S, 141° 25.5'E.

1.6 The Mitchell River (15° 13'S., 141° 35'E.) discharges about 75 miles S of Cape Keerweer and has an entrance about 1 mile wide. Sand banks lie across the approach and the river probably has no access except to boats. The coast in this vicinity is lower than that to the N and numerous tributaries discharge N and S of the main branch. There is a mission on the shore of the river about 3 miles from the sea.

Shoals, with depths of 4.6m to 10.1m, extend about 20 miles seaward from the coast NW of the entrance to the Mitchell River. A dangerous wreck, the position of which is approximate, is reported (1987) to lie about 28 miles SSW of the river entrance and about 3 miles from the coast.

The Nassau River, 44 miles SSW of the entrance to the Mitchell River, is narrow and joins Rocky Creek just inside its mouth; only boats should attempt to enter.

The coast S of the entrance to the Nassau River continues low and marshy with several rivers entering the sea amidst the surrounding mangroves. The coastal bank, with depths of less than 5.5m, extends from 4 to 10 miles offshore and prevents close approach to the coast except by light draft vessels with local knowledge. The mouths of the Staaten River and the Gilbert River, both available to boats, discharge 30 and 39 miles, respectively, S of the Nassau River. A 12.5m shoal lies 26 miles W of the mouth of the Staaten River; another shoal, with a depth of 14.6m, lies 32 miles SW of the river mouth, about 14 miles offshore.

Point Burrowes (16° 58'S., 140° 58'E.), low and sandy, is backed by lowlands and tidal flats. Van Diemen Inlet is entered close N of the point, but is available only to boats and small craft as it is fronted by a bar with a depth of 0.6m. Within the entrance the depths increase to about 3m, but the river quickly becomes narrow and tortuous and can be navigated only by boats.

Caution.—A dangerous wreck is charted about 12 miles NW of Point Burrowes. A depth of 4.6m, mud, lies about 7 miles WSW of the point and numerous patches of 5.5m and

less lie within a radius of 4 miles to the entrance of Van Diemen Inlet.

Head of the Gulf of Carpentaria

1.7 The coast between Point Burrowes and the **Norman River** (17° 30'S., 140° 50'E.), about 30 miles S, is sandy throughout for its first 17 miles; the river entrance has few landmarks from which a vessel's position can be obtained by a stranger. The coast is low and covered with mangroves and from a distance appears as much of the head of the gulf. The W side of the river entrance, named Alligator Point, is covered with high, thick mangroves, but the E side is low and sandy, with several houses on it.

Karumba (17° 40'S., 141° 05'E.) ([World Port Index No. 54690](#)), a small river port, is situated on the E side of the river about 1 mile within the entrance.

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Depths—Limitations.—The approach channel lies between sand banks extending about 5 miles offshore, where it is crossed by a bar with a depth of 1.9m (1997). Depths of less than 5.5m lie up to 10 miles offshore NW of Alligator Point and 12 miles offshore WNW of the same point.

Aspect.—Lighted buoys and a lighted range mark the approach channel.

Landfall Light is shown from a water tower 2 miles SE of Alligator Point. Another light is shown close SE of a conspicuous boat shed on the E entrance point.

Pilotage.—Pilotage is compulsory for all foreign vessels 35m long and over and is available 24 hours. Pilots come from Cairns and must be requested a minimum of 72 hours in advance. See Pub. 127, *Sailing Directions (Enroute) East Coast of Australia and New Zealand*, for further information.

Pilots contact the vessel on VHF channel 16 about 30 minutes prior to boarding. Pilots board about 1 mile WNW of Fairway Lighted Buoy. A listening watch should be maintained on VHF channel 16 when transiting the area.

Regulations.—Vessels intending to enter or depart the port are required to announce their intentions on VHF channel 16. Vessels must monitor VHF channel 16 throughout the entire transit of the Norman River entrance channel.

Directions.—Vessels should approach the channel with the water tower, SE of Alligator Point, ahead bearing 123°. Buoys No. 2, 4, and 6 are passed to port.

On passing No. 6 Lighted Buoy, alter course to 085° and leave No. 1 Lighted Buoy to starboard, then steer ESE for the river entrance, leaving No. 8 Lighted Buoy to port.

There are only small piers in the port, along with a wharf and mooring dolphins for coasters. Spring tides rise 3m; neaps rise somewhat less. The tower of the pilot signal station near the E entrance point is conspicuous, as is the previously mentioned boat shed on the point itself.

The river above Karumba can be navigated by vessels with drafts up to 3m as far as Double Island, about 11 miles upstream.

Tidal currents in the river attain rates of 2 knots at springs and 1 knot at neaps.

The town of Normanton, 17 miles above Double Island, can be reached by small craft on most tides.

The coast trends SW from Alligator Point and forms a long shoal bight which extends W to Gore Point. Depths of less than 5.5m extend in places up to 15 miles off this coast and surveys in the area are imperfect and incomplete.

Several rivers enter the gulf at its head but they are all small, with depths in their approaches limited to 0.6 to 0.9m. The shores are low, lined with mangroves, and difficult to identify from any distance off the coast. Large tidal flats, which cover on most high waters, extend nearly across the entire head of the gulf and change the contour of the land between high and low water.

Caution.—Dangerous wrecks, the positions of which are approximate, lie about 28 miles WNW and 43 miles NW of Alligator Point.

1.8 Gore Point (17° 38'S., 139° 56'E.), about 52 miles WSW of the entrance to Norman River, may be identified by a particularly bare sand hill, about 12m high; there is no other similar hillock on this coast.

Disaster Inlet, entered immediately S of Gore Point, has a remarkable quoin-shaped clump of mangroves on its S entrance point. The inlet is of no commercial importance and the bar across its entrance is barely passable by boats.

The coast W of Gore Point is sandy for the first 6 miles and forms a conspicuous mark when viewed from offshore because of the break in the mangrove trees. About 9 miles WNW of Gore Point, near the mouth of the Leichhardt River, the mangroves again resume, some with considerable height that are visible for some distance offshore.

The **Albert River** (17° 34'S., 139° 45'E.), entered between Kangaroo Point on the E and Stokes Point, 1 mile to the W, can be identified by an odd-shaped clump of trees on the first mentioned point. The coast E of Kangaroo Point is sandy and backed by straggling trees, while that to the W is covered with mangroves. The land behind the coast is very low, with few identifying marks.

Drying and shoal banks extend for a considerable distance offshore, constant sounding is required to safely make the entrance. Depths of 5.5m and less extend 20 miles N and 9 to 13 miles NE of the river mouth.

The bar off the entrance to the Albert River lies about 3 miles NNE of Kangaroo Point and has depths of 0.9 to 1.5m. Its position and the depths over it are subject to change as it consists of shifting sand. The channel is often visible because of breakers on the coastal banks or discoloration over the shoals.

An obstruction, consisting of a large stranded tree which dries 0.9m, lies 5 miles NE of Kangaroo Point.

The Albert River extends to **Burketown** (17° 44'S., 139° 32'E.) ([World Port Index No. 54680](#)), about 30 miles above the entrance. Small vessels or coasters can proceed up the channel on most high waters. The least depth to Truganini Landing, just below Burketown, is 1.4m.

Pilots are not available.

1.9 The coast from Stokes Point to Tarrant Point, about 22 miles WNW, is low and covered with thick mangroves. Several rivers flow to the gulf along this stretch of the coast. Shoal water extends up to 15 miles off the shore and drying mud flats lie up to 2 miles seaward of Tarrant Point.

Point Parker (17° 02'S., 139° 09'E.), about 25 miles NW of Tarrant Point, is wooded and rises to a hillock about 9m high. It is fringed by rocky ledges which extend 1 mile SE, and there is a sandy beach, clear of mangroves, on the S side of the point. The long bight formed between Tarrant Point and Point Parker is covered with mangroves in its S part, but rises slightly farther inland when closer to the latter.

Anchorage.—Small vessels can take anchorage between Point Parker and Allen Island, about 3 miles E, where there are depths of 4.6 to 8.2m, with the point bearing 259° at about 1 to 2 miles. Vessels should approach from S of Bentinck Island and then steer NW for Point Parker, passing 3 miles SW of Creffild Point, the SE extremity of Allen Island, until clear of the islet, when course may be altered NNW for the anchorage.

Tidal currents set SE with the rising tide and NW with the falling tide.

Bayley Point (16° 55'S., 139° 02'E.), about 9 miles NW of Point Parker, is low and covered with mangroves. Tidal flats lie behind the point, and the shore between the points is intersected with creeks and streams.

Forsyth Island lies directly off Bayley Point and is included under the Wellesley Islands in [paragraph 1.14](#).

Wellesley Islands

1.10 The **Wellesley Islands** (16° 45'S., 139° 30'E.) lie off the W side of the head of the Gulf of Carpentaria, and include Mornington Island, the largest of the group, Bountiful Islands, Sweers Island, Bentinck Islands, and Forsyth Island. The area between this group and the adjacent coast between Tarrant Point and Bayley Point has not been thoroughly examined, but the depths are recorded to be mostly under 5.5m and there appear to be many dangers.

In the NW approach to the Wellesley Islands, a bank, with a least known depth of 9.1m, lies about 32 miles NW of the W extremity of Mornington Island. Two banks, with depths of 16.5 to 18.3m, lie about 16 miles to the NE of the 9.1m bank.

Manowar Islet (16° 17'S., 139° 16'E.), the N extremity of the Wellesley Islands, is small and rocky, and lies about 11 miles NNW of Halls Point, the NW extremity of Mornington Island. There is a stranded wreck on the S point of the islet.

Rocky Islet (16° 19'S., 139° 17'E.) lies about 2 miles SSE of Manowar Islet and is somewhat larger, being 1 mile long in a N-S direction and about 0.5 mile wide. Deposits of guano have been found on the island and a reef which dries and is often covered with birds, lies about 0.5 mile off the NE point.

There is good anchorage during the Southeast Monsoon, in a depth of 7.3m, about 0.35 mile off the W shore of Rocky Islet.

Caution.—There is a channel between Rocky Islet and Mornington Island, however, numerous coral heads and depths of less than 11m are reported to lie up to 6 miles off the coast of Mornington Island and vessels should keep fairly close to the islet to avoid them.

A 12.5m patch lies 8 miles ENE of Rocky Islet. A 7.9m patch lies 8 miles E, and a 1.8m patch lies close NE, respectively, of Rocky Islet.

Mornington Island (16° 35'S., 139° 25'E.), the main island of the Wellesley Islands, is about 32 miles long and up to 15 miles wide. It is in general surrounded by shoal water and reefs, and the waters to the N, W, and S are not completely surveyed.

Cape Van Diemen (16° 32'S., 139° 43'E.), the E extremity of Mornington Island, appears to be foul with rocks and breakers extending up to 7 miles to the S and E. Lingoonganee Island lies close offshore, about 2 miles N of the point, and foul ground extends about 6 miles NE from it.

Pisonia Islet (16° 30'S., 139° 48'E.) lies approximately 5 miles ENE of Cape Van Diemen and is formed of a high sand bank on a coral foundation. A reef lies close N of the islet and a dangerous rock is charted about 2 miles to the E.

