

SECTOR 1

FRANCE—BAY OF BISCAY—ILE D'OUessant TO POINTE DU CROISIC

Plan.—This sector describes the W coast of France from Ile d'Ouessant to Pointe du Croisic, 130 miles SE. Presqu'île de St. Laurent, the NW extremity of mainland France, is the N limit of the description within this sector and is included after Ile d'Ouessant and its surrounding dangers.

General Remarks

1.1 The W coast of France, between Ile d'Ouessant and the entrance of La Gironde, is much indented and bordered by numerous islands, rocks, and sand flats. Southward of La Gironde, as far as the Rio Bidasoa, which forms the boundary line between France and Spain, the coast is low and uniform, with sandy dunes, and generally clear of off-lying shoals. The principal rivers are La Loire and Garonne, with the latter known in its lower part as La Gironde; the smaller ones are the Odet, Vilaine, Adour, and Nive.

The most important islands, which lie principally off the NW part of the coast, are Ile d'Ouessant, Ile de Groix, Belle Ile, Ile d'Yeu, Ile de Re, and Ile d'Oleron.

The Bay of Biscay, called Golfe de Gascogne by the French, is entered between Ile d'Ouessant and Cabo Ortegal, 305 miles SW. The bay is bounded on its E side by the W coast of France and on its S side by the N coast of Spain. It is generally clear and deep throughout.

Winds—Weather.—In the N part of the Bay of Biscay and the NW approaches to the English Channel, gales have been encountered, in several instances, with winds of hurricane velocity. This is particularly true of the open ocean where gales of force 10 to 12 have been observed from practically all points of the compass during the winter months.

An average of 1 to 2 per cent of observations with gale winds occurs throughout this area during the summer months, as compared with 6 to 12 per cent in the stormier cold months. However, only occasionally does a warm weather gale rise to the intensity of force 11 or 12. Generally, gales from the S to NW through W are more numerous than those coming from the N to SE through E.

Tides—Currents.—The general E drift of the North Atlantic strikes the land near Cabo Ortegal in Spain and divides into two branches. The N portion flows E along the N coast of Spain and the S portion flows along the coast of Portugal. In ordinary weather, this drift is slight, but with strong W winds from the Atlantic, a very considerable current is experienced off Cabo Finisterre and along the N coast of Spain.

In the Bay of Biscay, although the general set is E, the currents are irregular and very much influenced by the present and lately prevailing winds in the Atlantic. Inside the 200m curve, the general set is also influenced by local tidal currents.

During and after W winds, the E current in the Bay of Biscay may be very strong. As more water flows into the bay than out of it, the excess water emerges W along the N coast of Spain; this action is less frequent in winter. In addition, there are other ways in which the water is removed and it is believed that the

main outflow is formed by a subsurface current which sets W along the N coast of Spain. This current is thought to flow throughout the year irrespective of whether the surface current above it is W or E. Continued strong W winds or gales drive water into the bay faster than the subsurface current can carry it off. This action first produces the effect of a temporary appreciable rise of the sea level. Then, as the strength of the subsurface current increases the sea level is reduced to normal.

The current setting into the S part of the Bay of Biscay is turned N by the coast of France. It may set NW past Chaussee de Sein and then across the entrance to the English Channel and towards the S end of Ireland. It is reported that this current, known as the Rennell Current, only occurs occasionally but may attain a velocity of up to 1.5 knots. It occurs most often in winter, particularly after unusually strong or continued gales. Therefore, caution should be exercised when approaching the land in thick weather, particularly in the vicinity of Ile d'Ouessant.

A local N current, which runs in opposition to the general circulation, has been reported along the French coast to the S of La Gironde.

The tidal wave that runs N along the W coast of Portugal and Spain advances in a SE direction into the Bay of Biscay and causes the earliest HW to occur near its SE part between Santona and San Sebastian. The wave then expands and produces later HW at places to the W, on the N coast of Spain, and to the N, on the W coast of France.

The tidal range on the W coast of France is generally greater than at other places within the bay. At Brest and Bilbao, the spring tides rise 7.5m and 4.2m, respectively.

Barometric pressure and the direction of the prevailing winds have a marked influence on the water level. Winds from the W can raise the level by 0.2 to 1.4m and those from E can lower it by 0.2 to 0.8m.

The tidal currents are generally only experienced within 12 miles of the French coast. The velocity of these currents varies according to the place, but their rotation is usually clockwise during the spring and summer months and counterclockwise during the fall and winter. As a general rule, the ebb current sets between the SW and NW while the flood current sets between the NE and SE. Within certain bays or off some points, the tidal currents may set in the opposite direction owing to local conditions.

Regulations.—Special regulations apply to tankers laden with hydrocarbons and to vessels carrying dangerous cargo navigating in the approaches to the N and W coasts of France. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Mandatory Access Channels and Waiting Areas, which are navigation controlled, lie in the approaches to several ports along the W coast of France and are indicated on the charts. Tankers laden with hydrocarbons and vessels carrying dangerous cargo, over 1,600 grt, are required to use these approach

access channels and associated waiting areas. Special regulations apply to these vessels navigating in the Mandatory Access Channels. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Caution.—Numerous wrecks, some dangerous, lie off the coasts of France and Spain and may best be seen on the chart. Caution is advised when vessels are approaching the shallower waters.

When crossing the Bay of Biscay, allowance should be made for both for the outgoing and incoming currents, but especially the latter. When proceeding S during thick weather for a position W of Cabo Finisterre, an E set is likely to be experienced.

When warm moist winds blow over the cool sea in the bay, fog may be encountered and sound signals may not be heard against the wind.

The coast between Cabo Ortegal and Cabo Finisterre is dangerous to approach at night, especially in winter or in thick weather which is frequent there. At times, not only does a strong current set E towards the land, but tidal currents may also often affect the position of the vessel.

Many of the navigation lights on the mainland, especially along the N coast of Spain, are situated so high that they are frequently obscured by mist, which is often unforeseen, or by low clouds.

It should be noted that the coast of France extending S of the mouth of La Gironde and the whole of the N coast of Spain, have very few harbors of refuge. St. Jean de Luz, Bilbao, Santona, Santander, and Gijon are the only ports in this region which vessels are advised to approach in stormy weather without local knowledge.

Numerous fishing vessels may be encountered within the Bay of Biscay and its approaches.

During summer, numerous pleasure craft may be encountered off the coast of the N part of the Bay of Biscay.

It has been reported that marine farms have been established within many of the estuaries and inlets along the coasts of France and Spain.

Ile d'Ouessant

1.2 Ile d'Ouessant (Ushant) (48°28'N., 5°05'W.) is located 10 miles W of the NW extremity of France and forms an excellent mark for vessels rounding the coast to and from the English Channel. When viewed from N and NW, the E and NE shores appear as high and steep cliffs which gradually slope towards the W and SW sides of the island. It is surrounded by dangers that extend up to 1.5 miles offshore; a chain of islands and reefs extends SE to the mainland.

A main light is shown from a conspicuous tower, 50m high, standing on Pointe de Creac'h, near the W end of the island. A racon is situated at the light.

A main light (Le Stiff Light) is shown from a conspicuous structure, formed by two adjoining towers 28m high, standing near Pointe du Stiff, the NE extremity of the island. A prominent radar tower, 72m high, stands 0.3 mile NE of this light structure.

A lighted buoy, equipped with a racon, and a LANBY, equipped with a radiobeacon and a racon, are moored about 18

miles N and 28 miles W, respectively, of Ile d'Ouessant and indicate a Traffic Separation Scheme (TSS).

Ile de Keller, 30m high, is located close off the NW coast of Ile d'Ouessant. Chaussee de Keller (Keleren), a rocky reef, extends about 1 mile W from Ile de Keller and terminates in Basse Veur, a rock with a depth of 1.3m.

Baie de Lampaul, the largest bay in the island, is entered between Point de Pern, the W extremity of the island, and Ar Pilliged, 1 mile SE. A small drying harbor lies at the head of this bay. Point de Pern is fronted by rocks which extend up to 0.5 mile from it. Ar Pilliged is also fronted by rocks which extend up to 1.5 miles SW of it.

A light is shown from a prominent tower, 36m high with a helicopter platform, standing on An Ividig (Nividic), 0.5 mile WSW of Point de Pern. Another light is shown from a tower, 48m high, standing on La Jument, a rock, which along with Ar Vridig (Ridic), a rock awash, form the outermost dangers off Ar Pilliged.

A light is shown from a tower, 25m high, standing on Men Korn (Corn), a rock, lying 0.5 mile E of the E extremity of Ile d'Ouessant. This rock is the outermost danger in this vicinity and foul ground extends between it and the island. Basse Legouneuc, a rocky patch, lies close NW of the light and has a depth of 3.2m.

Baie de Stiff, which has a landing place, is located on the NE coast of Ile d'Ouessant and is entered N of Men Korn.

Winds—Weather.—Ile d'Ouessant is very exposed and has an average of 36 days with winds of 31 knots or over during the year. The months of November and January have an average of 6 days with such gales; December has an average of 8 days with such gales.

Anchorage.—Vessels may anchor, in depths of 8 to 13m, sand and mud, within Baie de Lampaul. The holding ground is good, but the anchorage should only be used in good weather. Winds from the W generally cause a high sea which breaks heavily in the entrance. Local knowledge is required.

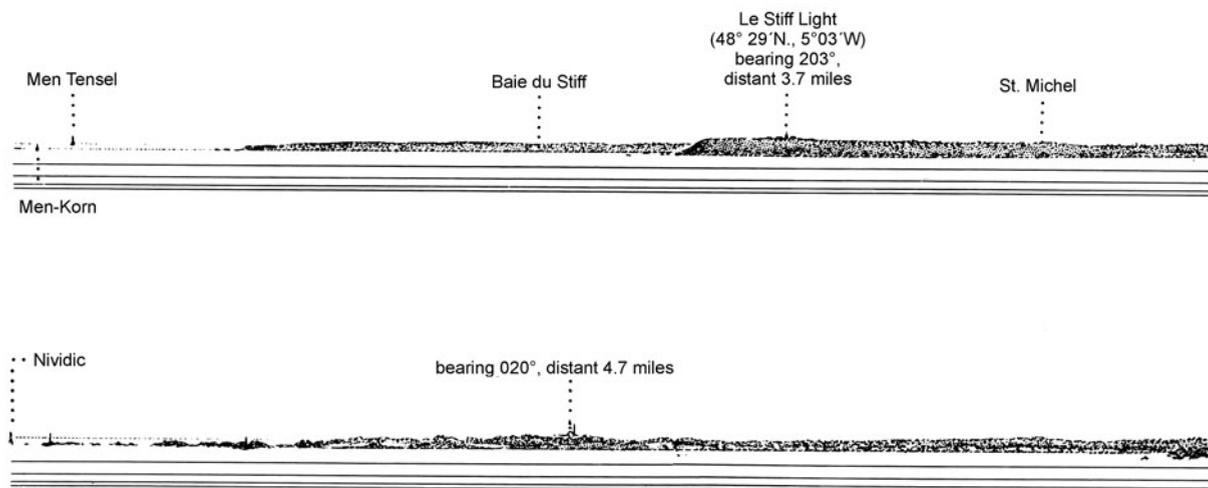
Baie de Stiff affords shelter from S and W winds to vessels with local knowledge. However, during gales, the swell runs along the coast and makes the anchorage untenable.

Regulations.—The Off Ushant (Ouessant) Approach Traffic Separation Scheme (TSS), which is IMO-adopted, is situated NW of Ile d'Ouessant and may best be seen on the chart.

Special regulations are in force for all vessels navigating the Ushant (Ouessant) Approach TSS and Inshore Traffic Zone.

In addition, all vessels are required to reply to any calls from the Ouessant Traffic Control Center, any French coast radio station, or any French government ship or aircraft. Vessels contravening these regulations will be held liable to the French authorities.

The Off Ushant (Ouessant) TSS Reporting System, with full radar surveillance, is maintained for the control of shipping. The system covers a circular area with a radius of 35 miles centered on Le Stiff radar tower on Ile d'Ouessant. Participation is mandatory for all vessels 300 grt and over entering the area. Vessels report to Ouessant Traffic on VHF channel 13 or 79, giving the vessel's name, call sign or IMO number, position, course, speed, dangerous cargo, defects, and pollution or dangerous cargo lost overboard.



Two views of Ile d'Ouessant

Caution.—Vessels approaching or rounding Ile d'Ouessant are cautioned to avoid being set down on the island by the strong currents in the vicinity.

Explosive disposal areas, which are indicated on the chart, lie NW and SW of Ile d'Ouessant as shown on the chart. Vessels are warned to avoid any craft within these areas which displays a danger signal.

A prohibited area, with a radius of 1 mile, is centered 24 miles SW of Ile d'Ouessant. The limits of the area are best seen on the chart.

Ile d'Ouessant to the Mainland

1.3 The entire area lying between Ile d'Ouessant and the mainland to the SE is heavily encumbered by numerous small islands, reefs, rocks, and shoals. Vessels without local knowledge area advised not to approach this area.

The principal islands, which appear low and rocky with white beaches, are Ile de Bannec, Ile de Molene, Ile de Trielen, Ile de Quemenes, and Ile de Beniguet. Passage du Fromveur, a channel, leads between Ile d'Ouessant and the dangers to the SE. Chenal du Four and Chenal de la Helle, two narrow channels, lead between these dangers and the mainland.

Kereon (Men Tensel) (48°26'N., 5°02'W.) is the NW of the dangers lying SE of Ile d'Ouessant. A main light is shown from a prominent tower, 41m high, standing close W of this island.

Chaussee des Pierres Vertes (48°23'N., 5°03'W.), a group of drying and submerged rocks, forms the SW extremity of the above dangers and is marked by a lighted buoy, moored 1.2 miles WSW.

Chaussee des Pierres Noires, about 6.5 miles long, is a chain of above and below-water rocks, lying about 6 miles SE of Chaussee des Pierres Vertes, which forms the S side of the above dangers. **Les Pierres Noires Light** (48°19'N., 4°55'W.) is shown from a conspicuous tower, 25m high, standing on a drying reef, close within the S edge of the chain. Le Diamant, a rock 8m high, lies close SW of the light and is also conspicuous.

Ile de Molene (48°24'N., 4°58'W.), 23m high, is the largest island of the group. A prominent mill stands in its N part; a conspicuous yellow signal station tower, with a church nearby, stands near its center. Two directional lights are shown from the head of a mole situated on the E side of the island and indicate the N and E approaches to a small harbor, which dries and is used by fishing boats. Small vessels can anchor, in depths of 3 to 4m, rock, about 1.5 miles N of the head of the mole, but local knowledge is required.

