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**SECTOR 2 — CHART INFORMATION**

## SECTOR 2

### COAST OF NORWAY FROM FEISTEIN TO GEITUNGANE

**Plan.**—This sector describes the SW coast of Norway between Feistein and Geitungane. Described in sequence are the approaches to Stavanger, the port of Stavanger, and the fjords lying S, E, and N of the port area, those branching from Skudenesfjorden, those in the vicinity of Stavanger, and then, those in the outer areas of Skudenerfjorden.

#### General Remarks

**2.1 Winds—Weather.**—The changes in pressure resulting from the change in seasons on the W and S coasts of Norway affect the prevailing winds in this sector. The shift in pressure over S Norway from high pressure in winter to low pressure in summer, results in the wind shifting from S in winter to N in summer. The prevalence of winds from any one direction is not in evidence more than 40 percent of the time. The usual situation is one of winds induced by a passing cyclone with shifting directions and velocities. Within the fjords and along the very indented coastline, the wind is usually widely different from that in the open sea, owing to land and sea breezes and topographical effects.

Because of the mountainous nature of the coast any wind blowing from a direction between S and WSW, is deflected to blow as a S wind on the coast, and any wind blowing between NW and N is deflected to blow as a N wind. The winds in W Norway therefore have a tendency to blow across the mouth of the fjords. The speed of the wind also increases outward from the coast to a distance of as much as 150 miles.

There is a lot of turbulence along the Norwegian coast when winds are fresh or strong, due to the broken country. Gales occur frequently over this area when deep depressions are moving N between the British Isles and Iceland, under which condition a very steep gradient is apt to develop all along the W seaboard of Norway, producing strong S winds. This very steep gradient at times extends 100 to 150 miles out to sea from the coast.

Under these conditions the coast is swept by violent winds which penetrate into the more sheltered fjords with great turbulence, though with reduced velocity. Spells of NW gales occur on the W coast when a suitable gradient is established by pressure falling over Scandinavia. Such gales are apt to persist but the gradient on some occasions falls off suddenly to the E of the Shetlands.

In winter, gales and storms are common on both the S and W coasts of Norway. In spring they are more common on the W and SW coasts than the S coast. These gales decrease in frequency as the season progresses. The strength of the winds decreases markedly in summer though gales are by no means unknown, particularly on the W coast of Norway. North gales as well as W are reported on the W coast. Sea breezes are frequent along the entire coast in the summer season. Wind speeds increase slightly in autumn, especially along exposed coasts, and gales become more frequent.

On the W coast, thunderstorms occur on two or three days a month near the heads of deep fjords in summer, but only about once a month near the open sea. They occur occasionally in winter during gales between SW and NW. In winter heavy SW and W gales are often accompanied by thunder and lightning.

Fog is the chief cause of poor visibility. It varies widely with the location of stations; that is, whether they are dominated by land or by sea. Over the sea, fog is most frequent in summer. The upper fjords and land stations show distinct winter maximum. Sea fog occurs occasionally in winter when cold air moves over the warm waters, or when the air is warmer than the water. The most frequent fogs in winter are the radiation type land fogs. They may be expected at the heads of deep fjords when there is severe frost inland and cold wind blows down on the open fjords. One form of fog, which affects particularly the upper reaches of the fjords, is "frost smoke." This occurs during a spell of severe frost, and may be expected by an approaching ship if the wind is light and from an offshore direction and skies are clear or nearly so over the land. It is caused by the water being warmer than the overlying air.

In spring, fog decreases generally as radiation land fog become less likely under gradual warming of the land. It increase only at Skudenes. Poor visibility is least common in summer over the land area of this region

Sea fogs are not uncommon along and over the coasts, particularly in the early months of the season. In autumn fog increases at those stations exposed to continental influences in which radiation fog develops.

In general, autumn is the season when fog is least common on the coast, though inland the frequency is increasing toward the winter maximum.

**Tides—Currents.**—Tides in the North Sea are always semidiurnal, with very little diurnal inequality between the two HWs or the two LWs of each tidal day.

The tide progresses into the North Sea from the Atlantic Ocean, between the Shetland Islands and Norway. Within the North Sea, HW progresses counterclockwise about a nodal point off the S coast of Norway, moving S in the North Sea and W along the S coast of Norway between Kristiansand and the 6th meridian.

Along the W coast of Norway the progression is N to about 60°N; N of this the progression is E.

Along the west coast of Norway, tide ranges gradually increase toward the N.

Tidal current off this section of coast is subject to great variations. A tidal current setting W and N is, however, prevalent, especially in summer, but with continuous N and W wind it may set S and E for a week continuously. Near the coast the direction of the current may be toward the land.

Generally, along the W coast of Norway, the influence of winds on the tide levels is small. This is probably due to the scattering effect of offshore islands and the relatively deep water close inshore. North from Jaeren to the vicinity of Korsfjorden, the current just offshore floods to the N,

beginning about 5 to 6 hours after HW at Bergen and ebbs to the S, beginning about 30 minutes to 1 hour before HW at Bergen. From the vicinity of Korsfjorden to approximately 60°10'N, the flood begins about 6 hours after HW at Bergen and set to the E; the ebb begins about the time of HW at Bergen and set to the W.

Surface currents in the fjords are predominantly tidal, setting inward on the flood and seaward on the ebb, except during May and June. During these months increased runoff from melting snow and ice causes the surface currents to flow almost continually seaward. The depth of the surface current averages 3.5 to 5.5m. Though they may vary from 0.9 to 18m.

Current speeds are strongest at the surface, decreasing with depth. An intermediate current sets into the fjord usually between 9.4m and 18.3m. Generally, the water below 40 fathoms either has a very weak seaward set or is stagnant, and is renewed only by major meteorological disturbance.

Wind may alter the tidal currents in the fjords. Onshore winds may cause a rise in the level with a corresponding increase in the velocity and duration of incoming currents. When the wind ceases, current flows in the opposite direction until equilibrium is established. Outflowing currents along the sides of the fjord may occur when strong winds blow onshore for prolonged periods. Offshore winds may have an opposite effect on the water level and currents.

Off the coast and in the fjords between Lindesnes and Jaerens Rev the tidal currents are inappreciable. Small currents may be found in the narrow channel of the fjords, as in Skudenesfjorden but little is known about them.

**Aspect.**—Skudenesfjorden is the principal approach to Stavanger and is entered S of Geitungane. Within the entrance, and near Stavanger, are hundreds of islands and islets forming numerous sounds, channels, and inlets. The mainland S, E, and N of the island area is penetrated by a complex system of navigable fjords and smaller inlets.

Most of the water area between Feistein and Geitungane is encumbered with low, rocky islands and islets and numerous dangers, through which there are several channels leading N toward the inner approaches to Stavanger. Skudenesfjorden is entered between Geitungane and Kvitsoy. The best approach to Stavanger is through Skudenesfjorden, then SE through the length of Kvitsoyfjorden and Byfjorden.

From Vigdelneset about 3 miles NE of Feistein, the Stavanger peninsula extends N for about 10 miles to Tungeneset. The important port of Stavanger is situated on the E side of the peninsula. Several bays indent the W side of the Stavanger peninsula, and Hafrsfjorden, with a narrow, shallow entrance, occupies the middle part. A few lakes are in the N part. Most of the land is low and cultivated. There are several small stretches of sandy beach, especially on the W side. East of Gandafjorden, the country is high moorland, descending abruptly to the rocky shores of Hogsfjorden. Many low, rocky islands, the largest of which is Hundvag, lie off Stavanger.

Sheltered anchorages are found in the bays and inlets of the Stavanger peninsula, among some of the islands between the peninsula, and in coves on the S side of Karmoya, in the vicinity of Skudenshavn.

Off the Skudenesfjorden entrance, the tidal current usually sets N. Near the land, on both sides of the entrance, the current usually sets E with a rising tide and W with an ebbtide. The

inward set begins about 5 hours 15 minutes after HW at Bergen; the outward set begins about 1 hour before HW at Bergen.