Watson Patch (16° 23'S., 139° 42'E.), existence doubtful and with little water over it, extends a little over 1 mile and lies, apparently isolated, about 9 miles N of Cape Van Diemen.

Halls Point (16° 28'S., 139° 19'E.), bordered by reef to a distance of 1 mile, forms the NW extremity of Mornington Island and is situated about 3 miles W of Sandalwood Place River. The coast hereabouts is low and wooded, but becomes sandy farther E, and backed by low, white cliffs near the N extremity of the island.

Depths of less than 9.1m extend up to 5 miles NW of Halls Point and a depth of 4.9m lies about 5 miles WNW of Halls Point.

Brookes Reef, reported in 1979, lies about 1 mile offshore, 8 miles SW of Halls Point. This area is not fully surveyed and numerous coral heads have been reported in the vicinity.

1.11 Denham Island (16° 43'S., 139° 10'E.) is about 4 miles in length and covered with vegetation and grazing land. It is separated from Mornington Island by Apple Channel, which is suitable for vessels with local knowledge drawing up to 3.7m. The channel is marked by beacons, but the approaches are difficult unless a local seaman can be obtained.

There is a mission station on Dubbar Point, at the W entrance to Apple Channel, which serves the entire Wellesley Islands.

Midbagar Point, the S extremity of Denham Island, is foul with Andrew Islet situated close S. A shelf of dangerous submerged rocks lies up to 6 miles SE of this point.

Anchorage.—Anchorage can be taken, with good holding ground, about 2.4 miles, 197° from **Gee Wee Point** (16° 38'S., 139° 09'E.), the W extremity of Mornington Island. The approach to this anchorage appears clear from the N, but a line of dangers extends about 11 miles NW of the S extremity of Denham Island and caution is necessary. A channel leads to the mission station where there is a boat jetty.

Sydney Island (16° 41'S., 139° 28'E.), the largest of the islands off the SE coast of Mornington Island, lies about 17 miles SW of Cape Van Diemen. The island is fringed with dangers and two drying patches lie about 2 miles to the E. The coast of Mornington Island to the NE and SW of Sydney Island is composed of shallow bays which dry at their heads.

Numerous dangers lie off this coast, and the area and its approaches has not been fully surveyed.

Bountiful Islands (16° 40'S., 139° 52'E.) lie approximately 10 miles SE of Cape Van Diemen and form the E group of the Wellesley Islands. The NE and largest island is low, with some cliffs of ironstone formation on the SE side. The crests of the island consist of red sandstone and the N and E points are fringed by reefs with several rocks above water.

The SW island is small and surrounded by coral reefs which extend up to 2 miles to the W. Rocks which cover and uncover have been reported to lie in approximate position 16° 42.2'S, 139° 50.8'E.

A stranded wreck lies on the NW side of the largest island.

Anchorage can be found in 5.5m, about 0.5 mile NNE of the N point of S Bountiful Island.

1.12 Sweers Island (17° 06'S., 139° 37'E.), the SE of the Wellesley Islands, lies about 17 miles NNE of **Tarrant Point** (17° 22'S., 139° 25'E.) and is separated from the larger Bentinck Island to the W, by Investigator Road. Inspection Hill, 32m high, rises on the S extremity of Sweers Island, and being the highest land in the vicinity forms a good mark from nearly all directions. The E side of the island is fringed by rocky ledges extending up to 1 mile from the shore, and the S side by similar ledges also extending up to 1 mile offshore.

Macdonald Point, fringed by reef, forms the SW extremity of Sweers Island, and Inscription Point, 1.25 miles to the N, is low, white and sandy. Red cliffs form a third point 1 mile NE of Inscription Point, with a shoal bay between.

Locust Rock, 3m high, lies nearly 2 miles SSE of Inspection Hill, with foul ground between the shore and the rock. A reef, which dries at low water, lies 0.5 mile ENE of the rock, and shoal water extends with a least depth of 1.8m about 1 mile to the S.

Bentinck Island (17° 04'S., 139° 30'E.) lies with Raft Point, its E extremity, about 1 mile NW of Inscription Point. Raft Point is wooded and easily identified, but Bentinck Island as a whole is only slightly elevated and covered with grass, scrub, and trees. Most of the island is fringed by reef and rocks and shoals extend up to 3 miles off Oaktree Point, its N extremity.

The W side of Bentinck Island is fringed by shoals and tidal flats and the waters to the W are unsurveyed. Four islets, known as Albinia, Margaret, Bessie, and Douglas, extend NNW for 8 miles from the W extremity of the island, with Douglas, the outermost islet, lying on a ledge of rocks. A rocky ledge, with an above-water rock lying on its outer end, extends about 2 miles S from Kirk Point, the S extremity of the island.

Fowler Island (17° 07'S., 139° 33'E.) lies 2 miles SSW of Raft Point, but is not easily distinguished from a distance. There is a clump of trees near its S extremity which is a good mark when fairly close in. The E side of the island is fringed by rocks and foul ground to a distance of 0.75 mile offshore.

1.13 Investigator Road (17° 07'S., 139° 35'E.) lies between the S part of Sweers Island and the E side of Fowler Island, and is the only secure anchorage for ocean-going vessels at the head of the Gulf of Carpentaria. It is sheltered from the prevailing winds by Sweers Island to the E and Fowler and Bentinck Islands to the W. All but small craft must enter from the S as shoal water and reefs extend across the road from Raft

Point to the N part of Sweers Island. The roadstead is spacious, having a broad and clear passage leading to it, with depths of 7.3 to 10.1m throughout the S part.

It should be noted that a drying rock lies in mid-channel 1 mile ENE of Raft Point.

Tides—Currents.—Spring tides in the vicinity of Investigator Road rise about 2.6m. The tidal currents set S on the flood and N on the ebb. The ebb current usually commences from 2 to 3 hours before HW and attains a maximum of 2 knots; however, the rate and duration of the set are considerably influenced by the wind.

Anchorage.—Vessels of moderate draft can take anchorage in Investigator Road, nearly 1 mile SW of Inscription Point, with the red cliffs on the W side of Sweers Island just open to the NW. The depths here is 9.1m over a bottom of sand and coral. Caution is necessary to avoid closing Sweers Island, where coral heads may extend nearly 0.25 mile offshore.

A mooring buoy is located about 1.5 miles SSW of Inscription Point.

Directions.—Vessels should enter from the S. Pass Locust Rock at a distance of 1.5 miles. When Raft Point, which is wooded and easily identified, opens W of Macdonald Point, steer on the clump of trees on the S extremity of Fowler Island bearing 313°, which leads to the entrance of the roadstead. When Inscription Point, a low sandy spit, is in line with the NW extremity of Sweers Island, course may be altered NNE for the anchorage bearing about 030°.

Caution.—Fowler Island does not show up well against Bentinck Island.

1.14 Allen Island (17° 02'S., 139° 14'E.) lies between the W extremity of Bentinck Island and the mainland coast at **Point Parker** (17° 03'S., 139° 11'E.). The island is low and fertile, being covered with grass, small trees, and shrubs, but iron cliffs face the SE end. Creffield Point is the SE end of the island and Greenaway Point, 4 miles NW, forms the opposite extremity.

There is a channel between Allen Island and the mainland NW, but the charted depth is only 2.1m and local knowledge is recommended.

Horseshoe Island, along with several islets and above-water rocks, lies off the NE side of Allen Island; it is known to be enclosed by reefs, but the area has not been closely examined.

Forsyth Island (16° 50'S., 139° 07'E.), surrounded by islets, rocks, and reefs, lies between the SW extremity of Mornington Island and the mainland coast at Bayley Point (16° 55'S., 139° 02'E.). Bayley Island and Pains Island lie 3 and 2 miles, respectively, SW of Forsyth Island and are low and fairly small. These islands are generally covered with vegetation and trees; although the climate is pleasant in winter, during summer they are hot and humid with hordes of poisonous sandflies which cause considerable discomfort to unprotected personnel.

There is a channel between Forsyth Island and Pains Island with a least depth of 5.5m. Numerous shoals lie close to the edge of the channel and local knowledge is recommended.

Caution.—The area in the vicinity of Mornington Island and Forsyth Island is not completely surveyed and vessels should attempt navigation only in good light, with proper lookouts and at reduced speed. During the Southeast Monsoon, visibility may be reduced by haze to about 5 miles and a vessel without

local knowledge may have considerable difficulty in fixing its position.

Bayley Point to the McArthur River

1.15 From **Bayley Point** (16° 55'S., 139° 02'E.) to Tully Inlet, 53 miles W, there are numerous shoals, with depths of less than 1.8m, up to 6 miles offshore. Discoloration of the water gives no positive indication of the depths, as numerous muddy streams discharge to the sea through the sandy beach along this coast.

The **Calvert River** (16° 16'S., 137° 45'E.), approximately 40 miles NW of Tully Inlet, is more than mile wide at its entrance, but at times has a drying sand bar extending right across the approaches. Within the bar there are depths of about 1.8m, and the river is wide but mostly shallow. The E side of the entrance is marked by a projecting point with a hillock on it.

About 4 miles E of the Calvert River entrance there is a coral reef, and numerous shoals lie in the entire area, with depths of 5.5m or less extending up to 6 miles offshore.

Shoals with depths of 20m and 11m were reported in 1980 to lie about 42 miles N and 26 miles NNE, respectively, of the mouth of the Calvert River. A depth of 4m was reported in 1985 to lie about 18 miles NE of the river mouth.

The **Robinson River** (16° 02'S., 137° 16'E.) flows to the sea approximately 32 miles WNW of the Calvert River, and a number of years ago had a depth of 1.2m over the bar. Immediately inside the entrance the river divides into three parts and then joins again 2 or 3 miles upstream. There are depths of from 6 to 9m about 2 miles above the entrance, and the river is available to vessels drawing about 1.8m at HW.

About midway between the Calvert River and the Robinson River there are numerous cuts and inlets, within which are small rivers and lagoons. The coast between these two rivers consists of tidal flats, with mangroves along the banks of the small rivers. The depths along this coast are shoal with many banks and rocks off the inlets.

From 1 to 5 miles W of the Robinson River entrance the 5.5m curve extends up to 5 miles offshore; from there to Pelican Spit, about 13 miles farther WNW, the coastal area has not been adequately surveyed.

From Pelican Spit to the McArthur River entrance, 19 miles W, the coast is fringed with mangroves, has no distinctive features, and is reported to be fronted by shoal water and drying banks extending up to 6 miles offshore.

The **McArthur River** (15° 50'S., 136° 47'E.) is shoal in its approach and the entrance changes after every freshet. It has been reported able to accommodate vessels with drafts up to 2.4m at HW, however, vessels with drafts to 3.4m have been known to enter. The channel is reported to be marked by buoys and beacons, but any such aids are not to be depended on. Borroloola, a town in which there is a mission, lies on the W bank of the river about 35 miles above the entrance; there is an airfield and the mission is equipped with radio.

Sir Edward Pellew Group

1.16 The **Sir Edward Pellew Group** (15° 40'S., 136° 52'E.) consists of five principal islands surrounded with numerous islets and rocks lying off the approaches to McArthur River.