Basse Occidentale des Pierres Noires (48°19'N., 4°58'W.), with a depth of 4.7m, lies at the W extremity of the chain and is marked by a buoy moored 0.5 mile SSW.

Basse Royale (48°18'N., 4°50'W.), with a depth of 7m, lies at the E extremity of the chain and is marked by a lighted buoy moored close SSE.

Passage du Fromveur, lying on the SE side of Ile d'Ouessant, is straight and easily navigated by most vessels in good weather. However, when the wind is against the tidal currents, which may set up to 9 knots at springs, the sea within the channel is liable to be very high and turbulent.

Regulations.—Special regulations and restrictions apply to vessels intending to navigate this passage. See France—Regulations for the approaches to Ile d'Ouessant in Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Mainland Coast—Presqu'île de St. Laurent to Pointe de Sainte-Mathieu

1.4 Presqu'île de St. Laurent (48°31'N., 4°46'W.), the NW extremity of France, is a small irregular and hilly peninsula which stands 11 miles ENE of Ile d'Ouessant. The coast between this peninsula and Pointe Sainte-Mathieu, 11 miles S, is indented and fronted by rocks, shoals, and reefs which extend, in places, over 2 miles offshore. Several small harbors lie along this stretch of coast, but they are only used by small craft and fishing boats with local knowledge. A conspicuous water tower stands 1 mile E of Presqu'île de St. Laurent.

Le Four, a reef, lies 1 mile WNW of Presqu'île de St. Laurent. A main light is shown from a tower, 28m high, standing on this reef. Although prominent when fairly close in, the light is reported to be difficult to identify from offshore.

Les Liniou, a group of several high rocks, lies on a reef about 2 miles S of Le Four and can be easily identified by Le Grand Liniou, the principal rock, which is sheer on its W side.

L'Aber Ildut (48°28'N., 4°45'W.), a small tidal harbor, is reached via a narrow fairway which is entered 1 mile S of Les Liniou and bordered by dangers. The harbor, which is fronted by a rocky bar with a depth of 2m, is used by fishing boats, yachts, and small coasters with local knowledge. It dries, but a dredged channel lying in the center of the estuary has depths up to 4.3m and provides anchorage for small vessels at all stages of the tide.

Pointe de Corsen (48°25'N., 4°48'W.), steep and cliffy, is located 3.5 miles SSW of L'Aber Ildut and is very prominent from the S. The coast between is fronted by numerous dangers. A light is shown from a white hut standing on this point and a pylon, 77m high, stands at an elevation of 120m, close ENE of it.

A main light (Trezien) is shown from a conspicuous tower, 37m high, standing on the heights near a town, 0.8 mile NE of Pointe de Corsen.

Les Platresses (48°26'N., 4°51'W.), a group of reefs and drying rocks, lie 3.5 miles NW of Pointe de Corsen. A light is shown from a tower, 23m high, standing on the NE rock of the group.

La Valbelle, a group of shoals with depths of 3 to 8.2m, lies 0.8 mile ENE of the light and is marked by a lighted buoy moored close W of it.

Plateau de la Helle (48°26'N., 4°54'W.), a large area of rocky shoals, lies 4.5 miles WNW of Pointe de Corsen. La Helle, 12m high, is an isolated rock which stands on the NW side of this plateau. Le Faix, a drying rock, lies near the NE

end of the plateau. A light is shown from a prominent tower, 21m high, standing on it.

Basse Luronne, a shoal with a depth of 4.6m, lies 1 mile NNE of the light and is marked by a buoy, moored close WNW of it.

1.5 Chenal du Four (48°23'N., 4°49'W.), passing E of Les Platresses, leads between the NW coast of France and the dangers lying SE of Ile d'Ouessant. The channel is marked by buoys and indicated by ranges which may best be seen on the chart. The fairway has been swept to a depth of 5m on the range line near Basse du Lipari, in its N part, and 7.3m on the range line W of Roche du Tournant, in its S part. The least depth in the channel is a 6m rocky shoal which lies close ENE of the range, 0.5 mile E of Les Platresses Light.

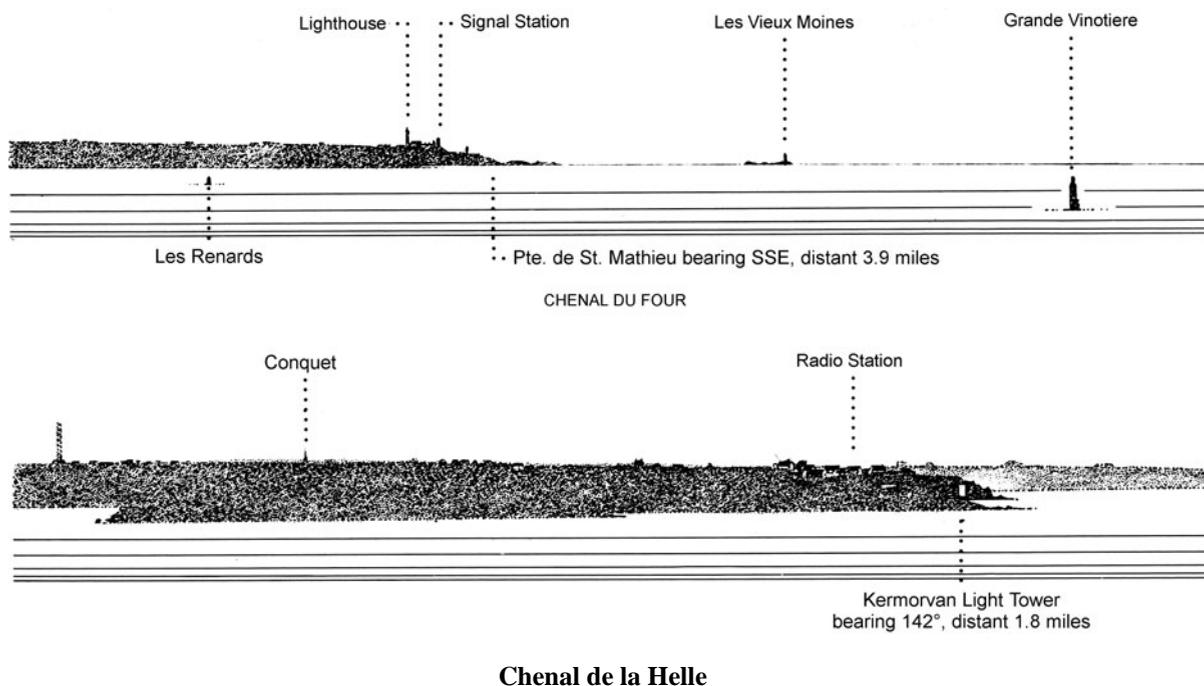
Vessels with drafts of over 7.9m are recommended to avoid this channel except at HW. During bad weather, all vessels are recommended to use Chenal de la Helle, as the sea breaks heavily in the vicinity of this channel.

From July to September, the visibility in this channel is sometimes poor, even when the weather outside is clear.

Numerous dangers lie adjacent to the fairway and vessels should stay as closely as possible to the range alignments. When altering course, vessels should exercise great care as in places the tidal currents, which may attain rates up to 5.2 knots at springs, set across the fairway.

Several submarine cables lie across the channel and may best be seen on the chart.

Chenal de la Helle (48°26'N., 4°23'W.) leads between the NW coast of France and the dangers lying SE of Ile d'Ouessant. It passes W of Les Platresses and E of Plateau de la Helle before joining Chanel du Four N of Grande Vinotiere. The channel is marked by buoys and indicated by ranges which may best be seen on the chart. The fairway has been swept to a depth of 7.3m on the range line.



Chenal de la Helle

Several submarine cables lie across the channel and may best be seen on the chart.

Numerous dangers lie adjacent to the fairway and vessels should stay as close as possible to the range alignments. In bad weather, this channel is preferable to Chanel du Four, being less dangerous in the approach.

Regulations.—Special regulations and restrictions apply to vessels intending to navigate both Chanel du Four and Chenal de la Helle. See France—Regulations for the approaches to Ile d'Ouessant in Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

1.6 Pointe de Kermorvan (48°22'N., 4°47'W.) is the W extremity of the peninsula of Presqu'île de Kermorvan. It is surmounted by a hill, 32m high, which stands at the end of a long and narrow neck of land. L'Ilete, a large rock on which stands an old fort, lies close N of the NW extremity of this peninsula. A light is shown from a prominent tower, 20m high, standing on the point.

Another light (Lochrist) is shown from a tower, 17m high, standing 0.4 mile inland, 1.5 miles SE of Pointe de Kermorvan. It is reported that this light is not easily distinguished in daylight.

Anse des Blancs Sablons, a bight, is entered between Pointe de Corsen and Pointe de Kermorvan, 3 miles S. Although open to the W, it provides the only good shelter in this vicinity. Vessels can anchor, protected from SW winds, in depths of 6 to 12m, sand and shells, in the lee of Pointe de Kermorvan. When approaching the head of this bight, caution is necessary as the depths shoal rapidly.

Grande Vinotiere, a drying reef, lies 0.8 mile WNW of Pointe de Kermorvan and is marked by a lighted beacon.

Port du Conquet (48°22'N., 4°47'W.), a narrow drying estuary, is entered between Pointe de Kermorvan and Pointe Sainte Barbe, 0.4 mile SE, and extends for 1 mile. La Louve, a drying rock, lies about 300m SE of Pointe de Kermorvan and is marked by a beacon tower. A breakwater extends 180m NW from Pointe Sainte Barbe and protects a small harbor which fronts the town of Le Conquet, situated on the S side of the estuary. A main quay, 170m long, has depths of 2.3 to 3.3m alongside. The anchorage roadstead off the harbor entrance is sheltered from E winds and can be used by small vessels with local knowledge, but it is untenable with winds from any other direction.

Pointe des Renards is located 2.5 miles S of Pointe Sainte Barbe. Les Renards, a drying reef, extends 0.3 mile W from the point and is marked by a beacon. Basse des Renards, a rock with a depth of 1.2m, lies 0.2 mile W of this beacon and is marked by a buoy.

Two prominent radio towers, with obstruction lights, stand in the vicinity of Pointe des Renards.

Pointe de Sainte-Mathieu (48°20'N., 4°46'W.) is located at the SW extremity of a hilly peninsula which separates Chenal du Four from the approaches to Brest.

A main light is shown from a prominent tower, 37m high, standing on the point. The point can also be identified by a prominent signal station and the ruins of an abbey which are situated close to the light. In addition, a conspicuous radio mast, 100m high, stands 1.7 miles ENE of the light.

Les Pignons de Keravel are two conspicuous white gables which stand on the crest of a hill, 0.7 mile NE of the point.

Les Vieux Moines, marked by a lighted beacon, is a group of above-water rocks which lie about 0.5 mile SSW of Pointe de Sainte-Mathieu. Roche de la Dorade, a rock with a depth of 9.3m, lies about 200m S of the group.

Caution.—A wreck lies SW of Les Vieux Moines Light, as shown on the chart.

L'Iroise

1.7 L'Iroise (48°12'N., 5°00'W.) is the water area lying to the S of Pointe de Sainte-Mathieu, which is bordered by Chaussee des Pierres Noires to the N and Chaussee de Sein to the S. The E side of L'Iroise is divided into two parts by a large three-pointed peninsula. Avant Goulet de Brest lies on the N side of this peninsula; Baie de Douarnenez lies on its S side.

Between Point de Sainte-Mathieu and Goulet de Brest, the N shore of L'Iroise is rugged, but generally slopes to the sea. The SE shore of L'Iroise, although still high, is less barren and more tree-covered. Pesqu'île de Quelern, the N section of the three-pointed peninsula, is cliffy and rises to a height of 75m across most of its length.

Chaussee de Sein extends nearly 14 miles seaward and is a great danger to shipping. It lies along the S side of L'Iroise, directly in the path of vessels navigating between Brest and the Bay of Biscay.

Pointe du Toulinguet (48°17'N., 4°38'W.) is the NW extremity of the W section of the three-pointed peninsula. A light is shown from a tower, 14m high, standing on this point and a prominent signal station is situated close to it.

Pointe de Pen-Hir, 1.8 miles S of Pointe du Toulinguet, is formed by steep black cliffs. An old signal station stands on the point and a prominent monument, 56m high, is situated 0.4 mile N of it. A group of five prominent detached rocks, the highest being 62m high, lies on a rocky shelf which extends 0.7 mile SW of the point. From offshore, Pointe Pen-Hir forms an impressive landmark and can be easily identified from a considerable distance.

Tides—Currents.—The tidal currents in the middle of L'Iroise are strong and are rotary in a clockwise direction. The N current sets towards the dangers lying SE of Ile d'Ouessant and the S current sets towards Chaussee de Sein. In thick weather, vessels approaching the area must guard against the actions of these currents.

Caution.—**Basse de la Parquette** (48°16'N., 4°44'W.), a rock, lies 4.5 miles W of Pointe du Toulinguet and dries 4.9m. A light is shown from a tower, 25m high, standing on this rock.

A chain of drying and submerged rocks extends E between Basse de la Parquette and the W section of the mainland peninsula.

La Vandree, a rock, lies about 2.2 miles WSW of La Parquette and has a least depth of 2.2m. It forms the W extremity of the numerous dangers which extend seaward from Pointe du Toulinguet, and is marked by a lighted buoy, moored 0.7 mile WNW of it.

Basse du Lis, a small group of rocky patches, lies about 2.8 miles S of Basse de la Parquette. It has a least depth of 2.4m and is marked close SW by a lighted buoy.

A chain of dangerous shallow shoals extends ENE between Basse du Lis and Point de Pen-Hir, on the mainland peninsula.

Basse de L'Iroise, an isolated rock with a least depth of 5.1m, lies about 2.5 miles WSW of Basse du Lis. Basse du Laborieux, a detached patch with a least depth of 9.9m, lies about 1.7 miles SW of Basse de L'Iroise. A dangerous wreck, position doubtful, is reported to lie about 1 mile SSW of Basse de L'Iroise.

Numerous submarine cables, most of which are disused, lie in L'Iroise and may be best seen on the chart.

Approaches to Brest

1.8 Avant Goulet de Brest (48°18'N., 4°40'W.), the outer entrance to Rade de Brest, lies between Pointe de Sainte-Mathieu and Pointe du Toulinguet, 6.5 miles ESE. It extends NE to abreast of Pointe du Petit Minou.

Vessels can approach the seaward entrance from the W by keeping S of Chaussée des Pierres Noires and N of the chain of dangers which extends E between La Parquette and the mainland.

Vessels from the N can enter via Chenal du Four and those from the S via Chenal du Petit Leac'h.

The shores of Avant Goulet de Brest are cliffy and rise to generally flat plains. Pointe de Creac'h Meur, on the N side, is located 3 miles E of Point de Sainte-Mathieu. A prominent radio mast stands on the point and a fort is situated on a large rock, 0.5 mile NE. A conspicuous water tower stands at the NE side of Anse de Bertheaume, 3 miles ENE of Pointe de Creac'h Meur.