**Caution.**—**Crawford Oil Field** (59°07'N., 1°30'E.) is situated about 115 miles W of Geitungane and consists of a production platform and a tanker mooring buoy. Balder Oil Field lies 27 miles ENE of Crawford Oil Field.

For oil and gas fields N of the above, see Sector 3. For oil and gas fields S of the above, see Sector 1.

## Approaches to Stavanger

**2.2 Hasteinfjorden** (59°00'N., 5°30'E.) is the best approach to Stavanger from the S. It is entered between the Hastein group, in the E, and the S islets of the Kvitsoya group, towards the NNW. This passage leads NE for about 7 miles to the hilly and comparatively steep islet of Alstein, in the vicinity of Bragen, off Tungeneset, and joins the S part of Kvitsoyfjorden, where it joins with the N part of Byfjorden.

Bragen, an above-water rock about 0.5 mile NNW of Tungeneset, is marked by a light equipped with a racon.

**Tungeneset** (59°02'N., 5°35'E.) is the N end of the Stavanger peninsula. Shoals fringe the NW and N sides of the point and are within the 10m curve, which lies offshore in this vicinity.

**Vestra Imsen** (59°01'N., 5°22'E.), the southwesternmost islet of the Kvitsoya group, contains a light, which marks the entrance to Hassteinfjorden.

**Hastein** (58°57'N., 5°26'E.), 45m high, is the largest of a group of islets and rocks NW of the island of Rott. Lille Revingen and Storee Revingen lie S of Hastein.

**2.3 Feistein** (58°50'N., 5°30'E.), an islet, lies approximately 12 miles S of Hasteinfjorden. In the S approach to Stavanger, it lies about 4 miles N of Jaerens Rev Beacon. Numerous detached shoals and rocks, best seen on the chart, lie near Feistein.



**Feistein Light**

Feistein Light is exhibited from a red metal tower, 25m high, with two white bands, situated on the E side of Feistein. A racon is located at the light.

**Hengsoy** (58°53'N., 5°26'E.) lies about 4 miles NW of Feistein. A beacon stands on the island.

**Solaviki** (58°53'N., 5°34'E.) is a small bay indenting the W side of the Stavanger peninsula. Depths in the middle of the bay are 9.1 to 18.7m. Kolnesholmene is a group of islets, best seen on the chart, lying in the entrance of Solaviki.

**2.4 Risaviki** (58°56'N., 5°35'E.) ([World Port Index No. 23487](#)) and the surrounding sea entrances were included in Stavanger Port District on 1 June 2001. Risaviki is a public port mainly operated by private companies. It functions as an oil related base area with services that supply the oil fields of the North Sea. Risaviki is a major oil terminal as well, and can accommodate large tankers. The harbor is entered between **Laksholmbaen** (58°55.7'N., 5°34.3'E.) and Tangen, about 0.2 mile NE. A breakwater joins Tangen, and runs SE to Melingsholmen. The small harbor formed is called Tananger. On the N side of the inlet, numerous quays and facilities are located at a fitting-out and supply base for oil operations in the North Sea.

**Tides—Currents.**—The HW interval at Tananger is 9 hours 36 minutes. The mean range of tide is 0.4m; the spring range of tide is 0.5m.

**Depths—Limitations.**—The Sola Refinery is located on the SW side of Risaviki Inlet. The berth at the refinery consists of a T-head jetty, with a depth of 16.8m alongside. Tankers up to about 240,000 dwt, 335m in length, and 15.8m draft can be accommodated. There are LPG loading facilities at the refinery jetty.

There is another tanker berth at the Tananger jetty located on the NE side of the inlet. It has a depth of 11.6m alongside.

**Pilotage.**—Pilotage is compulsory for vessels over 50 grt. The pilot station can be contacted by VHF radio and by telephone.

**Regulations.**—Tankers over 40,000 dwt, when navigating within territorial waters near Risaviki, are to exhibit three red vertical lights at night, or display a large black cylinder by day, to indicate that other vessels must not impede their safe navigation.

**Anchorage.**—Risaviki provides a good anchorage over a sand and clay bottom. Strong NW winds send in a considerable swell. While anchoring, vessels must take care not to interfere with the vessels mooring at the oil refinery in the SW part of the bay. Anchorage can be taken in Tananger, in 6.9 to 9.1m, sand and clay. There are mooring buoys and mooring rings.

**Caution.**—Two submarine cables are laid across the entrance to Risaviki. When the entrance of Risavika is obstructed by the hawsers of ships maneuvering off the oil facility, red flashing lights will be shown either on Melingsholme or on the facility. Lights indicate which side of the channel is obstructed.

**2.5 Skudenesfjorden** (59°005'N., 5°15'E.), a deep clear opening, forms the principal outer and easiest approach to Stavanger. The entrance to the fjord lies between Geitungane; two close lying islets off the S end of Karmoya, and the NW side of Kvitsoy; about 6 miles SE of Geitungane. Skudenesfjorden can be easily entered by day or night. Geitungane Light is on the S islet.

When nearing the land, the fjord entrance will be very conspicuous. Cone-shaped mountains on Vestre Bokn and the

light structure on Kvitsoya are prominent. A radio tower, marked by obstruction lights, stands on Vestre Bokn.

**Tides—Currents.**—There appear to be no perceptible tidal currents setting N or S across the entrance of Skudenesfjorden, but inside the fjord, weak tidal currents set inward and outward near the land. Off the fjord entrance, the tidal current usually sets N, but the wind has much to do with its velocity. Near the land on both sides of the entrance, this current usually sets inward during a rising tide and outward during a falling tide. Near the S end of Karmoya, a strong current sets E and into Karmsundet during rising W winds.

**2.6 Kvitsoya** (59°04'N., 5°25'E.), the largest of a group of islands and islets, marks the E entrance of the approach to Stavanger via Skudenesfjorden. The land of Kvitsoya is low and relatively inconspicuous from offshore. Lights are shown from some of the islands and islets; buoys and perches mark the intricate channels leading to some of the anchorages.

A number of sheltered anchorages are indicated among the islands and islets, but entry should not be attempted without local knowledge. Some of the islands are connected by causeways.

Settlement on the islands is concentrated at Ytstabohamn and Leiasundet. Ytstabohamn is located on the S side of Kvitsoya and Leiasundet is located on the W side of Kvitsoya. The light tower, 27m high, standing on the SW side of Kvitsoya, is conspicuous.

Kvitsoya radio station is located on Krakoy, about 0.5 mile E of Kvitsoya; the radio masts are conspicuous and stand up to 125m high. There are numerous radio masts on this island. A group of four masts stands at the N end.

**Caution.**—Due to a strong electromagnetic field around the masts, navigation and communication equipment in the vicinity may be disturbed. Vessels passing close to **Kvitsoya Broadcasting Station** (59°04'N., 05°24'E.) may experience electronic interference due to the station electromagnetic fields.

**2.7 Jarsteinen** (59°09'N., 5°11'E.) is a small island about 0.5 mile off the SW end of Karmoya. Svelgjeskjaer, an above-water rock, is located about 0.2 mile S of Jarsteinen.

**Geitungane** (59°08'N., 5°15'E.) are two islets that lie close S of Karmoya. A light is shown from a tower, 11m high, standing on the S islet. A racon is located at the light tower.

Kryssgrunn, a 9.1m depth, lies about 0.5 mile ESE of the S islet.

An overhead cable, with a clearance of 20m, spans the channel between the N islet and Karmoya.

**Skudeneshavn** (59°09'N., 5°16'E.) ([World Port Index No. 23485](#)) is fronted on its S side by Vikeholmen, Bakareholmen, Steiningsholmen, and several smaller islets and rocks. Three small moles also enclose the harbor. Skudeneshavn is a sheltered harbor used by ferry and coastal vessels up to 5,000 dwt.

Nesagapet, the E and principal entrance of Skudeneshavn, is between Vikeholmen and the S coast of Karmoya. A light is shown from the head of a small mole on the N side of Nesagapet. This entrance has a least charted depth in the fairway of 6.2m.