The islands are moderately high and composed mostly of hard sandstone, with a small mixture of quartz and iron. They are mostly covered with trees and scrub, and game and birds abound.

Vanderlin Island, the largest of the group, lies farthest E and is separated from the W islands by Addison Channel. Lake Eames, in the middle of the N half of Vanderlin Island, contains an unlimited supply of fresh water. The main islands on the W side are arranged to the compass points and consist of North Island, Centre Island, Southwest Island, and West Island.

Vanderlin Island (15° 43'S., 137° 02'E.) lies approximately 20 miles ENE of the entrance to the McArthur River and is very prominent, especially from the E in the morning. The island attains a height of approximately 150m and is skirted by rocks and islets concentrated along its E shore. Cape Vanderlin, the N extremity, is 46m high, steep-to on its W side, and composed of hard sandstone boulders; Vanderlin Rocks, which dry 2.4m, lie 2 miles NE of the cape and appear steep-to, as they are not always marked by breakers. Refuge Cove, which provides good shelter for boats, lies at the N end of the island close E of Cape Vanderlin.

Turtle Island, 5m high, lies 1 mile W of Cape Vanderlin and is located on the N end of Middle Shoal, which extends in a SSW direction for 3 miles and terminates in David Islet at its S extremity. Middle Shoal carries depths of less than 3m over most of its length, and Steven Rocks, consisting of sandstone boulders 3m high, lie off the N end of this shoal close N of Turtle Islet. Turton Rock and Marsden Shoal, close W of David Islet, are just covered at high water and then are marked by tide rips. A rock, with depths less than 1.8m, lies close E of the same islet.

Wheatley Islet, 25m high, lies about 1 mile SW of Cape Vanderlin and is composed of sandstone boulders on which grow a few trees and prickly grass. Disaster Reef, with a depth of 0.3m, lies about 1 mile SW of Wheatley Islet on the edge of a bank with depths of less than 5.5m; no sign of this reef shows even when there is a strong tidal current over it. A submerged rock lies close S of Wheatley Islet.

Barbara Cove, entered between Kedge Point, about 3 miles SSW of Cape Vanderlin, and Symonds Bluff, 1.25 miles further SW, is shoal and available only to boats at HW.

Charles Point (15° 41'S., 136° 55'E.), the W extremity of Vanderlin Island, is a long narrow finger of land which lies about 7 miles SW of Cape Vanderlin. Geranium Bay, shoal and rocky, lies close N of Charles Point and is dangerous to enter. Brown Islet, on the SW end of a reef about 1.25 miles long, lies 3 miles SW of Charles Point and is a good mark in daylight. An islet, approximately 10m in height, is located 3 miles ENE of Brown Islet. A shoal, with a depth of 4m, lies about 0.5 mile N of Brown Islet.

Clarkson Point (15° 50'S., 137° 02'E.), marked by a conspicuous house, forms the SW extremity of Vanderlin Island and lies about 12 miles SE of Charles Point, with several unsurveyed coves and two islets between. General depths at 3 miles off this coast run from 3.7 to 4.6m, but a 1.8m patch was reported (1964) to lie 3 miles NW of Clarkson Point.

Goat Point (15° 51'S., 137° 04'E.), the S extremity of Vanderlin Island, lies about 2.25 miles ESE of Clarkson Point, with Little Vanderlin Islet, not completely examined, about 0.75 mile to the S. The E coast of Vanderlin Island, to the N of

Goat Point, is strewn with rocks and has not been surveyed. The 5.5m curve appears to lie up to 2 miles off the shore in some places and vessels are recommended not to approach this side of the island within a distance of 3 miles.

A depth of 2.1m has been reported (1988) to lie approximately 13 miles ENE of Goat Point.

Three Hummocks Point (15° 38'S., 138° 04'E.), the NE extremity of Vanderlin Island, is about 34m high and formed of a steep-sided islet lying close offshore, with numerous rocks extending up to 1 mile to the E.

Investigator Bay is entered between Three Hummocks Point and Mesley Point, 2 miles NW, and gives shelter in S and W winds. The head of the bay is shoal and a 3m patch lies 1.5 miles N of Three Hummocks Point.

1.17 North Island (15° 35'S., 136° 52'E.) lies with Red Bluff, its E extremity, 5 miles W of Cape Vanderlin and is separated from Vanderlin Island by Addison Channel and Hyde Channel. Cape Pellew, the NE extremity of the island, lies 5 miles N of Red Bluff with the coast between being mostly rock. Bald Hill, 38m high and devoid of vegetation, stands 1.25 miles S of Cape Pellew with low ground to the W and SW. North Hill, 3 miles S of Cape Pellew, is 66m high and wooded. Red Bluff, previously mentioned, is a 26m high, conspicuous headland composed of massive red sandstone boulders.

Islets and rocks, with intermediate foul ground, lie from 2 to 5 miles E of Cape Pellew and include Pearce Islet, 13m high, and Urquhart Islet, 7m high.

North Rock, 24m high, lies close off Cape Pellew and is a good mark from NW and SE.

Observation Island (15° 37'S., 136° 54'E.), 22m high, lies on the edge of the 5m curve about 1.5 miles S of Red Bluff and is composed of red sandstone boulders. An obelisk, 5m in height, stands on the islet and is a good mark. Rocky spits, usually marked by the tide rips, extend 0.25 mile N and SE, respectively, from the island; a 3.7m patch lies 0.5 mile to the NE.

Walker Point, the SE extremity of North Island, lies 3 miles SW of Red Bluff with Cabbage Tree Cove, shoal and fronted by boulders, lying between.

Phil Point (15° 39'S., 136° 51'E.), the S extremity of North Island, is bordered by reef which extends along the shore immediately to the NE and NW. The W coast of the island to the N of Phil Point is indented by small shoal coves which have not been surveyed. Skull and Watson Islands lie about 1 mile off this shore, but neither have been completely examined.

Paradise Bay (15° 32'S., 136° 51'E.), at the N end of the W shore of North Island, affords good anchorage for small vessels seeking shelter from the Southeast Monsoon. The mud bottom 0.3 mile offshore. The best approach appears to be from NW, and the beach area, at the head of the bay, is a good landing place. A depth of 8.4m was reported to lie approximately 2 miles NW of Paradise Bay.

Centre Island (15° 42'S., 136° 46'E.,) separated from North Island by Centre Channel, lies with Rocky Point, its NE extremity, about 1.5 miles SW of Phil Point. The E side of Centre Island is fronted by a bank, with depths of less than 5.5m, extending up to 1.5 miles offshore. A large shallow bay occupies much of this same side of the island, but is only available to boats at HW. A dangerous wreck, with masts

showing, lies about 1.25 miles SE of Rocky Islet, which is situated close E of Rocky Point.

Ataluma Point (15° 45'S., 136° 49'E.), the SE extremity of Centre Island, is the outer end of a small irregular peninsula which extends a little over 1 mile from the shore. The 5m curve lies about 0.35 mile off the point and is steep-to, with depths of 12.8m close seaward. The S shore of the island is foul up to Labu Islet, which lies close off the SW extremity.

Gould Point, the NW extremity of Centre Island, is fringed by a reef, with Red Island close SW.

The N coast of Centre Island, between Gould Point and Rocky Point, forms the S side of Centre Channel, and is bordered by reef. Crab Rocks, one of which is above water, lie about 0.5 mile offshore midway between the points.

1.18 Southwest Island (15° 44'S., 136° 40'E.) lies close W of Centre Island and is practically connected to the mainland SW by mangrove swamp. The island has not been closely examined.

Buchanan Bay (15° 40'S., 136° 43'E.) lies between the NE side of Southwest Island and the W side of Centre Island, and has depths of 3.7 to 4m across its entrance. The head of the bay is shoal but leads to Georges Channel, separating the two islands, which is available to boats at HW.

Craggy Islets (15° 36'S., 136° 41'E.), consisting of Black Islet, the larger, and White Islet, lie about 4 miles N of Southwest Island and have not been closely examined.

West Island (15° 35'S., 136° 33'E.,) the westernmost of the Sir Edward Pellew Group, lies 3 miles NW of Southwest Island and is connected to both the mainland and the former by extensive mud flats. The island has not been thoroughly examined, but a dangerous reef is known to exist about 2 miles off its NE end. A depth of 3.7m was reported in 1965, 7 miles NE of the N point of West Island.

Channels.—Addison Channel forms the main approach to the anchorages available in the Sir Edward Pellew Group. It is the favored channel for vessels of any size as it has a least charted fairway depth of 7.6m. It should be noted, however, that because the water between the islands is never clear and since the bottom in the vicinity of the shoals cannot be seen, caution is required.

Bruce Channel leads between Pearce and Urquhart Islets, but is only recommended to small vessels with local knowledge. It should be approached from the NE with Pearce Islet ahead, then steering S when the W extremity of Urquhart Islet bears 158°.

Hyde Channel leads between Middle Shoal and the NW side of Vanderlin Island. It has a least charted depth of 6.1m in the fairway, but is not recommended without local knowledge. Middle Shoal and Disaster Reef usually do not show even under good conditions, and are dangerous to any size vessel.

Centre Channel, with a least depth of 4.9m, leads between North Island and Centre Island, and can be run by small vessels, with Skull Point ahead bearing 308°.

Anchorage.—There is good anchorage, according to the shelter required, at numerous places between the E side of North Island and the W side of Vanderlin Island. Depths generally run from 8 to 11m, mud bottom, with swinging room for moderate sized vessels.

Small vessels can anchor close off Cape Vanderlin, in depths of 7 to 10m, but clear of the spit extending N of Wheatley Islet.

Geranium Bay affords excellent shelter from all E winds to small vessels in depths of 4 to 6m, thick mud. Local knowledge is recommended.

Paradise Bay, on the NW coast of North Island, provides good anchorage for small vessels during SE winds, in depths of 4.6 to 6m.

1.19 Bing Bong Offshore Bulk Cargo Loading Berths (15° 26'S, 136° 31'E.) lie N of West Island and are best seen on the chart..

Tides—Curr ents.—During local springs, low tides can cause delays of about 4 hours before the barge can leave the shore loading berth for the anchorage.

Winds—W eather.—Frequent dense morning fog reduces visibility to less than 100m at the anchorage; this occurs mostly in winter, between June and September, and may cause delays of up to 5 hours.

Depths—Limitations.—Vessels of up to 46,000 dwt are allowed to partially load; vessels of 28,000 dwt can be fully loaded. The cargo is zinc/lead concentrate that is transported by a 3,300 dwt barge from Bing Bong (15° 36'S., 136° 24'E.).

Pilotage.—Although not compulsory, pilots are available, as follows:

1. Approaching from NW—Go ve, Northern Territory.
2. Approaching from a port on the E coast of Australia—from that last port of call.
3. Pilots can also be flown in from the Torres Strait and board from the barge.

Pilot arrangements should be made 5 days in advance.

Regulations.—Port clearance, customs, and quarantine formalities are handled by the Master or the Chief Officer of the barge. There are no medical facilities at Bing Bong; emergency cases may be airlifted to Darwin, 600 miles away.