Basse Beuzec, a rock with a depth of 2m, and Roche du Charles Martel, with a depth of 3.7m, are the outermost dangers on the N side of the channel. They lie 1 mile SSE of Pointe de Creac'h Meur and are marked by buoys moored close S.

Chenal du Petit Leac'h, a narrow passage, leads through the dangers extending W from Pointe du Toulinguet into Avant Goulet de Brest. It is marked by beacons and indicated by a range which may be best seen on the chart. The fairway is swept to a depth of 12m and may be used by vessels with local knowledge. Chenal du Grand Leac'h, with a swept depth of 11m, and Chenal du Toulinguet, with a swept depth of 8.5m, lie E of Chenal du Petit Leac'h and lead into it. They are indicated by tracks which may best be seen on the chart. Both these passages are very narrow, bordered by dangers, and used only by small vessels with local knowledge.

Camaret Bay lies on the S side of Avant Goulet de Brest, 1.7 miles E of Pointe du Toulinguet. Camaret-sur-Mer, a small harbor, is situated on the SW side of the bay and is protected by a breakwater. It mostly dries and is used by yachts, pleasure craft, and fishing vessels.

A wreck, with a depth of 14m, lies about 1.5 miles NNW of Pointe du Toulinguet and is marked on its W side by a lighted buoy. Another wreck lies 0.5 mile SE of it.

Pointe du Petit Minou (48°20'N., 4°37'W.), the N entrance point of Goulet de Brest, is located 3.8 miles E of Pointe de Creac'h Meur. A light is shown from a prominent tower, 24m high, standing just off the point; a smaller tower stands close SW of the main light.

Goulet de Brest (48°20'N., 4°35'W.), the inner entrance to Rade de Brest, is entered from the E end of Avant Goulet de Brest and extends NE to abreast Pointe du Portzic. It is divided into two channels by Plateau des Fillettes and Roche Mengam, both of which dry and lie on a rocky bank, centered 1.1 miles ESE of Pointe du Petit Minou. The former is marked by lighted buoys moored close W, NE, and S of it; a light is shown from a tower, 15m high, standing on the latter. Passe Nord has been swept to 11m, while Passe Sud has been swept to 12m; Passe Nord, being wider, is more commonly used by ocean-going vessels.

Pointe du Portzic (48°22'N., 4°32'W.), the N entrance point of Rade de Brest, is located at the E end of Goulet de Brest, 3.5 miles NE of Pointe du Petit Minou. A light is shown from a prominent tower, 35m high, standing on the point; a signal station is situated near it. Several prominent water towers and a fort stand on the N side of Goulet de Brest. Pointe des Espagnols, located 1 mile S of Pointe du Portzic, is the NE extremity of Presqu'île de Quelern and also the SE extremity of Goulet de Brest.

Pilotage.—Pilotage is compulsory, as follows:

1. All vessels 50m or more in length.
2. All vessels carrying hydrocarbons, gas, or dangerous cargo.
3. All commercial vessels entering or departing a port area which is reserved for the military.

Vessels should send their ETA at the pilot boarding position in Avant Goulet de Brest at least 48 hours in advance, stating the following:

1. Vessel name, call sign, and nationality.
2. Draft.
3. Cargo.

Vessels proceeding to the Waiting Area situated S of Pointe de Sainte-Mathieu should send their ETA at least 12 hours in advance through Brest-Le Conquet (FFU) and then contact the signal station at Pointe de Sainte-Mathieu by VHF 3 hours in advance.

All vessels should contact the pilot vessel directly by VHF prior to arriving off Pointe de Sainte-Mathieu.

Pilots board, as follows:

1. In good weather, the pilot will board in a position in Avant Goulet de Brest 2.5 miles NW of Pointe du Toulinguet.
2. In bad weather, the pilot vessel will lead vessels into the entrance of Rade de Brest, where the pilot will board.
3. During strong winds, pilots may also board in the entrance to Camaret Bay or at the E end of Goulet de Brest, between Pointe du Portzic and La Cormorandière, about 1 mile SSE.

If the pilot vessel is unavailable, vessels must request permission from the pilot control station on Pointe de Portzic, call sign "Brest Port," to continue through Goulet de Brest and anchor in Rade de Brest in a position, best seen on the chart, about 0.5 mile SW of the head of Jette Sud, near the entrance to Rade Abri.

Traffic Control.—A Vessel Traffic Service System (VTS) has been established in the approaches to the port. It regulates the movement and anchorage of all vessels while in Avant Goulet de Brest, Goulet de Brest, Rade de Brest, and Baie de

Douarnanaz. Its use is mandatory for all vessels 25m or more in length.

Vessels should contact Brest Port VTS control station on VHF channel 8 or 16. at least 1 hour prior to entering Goulet de Brest. Vessels should state their reason for entry and whether they are carrying hydrocarbons, gas, dangerous cargo, or contaminated cargo.

Vessels should wait W of the entrance and not enter Goulet de Brest from seaward or, similarly, from Rade de Brest, without authorization from the VTS control station. Vessels will also be informed, depending on their draft and size, which channel (Passe Nord or Passe Sud) to use when transiting Goulet de Brest.

Vessels must maintain a VHF listening watch during transit and conform with orders given by Brest Port VTS.

Vessels less than 25m in length must not obstruct the passage of larger vessels or submarines.

On arrival into Rade de Brest, vessels should contact PC Rade VTS control station on VHF channel 74.

Foreign vessels entering Baie de Douarnenez should contact the VTS control station, or report through Ouessant Traffic Control, and maintain a listening watch on VHF channel 16.

Regulations.—A Mandatory Access Channel leads from L'Iroise to a Waiting Area situated S of Pointe de Sainte-Mathieu. All vessels over 1,600 grt and carrying hydrocarbons or dangerous cargo must report their entry into this channel and maintain a listening watch on VHF channel 16.

Caution.—A restricted area, the limits of which are shown on the chart, lies in Avant Goulet de Brest and extends through Goulet de Brest. Anchoring and fishing are prohibited within this area.

A restricted area, the limits of which are shown on the chart, lies in Goulet de Brest, close SW of Roche Mengam. Fishing and diving are prohibited within this area.

Minesweepers frequently carry out exercises in the approaches to the port.

Brest (48°23'N., 4°30'W.)

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1.9 Rade de Brest, entered from Goulet de Brest, is spacious and affords excellent shelter. The Port of Brest is situated on the N side of the roadstead, just within the entrance. The naval base and its facilities occupy the W part of the harbor and the commercial port is situated in the E part.

The S part of Rade de Brest is generally under the control of the naval forces. Numerous training and special facilities, which are usually prohibited to commercial vessels, lie throughout the area.

Winds—Weather.—Winds from the SW predominate throughout the year. During late winter and spring, winds from the N and NE are common, and winds from the W are prevalent in summer and fall.

Gales are frequent in the approaches to the port, reaching an average of 10 days per month in December. In the summer

months of June and July, stormy weather attains its smallest incidence with an average of only 2 days per month.

Fog occurs often in summer and attains an average of 9 or 10 days per month in June, July, and August. The least fog is usually expected in December and January, but still may occur on an average of 4 days per month. A considerable amount of haze may also be expected at any time, but more so in late spring and summer when the temperature gradients are shifting from the land to the sea.

Tides—Currents.—Tides rise about 7.5m at springs and 5.9m at neaps.

In Rade de Brest, the tidal currents generally flow E and W in the N part and SE and WNW in the S part. At springs, they attain rates of 2.4 to 3.6 knots in the N part and 1.5 to 2 knots in the S. At neaps, they attain rates of 0.8 to 1.8 knots throughout the roadstead.

In the vicinity of La Vandree, the flood current sets N at about 1.5 knots and the ebb current sets S at about the same rate.

In Goulet de Brest, the flood current sets ENE to E at 2 to 4 knots and the ebb current sets WSW to W at 2.2 to 4.7 knots.

Depths—Limitations.—Rade de Brest has general depths of 11 to 25m in its main part, N of Ile Ronde.

Rade Abri, the harbor fronting the city on the N side, is protected by breakwaters. Port Militaire is situated in its W part; Port de Commerce is situated in its E part. The main entrance through the breakwaters lies 1.9 miles ENE of Pointe du Porthzic and has a least depth of 11m.

Banc de St. Pierre lies in the N part of Rade de Brest, 1 mile SW of the main entrance between the breakwaters. It has a least depth of 8.5m and is marked by a lighted buoy, moored close S.

Banc du Corbeau lies on the E side of Rade du Brest, about 1 mile SE of the main entrance. It has a least depth of 1.3m and is marked by a lighted buoy, moored close off the NW extremity. An explosives dumping ground, best seen on the chart, is located on the bank.

Basse du Renard lies in the SE part of Rade de Brest, about 0.7 mile NW of Ile Ronde. It has a least depth of 3m and is marked by a lighted buoy moored close W. Vessels should pass SW of this lighted buoy when proceeding to or from the S part of the roadstead.

Port de Commerce may be entered by either of two passages. Passe de l'Ouest, the more commonly used, is entered from Rade Abri. It is 140m wide and has depths of 6.7 to 7.1m.

Passe de l'Est is entered 0.8 mile NE of the main entrance into Rade Abri. It is 120m wide and has a dredged of 5.8m.

The Port Militaire includes the berths in the W part of Rade Abri and along both banks of the La Penfeld River, which is entered N of the main entrance. Quay d'Armement and Quay des Flotilles, with submarine shelters, front the NW side of Rade Abri. Two piers extending NE into Rade Abri from the SW breakwater are used to accommodate such large vessels as aircraft carriers. This area is reserved for the use of the French Navy and all other vessels are prohibited from entering without authorization.

A large marina, with extensive facilities for yachts, is situated in the NE part of the port.



Port of Brest

Port de Commerce is entered at the E side of Rade Abri. It is formed by four basins, fronted by a breakwater, and one basin situated close E.

Berth	Length	Depth alongside
No. 1 West	200m	6.0m
No. 2 West	110m	5.0m
No. 3 West	140m	9.0m
No. 5 West	170m	7.0m
No. 5 North	300m	7.0m
No. 5 East	300m	8.0-10.0m
No. 6 West	150m	8.0m
No. 6 East	175m	9.0m
No. 6 South	230m	12.0m

The harbor has facilities for general cargo, bulk, reefer, container, and tanker vessels. Generally, vessels up to 320m in length and 10.7m draft can be handled.

The port also has extensive facilities for repairs including repair quays, 305 to 430m long, with dredged depths of 8.0 to 10.6m alongside, which can handle vessels up to 550,000 dwt.

In addition, there are three main graving docks. The largest is 420m long and 80m wide, with a depth of 8m over the sill. It can accommodate vessels up to 550,000 dwt.

Aspect.—The prominent spire of St. Pierre Church and a conspicuous water tower stand 1.4 miles N of Pointe du Portzic.

La Cormorandiere, a prominent rock, lies on the S side of the entrance to Rade de Brest, close off Pointe des Espagnols. It dries, 7m, and is marked by a beacon.

Within the military port area, the buildings of the Naval Academy, standing 0.7 mile NE of Pointe du Portzic, and several fuel storage tanks, situated close W of it, are conspicuous.

Chateau de Brest, with its signal tower, and the Port Authority office stand on the E entrance point of the La Penfeld River, 2 miles NE of Pointe du Portzic and is conspicuous. A prominent monument stands 0.3 mile ENE of this building.

St. Martins Church, standing 1 mile NE of Chateau de Brest, dominates the city and is an excellent landmark from all directions.

To the NE of the city, Pont Albert Louppe, a great bridge with three arches, spans the mouth of the L'Elorn River (48°23'N., 4°24'W.) and is an excellent mark from the N part of Rade de Brest. A church, with a belfry, and a water tower stand at Plougastel, 1 mile SE of the above bridge. They are situated

on the crest of a hill and are very conspicuous from the approaches.

Ile Longue (48°18'N., 4°31'W.), a peninsula, is located in the SW part of Rade de Brest. A conspicuous white building, with a square tower, stands on its summit, close within the N extremity.

Ile Ronde, a small island, lies 1.7 miles ENE of the N extremity of Ile Longue. It appears black in color and is marked by a beacon.

Anchorage.—Anchorage in Rade de Brest is at the discretion of the pilot. Generally, vessels may anchor in any part of the roadstead clear of the shoals and outside of the charted restricted areas. The bottom is sand and shells or gravel, good holding ground.

Vessels finding it necessary to anchor W of Goulet de Brest can find shelter in Camaret Bay. A good holding berth is in depths of 10 to 14m, gravel and coral, near the center of the bay.

Caution.—Several restricted areas, the limits of which are shown on the chart, lie in Goulet de Brest and the N part of Rade de Brest. Anchoring and fishing are prohibited within these areas.

Construction and reclamation operations are being carried out at several locations within the port.

Navigation, anchoring, and fishing are prohibited in the vicinities of Ile Longue and the degaussing ranges in Anse du Fret, when in use. Vessels are prohibited from anchoring near the torpedo range situated E of Ile Longue. They are also prohibited from navigating in this vicinity when the range is in use.

Several other prohibited anchorage areas lie in the S and E parts of Rade de Brest and may best be seen on the chart.

Below-water foundations extend up to 15m from the breakwater heads at the main entrance into Rade Abri.

It has been reported (1997) that the 344° range leading between the entrance breakwaters of Rade Abri is difficult to see.

Submerged submarines may occasionally exercise in Goulet de Brest and at the W side of Rade de Brest. They are escorted by surface vessels which display the appropriate signals.

Avant Goulet de Brest to Pointe du Raz

1.10 Cap de la Chevre (48°10'N., 4°33'W.), 97m high, a bold and cliffy promontory which forms the S extremity of the S section of the three-pointed peninsula which divides the E side of L'Iroise, lies 6.5 miles SSE of Pointe de Pen-Hir. A prominent signal station and flagstaff stand on the cape.

Several rocks and shoals lie up to 4 miles offshore between Pointe de Pen-Hir and Pointe du Van, 5.5 miles S. Basse de Dinan, a rock with a depth of 3m, lies 0.5 mile SSE of Pointe de Pen-Hir.

Le Chevreau, a rock which dries 6m, lies 2 miles SSE of Pointe Pen-Hir and is marked with a beacon. Basse du Chevreau, with a depth of 7.4m, and La Queue du Chevreau, with a depth of 9.6m, lie 1.3 miles WSW and 2 miles SW, respectively, of Le Chevreau.