Care must be taken to pass S of a 5.3m depth which lies in the narrowest part of the sound. There are several rocks in the harbor, some of which are marked by iron posts. Navigation is not affected by ice.

**2.8 Austbaen** (59°08'N., 5°17'E.), the outermost danger in the approach to Skudeneshavn, lies about 1 mile ESE of Geitungane. Sondreflu is a 4.6m depth about 183m W of Austbaen.

The S coast of Vestre Bokn, towards the NE, on the N shore of the Skudenesfjorden, E of Karmoya, is formed by **Drivsund** (59°10'N., 5°25'E.), an islet and shoal-encumbered bay; the S ends of the two parts of Vestre Bokn form the W and E shores of this bay. Vestre Bokn is in two parts; its SW and smaller part is separated from the main portion by Sundalandsstraumen, a very narrow sound extending NW from the head of Drivsund. Drivsund has several anchorages for small vessels, but local knowledge is required.

**Arsgrunn** (59°08'N., 5°26'E.), with a least depth of 3.2m and marked on its SW end by a buoy, is located about 1 mile SSW of the SE extremity of Vestre Bokn.

**Kraka** (59°09'N., 5°25'E.) is an above-water rock and Skolleflu, 0.5 mile ENE, is a 3m shoal marked by a buoy.

Fjoloy and **Mosteroya** (59°05'N., 5°38'E.), with some islets between and near them, form the NE side of Kvitsoyfjorden. The islets and dangers on the NE side of Kvitsoyfjorden, between Alstein and Sveinane, together with those near Tungeneset, form the SW side of the fjord.

Mosteroy, the SE part of which is called Aske, is nearly joined at its NW end to Klosteroy and is separated from Fjoloy by Klosterhamn, a sheltered harbor for small vessels with local knowledge.

Isgrunn, a 6.9m depth, lies about 0.5 mile off the SW side of Mosteroya, in a position about 1 mile SSE of Ejoloy. Langeflu, a 12.8m depth, lies about 0.25 mile NE of Isgrunn.

**2.9 Dysjalandsvåg** (59°05'N., 5°40'E.), between the SE end of Mosteroy and Aske, affords secure anchorage, in 12.8 to 18.3m. Local knowledge is required.

Gryta, a rock marked by a light, lies awash on the NE side of the junction of Kvitsoyfjorden and Byfjorden. It is located about 0.5 mile off the NW side of the island of Bru and nearly 1.25 miles NE of Tungeneset. A 12.8m depth is located about 0.1 mile NW of Gryta.

Nordgrunn is a 6.9m depth lying about 1 mile NW of Gryta. Kolsboane, about 0.5 mile NNW of Gryta, is two rocks; the SW rock is awash and marked by an iron beacon, while the NE rock, with a depth of 1.5m, is marked by an iron perch.

Byfjorden is the inner part of the approach to Stavanger. It is entered from Kvitsoyfjorden between Gryta and Bragen. The island of Bru, on the NE side of the fjord, is comparatively steep. The W slope of the high land descends almost perpendicularly to the fjord. Bruffjell, on the SW side of Bru, rises to a height of 86m close inland.

**Brukjeoy** (59°02'N., 5°40'E.) is on the NE side of Byfjorden at its junction with Amoyfjorden. The islet lies about 0.5 mile SE of Bru; close W of it is the smaller Persholmen, from which a light is shown. Shoals, fringing the E end of Brukjeoy, extend about 0.1 mile offshore and are marked by a buoy.

Flataskjaer is an above-water rock about 183m W of Persholmen. An iron perch, about 183m NW of Flataskjaer, marks the outer end of a reef extending from the rock. Sore Raunegrund, a 1.8m depth marked by an iron perch, lies about 0.2 mile N of Flataskjaer.

**Randbergviga** (59°02'N., 5°37'E.) is a small bight about 1 mile SE of Tungeneset. Good anchorage can be taken here, in 12.8m, sand and mud.

**2.10 Dusavik** (59°00'N., 5°40'E.), located on the W side of Amoyfjorden, provides a protected anchorage, in 22m, gravel bottom. A large installation, with deep-water facilities for servicing oil rigs, is located in Dusavik.

Byfjorden extends in a SE direction, where it meets Amoyfjorden. A chain of small islets and dangers, which are scattered across the E end of Amoyfjorden, separates this basin from the NW end of Horgefjorden. General depths through the middle of Amoyfjorden are 64m to 101m.

A 10.1m depth and an 8.2m depth are located about 0.5 mile NW and nearly 1 mile NNW, respectively, of the NE extremity of Hundvåg. Dangers elsewhere are those extending across the E end of the fjord or lying within 0.2 mile offshore.

A light is shown from the largest and westernmost of Klovingane, a group of four small islets in the E end of Amoyfjorden. A beacon stands on the largest islet. Buoys and perches mark a few of the dangers lying between Klovingane and the S side of Amoy.

Vessels proceeding through Amoyfjorden to Horgefjorden should pass N of Storholmen, in a depth of 24m, staying in mid-channel, with the S extremity of **Hille Kjeoy** (59°02'N., 5°48'E.) bearing 075°.

The approach to Stavanger or to Sandnes, at the head of Gandafjorden, can be made from Horgefjorden through Lindoysund, the passage between Vassoy and Lindoy, or from Hogsfjorden through the passage between Kalvoy and Uskjo.

**Revingen** (59°00'N., 5°49'E.), which is marked by a lighted beacon, lies in the N part of Lindoysund, about 0.2 mile N of Lindoy. Shoal water extends about 91m N and S from this rock. Revingsgrunn is an 11.9m depth in the SW part of Horgefjorden, about 0.5 mile NNE of Revingen.

**Tunsoy** (58°59'N., 5°49'E.) is close SE of Lindoy; between them is Lindoygrunn, which is marked by an iron perch.

## Stavanger (58°59'N., 5°45'E.)

World Port Index No. 23480

**2.11** Stavanger was founded around the beginning of the ninth century, and is one of Norway's oldest cities. Today it has a population of over 100,000 people. Noted for shipbuilding and fishing for many years, it is now the main support base for the oil and gas industry in the North Sea area close to S Norway.

**Winds—Weather.**—Gales are fairly frequent in winter and are usually from the SE. Northwest gales make loading and unloading difficult at most of the main quays. Prevailing winds in the summer are SW and W; in winter they are E and NE. The climate is mild, and there is frequent precipitation throughout the year. Stavanger is an ice-free port.



### Stavanger

**Tides—Currents.**—Tidal currents are slight. During NW gales, the water may rise to the decks on some piers. Normal tidal range is 0.6m.

**Depths—Limitations.**—General depths in the fairway between the entrance of Stavanger at Ulsneset and the entrance of Vagen are 23m to 50m. There is a deep water quay at Sandviga with depths of 13m to 15m alongside.

**Aspect.**—The principal part of the city faces a bay on the N side of a small promontory which extends E from the main peninsula. The total port area now has a total quayage length of approximately 5,000m and is divided into many separate terminals, spread across a large area, from the industry port of Mekjavik to the fish and animal feed silos at Felleskjøpet. The principal deep-water quays line the shores of **Vagen** (58°58.3'N., 5°44'E.), an indentation on the N side, near the city. Numerous small shoals and rocky patches are scattered among the islands and islets which form the NE side of the harbor.

There are facilities for ro-ro, container, bulk, general cargo, passenger, and cruise vessels. A vessel of 70,202 grt has been accommodated in the port of Stavanger.

There is a tanker berth which can handle vessels up to 330 m in length, with a 16m draft.

The NATO quay is at **Ulsnes Naval Base** (58°59.5'N., 5°42.9'E.).

The basin just E of Stavanger is bounded by Steinsoya, Ormoy, and Vassoy to the N; Lindoy, Hellesoy, and Kalvoy to

the NE; and Uskjo to the S. A chain of islets and dangers extends SW for about 1 mile through the middle of this area.

