

SECTOR 16

THE PERSIAN GULF—QATAR, BAHRAIN, SAUDI ARABIA, KUWAIT, AND IRAQ—RAS RAKAN TO KHAWR ABD ALLAH

Plan.—This sector describes the SW side of the Persian Gulf. The sequence of description is NNW from Ras Rakan.

General Remarks

16.1 An IMO-adopted Traffic Separation Scheme (TSS) lies within the waters covered by this sector and may best be seen on the chart.

Several offshore oil fields, some lying within charted limits or restricted areas, are present in the waters covered by this sector. Unauthorized vessels should avoid entering these restricted areas.

Vessels should navigate with extreme caution within or near such oil fields, as numerous hazards to navigation, charted and uncharted, lie both above and below-water here.

The coast between Ras Rakan and Khawr Abd Allah, about 260 miles NNW, is a low, sandy desert with a few small hills and very little vegetation. The S section of this coast is indented by a large bay, the approaches to which are encumbered with shoals, reefs, and the large island of Al Bahrayn. Because of these obstructions, the shallow waters of this indentation of the coast are avoided by all vessels except small native craft and shallow-draft barges. However, large vessels can reach the oil loading facilities at Ras Tannurah, Ad Dammam, and Sitrah through narrow deep-water channels.

The coast NW of Ras Tannurah to Al Kuwayt is indented by numerous small shallow bays enclosed by low sandy spits.

The approaches are encumbered by many reefs, some of which are unsurveyed. Channels lead into the oil loading terminals at Ras al Mishab, Al Fuhayhil, and several smaller terminals.

The coast N of Al Kuwayt is indented by Kuwait Harbor, the best anchorage in the W part of the Persian Gulf. The large marshy Jazirat Bubiyan, NE of Kuwait Harbor, is fronted by an extensive shoal.

With the exception of the oil terminals and a few towns, this section of the coast is not visited except by local craft.

Winds—Weather.—The prevailing wind along this section of the coast is from NW. On relatively calm mornings the wind may follow the contours of the coast, resulting in an increase of W winds along the S part of the coast.

For more detailed descriptions of the winds and weather along this coast, see the various parts of this sector pertaining to a specific place.

Tides—Currents.—The general current circulation along this coast is SE at less than 1 knot for most places. The currents are not uniform in nature or pattern; therefore, the particular area in question should be referred to for local conditions.

Caution.—It has been reported that some charted oil production platforms in the Persian Gulf may have been removed. In many cases, all that remains of the platforms are pipes extending from 3.1 to 6.1m above the surface; these pipes do not show up well on radar and are a hazard to navigation.

A Mine Danger Area (MDA) and several Former Mine Danger Areas, best seen on the chart, are located in the area covered by this sector. Mariners are warned that a greater mine threat exists within an MDA and no swept routes have been established in this area.

In a Former Mine Danger Area, mines could still present a hazard. Anchoring, fishing, or sea bed operations are not recommended anywhere within these areas. However, when anchoring is necessary, it should be carried out only within the designated anchorage areas, as directed by local authorities.

Caution is also necessary as drifting mines may be encountered anywhere.

Qatar—West Coast

16.2 Ras Rakan (26°11'N., 51°13'E.), the NW extremity of a low sandy islet which lies about 2 miles off the N end of Qatar, is marked by a light. Drying reefs lie between the islet and mainland. The coast SW of Ras Rakan forms the E side of Dawhat Salwa, an extensive bay. is entered between **Ras as Sauwad** (25°36'N., 50°48'E.) and **Ras Sayyah** (25°37'N., 50°16'E.). The coast of Saudi Arabia N of Ras Sayyah is described beginning in paragraph 16.10.

Al Rayyan (26°39'N., 51°33'E.) is an oil terminal located approximately 35 miles off the N coast of Qatar. The terminal consists of a storage tanker moored to an SPM buoy. The depth at the terminal is 27m. Vessels up to 270,000 dwt can be accommodated.

The pilot is also the loading master after the vessel is moored. The ETA messages should be sent 72 hours, 48 hours, and 24 hours in advance of arrival to the terminal operator. When within range contact should be made on VHF channel 16. The pilot normally boards 3 miles SE of the terminal. In rough weather the pilot may board by helicopter.

The anchorage is 3 miles SE of the terminal and offers a depth of 25m.

The island of Al Bahrayn lies in the entrance of Dawhat Salwa and is described beginning in paragraph 16.4. Reefs extend from the E side of Al Bahrayn to within 5 miles of the W coast of Qatar. To the S of the island and reefs, the bay has not been completely surveyed, but it is reported to be encumbered with reefs and shoals.

It has been reported (2008) that construction will begin in early 2009 on a 40-mile long causeway connecting the NW coast of Qatar with the SE coast of Bahrain. The project is scheduled for completion in 2011.

It has been reported (2009) that construction of the Qatar-Bahrain Causeway, connecting the NW coast of Qatar with the SE coast of Bahrain, is scheduled to begin in 2010. The structure will consist of 18km of embankments built in shallow water and 22km of viaducts and bridges built in deeper water, including two 400m-long cable-stayed bridges over deep-water shipping channels. It is estimated that construction will take

4.5 years to complete.

16.3 Ras Ushayriq (Ras Shayrij) (25°59'N., 51°00'E.) lies about 17 miles SW of Ras Rakan. The intervening coast is low and so light in color that it is difficult to distinguish, especially in the prevailing haze.

Partly-drying reefs fringe this coast and a shoal bank extends about 20 miles NW to the approach channels to Sitrah Anchorage and Al Manamah.

The coast affords difficult landing and is sparsely populated. Much of the foreshore of the coast is flooded at HW springs. Ras Ushayriq is low and rocky, with a conspicuous minaret and water tower. A pier extends 91m offshore.

Reefs and shoals extending E from Al Bahrayn join a shoal bank, with depths of 3.7 to 5.5m, extending W from the point. Zubarah Fort, about 3 miles E of Ras Ushayriq, is a conspicuous building with four towers.