Le Bouc, a rock standing on a shallow reef, lies 2.8 miles WNW of Cap de la Chevre and is marked close W by a lighted buoy. Basse du Bouc, with a depth of 9.4m, and La Queue du Bouc, with a depth of 9.2m, lie 0.9 mile W and 0.8 mile NW, respectively, of Le Bouc.

Numerous rocks and shoals lie up to about 2.5 miles from Cap de la Chevre.

Basse Vieille, a group of rocks which dries 0.8m, lies 2.5 miles SW of the cape and is marked close SW by a lighted buoy; during periods of heavy swell, the sea breaks with considerable strength on this group of rocks and they can be seen for some distance in clear weather. Shoreward of this group of rocks, the bottom is irregular and there are several rocky patches and shoals.

Basse Wenn, an isolated patch, lies 2 miles W of Basse Vieille and has a least depth of 19.1m.

1.11 Baie de Douarnenez (48°09'N., 4°25'W.), a large open bay, lies on the S side of the three-pointed peninsula which divides the E side of L'Iroise. The bay is entered between Cap de la Chevre, previously described in paragraph 1.10, and Pointe du Van, 9 miles SW. The latter is formed by a conspicuous high and sheer cliff which is fronted by several large rocks. The cliffs which form the NW shore of the bay are bold and cleft by fissures.

Sommet du Menez-Hom (48°13'N., 4°14'W.), 330m high, is the highest part of the elongated skyline which stands about 3 miles E of the E shore of the bay. It is conspicuous and can be seen from some distance seaward.

Douarnenez (48°06'N., 4°20'W.), a small fishing port, lies in the SE part of the bay, 5 miles E of Pointe de Millier. The harbor, situated at the mouth of the Riviere de Pouldavid, is protected by breakwaters and divided into several small basins which have dredged depths up to 5m.

Vessels approaching the harbor must take care to avoid Baz Veur, a rock with a depth of 4.2m, and Basse Neuve, a rock with a depth of 1.6m, lying 0.7 mile and 0.4 mile NNW, respectively, of the entrance. Anchorage may be obtained, in depths of 3 to 5m, mud, within 0.3 mile E of the harbor, but local knowledge is recommended.

Regulations.—A Mandatory Access Channel leads from L'Iroise into Baie de Douarnenez. All vessels over 1,600 grt and carrying hydrocarbons or dangerous cargo must report their entry into this channel and maintain a listening watch on VHF channel 16.

The movement and anchorage of all vessels in the approaches and within the bay is controlled by the Brest Port VTS system. Vessels may communicate with the VTS control center through the VHF radio station (Le Raz), situated at Pointe du Raz. See paragraph 1.8, Traffic Control for the Approaches to Brest, for further information.

1.12 Pointe de Morgat, a bold headland, is located 4 miles NNE of Cap de la Chevre. Anse de Morgat, a small bay, is entered NE of this point. Several dangers lie on the E side of the bay and are centered about 2 miles ESE of Pointe de Morgat. These include Les Verres, a group of rocks 9m high; La Pierre Profonde, a rock 4m high; and Le Taureau, a shoal which dries 1.5m.

Morgat (48°10'N., 4°33'W.), a small harbor, is situated in the NW part of the Anse de Morgat and is used by fishing boats and yachts.

The S shore of Baie de Douarnenez is generally more steep-to than the N shore but it is fronted by numerous rocks and shoals.

Pointe du Milier (48°06'N., 4°28'W.) is located on the S shore of the bay, 5 miles W of Douarnenez. A light is shown from a prominent white house, 6m high, standing on the point and a conspicuous water tower stands 2 miles SE of it.

Pointe de Brezellec is located 8 miles WSW of Pointe du Van. A radio mast stands on the point and another stands 1.2 miles SSW of it.

Pointe du Van (48°04'N., 4°43'W.) lies 2 miles WSW of Pointe de Brezellec. Basse Jaune, an isolated rocky patch which dries 1.3m, lies about 1 mile NNE of Pointe du Van and is marked close SW by a buoy.

Caution.—With W winds, a heavy swell penetrates into the bay as far as Douarnenez.

A measured distance, 8,029.8m long, lies on the S side of the bay and may best be seen on the chart.

Submarines frequently exercise in an area swept to a depth of 28m lying in the approaches to the bay S of Basse Vielle.

1.13 Pointe du Raz (48°02'N., 4°44'W.), at the S side of the entrance to Baie de Douarnenez, lies 2 miles SSW of Pointe du Van and is formed by a high steep cliff fringed with rocks. A prominent signal station, consisting of a tower with a dwelling, stands on the point.

Dangers extend up to 0.8 mile W of Pointe du Raz. La Vieille, a rock, and La Plate, a reef close SW, lie at the W extremity of these dangers. A light is shown from a prominent square tower, 24m high, standing on La Vieille. A light is also shown from a tower, 26m high, standing on La Plate.

Tevennec (48°04'N., 4°48'W.), a small and prominent island, is located 3 miles NW of Pointe du Raz. A main light, with sectors indicating the fairways, is shown from a tower with a dwelling, 15m high, standing on its summit. Rocky patches and shoals extend up to 0.8 mile from the island, but it can be passed to the E or W.

Chaussee de Sein (48°03'N., 4°55'W.) is a group of islands, dangerous rocks, and shoals which borders the S side of L'Iroise. This group, although less than 2 miles in width, extends for nearly 12 miles and is a major danger to vessels transiting N or S.

Le Chat, a drying reef, lies 3.2 miles WSW of Pointe du Raz, at the E end of Chaussee de Sein. A light is shown from a tower, 31m high, standing on this reef. Passe d'Ar-Men, a narrow passage, lies 7 miles W of Le Chat. It divides Chaussee de Sein into two parts and has a least depth of about 9m. Ar-Men Light is shown from a tower, 37m high, standing on a reef, at the W side of the passage.

Chaussee de Sein Lighted Buoy (48°04'N., 5°08'W.), equipped with a racon, is moored 1.7 miles W of the W extremity of Chaussee de Sein.

Ile de Sein (48°03'N., 4°52'W.), a low and narrow island, is the largest of the group and lies 5 miles W of Pointe du Raz. A main light (Sein) is shown from a tower, 51m high, standing at the NW extremity of the island. A light (Men-Brial) is shown from a tower, 14m high, standing at the NE end of the island. A small harbor, lying at the SE end of the island, is used by fishing boats and yachts with local knowledge.

1.14 Raz de Sein (48°03'N., 4°47'W.) is the navigable channel lying between the E end of Chaussee de Sein and the dangers fronting Pointe du Raz. Vessels bound from the English Channel or Brest to ports on the W coast of France may shorten their route by passing through this channel in favorable weather, when there is usually less sea than W of Chaussee de Sein.

As a general rule, vessels should always avoid Raz de Sein during bad weather and when the sea is against the tidal current. In these conditions, a steep breaking sea is caused. The channel should also be avoided in strong W winds while the tidal currents are running, as similar sea conditions will then prevail to the N or S of the passage.

A dangerous wreck, position doubtful, lies in the S approaches, about 2 miles SSW of Pointe du Raz.

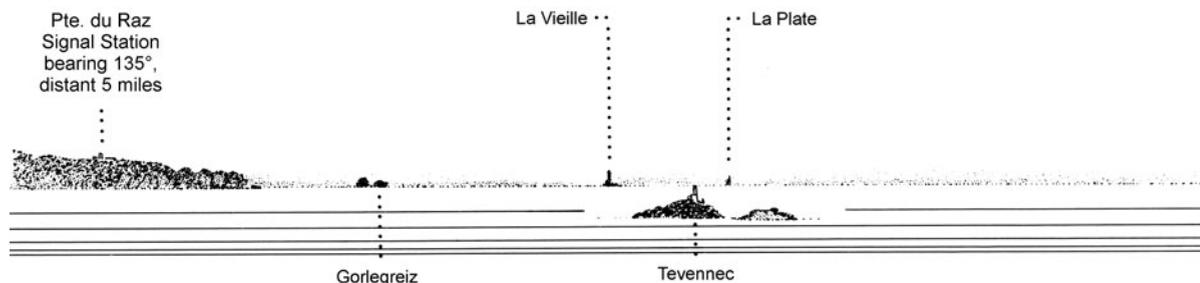
Kornog-Braz (Cornoc-bras), a rocky patch, lies 1.6 miles SW of La Vieille Light and has a least depth of 3.6m. Masclougreiz, a rocky bank, lies in the middle of the S approaches, 0.8 mile E of Kornog-bras. It has a least depth of 7.4m and breaks heavily in SW winds, especially during the S tidal current.

Vessels are advised to pass either E or W of Kornog-Braz and not over it as considerable difficulty in steering may occur in its immediate vicinity.

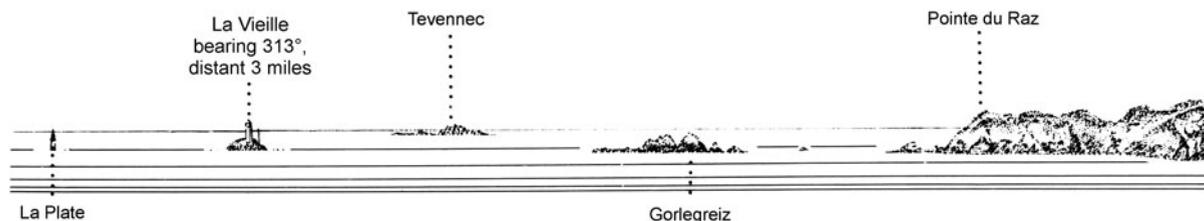
Tevennec Island, in the N approaches, may be passed on either side.

Tides—Currents.—The flood current flows N and attains a rate up to 6 knots in the middle of Raz de Sein. The ebb current flows S through the channel and attains approximately the same rate. The N current begins at about 6 hours after HW Brest and the S current begins about 1 hour before HW Brest.

Eddies are formed with both the flood and ebb currents near La Vieille and may extend up to 0.5 mile N and S of this rock. During the flood current, eddies may also occur N of Tevennec Island.



Raz de Sein from N



Raz de Sein from SE

Regulations.—Special regulations and restrictions apply to vessels intending to navigate this channel. See regulations for the approaches to Ile d'Ouessant in Pub. 140, *Sailing Directions (Planning Guide)* North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

L'Iroise to Pointe de Penmarc'h

1.15 Pointe de Feunteunod (48°02'N., 4°42'W.), a small headland, is located 2 miles ESE of Pointe du Raz. A conspicuous water tower stands 1 mile NE of this point. Shoal water, reefs, and rocks front the point and extend offshore up to about 1.5 miles W and S. In addition, a dangerous wreck lies 0.9 mile W of the point.

Roche Moulleg, with a least depth of 5.1m, lies 1.4 miles WSW of the point. An-Hinkinou (Ninkinou), a rocky patch with a least depth of 3.6m, lies 1.5 miles SSE of the point. Basses Piriou, with a least depth of 6.8m, lies 1.1 miles ESE of An-Hinkinou. These dangers lie along the seaward edge of the shoal water and vessels approaching Raz de Sein from the SE should take care to clear them.

Pointe de Plogoff, round and fringed by reef, rises from the sea in a broad mass, 1.9 miles ESE of Pointe de Feunteunod. It can easily be identified by the conspicuous chapel of Notre Dame de Bon Voyage which stands near its summit. A conspicuous hotel stands at the head of Anse du Loc'h, a small and shallow bay, entered 0.6 mile E of Pointe de Plogoff.

Pointe de Lervily (48°00'N., 4°34'W.), low and fronted by reefs, is located 3.6 miles SE of Pointe de Plogoff. A light is shown from a prominent tower, 10m high, standing on this point.

Baie d'Audierne is formed by a long and fairly smooth bight which extends between Pointe de Lervily and Pointe de la Torche, 13 miles SE.

Port d'Audierne (48°01'N., 4°32'W.), a small fishing port, is entered close NE of Pointe de Lervily, inside the mouth of the Riviere Le Goyen. An inner harbor, lying within the river, dries and an outer harbor, lying outside and close W of the river mouth, is protected by a breakwater. An entrance channel is dredged to a depth of 1m. La Gamelle, a rocky shoal, lies 1 mile S of the river entrance and is marked by buoys. This shoal dries and several stranded wrecks lie on it. A light, with sectors indicating the approach, is shown from a tower, 15m high, standing on the W side of the river. The harbor is used by fishing vessels and yachts. Local knowledge is recommended as depths in the approach and entrance are subject to frequent changes. Vessels can obtain anchorage, in depths of 3 to 6m, off the breakwater.

Porz Poulhan, a small haven, is located 4 miles ESE of Pointe de Lervily and is protected by breakwaters. It is used by small craft and a light is shown from the W side of the entrance.

A dangerous wreck, position doubtful, lies about 2 miles offshore, 3 miles S of Porz Poulhan.

Pointe de la Torche (47°50'N., 4°21'W.) is located at the S end of Baie d'Audierne. The three belfries of Notre Dame de Tronoen stand 1.5 miles NE of the point and are conspicuous from the S part of the bay.

Anse de la Torche, a small foul bay, lies between Pointe de la Torche and Porz-Carn, 0.5 mile SW.

Caution.—A submarine cable extends seaward from a point on the shore in the vicinity of Anse de la Torche.

A restricted area, the limits of which are shown on the chart, lies in the vicinity of Anse de la Torche and extends 3 miles seaward; anchoring, dredging, and trawling are prohibited within this area.

1.16 St. Guenole (47°49'N., 4°23'W.), a small fishing port, lies within a bight fronted by reefs, 1.5 miles SSW of Anse de la Torche. The harbor is protected by a breakwater and entered through a narrow and tortuous channel which leads between the reefs. There are depths of 2 to 2.5m in the entrance channel and 2.5 to 3m alongside the quay which is used by fishing vessels and yachts. The entrance channel is indicated by beacons and lighted ranges, but local knowledge is recommended.

Pointe de Penmarc'h (47°48'N., 4°22'W.), low and fronted by foul ground, is located close S of St. Guenole. A main light (Eckmuhl) is shown from a conspicuous tower, 65m high, standing on the point. A prominent disused lighthouse and a coast guard signal station stand close SW of the main light. A small detached breakwater lies close off the point.

The area in the vicinity of Pointe de Penmarc'h affords no shelter in strong S winds and during such times, vessels should remain well offshore as a heavy swell may be preferable to the breaking seas which occur closer to the land.

Roches de Penmarc'h is an extensive group of reefs, shoals, and rocks which fronts Pointe de Penmarc'h and extends up to 2.5 miles offshore. Even in good weather, large vessels are advised to remain at least 5 miles off this part of the coast.

Menhir, a reef partly above-water, lies at the W extremity of the group, 1 mile W of the point. A light is shown from a prominent tower, 21m high, standing on this reef.

Les Etocs, a large group of broken rocks up to 9m high, lies near the middle of Roches de Penmarc'h, 2 miles SE of the point. A prominent beacon stands at the E end of this group.