**Pilotage.**—Pilotage is compulsory for Stavanger and is available 24 hours. Pilots should be requested at least 24 hours in advance. The Kvitsoy pilots are to be advised of the vessel's arrival, giving the following information:

1. Vessel name.
2. Call sign.
3. GRT.
4. Draft.
5. Cargo.
6. Port of destination.

Pilots can be contacted on VHF channels 13 and 16 and meet incoming vessels outside Feistein, as follows:

1. Approximately 21 miles S of Stavanger, in position 58°50'N, 5°26'E.
2. In Skudenesfjorden, at Skudenesfjorden Vest, in position 59°02'N, 5°10'E.
3. At Skudenesfjorden, approximately 18 miles NW of Stavanger, in position 59°06'N, 5°26'E.

Vessels greater than 30,000 grt carrying hazardous or polluting cargo will use the boarding position at Skudenesfjorden Vest.

Pilot boats are white and have orange superstructures.

For detailed information on pilotage regulations, see Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean.

**Signals.**—Storm signals are shown from a mast on the NE side of Vagen.

**Anchorage**—Stavanger affords fairly good anchorage throughout, but the best is in the E part S of Solyst and Grasholmen, where the depths are 18.3 to 27.4m.

Deep draft vessels also anchor NE of Grasholmen, approaching through Amoyfjorden and Horgefjorden.

Amoyfjorden provides anchorage for large vessels and oil rigs. The water depth varies from 30m to 130m. Smaller vessels may anchor off Ulsnes Point, which has a maximum depth of 40m.

Vessels in quarantine or without berth assignment should anchor near the entrance at Ulsnes Point, taking care to avoid the submarine cables and water pipelines.

Gandsfjorden is a construction site for large offshore structures (depth of 245m) and a lay-up area for oil rigs (depth of 180m).

Stavanger Port Control is to be contacted prior to anchoring. Port Control uses VHF channel 16 and 13, and may be reached at 51-73-53-97 by telephone.

**2.12 Sandnes** (58°51'N., 5°45'E.) ([World Port Index No. 23470](#)) extends around the head of and along the W shore of Gandafjorden. Behind the town, on the SE, the land rises in hummocky hills, 101 to 198m high. East of Gandafjorden and immediately NE of the town, the hills rise more steeply to a height of about 189m. The country W of Sandnes is comparatively low, about 46m high in some places, and is mainly fertile agricultural land.

There is 1,021m of quayage at Sandnes. A quay on the W side of the head of the fjord is 350m long, with depths alongside of 6 to 9m.

**Anchorage.**—Small vessels can anchor off Sandnes, in 13.7 to 18.3m. Small vessels can also anchor near the head of the fjord, in a depth of about 6.1m.

## The Fjords

**2.13 Gandafjorden** (58°55'N., 5°46'E.), a deep fjord, trends S for about 7 miles from Store Marøy. There is a 5 knot speed limit in the inner part of the fjord.

Gandsflu, a 5m depth marked by a light, lies about 0.4 mile SW of Store Marøy. Depths of 7.3 and 8.7m lie within about 0.1 mile NNE of Gandsflu.

A quay, with a depth of 7.6m alongside, is located in the vicinity of **Fiskaneset** (58°54'N., 5°45'E.), on the W shore of Gandafjorden. Another quay, with a depth of 11m alongside, lies about 1 mile further S.

Buoys mark some of the shore banks in the inner part of Gandafjorden. Two lights, in range 186.5° and shown from the E shore opposite Sandnes, lead into the fjord.

**2.14 Riskafjorden** (58°56'N., 5°49'E.), which is about 0.2 mile wide in its narrowest part, is formed between the mainland SE of Stavanger and the S and E sides of the island of Uskjo. It branches off from the NE end of Gandafjorden and, at its N end, leads into the junction of Horgefjorden and Hogsfjorden.

Riskafjorden is deep and, except for Riskaholmene, two small islets in mid-channel SW of the S extremity of Uskjom, is free from dangers in the fairway.

In Riskafjorden, there is good anchorage, sand and shell, for small vessels at the head of a small inlet at Hammersak on the SE side of the fjord. There are mooring buoys and several quays, with depths up to 4m, located in the inlet. Li is located on the S shore of Riskafjorden, about 0.4 mile SSW of Riskaholmene. A concrete quay, with a depth of 4m alongside, is located at Li.

**2.15 Horgefjorden** (59°01'N., 5°50'E.) surrounds the islet Horge. The fjord is bounded on the SW and W by the many islands and islets lying off Stavanger, on the NW by the islets and dangers at the E end of Amoyfjorden and the SE side of Amoy, on the N by Hille Kjeoy and the island of Hidle, and on the E by Heng and Idse and the chain of islets and rocks between these two islands. General depths throughout Horgefjorden are ample, but there are some shoal patches. Vessels without local knowledge should not attempt passage between the islets and reefs lying between Heng and Idse.

**Hogsfjorden** (58°56'N., 6°00'E.) trends SE for about 12 miles, is from 0.5 mile to 1.5 miles wide, and is deep and clear of dangers in the fairway. Several small sounds lead off from Hogsfjorden. Lysefjorden is entered about midway along the NE shore.

Frafjorden, a continuation of Hogsfjorden, trends E for about 3 miles, is about 0.5 mile wide, and is also deep and clear. The shores of both fjords are mostly steep-to.

A wooden quay at the head of Frafjorden has a depth of about 4.5m alongside and can accommodate vessels with drafts to 5.5m.

**2.16 Idsefjorden** (59°01'N., 5°58'E.) is the basin formed between the mainland, on the N and E; the islands of Idsal and Idse, on the S; and Heng and the islets and rocks extending S, on the W. Botnefjorden, a narrow inlet, extends SE for about 2 miles from the E end of Idsefjorden.

Most of Idsefjorden is deep and clear, but there are shoals and rocks near shore and among the scattered islets at the W and E ends. A few detached shoals lie near the fairway. Inside Botnefjorden, the depths shoal from about 81m in the entrance to 16.5m near the head of the fjord.

**Jorpeland** (59°01'N., 6°02'E.), a settlement in a small cove on the NE shore of Idsefjorden, is one of the larger places in the area. It has numerous buildings and workshops and a quay with 4 to 6m alongside. There is a steel works, with a quay having a depth of about 5m alongside. A telegraph station is located here.

**Hillefjorden** (59°04'N., 5°49'E.) is a comparatively broad sheet of open water between Aske, Rennesoy, and Brimse, on the N, and Amoy and Hidle, on the S. Depths through the fairways of Hillefjorden range from about 29 to 180m.

Anchorage can be taken, in 13m, good holding ground, clay and mud. Mooring rings and buoys are available. In the NE part of the cove, there is a quay, with depths of 3.1 to 4.8m alongside and a length of 84m. A grain elevator has a quay, 36m long, with a depth of 9m alongside.

A secure harbor for small vessels lies on the E side of Hidlefjorden off the village of **Tau** (59°04'N., 5°55'E.)

**2.17 Mastrafjorden** (Mastrafjorden) (59°06'N., 5°39'E.) is a good channel for vessels bound to any of the fjords E or S of Stavanger. From its NW entrance, it trends SE between the SW side of Rennesoy and the NE sides of Klosteroy, Mosteroya, and Aske for about 6 miles to its junction with Hidlefjorden. The least width between the land on either side is about 0.4 mile; however, shoals on either side reduce the navigable channel width to less than this in places. A least depth of 18.3m is available through the fairway, but there are lesser depths and dangers nearby.

**Anchorage.**—Medium-size vessels can take good anchorage in Finnesandbukt, the bay formed between Klosteroy and the N side of Mosteroya. The anchorage is in a depth of 20m, coarse sand. Care is necessary to avoid Bakhodnagrunn, a 9m shoal lying in the entrance to this bay.

**Vikevag** (59°06'N., 5°42'E.), on the N shore of Mastrafjorden, is the main port on Rennesoy. The largest quay, on the NW side of the inlet, has depths to 5m alongside.