Anchorage can be taken, in a depth of 5.8m, about 7 miles NW of the point.

Ras Dukhan (25°31'N., 50°47'E.) is the W point of a shallow inlet. There are several islands and islets lying within 14 miles of the point. Beacons mark the N end of the islets.

From Ras Dukhan, the coast trends S about 46 miles to the head of Dawhat as Salwa.

The coast SW of Ras Rakan forms the E side of Dawhat Salwa, an extensive bay. The island of Al Bahrayn lies in the entrance of the bay. Reefs extend from the E side of Al Bahrayn to within 5 miles of the W coast of Qatar. To the S of the island and reefs, the bay has not been completely surveyed, but it is reported to be encumbered with reefs and shoals.

The E side of Dawhat as Salwa consists of sandy shores rising to sand hills. The W side of the inlet is indented by several small bays separated by headlands consisting of sand dunes.

Anchorage off **Ras Uwayqil** (25°09'N., 50°34'E.) can be taken, in a depth of 6.1m. Landing in the vicinity is good.

Bahrain—East Coast

16.4 Al Bahrayn (26°05'N., 50°33'E.) is the principal island in an archipelago of islands, including Al Muharraq and Sitrah, which together form the independent Sovereign Arab State of Bahrain. Al Bahrayn, about 35 miles W of Ras Rakan, has low coasts and is uncultivated except for a belt of fertile land that is along the N end.

From a position about 4 miles S of the N coast, a rocky tableland extends S for several miles and stretches across the island from side to side in a series of small cliffs. Al Bahrayn is reported to give good radar returns up to 25 miles distant.

Jabal ad Dukhan (26°02'N., 50°33'E.) is a small compact group of dark hills rising midway between the E and W coasts.

The hills are usually the first objects seen when approaching the island. Oil tanks and water tanks on the hills and at Al Awali, 3 miles N, are prominent.

Winds—Weather.—The shamal reaches gale force at intervals but raises little or no ground swell at most of the moorings in Al Bahrayn; however, a short choppy sea makes up and is bothersome for small vessels.

Tides—Currents.—From Ras Rakan, the tidal currents set S along the coast. The currents are felt everywhere on Great

Pearl Bank, especially near the reefs and islands.

The edge of the bank extends WNW from a position about 35 miles NE of Ras Rakan. There are overfalls in places on the bank.

Off Al Bahrayn, and among the off-lying reefs, the tidal currents are very irregular and are much affected by the wind, but usually follow the trend of the reefs. At springs, the currents attain a velocity of 1 to 3 knots.

Jazirat al Muharraq (26°16'N., 50°38'E.), low and sandy, has conspicuous groves of date palms and several villages along its coasts. Reefs, extending up to 3.5 miles offshore in places, fringe the island on all sides.

The reef extending S from the island terminates in **Qassar Diwan** (26°11'N., 50°40'E.), a rock about 0.3m high. There is a ship repair yard (Arab Shipbuilding and Repair Yard) and drydock on the S end of the reef, NE of Qassar Diwan.

A causeway extends about 4 miles SSE of Jazirat al Muharraq. It is fronted by a coastal bank with depths of less than 5m.

A lighted buoy, with a racon, marks the limit of the shoal area extending SSE of Jazirat al Muharraq.

Qassar Khusayfah (26°18'N., 50°37'E.) is a low islet lying on the reef N of Jazirat al Muharraq.

16.5 Qalali (26°16'N., 52°39'E.), a village on the NE extremity of Jazirat al Muharraq, has several prominent towers associated with the airport SW of the village. Samahij, Al Dayr and Rayya are three villages on the N coast of the island.

Al Muharraq (26°15'N., 50°37'E.), a large town at the SW end of Jazirat al Muharraq, is connected to Al Manamah, on Al Bahrayn, by a stone causeway and a fixed bridge carrying a road. The bridge, with a vertical clearance of 4.6m, spans the deepest part of a boat channel.

The ruins of Abu Mahir, a fort with one large and three small towers, stands on a low spit at the S end of town.

The Quarantine Station and a minaret stand close N of the fort.

Al Hadd (26°14'N., 50°39'E.), a town located at the SE extremity of the island, is prominent when approaching from the E. A water tower in the town is conspicuous.

Sitrah (26°09'N., 50°37'E.), an island, lies close off the NE coast of Al Bahrayn. There are a few settlements among the date palms on the N side of the island. Two piers, one a T-head pier with a depth of 12m alongside, extend from the causeway which originates off the SE side of Sitrah.

About 0.5 mile SW of the S extremity of Sitrah, and on the E side of Al Bahrayn, is a concrete pier extending 0.4 mile SE, in a depth of 3.7m.

An oil refinery, oil tanks, and a high chimney are conspicuous about 1 mile inland from the root of the pier.

Sitrah Causeway, extending about 3 miles ENE from the E side of Sitrah, terminates at Sitrah No. 2 Oil Loading Wharf. The causeway carries a road and oil pipelines. A conspicuous water tower, marked by red lights, stands 1.5 miles NW of the root of the causeway. South of the oil tank farm there are a few scattered villages, but mostly the coast is barren and uninhabited.

The channel separating Sitrah from Al Bahrayn is very shallow and is spanned by a road bridge, which also carries oil pipelines from the Al Bahrayn refinery to the oil-loading piers.

Sitrah (Sitra) (26°10'N., 50°40'E.)

World Port Index No. 48320

Mina Salman (Sulman) (26°12'N., 50°38'E.)

World Port Index No. 48325

16.6 Sitrah Oil Terminal and Mina Salman, a dry cargo port, constitute the main berthing facility for the State of Bahrain.

General Organization of Seaports Bahrain Home Page<http://www.gop.bh/index.asp>**Winds—Weather**

Usually pleasant weather is experienced from November to March, while hot and humid conditions occur from April to October. The prevailing winds here are from the NW.

Strong wind gusts may occur with no prior warning.