At the anchorage, vessels are required to maintain a freeboard of 9.5m at all times before, during, and at completion of loading. This freeboard is measured to the height above the bulwark or the hatch coming, whichever is higher.

Anchorage.—Both anchorages, charted as BB1 and BB2, lie N of West Island and are best seen on the chart. Both anchor berths have a depth of about 12m, good holding ground. Vessels use the starboard anchor.

Directions.—Bing Bong Anchorage BB2 is approached from position 15° 20'S, 136° 32'E; from this position steer S for 3 miles and anchor 16.5 miles NNE of Bing Bong Light (15° 38'S., 136° 23'E.) by keeping E of a 9.3m shoal.

Bing Bong Anchorage BB1 is approached from position 15° 20'S, 136° 32'E. From this position, steer S for 4.5 miles by keeping E of the 9.8m patch, then alter course to 216° and steer on it for 2 miles until in position to drop the starboard anchor 13.25 miles NE of the light.

Limmen Bight

1.20 From a position S of **West Island** (15° 35'S., 136° 33'E.), the coast trends NW for approximately 60 miles to the entrance of Limmen Bight River and is generally featureless, with mud flats extending up to 5 miles offshore. A shoal, which breaks and has depths of less than 1.8m over its

central part, lies about 8 miles NW of West Island. A rocky outcrop extends 1 mile offshore, about 15 miles WNW of the same island. A dangerous submerged rock, with depths less than 2m, was reported in 1986 to lie about 9 miles W of Labyrinthian Shoals.

Labyrinthian Shoals (15° 12'S., 136° 07'E.) are a group of sand banks, with some rocky heads, having depths of less than 1.8m, centered about 31 miles NW of West Island and up to 8 miles off the mainland coast; part of these banks have been reported above water with some bushes growing on the driest areas. Vessels are recommended to give these shoals a wide berth, passing to the NE and not proceeding into depths of less than 13m in their vicinity.

Limmen Bight (14° 45'S., 135° 40'E.) is formed by the coast between a point on the shore, about 17 miles WNW of West Island, and Rantyrirrity Point (14° 11'S., 135° 54'E.), about 75 miles NNW. The shores of the bight are generally low and sandy, being backed by low level country only broken by an unnamed range of hills about 20 miles inland. The bight is not well surveyed, especially in the NW part, and several dangers, marked position doubtful or position approximate, are situated here.

The **Limmen Bight River** (15° 06'S., 135° 43'E.) enters Limmen Bight on the SW shore about 55 miles NW of West Island but is blocked by nearly drying mud flats extending up to 3 miles offshore. Mount Young, an isolated hump, 65m high, rises about 2 miles S of the entrance, and Beatrice Islet, with a rock NE, lies on the edge of the mud banks about 4 miles NE of the river mouth.

1.21 Maria Island (14° 52'S., 135° 44'E.) lies near the middle of Limmen Bight, about 12 miles N of the entrance to the Limmen Bight River. It is approximately 61m high and consists of stony soil covered with brushwood; the E and S sides are relatively steep-to, but the W side is shoal and indented by Eagle Bay. A rock, with a depth of less than 1.8m, lies about 1 mile W of the NW extremity of the island. Depths in the passage between the island and the mainland run from 5.5 to 7m from 2 miles S to 4 miles W of the SW extremity.

Anchorage.—Anchorage can be taken during the Southeast Monsoon with the SW extremity of Maria Island bearing 118°, and during the Northwest Monsoon with the same point bearing 320°. Small craft may anchor in 5m depth with the N entrance point of Eagle Bay bearing NE at a distance of 1.25 miles.

Caution.—Meikleham Reef, with a depth of less than 1.8m, lies approximately 7 miles NE of Maria Island. Another reef, the position of which is doubtful, lies charted 11 miles E of the island.

Low Rock, two above-water rocks on a rocky shoal, lies about 13 miles NNE of Maria Island and appear to be isolated.

Considerable caution is required in the approach to Maria Island because of the above dangers and unsurveyed areas lying to the N and SE.

1.22 The **Roper River** (14° 45'S., 135° 25'E.), entered about 20 miles WNW of Maria Island, may be identified by Gulnare, a remarkable buff 41m high, terminating in a range of hills N of the river. The depth over the bar is charted at 1.2m, but the depths change with the seasons and the channel is known to

shift. Within the bar the depths increase gradually to 9.1m, this being carried for some distance, with the river being navigable for about 100 miles by small craft with local knowledge. There is a town 10 miles above the entrance and a mission station, equipped with radio, is located 30 miles farther upstream.

Tides on the bar of the Roper River are not well-established but MHHW rises about 1m.

The mud flats fronting the coast N and S of the entrance to the Roper River dry up to 6 miles offshore. They generally terminate at Warrakunta Point, about 10 miles NE of the river mouth, where the shore becomes reef-fringed and rocky.

1.23 Edward Islet (14° 30'S., 135° 37'E.) lies on the outer edge of the mud flats about 10 miles NE of Warrakunta Point and 1 mile offshore. It is 3m high and fringed by reef on its SE and SW sides. Lamparrinya Reef lies 1 mile SE of the island and Wilipili Islet lies 1 mile S.

Sandy Islet (14° 26'S., 135° 53'E.), standing in the middle of a large area of drying sand banks, lies about 15 miles NE of Edward Islet, with the surrounding waters mostly unsurveyed. A reef and a small islet lie about 3 miles E of Sandy Islet, with a drying spit nearly connecting the two.

Rantyrirry Point (14° 11'S., 135° 54'E.), about 14 miles N of Sandy Islet, is wooded, as is the shore S to Edward Island. To the SW of the point shoal flats extend up to 8 miles offshore reaching their greatest distance adjacent to Sandy Islet.

Minintirri Islet and Ammarity Islet, the latter being rocks that dry 0.9m, lie close offshore about 4 miles SW of Rantyrirry Point. Nungkanangka Islet lies in the entrance of the Rose River, about 11 miles SW of the Rantyrirry Point.

Alagna Shoal (14° 06'S., 136° 03'E.), with a depth of 1.8m, lies about 11 miles NE of Rantyrirry Point and appears isolated. The waters N of this shoal are incompletely surveyed.

The coast N of Rantyrirry Point is described beginning in [paragraph 1.34](#).

Groote Eylandt

1.24 Groote Eylandt, the outermost of the group extending E from Cape Barrow (13° 40'S., 136° 04'E.), is the largest island in the Gulf of Carpentaria and lies with its NE extremity approximately 53 miles off the W shore.

Central Hill is approximately 183m high and is the highest land bordering any of the shores in the gulf. Some of the ridges descending from Central Hill are wooded, but the island is mostly barren rock, with densely wooded flats in the lowlands. The S half of the island is higher than the N half, but the latter is bordered by numerous islets and indented with several bays.

Cape Beatrice (14° 18'S., 136° 58'E.), the SE extremity of Groote Eylandt, is fronted by islets and rocks which extend up to 3 miles offshore. The coast between the cape and South Point, the SW extremity of the island, 37 miles to the W, is also fronted by numerous islets and rocks, some of which lie up to 5 miles offshore.

The coast W of Inamalamandja Point, midway between Cape Beatrice and South Point, has not been closely examined and should not be approached.

Cumberlege Reef (14° 28'S., 136° 53'E.), which dries about 2m and on which the sea has been seen to break, lies about 10

miles SSW of Cape Beatrice. A 7m patch lies about 1 mile NW of the reef; an 11m patch lies 5 miles NW of the reef.

South Point (14° 15'S., 136° 19'E.) is the S extremity of a narrow sandy peninsula which forms the SW end of Groote Eylandt. Tasman Point, the N extremity of the above peninsula, lies about 1 mile N of South Point and has a sand hill on it; an above-water rock lies close off the peninsula at Tasman Point.

The tidal currents meet off Tasman Point and heavy tide rips are encountered hereabouts. The soundings off the point are irregular, with depths of 7.3m apparently extending up to 3 miles to the W and SW.

Groote Eylandt—West Coast

1.25 The W coast of Groote Eylandt extends N from the inner end of the peninsula forming the island's SW extremity, and is bordered by irregular depths and foul ground. Several areas along the S part of this shore are unsurveyed and caution is advised.

Angurugu Creek (13° 58'S., 136° 25'E.), 15 miles NNE of Tasman Point, is the largest of a number of creeks which discharge along the W coast of the island. There is a boat landing within the entrance of the creek, but only small craft with local knowledge can approach as an area of unsurveyed rocky shoals lying from directly off the mouth to a distance of approximately 2.5 miles offshore. At the head of the creek, about 3 miles inland, there is a mission station with an airstrip and radio equipment. A conspicuous group of buildings stands about 2 miles ESE of the mouth of the creek.

Rutland Shoal (14° 00'S., 136° 21'E.), with a least depth of 3.9m, rock, lies 4 miles WSW of the entrance to Amgurugo Creek and is marked by eddies and tide rips on both the ebb and flood.

North West Bluff (13° 50'S., 136° 25'E.), the NW extremity of Groote Eylandt, rises to a height of 75m and is cliffy on its N side. A conspicuous yellow patch is located on the side of the cliff forming the NE extremity of the bluff and can be identified from a considerable distance seaward.

The town of Alyangula and the ore port at Milner Bay are situated about 1 mile SSE of North West Bluff.

Bartalumba Bay (13° 48'S., 136° 30'E.) is located between Winchelsea Island and North West Bluff. An inlet lies about 1 mile ESE of the conspicuous yellow patch on North West Bluff. A jetty used by shrimp boats is located on the NE entrance point to the inlet. A below-water rock was reported (1984) to lie off the jetty and a dangerous wreck, with masts showing, was reported (1986) to lie about 0.4 mile NE of the head of the jetty.

Anchorage may be obtained in depths of about 10m about 0.4 mile NE of the conspicuous yellow patch, but except for the anchorage area the bay has not been surveyed.

Approaches to Milner Bay

1.26 Brady Rock (13° 41'S., 136° 27'E.), small and steep-to, lies about 9.25 miles NNE of North West Bluff and is marked by a light shown from a white hut, 3m in height.

Winchelsea Island (13° 43'S., 136° 30'E.), barren and rocky, lies with its NW extremity, Winchelsea Rock, about 2 miles SSE of Brady Rock. Numerous submerged rocks and an

unnamed islet lie up to 1 mile N of the island, and no attempt should be made to closely approach its shores without local knowledge. The S end is thickly covered with mangroves and a narrow boat channel leads between this shore and the mainland. North West Bay, on the E side of the island, has not been closely examined and should be avoided.

Bustard Island (13° 42'S., 136° 24'E.), 32m high, with a ridge on its N part, lies about 3 miles SW of Brady Rock with Arruwa Islet close WSW of it. The waters surrounding Bustard Island are unsurveyed and several dangers are known to exist up to 2 miles SW of it.

Hawknest Island (13° 38'S., 136° 25'E.), low and sandy, lies about 4 miles NW of Brady Rock and has depths of 7.6 to 10m off its S side. Because of its low height, Hawknest Island will probably not be sighted from the NE before Bustard Island.