A quay at Dale, about 1 mile SE of Vikevag, has depths from 5 to 6m.

**Caution.**—Numerous submarine cables extend from Rennesoy to the surrounding islands.

**Saebosundet** (59°10'N., 5°56'E.) is the narrow sound separating the NE side of Fogn from Teistholme, Lindoy, Buoy, Byre, Bokn, and other islands, islets, and rocks to the NE. It leads from the N end of Fognafjorden into Finnøyfjorden. Although very narrow in places, the channel fairway has ample charted depths. Detached 4.1m to 9.1m depths lie near the fairway. Some of the detached dangers and those extending from the islets on the NE side of the passage are marked by buoys or perches. Other navigable channels lead among these islets.

## The Fjords Branching from Skudenesfjorden

**2.18 Boknafjorden** (59°12'N., 5°38'E.), a continuation of Skudenesfjorden, trends NE for about 10 miles to the S entrance of Nedstrandfjorden. It is about 4 to 6 miles wide between the islands and islets on either side. Depths through the fairway are great, but there are some detached dangers, particularly in the NE part and along the SE side.



**Boknasund**

**Boknasund** (59°14'N., 5°27'E.) lies between Vestre Bokn and Austre Bokn and leads NW for about 3 miles between Boknafjorden and the S end of Boknaflaet. It was reported (1944) that a depth of 9.7m is available through Boknasund but that passage through the sound is difficult for vessels over 107m in length and with a draft of over 7.6m.

Two submarine cables cross the sound in the vicinity of Boknasund Light.

**Knarrholme** (59°13'N., 5°28'E.) is the farthest SW of a group of above-water rocks on the SW side of the fairway. Knarrholmgrunn, with a depth of less than 1.8m and marked on its NE side by a buoy, lies about 91m E of Knarrholme.

Strandvikflu, lying near the E shore of the sound about 0.2 mile NE of Knarrholmgrunn, has a depth of less than 1.8m and is marked by an iron perch.

**Ta** (59°14'N., 5°27'E.), a reef marked at its S end by a beacon, is on the W side of the fairway. It lies within about 0.1 mile offshore and about 2 miles NNW of Knarrholme. A 6.4m depth is located about 183m E of the beacon.

**2.19 Bleikje** (59°15'N., 5°27'E.), a small islet, lies in mid-channel about 0.5 mile N of Ta. A 1.8m depth is located about 137m SE of the islet.

Brattholme lies 183m off the W side of Boknasund and about 0.5 mile W of Bleikje. A smaller islet is located about 183m NW of Brattholme; Brattholmbaen, with a depth of about 1.5m and marked by an iron perch, lies about 0.1 mile SE of Brattholme.

**Tides—Currents.**—In Boknasund, the tidal current depends mainly on the wind and may run in one direction continuously for a considerable time. It is very strong in the narrowest part of the sound. During long periods of calm weather at sea, the tidal current runs regularly, changes direction at half tide, and is strongest at HW. Farther N in Boknaflaet, the tidal current usually runs in the same direction as in Boknasund. It often changes direction under Boknahovud, the NW extremity of Vestre Bokn, and is strongest round Bleikje and between Vesteroy and Hovringoy.

In Austdjuget, the tidal current usually sets in a direction opposite to that in Karmsund, but depends greatly on the wind.

Still farther N in Fordesfjorden, there is usually an incoming tidal current in bad weather and an outgoing current in fine weather, but these currents are very weak.

**Depths—Limitations.**—A quay at Alvestadkroken, on the W shore of Boknasund, has depths up to 5m alongside. Fuel oil and fresh water are available. A quay at Foresvik, about 1 mile NW of Alvestadkroken, has depths from 5 to 7m alongside. Fuel oil and fresh water are available.

**Anchorage.**—Anchorages for small vessels with local knowledge are available on both sides of Boknasund.

**Boknaflaet** (59°16'N., 5°26'E.) is the basin between Ognoy, Austeroy, and Vesteroy on the E, and Hovringoy and the numerous islets on the W. Boknaflaet is a continuation N of Boknasund and leads into Fordesfjorden.

Depths through the fairway are ample, but there are nearby shoals and rocks on either side.

**Anchorage.**—On the NE side of Boknaflaet, anchorage can be taken between the W side of **Austeroy** (59°17'N., 5°27'E.) and the SE end of Vesteroy, or between the N side of Austeroy

and Kvernholmane, about 0.2 mile N of the NW extremity of Austeroy. A rock lies awash close off the W side of Austeroy in the channel between these two anchorages.

The fairway through **Austdjupet** (59°16'N., 5°24'E.) is clear and deep except for Austdjupholmane, two islets which lie in mid-channel about 2 miles from the S entrance. Other dangers are near the islets on either side of the channel.

Guleskjaer, a detached rock, is on the W side of the fairway, about 0.3 mile W of the W islet of Austdjupholmane.

Tallaksholmane, consisting of two islets and rocks, is the outermost group in the SE part of Austdjupet.

**2.20 Karsto Gas Terminal** (59°16'N., 5°30'E.) is located a little over 0.75 miles NW of **Arviksundet** (59°16'N., 5°33'E.), which lies close N of the N extremity of Arvikholmen. Gas from the North Sea fields is piped to the terminal, where it is processed and stored while awaiting export.

**Depths—Limitations.**—Quay No. 1, a T-headed jetty in the W part of the terminal, handles tankers loading liquid petroleum gas. It has an alongside depth of 13.5m and can accommodate vessels up to 210m long, with a maximum draft of 12m.

Quay No. 2, a T-headed jetty standing about 0.2 mile W of Quay No. 1, also has an alongside depth of 13.5m.

In the E part of the terminal, about 0.2 mile E of Quay No. 1, are coaster and ro-ro berths, with depths of 7.7m and 7.5m alongside, respectively.

A safety zone extends 300m from shore in the terminal area, as shown on the chart.

**Pilotage.**—A sea pilot should be embarked from Kvitsoya pilot station; they will also act as a harbor pilot.

The pilot boards about 3 miles WNW of Kvitsoya.

**Regulations.**—Vessels over 50 grt and carrying dangerous cargo wishing to use Karsto Gas Terminal must obtain prior permission from the Harbor Terminal before entering the regulated area of Skudenesfjorden and Boknafjorden E of the line between the light on **Geitungen** (59°08'N., 5°15'E.) and the light on Vestre Imsen, 8 miles SSE. Such vessels must not exceed a speed of 10 knots in the regulated area.

Permission to enter must be applied for at least 1 hour before arrival in the regulated area or before leaving the quays, anchorages, or other mooring installations in those waters.

The vessel's ETA should be sent, via the agent, at least 72 hours prior to arrival. The ETA must be confirmed 48 hours, 24 hours, and 12 hours prior to arrival.

**Anchorage.**—Vessels waiting to berth at the terminal are to anchor in the designated anchorage in Falkeidfaet, between Rovetaerne Light and Billingen Light, and in Hervikfjorden.

**Directions.**—The main approach to Karsto Gas Terminal is between **Austre Vagholmlua** (59°13'N., 5°31'E.), a 3m shoal with a light, and Rovetaerne Light, standing on an outermost rock lying a little over 1 mile ENE.

**2.21 Nedstrandsfjorden** (59°15'N., 5°44'E.) is formed by the mainland on the NW, N, and NE, and by a group of islands and islets, which are known collectively as Sjerneroyane and the island of Ombo, on the S. Nedstrandsfjorden has an entrance that lies between the S end of Toftoy and Lundaroy, about 4 miles ESE. From its entrance, it trends NE and E for about 11 miles to the entrance of Jelsafjorden.

Great depths prevail through the fairway of Nedstrandsfjorden. Shoals and islets lie clear of the fairway.

**Lindoy** (59°17'N., 5°42'E.), NE of which is Slattholme, is the largest of a group of islets and rocks lying within 1 mile E of the N end of Toftoy. Lindoygrunn, the southernmost danger of the group, is located about 0.2 mile S of Lindoy and is marked on its S side by an iron perch.