Tides—Currents

Mean HWS rise 2.4m at Mina Salman, while it rises 2.1m at Sitrah. Mean LWN rise 1m at Mina Salman and 0.8m at Sitrah. Off Al Bahrayn, tidal currents are affected by the wind, but generally follow the trend of the reefs, attaining rates as great as 3 knots.

East of Jazirat al Muharraq, the tidal currents generally set N and S. Caution is advised near **Fasht al Dibal** (26°16'N., 50°57'E.), as the W tidal current sets S in the vicinity of the reef. Transiting vessels should keep well to the N.

Currents in the entrance to Khawr al Qulayah are strong,

sometimes reaching 4 knots. Due to recent port development, currents may be greater than expected.

Strong tidal currents of up to 1.5 to 2.0 knots have been reported (2007) off the new Khalifa Bin Salman facilities.

Depths—Limitations

Two fairways are available to vessels approaching Sitrah and Mina Salman. Vessels drawing less than 9.1m use an alternate fairway, while more deeply-laden vessels use Deep Draft Channel. Vessels drawing up to 12.2m may use Deep Draft Channel at any time, while those drawing up to 13.4m will be governed by the state of the tide. The Deep Draft Channel has a minimum width of 260m (slightly wider in the turns) and is being dredged (2009) to a depth of 15m.

Hayr (26°35'N., 50°48'E.), an extensive shoal with a least depth of 7.9m, obstructs the seaward approaches to the entrance channels. Shoal patches, with a least charted depth of 9.6m, lie up to 2.5 miles S of the shoal. An extensive artificial reef has been constructed NW of Hayr Shutaya, as best seen on the chart. On the E side of the approach channel, the 10m curve encloses most of the dangers, but several shoal patches, with depths between 5.5 and 9.8m, lie up to 7.5 miles N through W of Fasht al Dibal.

Foul ground E of Jazirat al Muharraq extends to within 0.3 mile of the track, about 6 miles E of the island.

Several wrecks and a submarine cable encumber the channel and are best seen on the chart.

Several shoal patches lie NE of Sitrah Anchorage, but are contained within the 10m curve. A natural basin, containing Sitrah and the shipyard N of it, lies at the end of the approach fairway. At the W end of this basin lies the entrance to Khawr al Qulayah and the dredged channel to Mina Salman.

Sitrah—Berthing Facilities					
Berth	Depth alongside	Maximum vessel			Remarks
		Size	Length	Sailing draft	
BAPCO Oil Terminal—No. 1 Island Wharf					
Berth No. 5	14.0m	110,000 dwt	274m	12.8m	Outer face.
Berth No. 6	13.3m	110,000 dwt	274m	12.8m	Inner face.
BAPCO Oil Terminal—No. 2 Wharf (BAPCO Wharf)					
Berth No. 1	12.8m	80,000 dwt	250m	12.3m	Outer face. Underkeel clearance of 0.7m is required.
Berth No. 2	12.9m	80,000 dwt	250m	12.3m	Outer face. Underkeel clearance of 0.7m is required.
Berth No. 3	11.9m	34,000 dwt	171m	10.3m	Inner face. A maximum sailing draft of 10.9m can be accommodated under suitable conditions. Underkeel clearance of 0.7m is required.
Berth No. 4	11.9m	25,000 dwt	160m	10.3m	Inner face. Underkeel clearance of 0.7m is required.

Sitrah—Berthing Facilities					
Berth	Depth alongside	Maximum vessel			Remarks
		Size	Length	Sailing draft	
BAPCO Oil Terminal—Coastal Tanker Berth					
Berth No. 7	5.5m	—	73m	4.88m	Vessels over 73m long but less than 79.2m long, with a maximum draft of 4.2m, can be berthed with special permission.
ALBA Jetty					
Outer Berth	11.3m	60,000 dwt	189m	10.7m	Bulk metal products. See Note 1.
Inner Berth	9.1m	25,000 dwt	165m	8.6m	Bulk metal products. Maximum beam of 21m. See Note 1 and Note 2.
GPIC Jetty					
Outer Berth	13.9m	35,000 dwt	202m	12.0m	Alumina imports. See Note 1.
Inner Berth	9.5m	12,000 dwt	152m	—	Aluminum exports. See Note 1.
<p>Note 1.—Vessels are berthed on a flood tide during daylight hours only; unberthing is done day or night on the flood tide.</p> <p>Note 2.—Vessels may experience heavy surging.</p>					

BAPCO Oil Terminal, at the end of a causeway extending from Sitrah Island, comprised of two separate facilities, provides six berths to vessels loading bulk petroleum products or LPG. No. 2 Wharf (BAPCO Wharf), a T-headed structure at the seaward end of Sitrah Causeway, has four berths. No. 1 Island Wharf, a detached structure lying close ENE of No. 2 Wharf, has two berths. Berth 7, the coastal tanker berth, lies about 0.3 mile SW of No. 2 Wharf. Only vessels using these facilities are allowed to transit the indicated area best seen on the chart.

ALBA Jetty, located about 0.3 mile SE of No. 2 Wharf, lies at the end of a causeway extending from the causeway supporting No. 2 Wharf and has two berths. The terminal will provide two shore springs.

Berthing information for BAPCO Oil Terminal and ALBA Jetty is given in the accompanying table titled **Sitrah—Berthing Facilities**.

Across from BAPCO Oil Terminal, the drydock at ASRY can accommodate vessels up to 500,000 dwt, with a maximum draft of 10m. Four wet berths can handle vessels with a maximum draft of 8.1m. There are two floating drydocks; the larger drydock can accommodate vessels up to 120,000 dwt, with a maximum length of 240m, a maximum beam of 41m, and a maximum draft of 9.4m.

The GIC Terminal, located NE of the ASRY Shipyard, offers a 850m long pier for vessels loading and discharging bulk solid commodities. The W side of the jetty (loading) has charted depths of 12.5 to 14.2m, while the E side of the jetty (discharging) has charted depths of 13.4 to 15.5m. Bulk carriers, up to 100,000 dwt, with a maximum length of 290m, berth on the E side of the jetty. Bulk carriers up to 60,000 dwt, with a maximum length of 240m, berth on the W side of the jetty.