1.27 Connexion Island (13° 50'S., 136° 21'E.), high and wooded, lies 2.25 miles W of North West Bluff (13° 50'S., 136° 25'E.), and is separated from Groote Eylandt by Connexion Channel. The latter, which has a least known depth of 10.8m in the fairway, is encumbered by an 8.2m unexamined shoal at its N end and therefore, because of this and the strong tidal currents, local knowledge is recommended.

The waters around Connexion Island are not completely surveyed and vessels are cautioned not to closely approach its shores, especially to the N or S. Burley Shoal, with a least known depth of 5.5m, lies 1 mile S of the island, but has not been surveyed to its N limits.

Connexion Island Light is shown from a metal post on the W extremity of the island. The light is obscured by the island between the bearings of 219° and 344°.

Hand Islet, small and rocky, is located about 4 miles NW of Connexion Island and close off Bickerton Island.

Bickerton Island (13° 45'S., 136° 14'E.), about 80m high, lies about 4 miles NW of Connexion Island and is the largest of the islands between Cape Barrow and Groote Eylandt. It is roughly 12 miles in width and the same in length, with two large bights, known as North Bay and South Bay, penetrating the W part of the island toward its hilly interior.

The island, which is skirted by rocks, has not been closely examined and only partly surveyed in South Bay, where there is anchorage for small vessels with local knowledge, seeking shelter from the Northwest Monsoon.

Bickerton Island Light is exhibited from a 3m high white hut on a point close WSW of Hand Islet.

Woody Islet, 1 mile W of the SW extremity of Bickerton Island, lies on the outer edge of a shoal connecting it to that island.

Warwick Channel (13° 48'S., 136° 19'E.), surveyed over a width of about 2 miles between Connexion Island and Bickerton Island, has a depth of 29m in its center, however, depths in the N approaches run from 16 to 20m between Connexion Island and Bustard Island.

Milner Bay (13° 52'S., 136° 25'E.)

[World Port Index No. 54671](#)

1.28 Milner Bay, a port of entry, is located on the W coast of Groote Eylandt just S of North West Bluff, the island's NW

extremity. There is one berth for the loading of manganese ore which extends from the shore close S of the town; several tanks mark the area. The port, which is sheltered by Connexion Island, must be approached from the NE as the S approaches are not adequately surveyed or marked.

Winds—Weather.—During the dry season, from May to October, the prevailing winds are from the SE. The winds can blow strongly during the day, but subside after sunset.

During the wet season, from November to April, the predominate NW winds can bring heavy rains and moderate seas.

In June and July, heavy morning fog has been known to last until 1000 or 1100.

Tides—Currents.—Tidal rises in Milner Bay area are variable, with springs rising from 1 to 1.3m and neaps from 0.3 to 1m.

In the vicinity of the loading berth the currents, which are parallel to the pier, attain a rate of approximately 2 knots on both the flood and the ebb; the latter sets to the N.

Due to the uneven bottom in the approaches to Milner Bay, tidal streaks and eddies are common near the edges of the channel.

Depths—Limitations.—Warwick Channel has a depth of 29.1m in the approaches to the port. Connexion Passage may also be taken and is a shorter, though shallower passage. In transiting Connexion Passage, care must be taken to avoid the 5.5m patch off North West Bluff, as well as the 8.2m patch approximately 3 miles NE of Connexion Islet.

The ore-loading berth has a length of 345m between the outer dolphins, but the loading conveyor is fixed and vessels must shift to load various hatches. The depth alongside is 12.5m. Vessels of up to 63,000 dwt, with lengths up to 225m, beams up to 32m, and drafts up to 12.5m have been accommodated at the port.

A small cargo wharf, with a depth of 4.6m alongside, lies on the N side of the root of the pier; shoal water lies close NNW of this wharf. A rock ledge which dries extends about 90m WSW from a position on the shore about 135m N of this wharf.

Aspect.—In addition to the lights on Brady Rock, Bickerton Island Light, and Connexion Island, the conspicuous oil tanks that mark the port area assist in the approach.

Pilotage.—Pilotage is compulsory and is available during daylight hours only. The pilot normally boards about 1.5 miles W of the pier, but will board in the vicinity of Brady Rock if prior arrangements are made. Tugs are available to assist in berthing.

Standard ETA and quarantine messages are required to be transmitted to the port radio station. The vessel's ETA should be sent 7 days, 48 hours, and 24 hours in advance. Vessels should request berthing instructions 4 hours prior to arrival at the pilot boarding position.

The port may be contacted on VHF radio; the calling frequency is VHF channel 16, while the working frequencies are VHF channel 6 and 67. Vessels should maintain a listening watch on VHF channel 16 when in the port approaches and at anchor.

Anchorage.—There is good anchorage about 1.5 miles W of the pier head in a depth of 12m, sand, good holding ground. The bottom farther offshore is uneven and rocky in places, and

caution is recommended when attempting to anchor in the outer approaches.

Directions.—Vessels approaching Milner Bay from the NE steer SW to pass 1 mile SE of Brady Rock, and then when about 1 mile SE of Bustard Island, alter course to SW with Bickerton Island Light structure dead ahead. When approximately 2 miles from Hand Islet, course should be altered to pass through the center of Warwick Channel, SW of Connexion Island, and then ENE with the towers at Milner Bay ahead.

Groote Eylandt—North Coast

1.29 Chasm Island (13° 40'S., 136° 35'E.) lies about 1 mile N of the E entrance point of North West Bay. A stranded wreck lies on the SW end of the island.

Chasm Shoal, with a depth of 7.6m, lies about 1 mile NNE of the E extremity of Chasm Island.

North Point Island (13° 38'S., 136° 42'E.), which is actually two islands, lies 1 mile offshore, about 6 miles ENE of Chasm Island. The outer island, lying to the N, is the larger of the two and rises to a height of 35m.

Several rocky islets and smaller rocks lie scattered up to 1 mile offshore and up to 2 miles E of North Point Island.

Pinnacle Rock, with a least known depth of 10.4m, lies unexamined about 3 miles NNE of Jagged Head. A 2.4m patch lies about 1 mile W of this rock.

Jagged Head (13° 42'S., 136° 45'E.), a conspicuous headland about 35m high, is actually an island which lies close to the coast about 5 miles SE of North Point Island. The seaward sides of this headland are formed of broken rock rising nearly to the summit, and numerous above and below-water rocks lie close offshore. An islet lies on a shoal about 0.5 mile ENE of the headland.

Woodhouse Rocks, 6m high, lie about 1.5 miles NE of Jagged Head and are connected to it by a shoal ridge. The outer rock is awash.

1.30 Port Langdon (13° 48'S., 136° 46'E.), entered between Jagged Head and Scott Point, about 6 miles SE, has general depths of 11 to 13m over its greater part and provides good anchorage, especially in SE winds. The shores of the port are covered with thick scrub, except at Jagged Head, which is barren. On the E and S sides are sand hills, but the W shore is mostly rocky and unsurveyed. Baird Cliff, at the head of the port, lies approximately 8.5 miles S of Jagged Head and is red, conspicuous, and about 10m high. A spit, which dries in places, extends nearly 1 mile N from the face of the cliff. McComb Point, 24m high and fringed with foul ground, lies 4 miles NNW of Baird Cliff and divides the W shore into two bays, the N of which is Hempel Bay; both bays are unexamined.

Spit End, 6 miles SSW of Scott Point, is the end of a narrow, shelving spit, 3 miles in length, which encloses Little Lagoon to the E. Although this lagoon is about 3 miles in length and has depths of 5 to 8m in its central part, the entrance channel S of Spit End is shoal and available only to a small craft possessing local knowledge. An iron pipe, located 0.5 mile E of Spit End, marks the N side of the inner end of the channel to Little Lagoon.

1.31 Central Hill (13° 58'S., 136° 39'E.), described in paragraph 1.24, bearing 207° and just open eastward of McComb Point, leads through the entrance of Port Langdon between Jagged Head and Cody Shoal in a least depth of 14.9m. When Baird Cliff bears about 185°, course is altered to the S until McComb Point bears W or NW, when a heading for the anchorages can be taken.

Two white triangular beacons are situated on the shore about 2.25 miles ESE of Baird Cliff and, when in line bearing 148°, lead small craft between the reefs to a landing place at the head of Port Langdon.

Anchorage.—Good anchorage can be obtained on the E side of Port Langdon in a depth of 11m, mud and sand, W of the spit enclosing Little Lagoon. There is also sheltered anchorage in the SE corner of the port in a depth of 9 to 10m, mud, NW of Spit End. Caution is necessary when proceeding between the anchorages off the above spit as a dangerous rock is charted about 0.35 mile offshore midway along its length.

Laycock Hill, 46m high, stands close within the NE corner of Little Lagoon and forms a good mark from the anchorage.

Caution.—Central Hill is not always visible. In such instances, vessels should steer in on McComb Point.

1.32 Scott Point (13° 45'S., 136° 51'E.), the W extremity of the broad peninsula which forms the NE end of Groote Eylandt, is low, sandy, and fringed by rocks. The point rises to a conspicuous pink sandhill close S and shoal water extends about 1 mile offshore to the W.

North East Islet (13° 38'S., 136° 57'E.), the outer extremity of a group of islets off the NE end of Groote Eylandt, lies, along with Lane Islet and Hawk Islet, on a coral reef extending up to 10 miles NE of Scott Point. There are numerous submerged dangers and above-water rocks close about these islands, and also between them and the shores of Groote Eylandt to the S and W.

North East Islet Light is shown from a white hut situated at an elevation of 62m on the summit of the islet.

Moresby Rock, with a least depth of 13.7m, lies about 2 miles N of North East Islet light. Heavy tide rips are formed between this rock and the islet and vessels are advised not to close the shore within 4 miles when rounding this danger.

A rocky ledge extends 1 mile NW from the reef between North East and Hawk Islets. Several rocks, with depths of less than 1.8m, lie up to 2 miles W of the W extremity of Hawk Islet, and a rock, which dries 1.8m, lies 1 mile NW of the same point.

Two islets, one 29m high and the other 6m high, with rocks awash to the N and S, lie close together about 3 miles SSE of Hawk Islet.

A ridge of shoal water, terminating in an unexamined 4m patch, extends about 4 miles S of North East Islet. Two rocks lie on the N end of this ridge about mile S of North East Islet.

Cody Bank, with depths of 2 to 5m, extends about 7 miles SW of Hawk Islet and shows light in color during daylight. There is an unexamined channel, with a charted depth of 6.4m, between Cody Bank and Scott Point, but it is not recommended.

Groote Eylandt—East Coast

1.33 The E side of Groote Eylandt, from a point about 6 miles SE of Scott Point to Cape Beatrice, 32 miles S, is deeply indented by two bays.

Alexander Hill, 57m high, rises about 7 miles S of Scott Point; the hill is the S extremity of a line of prominent white sand hills.

Mamalimandja Point (13° 55'S., 136° 52'E.), about 2 miles S of Alexander Hill, is the N point of an unnamed bay which is unsurveyed and completely open to the SE. Reefs front the point and extend SW and over 2 miles NE from it; the NE reef is named Rocky Islet.

A depth of 4.6m lies charted about 5 miles NE of the point, but the area has not been completely examined and lesser depths may exist.