Heimraflu, the northwesternmost danger, is a 1.8m depth marked by a buoy about 0.2 mile N of Lindoy.

A rock, with a depth of less than 1.8m and marked by an iron perch, is located about 183m NE of the SE end of Slattholme. A 5.9m depth and an 8.2m depth lie within about 0.2 mile E and SE of this rock.

**Lamholme** (59°20'N., 5°45'E.) is a small islet in the approaches to Muslandsvag. Gullholme lies about 0.1 mile S of Lamholme. Haskjaer, with other islets and rocks NW, lies about 0.2 mile SSW of Gullholme.

**Hunderavag** (59°20'N., 5°49'E.), which indents the mainland for about 1 mile N, is entered between Tveiteneset, about 1 mile ESE of Lamholme, and Baustaneset, about 1 mile ENE. Hestflu, marked by an iron perch, extends about 0.1 mile from the E shore of the bay to a position about 0.4 mile NW of Baustaneset.

**Anchorage.**—Large vessels can take anchorage in Hunderavag, in 27 to 59m, but the anchorage is exposed to S winds. The best anchorage for small vessels is off Tveit, located on the NW side of Hunderavag.

**2.22 Nedstrandsvag** (59°20'N., 5°52'E.) is entered between Lille Faeroy, about 1 mile ENE of Baustaneset, and Tonganes, a mainland projection about 0.2 mile farther ENE. A 5.9m depth lies in the middle of the entrance. Within Nedstrandsvag, there are numerous dangers, including above and below-water rocks, some of which are marked by iron perches. A quay has a least depth of 5m along its outer side.

**Foldoy** (59°20'N., 5°58'E.) lies in the NE portion of Nedstrandsfjorden. Sondre Breidvik, on the S side, and a smaller bight, on the N side, almost divide Foldoy in two.

Both parts of the island are fairly high; the E part rises to an elevation of about 35m. Tjuvholme and other islets and rocks lie within 0.25 mile SW of the S extremity of Foldoy; within 0.25 mile farther SW there is a detached reef, on the NW end of which a rock lies above water.

Skindryggen, with a depth of less than 1.8m and marked by an iron perch, lies close off the N side of Foldoy in a position about 0.2 mile NW of the island's NE extremity.

**Smaskjaer** (59°17'N., 5°57'E.), marked by an iron perch, lies about 0.1 mile N of the W entrance point of Jorstadvag, which is on the NW side of Ombo, about 1 mile NE of the NW extremity of the island.

**2.23 Talgjefjorden** (59°08'N., 5°49'E.) is the basin formed between Rennesoy and Talgje, on the S, and Finnoy and the islets and dangers lying up to 3 miles W of Finnoy, on the N. Fairway depths are sufficient for large vessels. A few detached dangers lie near the fairway, but most shoals, rocks, and islets are in the N part W of Finnoy.

**Galtaholmen** (59°09'N., 5°37'E.) is located close off the N extremity of Rennesoy. Galten, a rock marked by a beacon, lies about 0.1 mile N of Galtaholme.

Ertensoy, comparatively steep-to, lies about 2 miles ENE of Galtaholme; between these islets is the principal entrance of Talgjefjorden. Midflu, a detached 7.8m patch, lies about 0.3 mile SW of Ertensoy.

Tjelmen is a detached 3.2m depth lying on the N side of the fjord approach, about 1 mile NW of Ertensoy.

**Flustein** (59°08'N., 5°39'E.), on which a beacon stands, lies at the N end of a shoal that extends N from the N shore of Rennesoy.

**2.24 Finnoyfjorden** (59°10'N., 5°54'E.), which is formed between Finnoy on the W, and the islands of Fogn, Bokn, and **Halsne** (59°11'N., 5°57'E.) on the E, trends NE and N from Talgjefjorden for about 5 miles to the W approach to Garsundsfjorden. It has a minimum width of about 1 mile, great depths through the middle part, and few dangers.

Kjerringi, lying awash about 0.5 mile NNW of the NE extremity of Finnoy, is marked by a beacon. Kjerringi, about 183m N of Kjerringi, is awash and marked by an iron perch.

**Anchorage.**—Several good anchorages, suitable for small vessels with local knowledge, are located along both sides of Finnoyfjorden.

**Garsundsfjorden** (59°13'N., 6°00'E.), N of Halsne and Randoy and S of the island of Ombo, trends NE for about 8 miles to the entrance of Josenfjorden. The minimum width of Garsundsfjorden is about 0.7 mile; it is deep and free from dangers in the fairway.

Quays, with depths of 4 to 9m alongside, are at Vestersjo, about 3 miles ENE of Eidsvag, and at Skar about 2 miles farther ENE.

**Anchorage.**—On the N side of Garsundsfjorden, anchorage for small vessels is available, in 10.1 to 11.9m, in Eidsvag, which indents the S side of Ombo about 0.5 mile E of the SE extremity of Ombo.

On the S side of the fjord, anchorage can be taken in Batviki, on the NW side of Halsne.

**Breidvik** (59°13'N., 6°03'E.), on the N shore of Randoy, provides good holding ground, in 16.5m. Oyehamn, in a narrow inlet about 1 mile W of the NE extremity of Randoy, provides good anchorage to small vessels, in 10.1 to 11.9m; mooring rings are available.

**2.25 Fognafjorden** (59°07'N., 5°56'E.) lies between Rossoya and the island of Fogn, on the NW, and the mainland, on the SE. It leads NE for about 3 miles from Hidlefjorden and Brimsefjorden and joins the S end of Saebosund and the outer end of Ytre Ardalsfjorden. Fognafjorden is 0.75 mile to 1.25 miles wide and throughout its middle part is deep and clear. Charted depths exceed 183m and all known dangers lie within 0.15 mile offshore.

Mosnesholmane, a group of three close-lying islets, are on the SE side of **Fisterfjorden** (59°09'N., 6°00'E.) within 0.4 mile NW of Helgoy. Kue is a small islet lies about 0.2 mile off the SE shore, nearly 0.75 mile NE of the larger islet of the group. A below-water rock is located close off the NE side of Kue.

**Anchorage.**—On the NW side of the fjord, vessels can anchor in Knarravag, an inlet on the S end of Randoy about 2 miles NNE of Hattholme; in Sandangervag, about 1 mile farther NE; and in Kvaløysund. An overhead cable, with a

vertical clearance of 21.9m crosses the entrance of Sandangervag.

On the SE side of Fisterfjorden, small vessel anchorage can be found in Fistervag, which is entered about 2 miles NE of Kue; and in Vassvik, about 2 miles further NE.

**2.26 Ardalsfjorden** (59°08'N., 6°00'E.), with its W end starting between Fognafjorden and Fisterfjorden, has numerous islets and dangers. Helgoy is separated from the mainland N by the narrow Helgoysund. A 10.1m shoal is located about 0.2 mile W of the W extremity of Helgoy. Kvaerholmane, within 91m of which there are some above and below-water rocks, lies about 0.4 mile off the S shore of Ardalsfjorden and 1.25 miles E of Hoylandsneset.

**Anchorage.**—Good anchorage is available off Fiska, on the S side of Ytre Ardalsfjorden about 1 mile SE of Hoylandsneset. A concrete quay at Fiska has depths up to 6m.

## The Outer Fjords

**2.27 Solbergfjorden** (Gapafjorden) (59°15'N., 5°55'E.) is the channel between the W side of Ombo and a group of islands and islets of which the largest are Kyrkjøy and Bjergoy. It leads N from the W approach to Garsundsfjorden to Nedstrandsfjorden and Jelsafjorden.

Solbergfjorden has a minimum width of about 1 mile and is deep and free from dangers in the fairway, except in the N part, where there are some rocks awash.

Gapaskjaergrunnane, which is awash in places, lies in the N part of Solbergfjorden about in mid-channel. An iron beacon marks the northernmost rock while an iron perch marks the southernmost rock.