Several narrow and shallow channels lead through Roches de Penmarc'h but are only used by small craft with local knowledge.

Tides—Currents.—Tides off the point rise about 5.2m at springs and 4.1m at neaps.

The principal direction of the flood tidal current off Pointe de Penmarc'h is NE at a rate up to 2 knots. The flood current divides at the point, one branch setting E towards Iles de Glenan, and the other setting N towards Baie d'Audierne. The ebb tidal current follows a reverse pattern, setting approximately at the same rate and with the branch currents meeting W of the point.

Pointe de Penmarc'h to Isle de Groix

1.17 Guilvinec (47°48'N., 4°17'W.), a small fishing port, is located 3.7 miles E of Pointe de Penmarc'h. The harbor, which can be contacted by VHF, lies within the mouth of a river and is protected by breakwaters. It has dredged depths of 2.5 to 5m and a small fishing fleet is based here. A large prominent fish market building stands at the W side of the harbor.

Foul ground, reefs, and shoals extend seaward up to about 3 miles from the harbor. Basse Spinec, with a depth of 3.8m, lies 2.7 miles SSW of the harbor and is marked by a lighted buoy. Lost Moan, a large drying reef, lies 0.5 mile SE of the harbor and a light is shown from a tower, 13m high, standing on it. Foul ground extends up to 2.5 miles S and SE from this reef. Men Corn, a shoal with a depth of 3.8m, lies 2.5 miles SSE of the harbor, at the outer edge of the foul ground. A wreck, with a depth of 13m, lies 2.2 miles SE of Men Corn.

Approach channels, indicated by ranges, lead from SW and S through the reefs and shoals to an entrance channel, but it is difficult to enter with strong winds from between W and WSW. Local knowledge is recommended.

Lesconil, a small drying harbor, lies 6.5 miles E of Pointe de Penmarc'h and is protected by breakwaters. It is used by fishing boats and yachts with local knowledge. Karreg Greiz, a shoal with a depth of 4.1m, lies 1.8 miles SSE of the harbor entrance and is marked by a lighted buoy. A conspicuous water tower stands at Pont-l'Abbe, 5 miles N of Lesconil.

Iles de Glenan

1.18 Iles de Glenan (47°42'N., 4°00'W.) are a large group of islands, islets, and reefs which lie on an extensive bank,

surrounded by shoal water, 16 miles ESE of Pointe de Penmarc'h.

Ile de Penfret (47°43'N., 3°57'W.) lies near the E extremity of Iles de Glenan and is prominent. This island is the largest of the group and an extensive sailing school is situated on it. A light is shown from a conspicuous tower, 24m high, standing at the N end of the island and a prominent disused signal station stands on the S end.

A conspicuous fort, with a blacktopped lookout tower, stands on Ile Guiaotec, 1.7 miles W of Ile de Penfret. A prominent factory chimney, 21m high, stands on Ile du Loc'h, 1.7 miles WSW of Ile de Penfret. A prominent disused light, 15m high, stands on Le Huic, to the NW.

La Jument, a rock awash, lies on a bank about 4 miles SW of Ile de Penfret and is marked by a lighted buoy, moored 1 mile S. This rock, fringed by foul ground, is the S danger of Iles de Glenan and vessels are cautioned not to pass N of the lighted buoy.

Les Laouennou, a shoal, lies 3.5 miles SSE of Ile de Penfret and is marked by a buoy, moored close SE. It is the SE danger of Iles de Glenan. Basse Perennes, a shoal with a depth of 6m, lies 6 miles WSW of Ile de Penfret and is marked by a lighted buoy, moored close W. Numerous other rocks and shoals lie within these dangers.

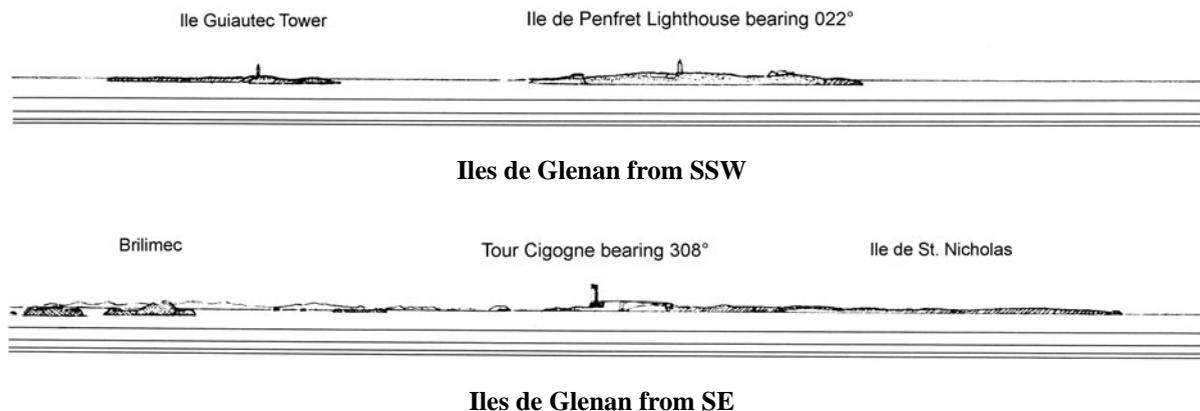
Several narrow channels lead between the islands and shoals of Iles de Glenan, but they are only used by small vessels with local knowledge.

Plateau de la Basse Jaune (47°43'N., 3°51'W.), an extensive rocky bank, lies centered about 4 miles E of Ile de Penfret. Basse Jaune, a rock which dries 0.6m, lies 4.7 miles E of Ile de Penfret. It forms the E extremity of the bank and is marked by a lighted buoy, moored close E.

Karek Corn Loc'h, a shoal patch with a depth of 6.8m, lies 1.2 miles W of Basse Jaune. It forms the SW side of the bank and is marked by a buoy moored close SW.

Basse Doun, a small bank, lies 3.2 miles E of the E side of Plateau de la Jaune and has a least depth of 14.6m.

Ile aux Moutons (47°47'N., 4°02'W.), a small rocky island, lies on a plateau of shoal water and drying reefs, 4.5 miles NW of Ile de Penfret. A light is shown from a tower dwelling, 17m high, standing on this island. Basse Rouge, a small drying reef, lies 1.7 miles WSW of Ile aux Moutons. It forms the SW edge of the plateau and is marked by a lighted buoy, moored close SW.



Les Pourceaux, a detached reef which dries in places, lies 1.2 miles SE of Ile aux Moutons. It is marked by a lighted buoy, moored close NW, and a beacon, standing at its SE side. Navigable channels lead both N and S of this reef.

Pointe de Penmarc'h to Isle de Groix (continued)

1.19 Anse de Benodet (47°51'N., 4°07'W.) is entered between Pointe St. Oual, located 2 miles ENE of Lesconil, and Pointe de Moustierlin, 6 miles ENE. The shores of the bay are low but they are backed by wooded dunes over which several houses and bellfries can be identified.

The approaches to the bay are encumbered by numerous rocky patches and reefs which extend NW from Ile aux Moutons. Roches de Moustierlin, with depths of less than 0.9m, extends 1.7 miles S of Pointe de Moustierlin and is marked by a lighted buoy, moored close S.

The bay can be entered through three channels which lead between these dangers. Chenal de L'Ouest and Grand Chenal are narrow channels which lead N into the bay and have least depths of 2.2m and 5.1m, respectively. Vessels using these channels are advised to have local knowledge.

Passage de l'Est leads NW into the bay and has a least depth of 6.1m. It is the widest entrance channel and the dangers lying adjacent to the fairway are well marked.

Loctudy (47°50'N., 4°10'W.), a small harbor, is located at the W side of the bay. It lies on the S side of the mouth of the Riviere de Pont l'Abbe and is used by pleasure craft and fishing vessels. There are depths of 2 to 4m alongside the quays. Vessels with drafts up to 5m can enter at springs; vessels with drafts up to 3.8m at neaps. A yacht marina is situated at Ile Tudy in the entrance of the river. Local knowledge is recommended and pilots are available at Concarneau (47°52'N., 3°55'W.).

Benodet (47°52'N., 4°07'W.), a small port, lies within the mouth of the Riviere Odet, at the N end of Anse de Benodet. There are several marinas in the vicinity; the harbor has extensive facilities for yachts and pleasure craft. There is a small quay, which dries, and mooring buoys in the river which can handle coastal vessels up to 3,000 dwt. The approach channel and entrance fairway, with depths of 4m, are indicated by lighted ranges and lead between the drying reefs which front the river mouth. Local knowledge is recommended as the tidal currents in the fairway can attain rates up to 2.8 knots. Pilotage is compulsory for vessels over 50m in length and may be obtained from Concarneau (47°52'N., 3°55'W.).

Vessels may anchor, in depths of 13 to 15m, sand and rock, within the outer channels in Anse de Benodet.

1.20 Baie de la Foret (47°52'N., 3°53'W.) is entered between Beg Meil, located 2.8 miles E of Pointe de Moustierlin, and Pointe de Cabellou, 2.3 miles E. Beg Meil, the W entrance point of the bay, is a low sandy point on which stands a conspicuous signal station with a radio mast. A prominent large white hotel stands 0.2 mile W of the signal station.

A conspicuous water tower and a factory chimney stand 2.5 miles NNE of Point de Cabellou. The belfry of the church at Beuzec, at the NE side of the bay, is also conspicuous and can be seen above the trees.

An extensive yacht marina is situated at Port la Foret, in the NW part of the bay.

The shores and entrance points of the bay are fronted by extensive reefs, shoals, and foul ground which are marked at their outer sides by lighted buoys and beacons.

1.21 Concarneau (47°52'N., 3°55'W.) (World Port Index No. 36620), a small port, is located on the E side of Baie de la Foret, at the mouth of the River Moros.

Tides—Currents.—Tides rise about 4.9m at springs and 3.8m at neaps. The tidal currents in the bay attain rates up to 1.5 knots at springs, but are greatly affected by winds.

Depths—Limitations.—The port consists of an outer harbor, which dries, and an inner harbor, which has dredged depths of 3 to 5m. The entrance fairway, 100m wide, leads over a bar which has a depth of 5.5m. Within the harbor, a channel, which has a dredged depth of 3m over a minimum width of 35m, leads to the inner harbor. A marina, used by pleasure craft and yachts, is situated in the outer harbor. The inner harbor has facilities for fishing vessels and coasters. Vessels up to 105m in length have been accommodated with drafts up to 6.2m at springs and up to 5m at neaps.

Aspect.—The W approach channel leads NE to join the E approach channel, about 4 miles SW of the harbor entrance. It passes between Ile aux Moutons and Les Pourceaux. A secondary channel passes S of Les Pourceaux and, although wider and deeper than the one passing N, is not well marked.

The E approach channel leads NNW and NW to a position E of Ile aux Moutons. It passes E and N of Plateau de la Basse Jaune and NE of Ile de Penfret. The channel then leads NE to the harbor entrance and is indicated by a lighted range. A conspicuous tower building rises from a large block of flats standing on the W side of the river.

Pilotage.—Pilotage is compulsory for vessels of 50m and over in length and all vessels carrying hydrocarbons, gas, or dangerous cargo. However, all vessels without local knowledge are advised to use the services of a pilot.

Vessels should send a request for pilot and ETA message at least 18 hours in advance through Brest-Le Conquet (FFU). Pilots may be contacted by VHF and will usually board about 2 miles SW of the harbor entrance. The station also provides pilots for Loctudy and Benodet.

Regulations.—Mandatory Access Channels lie in the E and W approaches to Concarneau and may best be seen on the chart. All vessels over 1,600 grt and carrying hydrocarbons or dangerous cargo must report their entry into these channels and maintain a listening watch on VHF channel 16.

All other vessels should maintain a listening watch on VHF channel 16 when approaching the port. All commercial vessels should also obtain permission to enter the harbor in order to ensure that a berth is available.

Anchorage.—Good anchorage can be taken, in depths of 13 to 16m, sand and mud, in the outer part of the bay, but local knowledge is recommended.

1.22 Pointe de Trevignon (47°47'N., 3°51'W.), barren and rocky, is located 5.3 miles SE of Concarneau. A main light is shown from a tower, 8m high, standing on the point. This light is obscured on some bearings to the S and SE by Chateau de Trevignon, which stands near the extremity of the point.

Several prominent white houses stand on the SE side of the point. A small boat harbor, protected by a breakwater, lies on the NW side of the point.

Numerous dangers extend up to 1.5 miles W and 2 miles SSE of the point. Men an Treas, a drying rock, is located 2 miles SE of the point. It lies at the outer edge of the dangers and is marked by a buoy, moored close SW. Le Dragon, another drying rock, is located 1.5 miles W of the point. It lies at the outer edge of the dangers and is marked by a lighted beacon.

Pointe de Raguenez, located 2.2 miles E of Pointe de Trevignon, is bordered by a reef on which Ile de Raguenez stands. Foul ground extends up to about 0.2 mile SE of this islet and is marked by a beacon.

Ile Verte (47°46'N., 3°48'W.), located 1 mile S of Pointe de Raguenez, is covered with grass. It is fringed by foul ground and marked by a beacon. A dangerous wreck is reported to lie 1.2 miles S of this islet.

Pointe de Beg-ar-Vechen (47°48'N., 3°44'W.), marked by a light, is located 2.5 miles ENE of Pointe de Raguenez. Port Manec'h, a small boat harbor, lies close N of the point at the W side of the entrance to a river.

The L'Aven Riviere is the W branch of the river; the Riviere de Belon is the E branch. Their entrances are fronted by bars which dry 0.9m, but can be crossed at HW by small vessels with local knowledge.

Small vessels with local knowledge can also anchor, sheltered from all N winds, off Pointe Beg-ar-Vechen, in depths of 5 to 10m, sand. However, this anchorage is unsafe in any S wind or swell.

The approaches to the river are encumbered with isolated shoal patches, reefs, and foul ground. Les Verres, a drying reef, lies on a small bank, surrounded by shoal water, 1.7 miles SE of Pointe Beg-ar-Vechen. It is located at the SE edge of the dangers and is marked by a ruined beacon. A narrow passage used by small craft with local knowledge leads between this reef and the coast. Ar Gazeg, a shoal, with a least depth of 4.3m, lies at the SW edge of the dangers, 2.2 miles SSW of Pointe Beg-ar-Vechen.

Caution.—A foul area lies about 1 mile SSW of Pointe de Beg-ar-Vechen.

1.23 Pointe de Beg-Morg (47°47'N., 3°40'W.), fairly steep, is located 3 miles SE of Pointe de Beg-ar-Vechen and fronted by a reef. Foul ground extends up to 0.3 mile SE of the point and is marked by a buoy.