Dalumba Bay (14° 07'S., 136° 49'E.), entered between Ilyungmajda Point, the S point of the previously mentioned unnamed bay, and **Ungwariba Point** (14° 08'S., 136° 55'E.), about 9 miles SE, has not been completely examined, but depths of 18 to 22m were found in the approaches. The entrance to the inner part of the bay, about 9 miles W of Ungwariba Point, is obstructed by an islet and a reef with depths of 9.1m between them. Several islets lie up to 4 miles S of Ilyungmadja Point, but the depths in the vicinity are not well charted.

Bombard Shoal (14° 04'S., 136° 59'E.), with a depth of 7.9m, lies close to the 35m curve and is about 6 miles NNE of Ungwariba Point.

The coast between Ungwariba Point is rocky, with reefs and dangers extending up to 2 miles offshore. Groote Reef, with a least known depth of 5.5m, lies unexamined 3 miles offshore about 8 miles NNE of Cape Beatrice, and is the most seaward charted danger along this part of the coast.

Limmen Bight to Cape Shield

1.34 The coast from Rantyririty Point, the N entrance point of Limmen Bight, to Cape Barrow, about 30 miles NNE, consists of sandy hummocks and sand hills with low and level country inland. This section has not been thoroughly examined, but apparently shoal flats and foul ground extend some distance from it.

Blue Mud Bay (13° 30'S., 136° 15'E.) is entered between North Point Island (13° 38'S., 136° 43'E.) and Cape Shield, about 28 miles NW. The S side of the bay is formed by the N sides of Groote Eylandt and Bickerton Island while the N side is formed by the mainland W of Cape Shield.

The bay has not been completely surveyed and the N and W shores are difficult of access because of the extensive shoals which occupy large portions of that part of the bay.

Lowrie Channel (13° 45'S., 136° 05'E.), the S approach to Blue Mud Bay, lies between the mainland and the W side of Bickerton Island. There are depths of 5.5 to 11m charted in the fairway, but it has not been fully examined and local knowledge is advisable.

Walker River (13° 35'S., 135° 50'E.) flows through the W shore of Blue Mud Bay, about 15 miles WNW of Cape Barrow (13° 40'S., 136° 04'E.). The intervening shore and that to the N has not been closely examined; vessels approaching this part of

the coast should bear in mind the possible existence of uncharted dangers. Mount Ranken, a high point of the Bath Range, rises above the N bank of Walker River about 15 miles inland and is a fairly good mark in clear weather. A peninsula, fringed by foul ground, extends about 15 miles into the bay from a point 10 miles N of the river entrance.

1.35 Grindall Point (13° 19'S., 136° 03'E.), situated in the NW part of Blue Mud Bay, is a narrow projection extending S for 5 miles and forming Jalma Bay to its W and Grindall Bay to its E. Mount Grindall, a hill, is located on the E side of the peninsula about 3.25 miles NNE of the point.

Round Hill Islet, 69m high, lies on a shoal ridge extending from the E side of Grindall Point to Woodah Island. Several submerged rocks lie up to 1 mile E of the islet and limited depths lie to the S. A large rock lies above-water about 2 miles SW of Round Hill Islet.

Point Blane (13° 17'S., 136° 10'E.), 8 miles ENE of Grindall Point, is a narrow tongue of land projecting 3 miles SSE from the N shore. Grindall Bay penetrates approximately 10 miles inland between Round Hill Islet and Point Blane, and has depths of 5.5 to 7.3m on the E side of the entrance, but appears shoal at its head.

Myaoola Bay (13° 08'S., 136° 20'E.), entered between Point Blane and Cape Shield, about 10 miles ESE, is extensive in its outer part with depths of 5.5 to 7.3m, but the inner part is shoal and has not been completely examined.

Woodah Island (13° 27'S., 136° 09'E.), the largest of the islands in Blue Mud Bay, lies with its S extremity 6 miles NNE of Cape Barrow and is generally low compared with the adjacent islands. Its S half is quite low and sandy but terminates in a rocky irregular point; the E side of the island is similar in appearance except the rocks lie submerged farther offshore.

Nichol Islet stands on the outer edge of a shoal ridge extending about 4 miles E of the E extremity of Woodah Island. Numerous rocks, some above-water, lie on the above ridge S and W of the islet.

1.36 Burney Island (13° 36'S., 136° 14'E.), about 4 miles SE of the S extremity of Woodah Island, lies surrounded by foul ground extending up to 1 mile off its shores. There is a cove on the NW side of the island which may be convenient for boats. In 1984, a rock with a depth of 1.2m was reported to lie midway between Burney Island and the N coast of Bickerton Island; an obstruction was reported to be situated about 1.25 miles SW of Burney Island.

Amagbirra Islet, low and sandy, lies about 1 mile E of Burney Island, and Wedge Rock, with above and below-water rocks to the N and W, lies about 3 miles farther E.

Morgan Islet, 66m high and partially covered with trees, lies approximately 1.5 miles W of Woodah Island, with no passage between. Meringa and Marinnan are two small islets on the N edge of the shoal on which Morgan Islet lies. An above-water rock lies about 0.5 mile S of the latter islet.

Anchorage.—Small vessels can obtain fairly sheltered anchorage in a depth of 7.3m mud, from 1 to 2 miles S of Morgan Islet. Moderate sized vessels can anchor in depths of 13 to 24m, mud, from 1 to 2 miles SW to W of the S extremity of Woodah Island.

Caution.—The NE approach to the above anchorages is between Nichol and Burney Islets, and the S approach through Lowerie Channel. Vessels navigating in the above waters should bear in mind that these areas are not completely surveyed and additional dangers may exist in addition to those shown on the charts.

Cape Shield to Cape Arnhem

1.37 Cape Shield (13° 20'S., 136° 21'E.), 34m high, is the S end of an irregularly shaped peninsula which extends nearly 7 miles SW from the mainland. The shores are generally sandy, but numerous rocks lie submerged on the shoal ground which surrounds the cape to a distance of 1 mile. Gooninnah Islet lies approximately 2 miles E of Cape Shield on a reef which extends nearly 2 miles offshore.

Burns Shoal, with a least depth of 4.9m, lies off the entrance to Blue Mud Bay, about 16 miles E of Cape Shield. A dangerous wreck lies charted about 9 miles SE of Burns Shoal.

Point Arrowsmith (13° 15'S., 136° 28'E.), 8 miles NE of Cape Shield, is 22m high and rocky, but the coast between forms a shallow bay which has not been examined.

Wardarlea Bay, between Point Arrowsmith and Bagbiringula Point, about 7 miles NNE, apparently is also shoal and likewise has not been examined; both bays afford little shelter.

Trial Bay (13° 02'S., 136° 34'E.), situated about 22 miles NE of Cape Shield, is entered between Bald Point on the S and Guyuwiri Point to the N. The bay is not completely examined and is generally encumbered with rocks and reefs. A reef on which the sea breaks extends up to 2 miles SE of Bald Point.

St. Davids Bay and Wonga Bay, both unexamined but rocky, lie W and E, respectively, of Guyuwiri Point.

Cape Grey (13° 00'S., 136° 40'E.), 46m high and rocky, is the E extremity of a narrow peninsula extending about 3 miles SE from mainland; it is bordered by reefs and shoal water extending up to 1 mile to the E and S. Doyle Rock, 1m high, lies with a submerged rock close S, about 2 miles SSW of the cape; a dangerous wreck lies sunk about 1 mile ENE of Doyle Rock.

1.38 Caledon Bay (12° 51'S., 136° 35'E.), entered between Cape Grey and Point Alexander, extends in a NW direction for about 14 miles to Middle Point, where it is divided into two smaller bays, the northern being known as Grays Bay. Mount Caledon, 11 miles WNW of Cape Grey, is composed of granite and has a spur extending NE from the coast for a distance of about 2 miles, forming a point at the sea.

The SW side of the bay, from Cape Grey to the above point, is fringed by rocks and shoals extending up to 2 miles offshore, with an above water rock lying about 2 miles SE of the same point. Within the latter point the bay has not been closely examined, but the inner part W of Middle Point is shoal and poorly sheltered. Grays Bay, on the W side of Point Alexander, although not completely examined, affords good anchorage to vessels able to enter.

A line of dangers extends approximately ESE from Point Alexander for 11 miles to Dudley Shoal, which has a depth of 10.3m. Three islets, named McNamara, Bridgland, and Dudley, and several above and below-water rocks lie in this area; caution is required to clear it. Regan Shoal, about 2 miles S of

Dudley Islet, is the southernmost of these dangers and has a depth of 7.9m. A rock, awash, lies about 4 miles SSE of Point Alexander, and about 1 mile NE of the track recommended for entering.

Anchorage.—Vessels seeking shelter can obtain good anchorage in Grays Bay in depths of 6 to 13m, mud. One of the best anchorages is in a depth of 7.3m, gray mud, about 0.7 mile E of an islet situated N of Middle Point. The least charted depth in the approach is 7.9m.

Directions.—To enter Caledon Bay, steer 300° to pass midway between the dangers N of Cape Grey and the dangers SE of Point Alexander, with the point extending from Mount Caledon slightly on the port bow. Care should be taken not to confuse this point with the red sandy point in the W part of the bay.

When Middle Point bears 330°, alter course for it and round McNamara Island. When Grays Bay is open fully, course should be altered to 000° for the anchorage.

Caution.—Caledon Bay should be entered during daylight hours only. Vessels with a draft of greater than 6m should not enter the bay. Cape Gray and Mount Caledon should be identified before attempting to enter the bay.

1.39 Mount Alexander (12° 42'S., 136° 41'E.), 99m high and visible over 20 miles in clear weather, rises close to the coast at the inner end of a small peninsula located approximately 9 miles NNE of Point Alexander. The outer end of this peninsula, known as Wanyanmera Point, is fronted by rocks, some lying nearly 3 miles offshore. Three Hummocks, a group of three islets, with a maximum height of 47m, lies about 4 miles S of the point.

Port Bradshaw (12° 33'S., 136° 43'E.), entered about 10 miles NE of Mount Alexander, affords good anchorage for small vessels with local knowledge in depths of 5.5 to 9.1m. The channel, between Binanangoi Point to the S and Gwapilina Point to the N, is somewhat obstructed by islets and rocks, but once inside there is good protection from SE winds. The W side of the port is backed by a range of hills from 122 to 150m high, consisting mostly of granite.

The coast to the N and S of Port Bradshaw has not been completely examined, but is known to have reefs and rocks extending up to 1 mile offshore. Between the entrance to Port Bradshaw and Cape Arnhem, about 16 miles NNE, the shore is sandy with low white sand hills within. Several above-water rocks lie close offshore. Sir Roderick's Rocks, an extensive group of above and below-water dangers, lie from 5 to 8 miles ENE of the entrance to the port.

1.40 Cape Arnhem (12° 21'S., 136° 59'E.), the W entrance point of the Gulf of Carpentaria, is a grassy projection rising gradually to a height of 45m. The cape is fringed with reef and has some low cliffs on its S side. Within the N shore it forms Dalywoi Bay, shoal and open to the NE. There are strong tide rips for a distance of about 1 mile off the cape and irregular depths extend up to 2 miles offshore.