The maximum permissible maneuvering draft at the jetty at all states of the tide is 12.8m. Berthing and unberthing is con-

ducted 24 hours, subject to weather and tidal conditions.

It has been reported (2008) that the lighted range leading to the terminal has been removed.

Khawr al Qulayah (26°13'N., 50°38'E.) is an extensive inlet circled by and containing reefs and other dangers best seen on the chart. A channel, with a least depth of 9.5m, leads through Khawr al Qulayah to a basin, with the same depth, off Mina Salman, although caution is necessary, as depths of less than 5m have been reported (2000) on the S side of the channel in the vicinity of Buoy No. 12. A secondary channel, with a least depth of 9.7m, leads S of the main channel, but rejoins it at the basin.

At Mina Salman, the Deep Water Jetty, which is 30m wide and 800m long, extends SE into Khawr al Qulayah and provides ten berths, each 150m in length. Berths 1, 3, 5, 7, and 9 are on the N side of the jetty, while Berths 2, 4, 6, 8, and 10 are on the S side of the jetty.

Container Terminal Quay extends NE from the root of the Deep Water Jetty. Berths 11, 12, and 13, with a total length of 900m, handle grain and general cargo. Berths 15 and 16, with a total length of 600m, handle container cargo. All berths have been dredged to a depth of 10.9m. Alongside depths are best seen on the chart. It has been reported (2010) that cargo operations formerly conducted at this facility have been transferred to Khalifa Bin Salman port and that the berths will eventually be converted into a facility for the importation of construction material.

A large area of reclaimed land forms the N port of Sitrah. Wharves, with depths of 8.5 to 8.8m, alongside lie at the N edge of this land. The wharves are approached via a channel dredged to a depth of 9m.

A small craft basin lies SW of the root of the Deep Water Jetty.

Khalifa Bin Salman (26°15'N., 50°45'E.), also known as Al



Mina Salman—Khawr al Qulayah Bridge



Mina Salman—Deep Water Jetty

Hidd, is a new port facility close E of the ASRY Shipyard and the GIIC Terminal and extending S to Sitrah Lighted Buoy. The facility consists of three container berths, each 300m long; two multipurpose/ro-ro berths, each 300m long; and one passenger berth, which is 300m long. The charted alongside depths at the berths range from 14.7 to 15.1m. The facility is entered through a 0.25-mile wide passage between a lighted

buoy close SW of the breakwater extending SW from the head of the pier and Lighted Buoy K1. Charted depths greater than 15m lie NE of a line joining Lighted Buoy K1, Lighted Buoy K2, Lighted Buoy K3, and Lighted Buoy K4, and are best seen on the chart. Vessels should note that Lighted Buoy K2 marks the seaward end of a shallow area containing depths of less than 10m.



Mina Salman—324° range on Qassar al Qulayah



Mina Salman—ASRY Shipyard



Mina Salman—GHC Plant



Mina Salman—GHC Terminal



Mina Salman—Khalid Bin Salman jetty light



Sitrah from N



Sitrah—GPIC Jetty (left), ALBA Jetty (center), and BAPCO No. 2 Wharf (right)



Sitrah—BAPCO No. 2 Wharf



Sitrah—No. 1 Island Wharf



Sitrah—ALBA Jetty (right) and GPIC Jetty (left)



Sitrah—ALBA Jetty



Sitrah—GPIC Jetty



Courtesy of General Organization of Seaports Bahrain
Mina Salman—Khalid Bin Salman from SSE



Courtesy of General Organization of Seaports Bahrain
Mina Salman—Khalid Bin Salman from E



Courtesy of General Organization of Seaports Bahrain
Mina Salman—Khalid Bin Salman Control Tower

Aspect

In clear weather, the first marks to be sighted are the white houses on Jazirat al Muharraq; several towers on **Jabal ad Dukhan** (26°02'N., 50°33'E.) are conspicuous from NE. Radio masts and a flagstaff on **Ras al Jufayr** (26°12'N., 50°36'E.) are prominent. All marks and aids are adversely affected by the dust and haze that curtails visibility in the entire area and navigational aids may be obscured. It has been reported (2003) that visual and radar navigation do not provide acceptable accuracy until in the vicinity of Approach Lighted Buoy No. 14.

Pilotage

Pilotage is compulsory for vessels over 250 grt intending to transit the entrance channel to Khawr al Qulayah.

Vessels between 250 and 1,500 grt may be given permission to proceed without a pilot according to the circumstances prevailing at the time.

Bahrain Pilots provides pilotage for all vessels bound for Khawr al Qulayah, as well as the GIIC Terminal, the ALBA Jetty, and the BAPCO Terminal. Bahrain Pilots can be contacted, as follows:

1. VHF: VHF channels 6, 8, 16, and 74
2. Telephone: 973-17727136

ASRY Pilots provides pilotage for vessels bound for the ASRY Drydock. ASRY Pilots can be contacted, as follows:



Sitrah Lighted Buoy

1. VHF: VHF channels 6, 8, 16, and 74
2. Telephone: 973-17671111

Both pilotage authorities coordinate their activities through Bahrain Port Control.

Vessels should send their ETA and maximum draft to the pilot 24 hours and 12 hours prior to arrival.

Pilots board in position 26°10'28.2"N, 50°44'22.2"E, about 0.4 mile ENE of Approach Lighted Buoy No. 18, except for the BAPCO Terminal; pilots for this facility board at the anchorage.

Regulations

BAPCO Terminal (Bahrain Petroleum Company BSC Terminal).—Vessels should send their ETA, draft, and bunker fuel requirements 48 hours in advance. When within VHF range and when at anchor, vessels should maintain a continuous listening watch on VHF channels 16 and 74.