A dangerous wreck, existence doubtful, is reported to lie about 3 miles S of Pointe de Beg-Morg.

Port de Brigneau, a small harbor which dries, lies at the entrance to a river, 0.5 mile NE of Pointe de Beg-Morg. It is protected by a breakwater and used by fishing vessels and pleasure craft. The approaches are indicated by a sector light and a buoy, moored 0.6 mile SE of Pointe de Beg-Morg. This outer area is reported to be dangerous in SE winds or swell.

Port de Merrien, a small haven, lies 0.7 mile E of Port de Brigneau in the lower reach of an entrance to the River Merrien. It is sheltered by rocky ledges which extend S from each entrance point and are marked by buoys. This shallow haven dries and is used by fishing boats and yachts.

Port de Doelan, a small harbor which dries, lies 1.8 miles ESE of Port de Merrien at the entrance to a river. It is partly sheltered by a mole which extends from the W side of the entrance. The harbor is used by fishing boats and yachts and can be approached via a channel which is indicated by a lighted range.

Anse du Pouldu (47°45'N., 3°32'W.) is located SE of Port de Doelan and affords good anchorage sheltered from N and E winds. The bottom is mostly sand and mud, except in the S part where it becomes rocky and shoal. However, with S and W winds, this bay becomes dangerous.

The mouth of the Riviere de Quimperle (La Laita) lies at the head of the bay and several extensive yacht marinas are situated within the river.

Le Fort Bloque stands at the SE side of the bay, 5 miles SE of Port de Doelan. Grand Cochon, a drying reef, is located 1.2 miles SW of the fort. It lies near the outer end of a group of shoals, rocks, and reefs which extend seaward at the SE side of Anse du Pouldu.

Pointe de Talut (47°42'N., 3°27'W.), a low point, is located 5.5 miles SE of the entrance to the Riviere de Quimperle. The ruins of a fort and a stone pillar stand on this point. A light is shown from a tower, 8m high, standing on Pointe de Kerroc'h, 0.5 mile WNW of Pointe de Talut.

Anse de Stole, a small bay, lies 1 mile ENE of Pointe de Talut. It is sheltered from the NE and NW and is used by small craft and yachts. The approaches to the bay are encumbered by several shoals. Les Trois Pierres, with a least depth of 1.2m, lies 0.9 mile SE of Pointe de Talut, at the outer edge of these dangers.

Caution.—An outfall pipeline extends 1.3 miles SW from Pointe de Kerroc'h. A restricted area, within which anchoring and fishing are prohibited, lies in the vicinity of this pipeline and may best be seen on the chart.

A dumping ground area, the limits of which are shown on the chart, lies in outer part of Anse du Pouldu.

Ile de Groix

1.24 Ile de Groix (47°38'N., 3°27'W.) lies in the approaches to Lorient and is separated from the mainland by Coureau de Groix, a deep and navigable channel nearly 3 miles wide. The island is 40m high and generally flat-topped with peaked cliffs along its coasts. Its S shore is exposed to heavy seas and has no safe harbors.

Pen Men (47°39'N., 3°30'W.), the NW extremity of the island, is fringed with drying reefs. A main light is shown from a prominent tower, 28m high, standing 0.3 mile SE of the point.

Basse de Groix, a shoal with a least depth of 12m, lies 2.3 miles W of Pen Men. During strong winds from seaward, heavy seas are usually formed in its vicinity.

Pointe Beg Melen, with a conspicuous signal station and radio mast standing on it, is located 0.5 mile E of Pen Men. Pointe du Grognon is located 0.7 mile E of Pointe Beg Melen and an old fort stands on it.

Port Tudy (47°39'N., 3°27'W.), a small harbor, lies 1.6 miles ESE of Pointe du Grognon and is entered between two moles. It has depths of 2 to 3m and is used by ferries, yachts, and fishing vessels with local knowledge.

Port Lay, a small drying boat harbor, is situated 0.5 mile W of Port Tudy.

Pointe du Spernac, a flat-shaped headland, is located 0.4 mile E of Port Tudy and bordered by a reef. Foul ground extends up to 0.4 mile from the point and is marked by a buoy.

Basse Melite, a drying patch, is located 0.5 mile ENE of Pointe de Spernac. It lies at the outer edge of foul ground and is marked by a buoy, moored close N.

Pointe de la Croix, the E extremity of Ile de Groix, is located 1.4 miles ESE of Port Tudy. A light is shown from a tower standing on the point and a fort stands near it.

Pointe des Chats (47°37'N., 3°25'W.), the SE extremity of the island, is located 1 mile S of Pointe de la Croix. A main light is shown from a tower with a dwelling, 15m high, standing on this low point.

Shoal depths of 7.3m and less and several wrecks lie in an area which extends up to 1.5 miles E of the E shore of the island.

A group of drying rocks extend up to 0.9 mile SSE of Pointe des Chats and are marked by a beacon. Basse des Chats, a rocky shoal, is located 1.7 miles SE of the same point and has a least depth of 3.6m. It lies at the outer edge of the dangers in this area including a dangerous wreck and is marked by a lighted buoy, moored close SE.

Basse du Guihel, consisting of two rocky heads with depths of 8.2m, lies about 4 miles E of Pointe des Chats and has been reported to break in a heavy sea. A number of wrecks lying E of the island in this vicinity may best be seen on the chart.

Locmaria (Loc Maria), a small drying harbor, lies within a bay, 0.7 mile WNW of Pointe des Chats. It is open to the S and entered between reefs which extend S from both sides of the bay. This harbor is used by fishing boats and yachts with local knowledge.

Pointe de l'Enfer, the S extremity of Ile de Groix, is located 1.7 miles W of Pointe des Chats. It is generally sloping and fronted by shoal water and rocks. A conspicuous water tower stands near the middle of the island, 0.7 mile N of the point.

Pointe St. Nicolas, with a small inlet on its N side, is located 1.1 miles WNW of Pointe de l'Enfer and a prominent beacon stands 0.5 mile NW of it. Another beacon stands at Kerigant, 0.8 mile E of the point.

Caution.—Explosives dumping ground areas, the limits of which are shown on the chart, lie 1.3 miles NW and 2 miles S of Pen Men and 1.3 miles E of Pointe de la Croix.

A restricted area, the limits of which are shown on the chart, extends between the N shore of Ile de Groix and the mainland, E of Pointe du Talut; anchoring and fishing are prohibited within this area due to the existence of cables.

Numerous wrecks lie in the vicinity of Ile de Groix and may best be seen on the chart.

Vessels proceeding at high speed, on several measured distance courses, may be encountered in the waters between Iles de Glenan and Ile de Groix.

Lorient (47°44'N., 3°22'W.)

World Port Index No. 36680

1.25 The port is formed by the junction of the Riviere Le Blavet and the Riviere Le Scorff. Its main facilities consist of a

commercial harbor at Port de Kergroise and Port Militaire, a naval establishment, which occupies both sides of the Riviere Le Scorff. In addition, a submarine base is situated on the N bank of the Riviere Le Ter, close W of the commercial harbor and there are extensive moorings for fishing vessels and yachts.

Winds—Weather.—In general, W winds are prevalent throughout the year and reach their highest incidence in June and July. Winds from the NW are generally more common than SW, but the latter sometimes brings fog. Winds from the NE usually occur most often in spring and fall. Gales occur mostly in December.

Temperatures average between -1C° in January and 27C° in July. Ice is usually not a problem.

Fog occurs mostly in the winter, when it averages about 4 days a month; this is generally of the radiation type. Sea fog occurs mostly between March and October with poor visibility of 5 miles or less, reaching up to 30 per cent of observations.

Tides—Currents.—Tides rise about 5m at springs and 3.8m at neaps.

The tidal currents at springs may attain rates up to 3.8 knots in the entrance channel, between La Jument and the Citadel. Floods in the upper part of the rivers may cause the outgoing current to run continuously on the surface, even in the narrow channels. When this occurs, the incoming current runs as usual at varying depths below the surface.

Off Lorient, the normal rate of both the tidal currents is about 1 knot. However, with floods the ebb current may be increased up to about 2.5 knots.

Depths—Limitations.—Lorient should be approached via Coureau de Groix, which lies between Ile de Groix and the mainland. The approach, which passes E of Ile de Groix, is recommended only for vessels with local knowledge.

The entrance to the port lies between Pointe de Talut and Point de Graves, 3.8 miles ESE, and is encumbered by numerous reefs and shoals. Bank des Truies, with a least depth of 2.9m, lies 2.3 miles SE of Pointe du Talut and is marked by a lighted buoy, moored close W. Basse de Gavres, with a least depth of 4.8m, lies 0.8 mile SSE of Pointe de Gavres. Both shoals lie at the outer edge of the dangers located in the entrance.

The port may be entered through two channels divided by a group of drying reefs known as Les Truies and Les Errants. They join and form a single channel about position 0.7 mile NNW of Pointe de Gavres.

Passe du Sud is entered 0.6 mile SW of Pointe de Gavres. It has a least depth of 3.6m and is generally only used by fishing vessels and small coasters with local knowledge.

Passe de l'Ouest, the main entrance channel, is entered 1.8 miles SE of Pointe du Talut and has a least depth of 8.5m. It leads 2 miles NE and then continues for 2 miles in a N direction from the junction with Passe du Sud to the commercial port.

The Riviere du Blavet is entered at the NE end of the harbor and leads to berths at Rohu and Hennebont, lying 1 mile and 6 miles, respectively, upriver. Coasters up to 80m in length, with drafts up to 4m at HWS and 3m at HWN, can reach Hennebont.

Generally, vessels up to 250m in length, with a maximum draft of 12.8m, can be accommodated in the port, depending on the tide and swell.

The commercial harbor is divided into the new and old sections of Kergroise and Keroman, respectively, with an oil wharf situated between them. The oil wharf is 112m long and has a depth of 9.2m alongside. Tankers up to 180m in length can be handled with drafts up to 9.7m at HWS and 9.3m at HWN.

The basins and quay at Kergroise, S of the oil berth, are only used by fishing vessels. A channel leads NW from close S of the entrance to these basins to a submarine base.

The main quay at Keroman, situated N of the oil berth, is 568m long and has depths of 8.3 to 10.2m alongside. A new quay, situated close N of the main quay, is 150m long and has a depth of 10m alongside. A ro-ro terminal, with a depth of 8m, is situated N of the new quay.

Extensive facilities for yachts are situated at a number of marinas within the port area and in a wet dock basin, maintained at a depth of 4m, entered N of the ro-ro terminal.

Port Militaire, the naval dockyard and base lie within a restricted area at the N end of the harbor.

There are also extensive repair facilities in the port; the largest drydock is 203m long and 36m wide, with a depth of 7m on the sill.

Aspect.—The reaches of the entrance channels are indicated by lighted ranges, which may best be seen on the chart; the fairway is marked by lighted buoys and beacons.

A conspicuous house and a church stand on the W side of the entrance at Larmour-Plage, 1.5 miles NW of Pointe de Gavres. A prominent lighted beacon (Les Trois Pierres), 18m high, stands 0.7 mile NW of Pointe de Gavres.

A conspicuous church spire stands on the E side of the entrance at Port Louis, 1.3 miles N of Pointe de Gavres. La Citadelle de Port Louis is situated adjacent to the E side of the channel, close WNW of this church spire. A conspicuous signal station stands on the NW buttress of La Citadelle de Port Louis.

Ile St. Michel is located 0.9 mile NNE of La Citadelle de Port Louis and a narrow and shallow secondary channel leads E of it.

A conspicuous silo stands close N of the oil berth and a conspicuous observation tower, which looks like a lighthouse, stands 0.5 mile N of the N end of the main commercial quay.

Pilotage.—Pilotage is compulsory for vessels 60m or more in length, vessels over 150 grt not equipped with VHF, and all vessels carrying hydrocarbons or dangerous cargo.

Vessels should send their ETA at Coureau de Groix to the pilot station, through Brest-Le Conquet (FFU), 6 hours in advance or on departure from a previous port of call. Vessels expected to arrive between 0100 and 0800 are advised to send an ETA before 1800 the previous day.

Vessels should then contact the pilot station 1 hour before arrival on VHF channel 16; at night, vessels should contact the signal station at Port Louis.

Pilots generally board 1.8 miles SSE of Pointe du Talut for Passe de l'Ouest or 2 miles S of Pointe de Gavres for Passe du Sud.

If the pilot vessel is not in position due to bad weather, inbound vessels should anchor 1.8 miles NE of Port Tudy (Ile de Groix) and establish contact with the pilot station 1 hour in advance on VHF channel 16 in order to receive instructions.

Regulations.—A Mandatory Access Channel lies W and N of Ile de Groix and leads through Coureau de Groix to the main entrance channel. It is 1 mile wide and may best be seen on the chart. All vessels over 1,600 grt and carrying hydrocarbons or dangerous cargo must report their entry into this channel and maintain a listening watch on VHF channel 16.

Other vessels intending to use the access channel should first establish a listening watch on VHF channel 16.

All inbound vessels should send an ETA message to the harbormaster 48 hours before arrival at the pilot boarding station and confirm their ETA 24 hours before arrival. The message should include vessel name, call sign, cargo, ETA, length, and draft.

In addition, all vessels carrying hydrocarbons or dangerous cargo in bulk should send a message to the harbormaster 6 hours before arrival at the pilot boarding station. This message must include the intended movement of the vessel (entry or departure), details of the cargo, draft, and any defects in maneuverability.

Deep-draft or large vessels, prior to navigating the narrow parts of the fairway, should contact the harbormaster, via VHF, and obtain confirmation of a passage without danger.

All vessels carrying more than 500 cubic meters of hydrocarbons or other dangerous cargo in bulk, prior to navigating the narrow parts of the fairway, should contact the harbormaster and request priority use of the passage. Normally, these vessels are authorized to enter the port from 2 hours before to 1 hour after HW, provided the wind is less than 33 knots and the visibility is more than 700m.

When navigating the entrance channel below La Citadelle de Port Louis, vessels should not exceed a speed of 13 knots. When above La Citadelle de Port Louis, vessels should not exceed a speed of 10 knots. In addition, vessels should reduce speed when passing other vessels moored alongside the main quays or anchored in the roadstead.

Vessels must not secure to naval mooring buoys, dolphins, or harbor service craft without permission.

Commercial vessels must not enter the restricted military areas of the port without prior special permission.

Warships over 130m in length must obtain prior permission from the Military Commandant before entering the port at night.

Anchorage.—Vessels waiting for a pilot or the tide are advised to anchor, in depths of 18 to 22m, sand, 1.8 miles NE of Port Tudy.

Caution.—The local authorities should be contacted for the latest information concerning permitted dimensions for entry. Vessels may be subject to a reduction of 0.5 to 1.5m in draft in order to allow for heavy swells.