Arnhem Rock, 2m high, lies about 1 mile S of Cape Arnhem and there is an unexamined 9.8m shoal about 1 mile SW of the rock. Arnhem Shoal, with a least known depth of 6.9m, lies, also unexamined, from 1 to 2 miles N of Cape Arnhem and is approximately 1 mile in diameter.

Approaches to Gove Harbor

1.41 Mount Dundas (12° 13'S., 136° 52'E.), flat-topped and covered with trees, rises to a height of 70m, close within the coast about 10 miles NW of Cape Arhem. The low barren land along the shore here accentuates this hill and in clear weather it can be seen from a considerable distance offshore. A conspicuous red and white cliff is located about 2 miles WNW of Mount Dundas, and a radio mast stands 2 miles W of the cliff.

Yirrkala Mission Station, situated at the head of a sandy bight about 2.25 miles SE of Mount Dundas, is marked by several buildings and a conspicuous tower 57m high. There is an air strip about 4 miles WSW of the station, and the two are connected by road. Miles Islet lies close off the coast about 1.25 miles SE of the above tower.

Cape Wirawawoi (12° 10'S., 136° 47'E.), low and sandy, lies about 6 miles NW of Mount Dundas.

Mount Saunders (12° 11'S., 136° 47'E.), 71m high and more or less flat except for its peak at the SE end, rises about 1 mile SSW of Cape Wirawawoi. Two radio masts showing red obstruction lights stand on Mount Saunders; another radio mast stands near the shore about 1 mile ESE.

Caution.—Lone Rock, awash, lies on the edge of foul ground about mile offshore N of Mount Dundas. This rock is isolated and steep-to on its seaward side, making it dangerous to approach.

Foul ground fills the bight which extends between Cape Wirawawoi and Mount Dundas, and a rock, which dries 2.1m, lies on the edge of this foul area, about 3 miles SE of the cape, with drying sand banks between.

A shoal, with depths of 3.6 to 4.6m, lies from 1 to 2 miles NW to NNW of Cape Wirawawoi.

1.42 Bremer Island (12° 07'S., 136° 49'E.), the SW extremity of which lies about 1.75 miles NNE of Cape Wirawawoi, is the largest of the group known as the Bremer Islets, and is low and sandy, with a maximum height of 28m near its NE end. The island is almost entirely fringed by reef and rocks, with depths of less than 5m extending up to 1 mile SSE of the S extremity. A dangerous submerged rock, with depths of less than 2m, lies about 0.75 mile NNW of the N extremity of the island and a bank, with a least depth of 3m, lies close off the NW side of the island. A recommended track for shallow draft vessels leads between Bremer Island and the mainland, and is shown on the chart.

Higginson Islet, 16m high and conspicuous, is the northeasternmost of the Bremer Islets, and is situated about 4 miles NE of that extremity of Bremer Island.

Bremer Rock, North East Bremer Islet, Forlsche Rock, and East Bremer Islet form a line of islets and rocks extending from a position 1 mile NW of Higginson Islet, S for about 6 miles. The largest of these, East Bremer Islet, attains a height of 20m and has a line of above-water rocks extending 1 mile S from it. In 1985, it was reported that rocks, with depths of less than 2m, lie midway between East Bremer Islet and Bremer Island.

Veronica Islet (12° 03'S., 136° 47'E.), 14m high, is small and rocky and lies 3 miles NW of the NE extremity of Bremer Islet. A rock, 1m high, lies mile SSE of Veronica Islet. A light has been established on the islet.

Sykes Shoal, unexamined, with a least known depth of 6m, lies about 2 miles NE of Veronica Islet. An 8.4m patch lies about mile SSE of Sykes Shoal.

Caution.—Most of the waters within the Bremer Islets have not been surveyed and, with the exception of the S end of Bremer Island, vessels should give them a berth of at least 3 miles.

1.43 Truant Island (11° 40'S., 136° 50'E.), at the NE extremity of The English Company's Islands, is 46m high and marked by a light shown from a metal framework tower, 39m in height.

Anchorage, in depths of 6.2 to 10m and protected from NE through S winds, can be obtained off the NW part of the island, with the light bearing 122°, distant 0.9 mile.

Truant Bank, extending from 3 to 6 miles in an ENE direction from Truant Island, has general depths of less than 30m. The least depth on the bank is 2.7m over Buccaneer Rock, about 4 miles NE of Truant Island Light. Barbette Shoal, with a depth of 8.4m, lies on the E end of the bank, about 6 miles ENE of the same light.

Barricade Shoal (11° 43'S., 136° 49'E.), with a depth of 11m, lies about 3 miles SSW of Truant Island Light.

Attack Shoal (11° 43'S., 136° 43'E.), with a least depth of 9.9m, lies about 7 miles WSW of Truant Island Light and is steep-to, especially on the S and E sides.

Truant Island Passage (11° 42'S., 136° 45'E.), leading between Truant Island and Attack Shoal, is frequently used by vessels approaching Gove Harbor from the N. The center of the passage has depths of 36 to 50m, but there is a 16.1m patch on the E side about 3 miles SW of Truant Island Light. The latter depth can easily be avoided by deep-draft vessels. Recommended tracks are shown on the chart.

1.44 Melville Bay (12° 05'S., 136° 40'E.), entered between Cape Wirawawoi and Cape Wilberforce, about 19 miles NW, lies encompassed by Bremer Island to the E, Gove Harbor to the S, and the mainland to the W. The shore of the bay from Cape Wirawawoi to Wargarpunda Point, 6 miles WSW, is low and sandy, heavily wooded, and generally foul. A group of conspicuous silos stand on Wargarpunda Point. East Woody Islet, small, rocky, and connected to the mainland by a sand spit, lies 2 miles W of the cape.

West Woody Islet, small, rocky, and heavily wooded lies about 0.5 mile W of **Wargarpunda Point** (12° 11'S., 136° 41'E.), with foul ground and dangerous rocks between. A rocky spit extends about 0.35 mile SSW from the islet and a detached rock, with less than 1.8m, lies nearly 0.75 mile S of the S extremity.

A shoal, with a depth of 9m, lies about 0.75 mile W of West Woody Islet. An 8.2m shoal lies nearly 1 mile SW of the same islet.

Mount Bonner (12° 06'S., 136° 34'E.), about 66m high, rises on the W side of Melville Bay and extends out to a rocky point about 2 miles NE. The latter point, which is located about 7 miles NW of West Woody Islet, is foul with two small islets offshore, the NE being conspicuous. A reef extends NE of these islets, ending in a 1m high rock about 2 miles NE of the point.



Gove Harbor

The coast S of Mount Bonner is low and sandy except for Shepherd Bluff, about 5 miles SSE.

About 7 miles NNW of Mount Bonner there is another rocky point, forming the S entrance point of a shallow unsurveyed bay. A ridge of hills, rising to Mount Bonner, extends SSE from this point.

Cape Wilberforce (11° 55'S., 136° 35'E.), formed of cliffs up to 70m high, is the extremity of a narrow peninsula extending about 7 miles ENE from the mainland. The waters S of the cape have not been surveyed and discolored water has been reported to the E. Numerous dangers exist of the N side of the peninsula.

Bromby Island (11° 50'S., 136° 40'E.), the largest of the Bromby Islets, lies with its E extremity about 8 miles NE of Cape Wilberforce and is about 58m high and cliffy. The entire chain, which extends about 10 miles NE of the cape, terminates in Bromby, a rocky islet with a reef extending N from it. The inner islets are surrounded by reef.

Gove Harbor (12° 12'S., 136° 40'E.)

[World Port Index No. 54675](#)

1.45 Gove Harbor is located in the vicinity of Dundas Point, about 1 mile SW of Wargarpunda Point. The port handles bulk alumina, bulk bauxite, and bulk liquids.

Winds—Weather.—The climate is directly affected by the monsoons. The prevailing wind during the dry season from

May to October is SE to S, usually easing with nightfall. Strong winds up to 30 knots occur at times during this period.

The prevailing winds during the Northwest Monsoon from November to April are light and variable, blowing mainly from the NW. Cyclones which occur occasionally during this period bring gale force winds.

Average annual rainfall over 1,300mm, occurring predominantly during the Northwest Monsoon season, when heavy downpours of short duration are experienced.

Tides—Currents.—Mean high water springs rise up to 3.2m and mean neap tides rise 2.2m.

Tidal currents in the harbor reach a maximum of 3 knots, but usually are much less. The flood sets SSE through the entrance and the ebb sets NNW. Docking before half-flood tide is recommended, as the tidal current is reported to set off the Bulk Cargo Wharf after that time.

Depths—Limitations.—Depths in the approach to Gove are deep. The least depth in the direct approach to the Bulk Cargo Wharf W of Dundas Point is 13.8m, and to the General Cargo Wharf E of Dundas Point is 7.3m. A depth of 10.3m lies about mile W of the Bulk Cargo Wharf.

The Bulk Cargo Wharf, which is 305m long, has a depth of 14m alongside. The Tanker Berth, which is attached to the S end of the bulk berth, also has a length of 305m; the depth alongside is maintained to 13.7m. Two vessels of 60,000 dwt can berth simultaneously. A minimum under keel clearance of 10 percent of the draft is required for berthing and unberthing at the Bulk Cargo Wharf.

The Bulk Cargo Wharf extends about 0.2 mile offshore on the E side of Dundas Point and is 94m long. There are two berths, extended by dolphins, at its head. Vessels up to 20,000 dwt, with a maximum length of 183m, can be accommodated, although vessels up to 30,000 dwt can berth under suitable tidal conditions. Alongside depths at each berth are maintained at 11.6m.

A small wharf, with a berthing length of 48m, is situated about 0.25 mile N of Harbour Islet. There are depths alongside of 4.3m and the wharf is mainly used for the refueling of fishing boats.

Aspect.—Dundas Point, about 1 mile S of West Woody Islet, is a low sandy spit which forms the N entrance point of Gove Harbor. Parfitt Point, also low and sandy, forms the S entrance point and lies about 2 miles SW of Dundas Point. Within the entrance, Drimmie Peninsula, high and rocky, extends 2 miles S from the shore about 2 miles ENE of Dundas Point and forms the E side of the harbor; it is connected to the mainland by a causeway which covers at high water. The SE part of the harbor consists of a series of low, tree-covered points with shoal water between and rocks off-lying. Granite Islands, about 1 mile S of Dundas Point, mark the outer limits of the shoals extending to the shore on the S. Half Tide Rock, which dries 2.4m, lies about 1 mile ESE of Dundas Point. Harbour Islet lies 1 mile NNE of Dundas Point.

Fairway Lighted Buoy is moored about 2 miles NW of Dundas Point.

A 3m shoal, marked by a lighted buoy, lies about 0.2 mile SE of Dundas Point and a 5.2m shoal lies about 0.3 mile SSE of the same point. Five Fathom Lighted Beacon stands about 0.25 mile SSW of Dundas Point. A lighted beacon stands on Half Tide Rock.

An aeronautical radiobeacon is located at the airstrip about 10 miles SE of Gove Harbor.