The terminal can be contacted, as follows:

1. Call sign: BAPCO Terminal
2. VHF: VHF channels 16 and 74
3. Telephone: 973-17755661
4. Facsimile: 973-17755890

Berthing restrictions for LPG vessels are given in the following table:

Winds from N	Bow N	Berthing allowed when winds are less than 25 knots
	Bow S	Berthing allowed when winds are less than 10-15 knots
Winds from E through S	Bow N	Berthing allowed when winds are less than 10-15 knots
	Bow S	Berthing allowed when winds are less than 10-15 knots

The facility is closed when winds from the NNW exceed 35 knots. When winds are from E through S, the following ber-

thing restrictions are in effect:

Berth No. 1	Bow N	Berthing allowed when winds are less than 15-20 knots
	Bow S	Vessels up to 30,000 dwt may berth
Berth No. 2	Bow N	Berthing allowed when winds are less than 15-20 knots
	Bow S	Berthing not allowed
Berth No. 3	Bow N	Berthing allowed when winds are less than 15-20 knots
	Bow S	Berthing allowed when winds are less than 30 knots
Berth No. 4	Bow N	Berthing allowed when winds are less than 15-20 knots
	Bow S	Berthing allowed for coastal tankers when winds are less than 15-20 knots
Berth No. 5	Bow N	Berthing allowed when winds are less than 15-20 knots
	Bow S	Berthing allowed when winds are less than 35 knots
Berth No. 6	Bow N	Berthing allowed when winds are less than 10-15 knots
	Bow S	Berthing allowed when winds are less than 35 knots
Berth No. 7	Bow N	Berthing allowed when winds are less than 10-15 knots
	Bow S	Berthing not allowed

GIIC Terminal.—Vessels should send their ETA at least 72 hours in advance, including the following information:

1. Last three ports of call.
2. Arrival drafts, fore and aft, and berthing displacement.
3. State of readiness to berth/unload.

When within VHF range, vessels should establish contact with Bahrain Port Control and the BAPCO Terminal to obtain the latest movement schedule from Bahrain Pilots.

The terminal can be contacted in an emergency, as follows:

1. VHF: VHF channel 68
2. Telephone: 973-17673311

ASRY Drydock.—Vessels should send their ETA at least 72 hours in advance, including the following information:

1. Last three ports of call.
2. Arrival drafts, fore and aft, and berthing displacement.
3. State of readiness to berth/unload.
4. Whether vessel is gas free and ready to berth.
5. Whether vessel requires tank cleaning.

When within VHF range, vessels should establish contact with Bahrain Port Control and the BAPCO Terminal to obtain the latest movement schedule from Bahrain Pilots. When within VHF range, vessels should also establish contact on VHF

channel 16 with the ASRY Drydock.

The facility can be contacted, as follows:

1. VHF: VHF channels 16, 72, and 74
2. Telephone: 973-17671111
3. Facsimile: 973-17670236
4. Telex: 490-8455 ASRY BN

ALBA Jetty (Aluminum Bahrain).—Vessels should send their ETA at least 72 hours in advance, including the following information:

1. Last three ports of call.
2. Arrival drafts, fore and aft, and berthing displacement.
3. State of readiness to berth/unload.
4. Bunker requirements.

When within VHF range, vessels should establish contact with Bahrain Port Control and the BAPCO Terminal to obtain the latest movement schedule from Bahrain Pilots. When alongside, vessels communicate with the wharf staff on VHF channel 8.

The facility can be contacted, as follows:

1. VHF: VHF channel 8
2. Telephone: 973-17661751
3. Telex: 490-8253 ALBA BN

Vessel Traffic Service

A Vessel Traffic Service is in operation in the approaches to the port, including Deep Draft Channel and the Northeast Approach Channel.

Inbound vessels over 50 grt should contact Bahrain Port Control Operations, as follows:

1. Vessels should radio their ETA at Sitrah Lighted Buoy (26°10'27"N., 50°43'21"E.), with draft and details of any deficiencies in vessel handling or seaworthiness, when within VHF range.
2. Vessels using Deep Draft Channel should request permission to proceed past Lighted Buoy No. 1 (26°29'41.4"N., 50°59'27.0"E.).
3. When passing the charted Reporting Points.
4. Vessels should report their intention to anchor to Port Control in sufficient time for an alternative anchorage to be stipulated if required.
5. When berthed, moored, or anchored.

Outbound vessels over 50 grt should contact Bahrain Port Control Operations, as follows:

1. Vessels should contact Port Control 15 minutes before, and immediately prior to, getting underway. Vessels should note that it has been reported (2008) that initial contact with Port Control should be made 1 hour prior to getting underway.
2. When passing the charted Reporting Points.
3. Vessels using Deep Draft Channel should request permission to proceed past Bahrain Approach Lighted Buoy.

Vessels with a waterline length of less than 33m, when approaching Bahrain, are required to report to Bahrain Port Control prior to passing beyond the vicinity of the positions of the following check points:

- a. 26°27'25.2"N, 50°34'25.2"E. (about 1.8 miles SSW of the charted tower on the N end of Fasht al Jarim)
- b. 26°10'25.2"N, 50°54'31.2"E. (in the vicinity of Qitat



Deep Water Pier—106°54' outbound range

al Jaradah)

All vessels are required to maintain a continuous listening watch on VHF channel 74 when within the port area, including while anchored. Bahrain Port Control should be contacted if the vessel is to shift berth or anchorage and again when the vessel is situated.

Contact Information

Bahrain Port Control can be contacted, as follows:

1. Call sign: Bahrain Port Control
2. VHF: VHF channels 16 and 74
3. Telephone: 973-17162010
4. Facsimile: 973-17725534

Contact information for the GIIC Terminal, the BAPCO Terminal, the ASRY Drydock, and the ALBA Jetty can be found in Regulations.

Anchorage

Vessels berthing at Sitrah should have their outboard anchor cleared and ready to let go before approaching the dock; however, the anchor should not be let go in the vicinity of the dock, except on the advice of the Mooring Master.