The entrance fairways are very narrow in places and subject to silting; deep-draft or large vessels are advised to stay as close as possible to the range lines.

Submarines exercise in the vicinity of Ile de Groix and in the approaches to the port.

Submarines and associated escort vessels may be encountered in the approaches and entrance channels of the port.

Restricted areas, the limits of which are shown on the chart, lie within the military sections of the harbor.

Restricted areas, within which anchoring is prohibited, lie in the approaches to the port and may best be seen on the chart.

Restricted areas, within which anchoring and diving are prohibited, lie adjacent to the fairway channel and may best be seen on the chart.

Spoil ground and excavation areas, the limits of which are shown on the chart, lie adjacent to the fairway channel.

Several mooring buoys may be encountered within the harbor area situated adjacent to the fairways.

Ferries may be encountered within the harbor area.

Local magnetic anomalies exist in the upper reaches of the entrance channel; deflections of 15 to 20° have been reported.

When the visibility in the narrow parts of the entrance channel is less than 700m, vessels of about 100m or more are advised not to enter or depart.

Lorient to Presqu'île de Quiberon

1.26 Pointe de Gavres (47°41'N., 3°22'W.), the E entrance point of Lorient Harbor, is low and bordered with foul ground. Several prominent buildings are situated amongst the woods near the end of this point, and the town of Ban Gavres stands 0.7 mile N of it.

The coast between Pointe de Gavres and Beg an Aud, 12.5 miles SE, consists of a long sandy bight backed by dunes. The belfry of the church standing at Plouhinec, 4.5 miles E of the Pointe de Gavres, is prominent; two conspicuous radio masts, 106m high, stand 1.5 miles S of it near the coast.

Caution.—Several exercise areas lie off the coast between the entrance to Lorient and the entrance to Baie de Quiberon, 30 miles SE. They are used by French naval vessels and anti-aircraft batteries for firing practice. On all occasions when navigation is restricted in these areas, the date and positions are published in the local Notice to Mariners and broadcast by radio. Generally, red flags are flown from signal stations situated along the shore and the seaward limits of the firing areas are patrolled by safety launches displaying red flags. At night, red rockets are fired from the signal station situated nearest the firing area and the patrolling craft carry a red light at the masthead and two white lights vertically disposed. The area along the coast to the NW of Etel is most hazardous due to small arms fire, which is controlled from onshore, and no patrolling of the seaward limit.

1.27 Etel (47°39'N., 3°12'W.), a small harbor, is situated on the E bank of the Riviere d'Etel, 1 mile above the entrance. It is used by yachts and fishing vessels and must be approached over a bar, which generally has a charted depth of 0.3m but which has been known to dry. Local knowledge is essential as the bar, being composed of sand, shifts in wind and sea. With onshore winds and an outgoing tidal current, the sea breaks right across the entrance and makes entry impossible.

The current in the river can reach 5 knots on the flood and 6 knots on the ebb.

A light is shown from a pylon structure standing at the NW side of the river mouth; a conspicuous water tower is situated on the E side of the river, about 0.5 mile inland. A prominent radar dome stands near the shore, 0.8 mile N of the river mouth. Vessels up to 4m draft can enter and berth alongside a small quay at HW springs. The harbor may be contacted by VHF and directions for entering may be given.

A restricted area, within which anchoring is prohibited, lies off the mouth of the river. It extends up to 0.5 mile seaward and may best be seen on the chart.

Note.—The Centre Regional Operationnel de Surveillance et du Sauvetage (CROSS) is situated at Etel and provides a marine navigation, meteorological, and surveillance and information service for the area between Raz de Sein and the French/Spanish border.

1.28 Beg an Aud (47°32'N., 3°10'W.), the NW extremity of Presqu'île de Quiberon, is located 7 miles SSE of Etel. Islets, reefs, and shoals extend up to about 3 miles NNW of this point and up to 2.5 miles from the coast. The largest islet, Ile Tevieg, lies 1.6 miles N of Beg an Aud and is surrounded by reefs and rocks.

Roches de Magoero and Basse Roheu extend up to about 2 miles S from a point on the shore, 2 miles NW of the mouth of the Riviere d'Etel. A beacon (Roheu) stands on a drying rock near the S extremity of these dangers.

Basse Leno, an isolated rocky patch, lies in the approaches to the Riviere d'Etel, about 1.5 miles SW of the entrance. It has a least depth of 3m and vessels should pass to the S of it.

Poul-haut, a rock 5m high, lies 1.4 miles S of the mouth of the Riviere d'Etel and is fringed with foul ground.

Les Pierres Noires, a drying reef, lies 3.1 miles SSW of the mouth of the Riviere d'Etel and 2.2 miles from the coast. It is the outer danger in this vicinity and is marked by a beacon.

Basse Ledan, a rock 6m high, An Aoter, a drying rock, and Roche Guille, a rock with a depth of 3.7m, lie 1.4 miles NNW, 1.1 miles NW, and 0.6 mile WNW, respectively of Beg an Aud. These rocks lie at the W side of the dangers which extend NW from the point.

Presqu'île de Quiberon

1.29 Beg el Lan (47°28'N., 3°08'W.) is the SW extremity of Presqu'île de Quiberon, a peninsula which extends S from the mainland. Chateau Turbault, a conspicuous structure with a small castellated tower, stands on the point. Reefs extend up to 0.4 mile S from the point and are marked by a buoy moored 0.3 mile S.

From the W, Presqu'île de Quiberon can be identified by a prominent square tower standing on the crest of a hill, 1.2 miles SE of Beg an Aud and two conspicuous water towers standing 1 mile N of Beg el Lan. The town of Quiberon stands in the S part of the peninsula.

Port Maria (47°29'N., 3°08'W.), a small harbor, lies in the bight formed between Beg el Lan and Beg er Vil, 1 mile E. It is enclosed by breakwaters and used by fishing vessels and ferries. During strong winds from SW to SE, heavy breakers may make the entrance dangerous. The N part of the harbor dries; the S part of the harbor has depths of to 3 m. The approach, which is encumbered by shoals and reefs, is indicated by a lighted range. Baz an Treac'h, a rocky patch, lies at the outer edge of these dangers, 0.7 mile S of the harbor. It has a least depth of 1.1m and is marked by a buoy, moored close SSE.

A main light is shown from a prominent tower, 25m high, standing at the N side of the harbor. The prominent church at Quiberon stands 0.3 mile NE of the light.

Off-lying danger.—Plateau des Birvideaux (47°29'N., 3°17'W.), an extensive rocky bank with a least depth of 2m, lies centered 6.5 miles W of Beg el Lan. A light is shown from a prominent tower, 36m high, standing on the shallowest part of this bank. In bad weather, the sea breaks heavily over it and vessels are advised to give this danger a wide berth.

Pointe de Conguel (47°28'N., 3°05'W.), the SE extremity of Presqu'île de Quiberon, is located 2.1 miles ESE of Beg el Lan. This point is low, sandy, and fronted by reefs and foul ground.

Chaussee de Teignouse (47°28'N., 3°12'W.) is an extensive area of rocks, reefs, and shoals extending seaward from Pointe de Conguel. These dangers lie up to 2.2 miles SE, 2.3 miles S, 1.7 miles SW, and 1.3 miles WSW of the point. They are marked by beacons, buoys, and lighted buoys which may be best seen on the chart.

A main sector light (La Teignouse) is shown from a prominent tower, 20m high, standing on a drying rock, 1.5 miles SE of Pointe de Conguel.

Coureau de Belle-Ile (47°24'N., 3°06'W.) is the passage which leads between Presqu'île de Quiberon and Belle Ile.

Belle Ile

1.30 Belle Ile (47°20'N., 3°11'W.) is located with Pointe des Poulains, its NW extremity, lying 7 miles SW of Beg el Lan. It is fringed with rocks and reefs and appears long and flat. The W and S coasts are formed of steep cliffs, up to 50m high, which can be seen from a considerable distance.

A main light is shown from a tower with a dwelling, 18m high, standing on Pointe des Poulains.

Sauzon, a small and shallow harbor, is situated 1.5 miles SE of Pointe des Poulains and protected by breakwaters. It has depths of 3m in the outer part and is used by yachts and fishing boats.

Pointe de Taillefer, the NE extremity of the island, is located 4 miles SE of Pointe des Poulains. A prominent coastguard station stands on this point.

Port du Palais (47°21'N., 3°09'W.), a small harbor, is located 1 mile S of Pointe de Taillefer. It is protected by breakwaters and sheltered from S and W winds. The harbor consists of an outer part, with an entrance 40m wide, a small wet dock, with an entrance 10m wide, and a marina. There is a depth of 2m inside the harbor; the entrance channel has a depth of 2.9m. The harbor is used by fishing vessels, ferries, and yachts. The Citadel, a conspicuous building, stands at the N side of the harbor.

Vessels can anchor 1.4 miles off the harbor in Rade du Palais. This roadstead provides an excellent holding ground of sand and mud, in depths of 9 to 18m.

Pointe de Kerdonis, the E extremity of the island, is located 5.3 miles SE of Pointe de Taillefer. A light is shown from a prominent tower with a dwelling, 14m high, standing on this point.

Port Goulphar (47°18'N., 3°14'W.), an inlet used by fishing boats, is located on the SW coast, 5 miles SSE of Pointe des Poulains.

A main light (Goulphar) is shown from a conspicuous tower, 52m high, standing 0.5 mile N of the inlet.

Off-lying dangers.—Les Poulains, a ridge of drying rocks and shoals, extends up to 1 mile W and 0.4 mile N of Pointe des Poulains. It is marked by buoys and breaks heavily in bad

weather. Two detached shoals, with depths of 10m, lie 1.7 miles WNW and 0.9 mile NW of the point.

Bancs de Taillefer, with a least depth of 8.3m, lies between 1.5 and 3 miles NE of Pointe de Taillefer.

Basse du Palais, a rocky head with a least depth of 8.4m, lies about 2 miles SE of Pointe de Taillefer and should be avoided by vessels intending to anchor in Rade du Palais.

Basse de la Rade, with a least depth of 7.2m, lies about 0.7 mile SE of Pointe de Kerdonis. Vessels rounding the point are advised to stay at least 1.5 miles offshore.

La Truie, an isolated shoal, lies 0.6 mile offshore, 1.7 miles SE of Port Goulphar. It has a least depth of 1.1m and is marked by a beacon.

Caution.—The SW side of Belle Ile is bold and rocky, with numerous indentations and coves. It is fully exposed to the W and S and swells roll heavily onto this shore, especially in the winter months. Anchorage is not recommended anywhere along this stretch of shore, except in summer months by small vessels with local knowledge. In addition, wavemeter buoys may be encountered along this stretch of coast.

Extensive unsurveyed areas, the limits of which may be seen on the chart, lie off the SW coast of the island.

A restricted area, within which fishing and anchoring are prohibited, lies in the vicinity of Port Goulphar. It extends up to 1.3 miles seaward and may best be seen on the chart.

A restricted area, the limits of which are shown on the chart, extends between the N shore of the island and Presqu'île de Quiberon. Due to the existence of power cables, anchoring, fishing, dredging, and trawling are prohibited within this area.

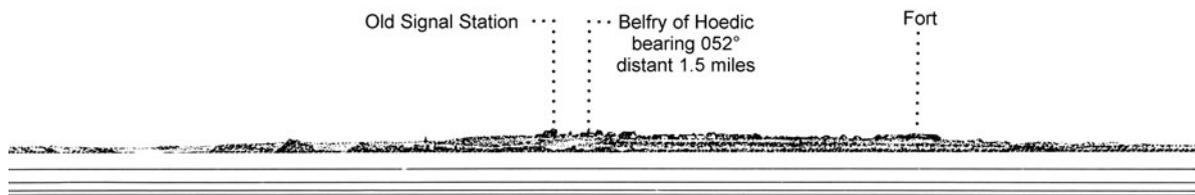
Baie de Quiberon

1.31 West approach.—Chaussee du Beniget (47°25'N., 3°15'W.) is a detached area of islets, rocks, reefs, and foul ground which lies in the SW approach to the bay and extends between 2.5 and 5 miles SE of Pointe du Conguel. Les Esclassiers, a group of drying rocks, lies at the NW end of this area and is marked by a beacon. Le Grand Coin, a wedge-shaped islet, 11m high, is located at the SE end of the area.

Passage de la Teignouse (47°26'N., 3°05'W.), available to ocean-going vessels, leads between the S end of Chaussee de la Teignouse, previously described in paragraph 1.29, and the N end of Chaussee du Beniget. The channel leading between the dangers is well marked by lighted buoys and beacons and has a least depth of 12m. Recommended tracks and ranges may best be seen on the chart. In the vicinity of this channel, the tides rise about 5.3m at springs and 4m at neaps. Generally, in the S part of the fairway, the flood current runs NE and the ebb current runs SW; both attain rates up to 3.7 knots.

Ile Houat (47°23'N., 2°58'W.), an irregular island 31m high, is located 6.5 miles SE of Pointe du Conguel and surrounded by foul ground. The belfry of the church standing in the village of Port St. Gildas, at the NE end of the island, is prominent. A small and shallow harbor, protected by a breakwater, fronts the village and is used by fishing boats. La Vieille, a rock 14m high, lies 0.7 mile NNE of the harbor, and formed by three conical blocks, is very conspicuous.

Le Rouleau, an above-water rock, lies close off the SW extremity of the island and is marked by a beacon. Numerous shoals extend up to 1 mile S and E of it. Bonen Bras, a drying



Ile Hoedic

rock, lies 0.3 mile off the NW extremity of the island and is marked by a beacon.

Passage du Beniguet (47°24'N., 3°00'W.) leads between the SE end of Chaussee du Beniguet and the dangers lying NW of Ile Houat. Although the narrowest part of the channel is 270m wide and there is a least depth of 15.5m, this passage should only be used by small vessels with local knowledge as there are several shoals lying adjacent to the fairway and the tidal currents are very strong.

Chaussee de l'Ile aux Chevaux is an extensive chain of islets, rocks, and shoals which lies parallel to the SW side of Ile Houat. Ile aux Chevaux, an islet 15m high, is located near the middle of this chain, 1.8 miles S of the island. Basse Occidentale, a rocky patch, has a least depth of 5.8m. It lies 2.2 miles NW of Ile aux Chevaux and is the W danger in this vicinity.

1.32 Ile Hoedic (47°20'N., 2°52'W.), 22m high, is situated 3 miles SE of Ile Houat and surrounded by shoals and foul ground. A church, with a prominent steeple, stands in the village near the center of the island; a prominent disused signal station stands close N of it. The small boat harbors of L'Argol and La Croix are located on the N and S shores, respectively, of the island. Vessels can anchor, in a depth of 13m, about 1 mile NE of the island.