Pilotage.—Pilotage is compulsory for vessels using the main berths. The pilot boards 1.5 miles W of West Woody Islet. Vessels should report, through Darwin, their ETA in GMT, together with draft forward and aft, 10 days before arrival, and confirming the arrival time at 48 hours and 24 hours prior to arrival. The port office at Gove can be contacted on VHF channel 16; the working frequencies are VHF channel 6 and VHF channel 12.

Anchorage.—No. 1 Anchorage lies 2.1 miles WNW of West Woody Island, in a depth of 15m, mud and shingle.

No. 2 Anchorage lies 2.3 miles NW of West Woody Island, in a depth of 18m. This anchorage is also used by laden tankers awaiting a berth.

Small vessels seeking shelter can anchor according to draft in depths of 6 to 9m, sand and mud, SW of Half Tide Rock.

Directions.—The main approach from NNE has depths of 18 to 30m and is made from a position about 7 miles SSE of Truant Island Light. A course of 209° will pass 3.2 miles WNW of Veronica Islet and lead to a position 1.5 miles W of West Woody Islet.

Shallow draft vessels can pass S of Brenner Island, following a track having a least depth of 6.1m, by steering 295° to round Cape Wirawawoi at a distance of 0.75 mile. Course should then be altered to 263°, with the S extremity of Brenner Island astern.

Both tracks can best be seen on the chart.

The English Company's Islands

1.46 Truant Island (11° 40'S., 136° 50'E.), previously described in [paragraph 1.43](#), forms the NE extremity of The English Company's Islands, which then parallel the coast for approximately 50 miles to the SW. The island is marked by a light, and shoals extend up to 7 miles to the NE.

Anchorage, in 6.2 to 10m, protected from NE, E, SE, and S winds, can be found off the NW part of the island, with Truant Light, bearing 122°, distant about 0.9 mile.

Wigram Island (11° 47'S., 136° 34'E.) lies with its E extremity about 12 miles WSW of Truant Island and is about 8 miles in length. The E end is low, with an islet close offshore, but the SE extremity is formed by a high cliff rising inland to a height of 63m. The SW end of the island, also cliffy, is nearly as high but shoal water is reported to extend nearly 1 mile off this shore.

Miller Islet, small, low and apparently steep-to, lies about 2 miles ENE of the E end of Wigram Island; a rock lies close E of the islet and a shoal, on which stands two above-water rocks, lies between Miller Islet and Wigram Island.

Cotton Island (11° 51'S., 136° 29'E.), immediately SW of Wigram Island, is 126m high and rocky. There is a high cliff at the S end about 7 miles from the N extremity and most of the E shore is steep. Depths of as little as 8m have been found in the channel between Wigram Island and Cotton Island, where strong tidal rips were reported in 1983. A small islet, 33m in height, stands off the W side of the island and a depth of 3m was reported in 1985 to lie about 1 mile NNW of this islet.

Pobassoo Island lies close off the S end of Cotton Island and is connected to it by a reef. This island is 69m high; Herald Islet lies 0.5 mile to the W.

Astell Island, about 1 mile NW of Pobassoo Island, with shoal water between, is 76m high and rocky. A reef, with a depth of less than 1.8m and a least depth of 0.5m at its outer end, extends 3 miles W from Herald Islet, and parallels with the S side of Astell Island up to 1 mile offshore; depths of 7.3 to 9.1m are charted between this reef and the shore. Several rocks lie off the N end of Astell Island and a reef extends a little over 2 miles to the N.

1.47 Inglis Island (12° 02'S., 136° 14'E.), the largest of The English Company's Islands, lies 5 miles SW of Astell Island, with Bosanquet Islet close off its NE extremity. The latter is separated from the main island by a narrow passage which is partially restricted by a smaller islet. Several rocks lie about 2.5 miles WNW of Bosanquet Islet; a 3m patch lies 1.5 miles W of the islet. Shoal depths of 8.2m and 15.8m lie 0.5 mile and 1 mile E and NE, respectively, of Bosanquet Islet.

Caution.—A 0.3m shoal has been reported (1990) to lie about 2 miles ENE of Bosanquet Island.

The N side of Inglis Island is indented by a large open and shoal bay, with shoals, drying patches, and two islets off it; the N islet is 29m high. A 0.3m shoal lies about 1 mile NNE of the NW extremity of the island; a 5.5m patch lies about 1.25 miles further NNE.

Maiyayigur Point, the W extremity of Inglis Island, is rocky and 28m high. Hummocky Islet, 22m high, lies 1 mile SW of



Entrance to Pera Channel from 3 miles NNE of Flinders Point

the point and is conspicuous from the N and S. The dangers in this vicinity are described with Pera Channel, in paragraph 1.48.

Malay Road (11° 50'S., 136° 25'E.) and Nalwarung Strait, its continuation SW, bordered on the S by Bromby Islets and the mainland and on the N by Wigram, Cotton, and Inglis Islands, are from 1.25 to 6 miles wide, but the reef fringing the shores in the narrow areas of the channel restricts navigation to small vessels with local knowledge. There are general depths in the fairway of from 7.3 to 30m, but numerous dangers restrict the channel S of the Cotton Island and at the W end of Nalwarung Strait.

Anchorage.—Anchorage can be taken under the lee of the various islands in Malay Road, although the shoal water S of the W half of Wigram Island must be avoided. Large vessels are cautioned that surveys are not complete in many areas of The English Company's Islands and great care must be exercised in approaching shore.

Small vessels have taken anchorage S of Bosanquet Island, E of Inglis Island, in depths of 9 to 13m.

Arnhem Bay

1.48 Pera Channel (12° 00'S., 136° 04'E.), the main approach to Arnhem Bay, lies at the SW extremity of The English Company's Islands and leads between Inglis Island and Flinders Point, about 4 miles to the W. The channel is restricted by several rocks, islets, and shoals, but the fairway, which requires precise navigation, carries a least depth of 20m to the bay.

Flinders Point (12° 04'S., 136° 03'E.), low but with a stony hillock on its extremity, is the NE end of a long narrow peninsula separating Arnhem Bay and Buckingham Bay. The point rises to a distinctive knoll, 46m high, about 1 mile within, which, being close to the S shore, shows well from NE. Shoal water and irregular depths border the shore N and E of Flinders Point and cause heavy tide rips especially on the rising tide.

Caution.—A rock, which dries 2.7m, lies about mile WSW of **Hummocky Islet** (12° 05'S., 136° 06'E.), and in the fairway of Pera Channel. A sand cay, which dries 1.8m, lies about 2 miles N of Hummocky Islet, and another rock, which dries 2.7m with an islet close by, lies 2 miles farther NE. A 1.8m patch lies about 2 miles SSE of the same islet. Patches, with depths of 6.4m and 7.9m, lie 2 miles NW and 1 mile N, respectively, of Flinders Point.

Note.—Buckingham Bay, entered N of Flinders Point, is described in [paragraph 1.49](#).

Probable Island (12° 08'S., 136° 02'E.), 91m high, lies 2 miles S of Flinders Point and attains its maximum elevation near its center. The E side of the island is indented by numerous small sandy bays separated by prominent bluffs. The area fronting this coast has not been examined to a distance of 1 mile, but surveys of the channel indicate a shoal shelf on which tide rips and overfalls were seen extending up to 1 mile off the center of the island.

Gwakura Island, immediately S of Probable Island, is formed of a narrow ridge 61m high. The passage between these two islands appears to be foul, with strong tide rips on the flood.

Rekala Island, about 0.75 mile S of Gwakura Island, is small and low, with scrub and a few trees. The passage between these two islands has not been examined.

Tides—Curr ents.—In Pera Channel, off Hummocky Islet, the tidal currents attain a rate of 4 knots at springs. To the N of the islet, near the sandy cay, the ebb current sometimes attains a rate of 6 knots. At the entrance to Arnhem Bay, W of **Mallison Island** (12° 11'S., 136° 07'E.), the maximum rate of the tidal currents at springs is from 3 to 5 knots, being strongest near the island. In the bay itself the maximum rate is 2 knots at springs, again strongest near Mallison Island; it rarely exceeds 1 knots in any other part.

Spring tides rise up to 4.6m and neaps rise approximately 4m.

1.49 Everett Island (12° 15'S., 136° 04'E.), actually the NE extremity of a broad peninsula extending from the mainland, lies about 10 miles S of Flinders Point and can be identified by the high distinctive red cliffs on its N and E sides. The cliffs rise directly to the trees above, the tops of which have a height of about 40m, and form a good mark from the entrance of Pera Channel.

Hardy Island, close S of Everett Island, is low, rocky, and of ironstone formation. It is covered with bushes and small trees, and fringed by a rocky ledge which extends right to the shore on the W.

Arnhem Bay (12° 19'S., 136° 11'E.) is entered using Pera Channel, between the SW extremity of Mallison Island and the NE end of Everett Island, about 4 miles SW. Arnhem Bay is broad with deep water in its N part. The NE side of the bay from Cape Newbald is generally low, sandy and foul, with Rhodes Point, low with red banks, 2 miles SE of the latter and forming a small foul bay between.

Cliffy Point (12° 22'S., 136° 18'E.), on the E side of Arnhem Bay and about 14 miles SE of Cape Newbald, is composed of red cliffs, 9m high, which are conspicuous in the afternoon. A low wooded islet lies close off this point.

Low Islet (12° 23'S., 136° 10'E.), about 7 miles W of Clifty Point, lies in the S central part of Arnhem Bay and is covered with bushes and small trees, the tops of which are about 12m high. A reef extends 1 mile E from the islet, and shoal water, with depths of from 3 to 5.5m, extends nearly 2 miles N and 2 miles NE of the islet. A spit, with depths of less than 11m and with a 4.9m patch near its N end, extends 5 miles N from the same islet.

Rippling Shoal (12° 18'S., 136° 07'E.), which is narrow and sandy, extends 5 miles SE from a position about 2 miles E of Hardy Island, and is steep-to on its E side, with tides rips along most of its length. The shallowest part, with a depth of 0.9m, lies E of the S end of Hardy Islet and at times is marked with discolored water.

A large sand bank, which dries 3m, lies about 5 miles WNW of Low Islet, with reefs in the vicinity. The waters W of Rippling Shoal and S of Low Islet have not been examined but appear dangerous and shoal-encumbered.

Anchorage.—Arnhem Bay affords anchorage for a large number of vessels. The best anchorage is on the E side of the bay, where a vessel proceeding in as far as its draft will allow, can obtain shelter from SE winds which blow with considerable strength at times. Depths of less than 11m extend up to 5 miles off this coast, but depths of 6.7m are charted at a distance of 2 miles from shore.

There is good anchorage for large vessels SW of Cape Newbald in the lee of Mallison Island, in depths of 13 to 22m, mud or sand.

Buckingham Bay (12° 05'S., 135° 55'E.), entered between Flinders Point and Napier Point, the clifty extremity of Napier Peninsula, 10 miles NW, is rocky in character with numerous clifty points along both shores. The bay has not been surveyed but it appears shoal on its S side. A vessel entering Buckingham Bay should give Flinders Point a berth of at least 3 miles. Islets are located as far as 2 miles offshore from the SE side of the bay.