Anchorage on arrival may be obtained, in depths of 18 to 20m, clear of the fairway, within one of the 11 designated anchorage areas (A1-A4 and B1-B7), which may best be seen on the chart. These areas are situated S or SE of Lighted Buoy No. 27. The roadstead is suitable for vessels over 100,000 dwt and



Khawr al Qulayah North Range from close W of the ASRY Shipyard

for vessels awaiting the tide before sailing. Caution is necessary to avoid the wrecks and obstructions, best seen on the

chart, lying in the S extremity of Anchorage Area A-1 and in the N extremity of Anchorage Area A-2, as well as in the area between the two anchorages.

Anchorage is prohibited in the open roadstead S and W of Sitrah Lighted Buoy.

Vessels carrying explosives anchor in an area shown on the chart centered about 1.2 miles SE of Sitrah Lighted Buoy, with a reported (2008) bottom of sand and shells. A dangerous wreck lies close outside the W limits of the explosives anchorage. The wreck is marked close NW by a lighted buoy.

Sitrah Inner Anchorage (26°11'N., 50°41'E.), the limits of which are shown on the chart in the approaches to the shipyard, is restricted to vessels acting under instructions of the port authority. Sitrah Anchorage shows charted depths of 9 to 15.4m, sand and shells. It has been reported that ships using this anchorage may be required to get underway on 1 hour notice. It has also been reported that large groups of jellyfish and plankton blooms pose a hazard to sea suction while at anchor.

Anchorage is available in Khawr al Qulayah sheltered from the shamal, clear of the shoals and dredged channel and prohibited anchorage areas shown on the chart, but the pilot should be consulted before anchoring.

Directions

Deep Draft Channel is intended for deep-draft vessels entering or departing the ports. Proceed as safe navigation permits to the vicinity of **Bahrain Lighted Buoy** (26°33.0'N., 51°03.6'E.); a recommended track, best seen on the chart, leads from Bahrain Lighted Buoy to a position in the vicinity of **Bahrain Approach Lighted Buoy** (26°21'44"N., 50°46'35"E.).

If the vessel's underkeel clearance is critical, a reduction in speed may be necessary within these areas. Vessels drawing less than 9.1m should keep clear of the deep water fairway and proceed as described below.

Vessels not authorized to use Deep Draft Channel should remain SE and E of Deep Draft Channel. From the vicinity of Bahrain Lighted Buoy, vessels pass SE of Lighted Buoy No. 2; NW of a dangerous wreck in approximate position 26°24'43.8"N, 50°56'51.6"E; SE of Caisson Wreck Lighted Buoy; NW of a dangerous wreck in approximate position 26°22.4'N, 50°53.5'E; N and W of Sitrah Inward Lighted Buoy; W of Vidal Lighted Buoy; E and S of Lighted Buoy No. 37; and then on to the pilot boarding position.

Caution

A local magnetic anomaly has been reported to exist in the vicinity of the Deep Water Jetty at Mina Salman.

Several wrecks, shoals, submarine cables, pipeline areas, and prohibited anchorage areas lie within the waters of the port.

Vessels should exercise caution if navigating outside of the defined channels in Khawr al Qulayah, as changes to the charted depths have been reported.

It has been reported (2009) that the intense background lighting in the port makes the lighted navigational aids difficult to distinguish at night.

It has been reported (2011) that moored vessels and background clutter may obscure navigational aids.

Less water than charted has been reported (1995) up to about 4 miles N of Sitrah Lighted Buoy.

Inbound vessels are cautioned that depths of less than 10m are charted along the Qasar al Qulayah Range just prior to the turn to use the Khawr al Qulayah North Range.

The charted range, located close W of the ASRY Shipyard and in range bearing 106°54', marking the outbound channel from the Deep Water Jetty, is difficult to discern from a distance. The front range is a black guano-covered triangle set close to the water; the rear range consists of three adjoining white/orange triangles that can blend into the background of the ASRY Shipyard behind it.

It has been reported (2007) that departing vessels have been leaving Deep Draft Channel and transiting the areas W and N of Fasht al Dibal. There are unconfirmed reports of uncharted rocks extending up to 8m off the sea bottom; other uncharted shoals may exist in this area. Vessels are recommended to remain in the marked and charted Deep Draft Channel.

Dredging and construction works are in progress (2009) in the vicinity of Khalifa Bin Salman Port and the GIIC Jetty.

It has been reported (2009) that, due to how close the buoys marking the Deep Draft Channel have been set to the channel limits, prevailing currents may cause these buoys to be set into the channel.

It has been reported (2009) that wind-borne dust can reduce visibility to less than 1.5 miles and the port may be closed when the visibility is reduced to less than 1 mile.

16.7 Al Manamah (26°14'N., 50°35'E.) (World Port Index No. 48310), the capital of the country, is located on Ras ar Rumman (26°14'N., 50°35'E.), the N extremity of Al Bahrayn. The town is an important commercial center. The outer harbor, about 4 miles N of the town, is used chiefly by local craft and ships discharging into lighters.

Winds—Weather.—Although Fasht al Jarim, the extensive detached reef N of Al Bahrayn, protects the harbor from the shamal, it does not prevent considerable sea from making up in the outer harbor. When the wind is strong, however, communication with the shore is seldom interrupted and vessels ride easily at the anchorage. Inner Harbor affords much better shelter, but it is usually full of local craft.

Tides—Currents.—The tidal current N of Jazirat al Muharraq sets WSW and ENE at a velocity of 1 to 2 knots.

The tidal current setting S along the E side of Fasht al Jarim joins the WSW current and turns SW into the harbor.

The tidal current setting NE across the entrance of Inner Harbor is appreciable and caution is advised.

Depths—Limitations.—The least depth in the approach channel to Outer Harbor is 6.1m; from Outer Harbor to Inner Harbor it is 4.6m, but vessels drawing more than 4m should not enter Inner Harbor. Depths in Outer Harbor are 5.8 to 11.9m; depths in the Inner Harbor are 1.8 to 5.5m.