Les Grands Cardinaux, a group of reefs and rocks, extend about 2 miles SE of Ile Hoedic. A light is shown from a prominent tower, 27m high, standing on a rock near the outer edge of these dangers. This light generally marks the SE and seaward end of the chain of islands and dangers extending SE from Presqu'île de Quiberon.

A dangerous wreck, position doubtful, is reported to lie about 5.5 miles NE of Les Grands Cardinaux Light.

Basses du Chariot, with a least depth of 0.9m, lies about 1 mile S of the SW extremity of Ile Hoedic. It is located at the outer edge of the dangers in this vicinity and is marked by a buoy, moored close S.

Vessels rounding Ile Hoedic are advised to pass at least 1.5 miles S of Les Grands Cardinaux Light and at least 1 mile E of it.

Passage des Soeurs, a narrow channel, leads E of Chaussee de l'Ile aux Chevaux and the dangers lying SE of Ile Houat and W of Ile Hoedic. It has a least known depth of 5.5m and is only recommended for small vessels with local knowledge.

Caution.—Restricted areas, the limits of which are shown on the chart, extend along the S side of Chaussee du Beniguet, between Ile Houat and the SE end of Chaussee de la Teignouse, and from the NE side Ile Houat to the E side of Baie de Quiberon. Due to the existence of power cables, anchoring,

fishing, dredging, and trawling are prohibited within these areas.

1.33 South approach.—**Plateau du Four** (47°17'N., 2°38'W.), a dangerous and extensive bank of drying rocks and shoals, lies on the E side of the S approach to Baie de Quiberon. A main light is shown from a prominent tower, 27m high, standing on a rock near the N end of the bank.

Bonen du Four, a shoal with a least depth of 2.1m, lies at the NW extremity of the bank and is marked by a lighted buoy, moored 1 mile NW of the light.

Goue Vas, a shoal with a least depth of 2.2m, lies off the SE end of the bank and is marked by a lighted buoy, 3 miles S of the light.

Banc de Guerande, with depths of 7.2 to 14m over most of its length, lies with its N part located 3.5 miles SW of Plateau du Four Light. This bank is marked near its SW extremity by a lighted buoy. During SW gales, seas have been reported to break across the entire bank and crossing it at such times may be dangerous.

Basse Capella, with a least depth of 6.7m, lies at the NW end of Banc de Guerande and is marked by a lighted buoy moored 5 miles SW of Plateau du Four Light.

Passe de l'Est leads N between Les Grands Cardinaux and Basse Capella and then in a NW direction towards the bay.

Plateau de l'Artimon, with a least depth of 11m, is located with its shallowest part lying 2.7 miles NE of Ile Hoedic. A heavy sea exists over this bank in rough weather, but it usually does not break. Vessels are advised not to anchor on this bank as the rocky nature of the bottom would probably foul the anchor.

Plateau de la Recherche, an extensive rocky bank with two main heads, is located with its W end lying 4.9 miles NNE of the NE extremity of Ile Hoedic. It extends ENE for 5 miles and has depths of 2 to 8m. Several wrecks lie in the vicinity of this bank and may best be seen on the chart. The W head, known as Roche de Locmariaquer, is marked by a lighted buoy; the E head, known as Roche de Sarzeau, is marked by a buoy.

An obstruction, with a depth of 13.7m, lies about 2.5 miles WNW of the W extremity of Plateau de la Recherche and is marked by a buoy.

Tides—Currents.—Tidal currents in the SE approach to Baie de Quiberon generally set NNE on the flood and SW on the ebb. They attain rates up to 2 knots on both tides with the current running continuously to the full rise or fall.

1.34 Baie de Quiberon (47°30'N., 3°00'W.) is entered between Pointe de Conquel and Pointe du Grand Mont, 9.5 miles ENE. It affords good sheltered anchorage, in depths of 9 to 18m, sand and mud.

The shore at the head of the bay is low and much indented by inlets and drying banks. At the sides, especially the E shore, the land is higher with numerous hills.

Banc de Quiberon is located with its S and shallowest part lying 1.7 miles E of Pointe de Conquel. It extends N for about 2 miles and has a least depth of 1.5m. The bank is marked at its S end by a lighted buoy and at its N end by a buoy.

Port Haliguen (47°29'N., 3°06'W.), a small harbor, lies 1.5 miles NE of Pointe de Conquel and is protected by breakwaters. It has general depths of 1.4 to 3.4m and is mostly used by yachts and fishing boats. Local knowledge is recommended as the approaches are encumbered by several shoals and shellfish beds that lie in the vicinity of the entrance. An airport is situated close S of the harbor.

Vessels may anchor, in depths of 3 to 11m, sand and mud, with good holding ground, E of Port Haliguen between Banc de Quiberon and the shore bank.

Beg Rohu (47°31'N., 3°07'W.), a small spur, lies 1.5 miles NNW of Port Haliguen and is bordered by reefs. A prominent fort stands on this point. Port d'Orange, a small drying boat harbor, lies close off the town of St. Pierre de Quiberon, 0.7 mile NNW of Beg Rohu.

The N part of the bay is encumbered with numerous obstructions, rocks, and shoals which extend up to about 1.5 miles from the shore. Most of this area is only available to small craft at HW. Several small boat harbors are situated at resorts along the shore.

Caution.—A wreck containing explosives lies about 1.2 miles NE of Beg Rohu. It is marked by a buoy; navigation in its vicinity is prohibited.

Numerous oyster beds are situated in the N part of the bay and are marked by orange buoys.

1.35 The **Riviere de Crac'h** (47°34'N., 3°01'W.) is entered at the NE side of Baie de Quiberon, 6.5 miles NNE of Pointe de Conquel. The entrance channel is indicated by a lighted range and leads over a bar with a charted depth of 1.5m. La Trinite-sur-Mer, a major center for yachts and local oyster boats, is situated on the W bank of the river, 2 miles above the mouth. Small vessels up to 50m in length and 3m draft can reach this harbor at HW. Local knowledge is recommended as the approaches are encumbered by numerous reefs and shoals.

Pointe du Grand Mont (47°30'N., 2°51'W.), the E entrance point of Baie de Quiberon, is formed of steep cliffs, 35m high. A prominent disused signal station stands on its extremity and the conspicuous square steeple of Abbaye de St. Gildas of Rhuys stands 0.5 mile E.

Plateau du Grand Mont, a shallow bank, extends up to 2.3 miles WSW of Pointe du Grand Mont. Basse de la Chimere, a shoal with a depth of 3m, lies at its outer extremity and is marked close SW by a buoy. Vessels without local knowledge should pass W of this buoy as numerous shoals lie scattered across the bank.

Morbihan (Golfe du Morbihan) (47°33'N., 2°55'W.), entered 4.1 mile NW of Pointe du Grand Mont, is an extensive basin into which the Riviere d'Auray, the Riviere de Vannes, and the Riviere de Navalo discharge. It is encumbered with islands, islets, and rocks, between which lie narrow passages. Several marinas are situated within the basin.

The main approach to Morbihan is from the S, passing W of Plateau du Grand Mont, and then through Grand Chenal, an entrance channel marked by buoys and beacons. This channel has a least depth of 5.4m, but local knowledge is required. Navigation within the basin requires caution as the tidal currents are very strong and unmarked oyster beds exist in many parts. The main channel within the basin leads NE for 9 miles to the city of Vannes.

Caution.—Firefighting aircraft operate occasionally in areas within the basin; they scoop up water to fight forest fires. Anchoring is prohibited in these areas and navigation may be prohibited without any previous warnings.

1.36 **Port Navalo** (47°33'N., 2°55'W.), a small drying harbor, lies within a bay on the E side of the entrance to Morbihan. It has a depth of 1m and is used by fishing vessels and ferry boats.

Port de Crouesty (47°32'N., 2°54'W.), an extensive yacht harbor, is entered through a dredged channel which leads ENE from the N end of Grand Chenal. It has depths of 2 to 3m within the basins and there is a least charted depth of 1.7m in the entrance.

Port de Vannes (47°39'N., 2°45'W.), a small harbor, lies at the head of the Riviere de Vannes and consists of an outer basin and a wet dock. Tides rise about 3.4m at springs and 2.7m at neaps.

The wet dock has an entrance 10m wide and is used as a marina. Yachts with drafts up to 2.4m can be accommodated. The outer part of the harbor is used by ferries and small coasters. Vessels up to 700 dwt, 65m in length, and 4m draft can enter at HW.

La Vilaine

1.37 The estuary of La Vilaine lies at the NE end of a wide and unnamed bay entered between Pointe du Grand Mont and Pointe du Castelli, 14 mile ESE. Several small drying harbors lie along the shores of this wide bay but are frequented by only local small craft. The bay extends E to Barrage d'Arzal, a dam with a small lock.

Pointe de Saint Jacques (47°29'N., 2°48'W.), a low point, is located on the N side of the estuary, 2.5 miles ESE of Pointe du Grand Mont, and marked by a light. Le Bauzec, a rocky ledge, lies about 1.2 miles WSW of the point and is marked by a beacon. A narrow channel, used by small craft, passes to the N of this ledge. Plateau de St. Jacques, with depths of less than 5m, extends up to 1 mile S of the point.

Pointe de Penvins is located 5 miles E of Pointe de Saint Jacques, at the E side of the entrance to the Riviere de Penerf. A prominent chapel, which looks like a mosque, stands on this low point. Rade de Penerf, an open roadstead lying S of the point, provides good anchorage to ocean-going vessels, but is exposed to winds from seaward. The best berth is in a depth of 8.5m, good holding ground, about 1 mile SE of Pointe de Penvins.

Plateau des Mats, an extensive rocky shoal, extends E from the E side of the river mouth. It dries in places and the seaward edge is marked by buoys.

Pointe du Castelli (47°22'N., 2°34'W.) is fringed by reefs and rocks and should not be closely approached. A prominent

coastguard station, with a radio mast, stands on the point. The small drying harbor of Piriac lies 0.7 mile NE of the point and affords shelter to small craft in S winds; however, in N winds, a heavy surf is formed off the entrance.

Plateau de Piriac, a rocky bank with numerous dangerous patches, extends up to 2 miles seaward from the vicinity of Pointe de Castelli and is marked by a lighted buoy.

A number of small boat harbors are situated along the shore to the N of Pointe de Castelli. However, numerous shoal patches and areas of foul ground lie off this section of the coast and only small craft with local knowledge should approach this part of the bay.

Ile Dumet (47°25'N., 2°37'W.), fringed by drying rocks, lies 3.5 miles NW of Pointe du Castelli. This low and barren island is a bird sanctuary. A light is shown from a structure, 6m high, standing on an old square fort near the E end of the island. Another old fort stands on the N extremity of the island.

Plateau de l'Ile Dumet, an extensive rocky area, extends up to 1.2 miles NE of the island. It has a least depth of 1.2m and is marked by a lighted buoy, moored at the E end.

Caution.—The channel lying between Plateau de Piriac and Ile Dumet should not be used by large vessels; it may be used by small vessels with local knowledge.

Several dangerous wrecks lie in the approaches to La Vilaine and may best be seen on the chart.

Mussel beds, marked by stakes, may be encountered in the waters off the shores of the bay, E of Ile Dumet.

1.38 La Vilaine (47°30'N., 2°30'W.) is generally approached between the E end of Plateau de la Recherche and Ile Dumet. It is entered between Pointe du Halguen and Pointe de Kervoyal, 2.2 miles WNW, and provides access to the small craft harbors of Roche Bernard and Redon, situated 8 miles and 28 miles, respectively, above the entrance. Canals of the extensive inland waterway system connect Redon with Saint Malo, Nantes, and Lorient.

The entrance channel leads over a broad bar and between extensive tidal flats. It was reported to have a least charted depth of 0.9m (1981). Local knowledge is required.

Within the river entrance, an isolated church stands at Penestin, 1 mile SE of Pointe du Halguen. It has a pointed spire and is very conspicuous.

Pointe de Penlan, located 2 miles E of Pointe Kervoyal, is marked by a lighthouse which stands on a cliff and is easy to identify.

Arzal Dam, with a lock, obstructs the river at Vielle Roche, 5 miles above the entrance. The lock is 85m long, 13m wide, and has a depth of 2m on the sill. The channel above the lock is generally maintained at a depth of 4.5m, but this depth may be reduced when flood water is released at the dam. The tides rise up to 5.5m at springs and 4.3m at neaps.

The yacht harbors of Port d'Arzal and Port de Camoel are situated close above the dam on the N and S banks, respectively.

Caution.—The depths in the estuary of La Vilaine are liable to change. The charted depths should not be relied on as considerable silting frequently takes place downstream of the dam.

In strong SW winds, the sea may break across the entrance channels.

Rade de Croisic

1.39 Rade du Croisic (47°20'N., 2°33'W.), an open roadstead, occupies the S part of a bay lying between Pointe du Castelli and Pointe du Croisic, 5 miles S. It affords good shelter from E winds, but is exposed completely to the W.

Pointe du Croisic (47°18'N., 2°33'W.), long and low, extends from a narrow isthmus occupied by the town of Le Croisic. A prominent church, hospital, and water tower stand in the town. The point is fringed by a reef and shoals extend up to 1 mile NW of it and are marked by a buoy.

Le Croisic, a small drying harbor, is situated on the N side of the point and is protected from the W by a long breakwater. It is entered by a dredged channel, which leads over a shallow bar, and is used by fishing boats and yachts. The approach fairway is indicated by lighted ranges, but local knowledge is recommended.

Piriac Tanker Terminal (47°21'N., 2°34'W.), formed by an offshore multipoint mooring berth, is situated at the seaward end of a submarine pipeline which extends 1.2 miles SW from the S side of Pointe du Castelli. The outer end of the pipeline is marked by a buoy. A number of anchor buoys, anchors, and chains lie in an area with a radius of 500m from the buoy. The pipeline is reproted (1996) not in use.

La Turballe, a small drying harbor, is situated 2.2 miles N of Le Croisic. It has a depth of 1.2m in the entrance and is also used by fishing boats and yachts. Local knowledge is recommended.

The terminal is used by military tankers up to 40,000 dwt. Two range beacons, standing on the shore near several oil tanks, indicate the direction of the pipeline at about 45m NW of it; the front beacon shows a sector light.

Pilots for the above oil berth should be requested from St. Nazaire for boarding at a prearranged time and place.

Large vessels generally approach the terminal berth by passing N of Plateau du Four.

Regulations.—A Mandatory Access Channel, which leads NE to the terminal, lies NW of Plateau du Four and may best be seen on the chart. All vessels over 1,600 grt and carrying hydrocarbons or dangerous cargo must report their entry into this channel and maintain a listening watch on VHF channel 16.

Other vessels intending to use the access channel should first establish a listening watch on VHF channel 16.