Kvellandsholme is located on the W side of the fjord, about 0.2 mile off the SE extremity of Bjergoy. A submarine cable crosses the fjord close N of Kvellandsholme. A submarine cable lies between Bjergoy and Hidleholme, an island about 0.6 mile SE of Bjergoy.

**Tennholme** (59°17'N., 5°52'E.), on the W side of the N end of Solbergfjorden, lies on foul ground extending about 0.3 mile from the NE side of Bjergoy. The N and NE edges of the foul ground are each marked by an iron perch.

**2.28 Ombofjorden** (59°17'N., 6°07'E.) is the passage between Ombo and Josneset. To the E, it leads N from Garsundsfjorden to Jelsafjorden. The minimum width of the passage is about 1 mile. It is deep and free from dangers in the fairway.

On the E side of Ombofjorden, the coastal bank on the W side of the approach to Knutsvik, a cove about 2 miles NNW of the SW extremity of Josneset, is marked by an iron perch. Skarvagrund, a 3.7m depth, lies close offshore about 0.4 mile NNW of Knutsvik.

**Lysefjorden** (58°54'N., 6°05'E.) is entered between Oanes and a point about 0.4 mile SE. From the entrance, Lysefjorden extends in a general NE direction for about 20 miles to its head. The fjord is deep and free from dangers in the fairway. Noted for its wild and beautiful scenery, it trends between cliffs rising almost perpendicularly on either side to heights of from 610 to 914m.

In the entrance, the channel leads between shoals extending from either side and has a width of about 0.2 mile and a minimum charted depth of 10.1m. A buoy marks the edge of the shoal water off Oanes.

**Caution.**—A bridge, with a vertical clearance of 50m, spans Lysefjorden, about 2 miles from the entrance.

**2.29 Store Bergsholme** (58°56'N., 6°07'E.), with Lille Bergsholme close off its NW side, lies in Lysefjorden, about 2 miles from the entrance. Navigable channels pass E of the larger islet and W of the smaller islet. A depth of 11.9m is available through the E channel; greater depths can be found in the western channel, but a 15.1m bank, which lies within 183m NW of Lille Bergsholme, should be avoided. An overhead cable, with a clearance of 27m, spans the channel between Store Bergsholme and the coast to the NE.

A concrete quay, with depths alongside of up to 4m, is located at Oanes. A quay at Eidane, about 4 miles NE of Oanes, has depths up to 5m alongside. A quay at Bratteli, on the NW shore of the fjord 4.5 miles further NE, has depths from 6 to 9m alongside.

Kvassnos Light is shown from the S shore of the fjord in a position about 3 miles NE of Store Bergsholme.

A submarine cable is laid from a position 1.75 miles ENE of Kvassnos Light across the fjord to Sangesand; another cable is laid from the same position for about 7 miles E, close to the S shore.

A light is shown from the N shore of Lysefjorden in a position about 9 miles NE of Store Bergsholme. Kallasteinsgrunn, lying awash close off the N shore about 10 miles NE of Store Bergsholme, is marked by an iron perch.

**2.30 Fordesfjorden** (59°20'N., 5°23'E.) trends N for about 8 miles from its junction with Austdjupe and Boknaflaet at the N end of Hovringoy. It penetrates the mainland of the Haugesund peninsula; Fosenoy forms the S part of its W side. The minimum width through most of the fjord is about 0.3 mile, but islets reduce the navigable channel in places to a width of about 0.2 mile. Charted depths in the fairway are ample.

**Anchorage.**—Anchorage can be taken in Fosnavag, an inlet on the W side of the fjord, about 1 mile NW of Hovringoy. Hellevik, on the W side of the fjord about 1 mile N of Fosnaholme, provides a good anchorage for small vessels.

Leirvagholme, Skarveskjaer, Flogholmane, and several above and below-water rocks are in the S part of Fordesfjorden within 0.5 mile N of the N extremity of Hovringoy.

**Fosnaholmen** (59°18'N., 5°23'E.) is on the W side of the fairway about 1 mile NNW of Hovringoy. Fosnaflu, a rock with a depth of less than 1.8m and marked by an iron perch, lies about 0.2 mile N of Fosnaholme. Other rocks lie between Fosnaflu and the islet.

Hoyeholmane is on the E side of the fairway about 3 miles N of Fosnaholmen. Leirvagflu, a 3m depth, lies about 183m offshore and 0.15 mile SSE of the southernmost islet. Fjordenflu is a rock marked by an iron perch lying in mid-channel, about 3 miles N of Hoyeholmane.

Many islands, islets and other hazards lie between Fjordenflu and the head of Fordesfjorden.

Royksundviki, on the W side of the fjord about 0.5 mile N of Hellevik, provides good anchorage for small vessels.

**2.31 Falkeidflaet** (59°14'N., 5°31'E.), a basin, lies on the NW side of Boknafjorden and is formed by Austre Bokn and Ognoy on the W, the mainland of the Haugesund peninsula on the N, and a chain of off-lying islets on the SE.

Some islands and numerous islets, rocks, and shoals occupy the N part of the basin. General depths through the fairway of Falkeidflaet are 46 to 92m. A few detached shoal patches lie near the fairway.

The entrance to Falkeidflaet is between **Nordre Vagaholme** (59°13'N., 5°31'E.) and Flata Rova, a rock at the SW end of the islet chain fronting Falkeidflaet.

Austreflu, a 3m depth, lies on the SW side of the Falkeidflaet entrance, in a position about 0.2 mile ESE of the N end of Nordre Vagaholme.

Nautoyflu, a 6.4m depth, is located about 0.2 mile off the W side of Nautoy in a position about 1 mile NE of Nordre Vagaholme. Nautoygrunn, with a depth of 11m, lies about 0.25 mile WNW of this shoal.

**Gasaholme** (59°15'N., 5°32'E.) and Arvikholmen, together with some smaller islets and rocks, lie on foul ground in the NE part of Falkeidflaet. Holmeflu lies close off the NE end of Arvikholmen.

Arviksund is the passage between Holmeflu and Haugsneset, a mainland point about 0.3 mile N. It leads into Falkeidflaet from Hervikfjorden.

Austreflu lies at the edge of foul ground extending about 0.1 mile S from Haugsneset. A detached 10.1m depth lies about 183m N of Holmeflu. An 11m depth lies about the same distance SW of Austreflu.

Krake, with a depth of 5.9m, and Ytre Krake, above water, are located about 0.5 mile and 1 mile, respectively, WNW of Holmeflu. There is an 11m depth about 183m SE of Krake; rocks with depths of 4.6m and 6.4m lie within 0.4 mile of the N shore.

Deep-draft vessels should not use Arviksund because of the above-mentioned dangers.

**Caution.**—The mainland shore on the N side of Falkeidflaet is fringed by reefs; depths in the vicinity are very irregular, and undiscovered shoals may exist.

**2.32 Sandsfjorden** (59°21'N., 6°00'E.) trends in a general NE direction for about 11 miles from its entrance to its junction with Hylsfjorden. Skorpene, about 3 miles within the entrance, divides Sandsfjorden into three channels. The fjord then becomes narrow and winding until it opens again near Naevoy, about 5 miles farther NE. Depths through the fairway of Sandsfjorden are ample.

**Tides—Currents.**—In Sandsfjorden and in Saudefjorden, farther N, the tidal current (resultant of constant and tidal currents) usually runs outward. At the head of Saudefjorden, the current is strong and runs through the fjords to the narrow channel at **Ytre Asaroy** (59°25'N., 6°08'E.), where it may attain a velocity of 3 to 4 knots; then it passes N of Ottoy toward the W shore, with a branch setting S into Ottoysand, SE of Ottoy, out through the three channels at Skorpene, with about equal strength in all the channels.

**Kvitholm** (59°23'N., 6°03'E.) is on the W side of the main fairway about 3 miles NE of the entrance to Sandsfjorden. The channel width abreast the islet is about 0.2 mile. Two 7.5m depths are located about 0.2 mile and 0.5 mile SW of Kvitholm.