The principal dangers in the approach to Al Manamah include **Fasht al Jarim** (26°24'N., 50°30'E.), an extensive reef having its N end about 17 miles NNW of Qalali.

Three low-lying islands have been constructed from material dredged from a channel which extended 2.7 miles NE from position 26°23'N, 50°27.5'E. The NE end of the channel ends in a small harbor surrounded by reclaimed area. The harbor is dredged to 4.7m, the channel depth is 3.6m and marked by bea-

cons.

Jadam (26°22'N., 50°30'E.), a sand bank, is the S extremity of Fasht al Jarim; shoal flats extend S and at least about 6 miles E. Detached 5.5m patches lie up to 3.5 miles E.

Ras Khusayfah Spit (26°19'N., 50°35'E.), with very shallow depths, extends 3.5 miles NW of **Qassar Khusayfah** (26°17'N., 50°37'E.) and close to the fairway.

West Spit (26°17'N., 50°31'E.), with depths up to 5.5m, lies on the W side of Outer Harbor and is marked close E by a lighted buoy. Al Manamah is fronted by drying reefs which extend N from the town and NE to Jazirat al Muharraq, which is also fronted by drying reefs extending 2.5 miles NW to Outer Harbor of Al Manamah.

Ras Dawarin (Ras Zurawen) (26°15'N., 50°34'E.), marked by a lighted beacon, is the W extremity off Ras ar Rumman.

Al Manamah Harbor is entered between Ras Khusayfah Spit and the shoal flat extending SE from **Jadam** (26°22'N., 50°30'E.).

The Inner Harbor is a bight in the reefs WNW of Al Manamah. It affords good shelter and is usually congested with small vessels having a draft of less than 4m. The reefs bordering Inner Harbor are all flat and show up well in a good light. There are several small piers for shallow draft craft only.

Customs Pier, with a depth of 1.5m alongside, has a floodlit tower at its head.

Aspect.—Several mosques are reported conspicuous in Al Manamah. About 2.5 miles SW of Ras ar Rumman are the ruins of a large mosque with twin minarets. The upper part of the minarets are good marks over the tree tops until the ship nears Inner Harbor.

Abu Mahir Fort (26°14'N., 50°37'E.), with its several towers, is conspicuous from the anchorage. It stands on a low detached bank which becomes an islet at HW. Domes on the Ruler's Palaces are good marks. Portuguese Fort, a shapeless light-colored heap of stones 3 miles W of town, shows up well in the early morning light.

Pilotage.—There is no pilotage service.

Anchorage.—Anchorage is available in Outer Harbor, in depths of 7 to 9m, over a bottom of sand and coral, with the N end of Jazirat al Muharraq bearing between 085° and 090°.

Caution should be taken when anchoring here, as a dangerous wreck, with a depth of 9.1m, and two submarine cables lie in the vicinity. Vessels with a draft of less than 4m may anchor in Inner Harbor over a bottom of sand and mud, with the lighted tower on Ras Dawarin bearing 000°, distant 0.5 mile.

Directions.—From seaward, proceed as safe navigation permits to Bahrain Approach Lighted Buoy (26°22'N., 50°47'E.).

From Bahrain Approach Lighted Buoy, steer W to pass close S of Bahrain Outer Lighted Buoy (26°21'N., 50°42'E.) and then N and W of Bahrain Inner Lighted Buoy, lying 5 miles NW of the N extremity of Jazirat al Muharraq.

At Bahrain Inner Lighted Buoy, alter course to bring the W shoulder of **Jabal ad Dukhan** (26°02'N., 50°33'E.) to bear 182° ahead, and keep it so, until approaching the anchorage.

Alternatively, steer for Portuguese Fort bearing about 195°, ahead, until the N end of Al Muharraq bears about 105°; then alter course as necessary for the anchorage.

Caution.—It is essential that the vessel fix its position accurately before entering the channel, as the buoyage has been reported to be unreliable. If the vessel's position is in doubt, it

should not proceed into depths of less than 11m.

If the buoys are not seen due to poor visibility, the vessel should fix its position frequently. Particular caution should be taken to avoid the shoal patches E of Fasht al Jurin and those off Ras Khusayfah Spit.

Artificial reefs lying W of Fasht al Jurin can reduce charted depths by as much as 2m.

16.8 From Al Manamah, a channel leads NW among the reefs and other dangers to the anchorage at Ras Tannurah, a distance of about 30 miles. Vessels with a maximum draft of 4.6m can transit this channel.

Pilots, embarked at Al Manamah, should be employed. This passage is entered between **West Spit** (26°17'N., 50°31'E.) and the flat extending S from Fasht al Jarim.

For the first 6 miles, the channel is about 1 mile wide, but then opens into a basin known as Khawr al Bab.

There are a few 5.5m patches in the fairway, and in **Khawr al Bab** (26°24'N., 50°25'E.), an extensive shoal with a least depth of 4.1m.

From Khawr al Bab, the passage leads between **Najwah** (26°33'N., 50°15'E.), a reef marked 0.5 mile W by a lighted beacon, and **Hayr as Sarah** (26°32'N., 50°24'E.), a pearl bank.

There are depths of about 9.1 to 14.6m between the reef and bank. Lighted buoys mark the fairway.

Bahrain—West Coast

16.9 The N side of Al Bahrayn is fronted by reefs and shallows extending as far as 4.5 miles offshore.

Umm an Nasan (Umm Nasan) (26°09'N., 50°24'E.) is a low and sandy island with two rocky peaks, the W of which is conspicuous. Two very small islands lie on the fringing reef N and NE of Umm an Nasan. A submarine oil pipeline, laid from Al Khubar, is landed on the coast of Al Bahrayn, just E of Umm an Nasan.

Malik Fahd Causeway (26°10'N., 50°22'E.) spans Dawhat Salwa, between Saudi Arabia and Al Bahrayn. The bridge/causeway, which extends along the N shore of Umm an Nasan, may best be seen on the appropriate chart. The main navigational span in the causeway is Bridge No. 3, located 4 miles from the Saudi Arabian shore.