Skorpene lies about 0.3 mile N and 0.5 mile NW of Kvitholm. The easternmost of the three channels formed by these two islets is the main fairway. Midtholme lies about 0.2 mile NE of Kvitholm and an islet lies about 160m NE of the E Skorpene island; both dangers lie close W of the main fairway.

A 4.5m depth is located about 0.2 mile NW of the western Skorpene island. A rock, marked by an iron perch, lies close S of the 4.5m depth.

A 7m depth, marked by a buoy, lies about 91m N of **Ottøy** (59°24'N., 6°06'E.). A reef extends about 183m S from the shore N of Ottøy toward the fairway.

A light is shown from Foreholmen, which lies on the N side of the fairway about 0.5 mile E of the N extremity of Ottøy.

An above-water rock is located about 183m NW of Foreholmen.

**2.33 Sand** (59°29'N., 6°15'E.), where there is a quay with depths of 9 to 10m alongside, lies on the N side of the shallow mouth of a river flowing into the E side of the fjord. There are regular ferry services from here to Ropeid and Stavanger.

Omsmalneset, from which a light is shown, is a salient point on the E side of the fjord about 0.7 mile NE of Foreholmen. Between Omsmalneset and Blaskjaer, about 0.1 mile W, Sandsfjorden is at its narrowest and takes an abrupt turn N.

**Anchorage.**—Small vessels can take anchorage in the N part of the cove off Sand, to avoid a submarine cable in the S part, in 25m, clay.

Leirvik, on the W side of the fjord about 0.3 mile N of the entrance to Sandsfjorden, is a secure anchorage for small vessels except during E winds. It has a quay, with 2 to 5m alongside. Tveitavik, about 2 miles farther NNE, is exposed to the S. Small vessels can anchor on either side of a promontory at the head of the bay. There is a quay, with depths of 2 to 5m alongside.

Vatlandsvag, about 2 miles further NNE, has a qua, with depths of 3 to 12m alongside.

**Jelsafjorden** (59°19'N., 6°02'E.) trends E from Nedstrandsfjorden to Ersfjorden and is deep and clear throughout. Jelsahunden, marked by an iron perch, lies about 91m off the W entrance to **Jelsavag** (59°20'N., 6°02'E.), on the N side of Jelsafjorden. Jelsa, on the NE side of a bight close W of Jelsavag, has a quay with a depth of 5m on one side. Fuel oil and water are available.

**Anchorage.**—Small vessels can take good anchorage within Jelsavag.

**2.34 Okstrafjorden** (59°20'N., 6°06'E.) trends N from its entrance for about 2 miles to the entrance of Lindevik, where it becomes very narrow. It then continues NNE for 1 mile to its head. North of Lindevik, the narrow channel is shallow, restricted by rocks, and ice-bound in winter. In the lower narrows off Holenes, about 1 mile from the fjord entrance, tidal currents may often set strongly.

Charted depths in the fairway as far as Lindevik entrance are 40 to 82m. Some of the dangers in the fjord are marked by iron

perches. The lower narrows, for a distance of about 0.5 mile, is about 91m wide.

An overhead cable, with a clearance of 15m, crosses the narrow inner part of Okstrafjorden.

The **Josenfjorden** (59°15'N., 6°10'E.) entrance is between the SW extremity of Josneset and a point about 1 mile SE. The fjord trends NE and E for about 14 miles and is deep and free from dangers throughout. Within about 2 miles of its head, it is narrow. The land on either side of the fjord is very high; on the S side it is very steep.

**Anchorage.**—The anchorages in Josenfjorden are suitable only for vessels with local knowledge.

**2.35** The entrance to **Ersfjorden** (59°19'N., 6°08'E.) lies between Lyngneset, a projection at the NW end of Josneset, and Landsnes, about 0.5 mile N. Ersfjorden trends E for about 5 miles to Kileneset, has a minimum width of about 0.3 mile, and is deep and free from dangers in the fairway. The NW side of Landsnes is foul for about 183m offshore.

**Tyssefjorden** (59°21'N., 6°14'E.) is a narrow branch trending NNW from the E end of Ersfjorden for about 3 miles. The fairway is deep and clear, but is usually icebound in winter. A bridge with a vertical clearance of 23m spans the inlet entrance. The numerous anchorages in Tyssefjorden are only suitable for small vessels with local knowledge.

**Hylsfjorden** (59°31'N., 6°16'E.), from its junction with Sandsfjorden and Saudefjorden, trends ENE for about 10.75 miles to its head. It is deep and free from dangers in the fairway. Anchorages for small vessels with local knowledge are available in several places within the fjord.

**2.36 Saudefjorden** (Saudafjorden) (59°33'N., 6°17'E.) trends NNE for about 8 miles from its junction with Sandsfjorden and Hylsfjorden. The fjord is deep and free from dangers in the fairway.

In winter, Saudefjorden is icebound from its head S to Soland, which is on the W side about 4 miles NNE of the entrance.

A light is shown from Asneset, on the W side of the fjord, about 1 mile N of the entrance. A quay located in a cove S of Asneset has depths of 6m alongside.

A light is shown from **Ramsnes** (59°38'N., 6°20'E.), a point on the E shore, about 7 miles NNE of the entrance.

A light is shown from Saunes, on the N side of the fjord, about 1 mile N of Ramsnes.

Shoal water extends up to 0.2 mile offshore in places along the N shore of the fjord NE of Saunes. A buoy marks a sand and gravel bank at the mouth of a river.

Ekkjegrunn, with a depth of about 1.8m and marked by a lighted beacon, lies 0.2 mile WNW of Hesthamaren, a point on the E side of the head of Saudefjorden, about 1 mile E of Saunes. Several buoys also mark this shoal.

Saudasjoen is on the NW side of the head of the fjord. It has a concrete pier, 87m long, with a depth of over 9.1m alongside.

Two other piers, one 37m long and the other 46m long, have depths from 3 to 5.9m alongside.

**2.37 Sauda** (59°39'N., 6°21'E.) ([World Port Index No. 23460](#)) lies at the mouths of two rivers. There is an import

quay, about 252m, long with depths of 6 to 11m alongside. The export quay E of it, is 112m long, with depths of 8 to 9m alongside. The public quays have depths from 5 to 6m alongside.

**Anchorage.**—At the head of the fjord, vessels can anchor off Saudasjoen, in 11 to 20m, and off Sauda, in 40 to 50m, clay.

**Caution.**—Vessels going alongside the quays at Sauda must exercise caution because of the strong currents from the rivers.

Careful attention should be paid to wind direction.

**2.38 Vindafjorden** (59°20'N., 5°56'E.) trends NNW from its entrance for about 6 miles to Krossfjorden, a basin formed by the junction of four separate fjord arms. The E arm, under the name of Vindafjorden, leads ENE for about 9 miles.

From Krossfjorden, Sandeidfjorden trends NNW for about 5 miles, and Yrkefjorden trends SW for about 7 miles.

Vatsfjorden extends NNW for about 3 miles from about the middle of the N side of Yrkefjorden.

There are few good harbors in Vindafjorden and its connecting fjords to the N, due to the generally steep-to shoreline.

**Ice.**—Vindafjorden is usually free from ice. Ice sometimes forms in Sandeidfjorden, but seldom lasts very long.

Vatsfjorden and the head of Yrkefjorden may be icebound for several months continuously.

A light is shown from **Skjervheim** (59°28'N., 5°45'E.) in a position on the E shore of Vatsfjorden about 2 miles NNW of the entrance.

Flatskjaerbaen, at the S end of a reef on the E side of the Vatsfjorden entrance, is marked by an iron beacon. Forholme is a small islet at the N end of the reef.

A quay, with depths of 3 to 6m alongside, is located at Vikedal on the E shore of Sandeidfjorden.

A submarine cable is laid in Sandeidfjorden between Ilsvag and Sandeid at the head of the fjord.

An overhead cable, with a vertical clearance of 18m, crosses Yrkefjorden about 0.2 mile from its head.