The width of the span is 122m, with a vertical clearance of 28.5m and a depth under the span of 7m. The fairway, for a distance of 0.8 mile on each side of the bridge, is marked by lighted beacons.

Bridge No. 1 and Bridge No. 4, situated 0.5 mile and 7.5 miles, respectively, from the Saudi Arabian shore, both have a span with a navigable width of 45m, a vertical clearance of 15.5m, and a depth under the span of 5.5m.

Bridge No. 5, at the E end of the causeway between Al Bahrayn and Umm an Nasan, has a navigable width of 45m, a vertical clearance of 13m, and a depth under the span of 4.5m.

Lights are shown from the channel piers of all the bridges; green lights are shown on the W side of the span while red lights are shown on the E side of the span. The piles are floodlit.

Anchoring and fishing are prohibited within 500m of all embankment bridges and navigational channels.

Az Zallaq (26°03'N., 50°29'E.) is a village with a T-head

pier having a depth of 2.4m alongside. Barges from the mainland discharge cargo at the pier. Landing is good at the village only.

Anchorage is taken about 3 miles off the village, in a depth of 9m, with the highest peak on Umm an Nasan bearing 335°. The anchorage should be approached with the village bearing 081°.

Ras al Barr (25°48'N., 50°34'E.), the S end of Al Bahrayn, is a long low, sandy point which cannot be approached closer than 5 miles due to shallow flats which extend to Az Zallaq.

Caution.—Extensive changes to depths and navigational aids have occurred off the SE and SW coasts of Bahrain and in Dawhat Salwa. Vessels are urged to navigate with caution in these areas, especially S of 26°00'N.

Saudi Arabia—Dawhat az Zuhun to Damman Port

16.10 Dawhat az Zulum (26°00'N., 50°05'E.) is an extensive shallow basin located 23 miles NW of Ras Sayyah (25°37'N., 50°16'E.), with uninhabited shores backed by many sand hills, one of which rises 36m on the S side of the basin.

Between the W end of Al Bahrayn and the mainland W, the passage is obstructed to a great extent by reefs, through which constricted and shallow channels lead to the mainland and Az Zallaq.

The preferred channel lies close W of Umm an Nasan. It is marked by lighted beacons, even numbered on the E side, and has a least depth of 4.9m. Natural landmarks in the area are best in fixing positions, but there may be difficulty due to refraction and mirage.

The tidal currents set N and S, attaining a rate of 2 or 3 knots at springs.

Al Aziziyah (26°11'N., 50°13'E.), about 19 miles NNE of Dawhat az Zuhun, has a prominent desalination plant, a power station with five conspicuous chimneys, and a jetty used by local tankers. Two more jetties stand 1 mile S of Al Aziziyah. Unauthorized navigation is prohibited in the approach channel to these jetties, which has a depth of 6m and is marked by buoys.

The W end of the Mina Faud Causeway, linking Saudi Arabia and Bahrain, is located about 3 miles N of Al Aziziyah and has been previously described in paragraph 16.9.

Al Khubar (26°17'N., 50°13'E.) lies 6 miles N of Al Aziziyah and is approached from the S via a channel leading W close N of the causeway, then N between the coastal bank and **Hadd Shabib** (26°14'N., 50°14'E.), an extensive rocky shoal area fronting this part of the coast. The harbor is used only by local fishing vessels. There are depths of less than 6m in the channel, which is marked by buoys.

Az Zahran (Dhahran) (26°18'N., 50°08'E.) is a city and the site of oil tanks and pipelines leading to Ad Dammam and Al Khubar.

Ras Kawakib (26°22'N., 50°13'E.), on the mainland about 15 miles NW of Al Bahrayn and 5 miles N of Al Khubar. Reefs extend 8 miles E and NE from the point, with drying sand banks at the reef's outer end. Al Midra ash Shamali is a high conspicuous hill about 8 miles WSW of Ras Kawakib. A large radar scanner is on it.

16.11 The coast from Ras Kawakib to Ras Abu Ali is fronted by many reefs and shoals, through which are several channels marked by navigation aids. The shores are generally low and sandy along this coast, with the oil tanks and refinery on Ras Tannurah the most conspicuous objects.

With the exception of the settlement at Al Jubayl, the coast is almost uninhabited. Detached shoal patches lie as far as 40 miles offshore. A channel suitable for the arrival and departure of deep-draft vessels, and governed by a Traffic Separation Scheme, provides access to the portion of the coast containing Ad Dammam, Ras Tannurah, and Ju Aymah terminals.

Ad Dammam and Ras Tannurah may also be approached from the E by an inshore channel, described below.

Vessels utilizing this channel are restricted in length and draft; see the channel descriptions for details. Ju Aymah Oil Terminal is provided with a separate deep-water departure channel, which is described below.

The deep-water approach and departure channels for all three terminals are governed by an IMO-adopted Traffic Separation Scheme, best seen on the appropriate chart.

Mariners are reminded that Rule 10, of the International Regulations for Preventing Collisions at Sea, applies to IMO-adopted Traffic Separation Schemes, and that a vessel not using a Traffic Separation Scheme shall avoid it by as wide a margin as is practicable.

Depths—Limitations.—Vessels utilizing Main Channel are required to maintain an underkeel clearance of 1.5m at all times. Entering vessels are restricted to a draft of 16.5m plus the height of tide for an absolute maximum draft of 18m.

Departing vessels with a draft in excess of 19.5m must wait for enough of a tidal rise to maintain the required underkeel clearance.

Main Channel, entered about 50 miles N of **Jazirat al Mu-harraq** (26°16'N., 50°37'E.), is available to dry cargo vessels approaching Ad Dammam with a draft of more than 10.4m, the channel is also open to tankers approaching Ras Tannurah with like drafts, and lengths of 244m or greater.

All other vessels should use East Channel. All vessels approaching Ju Aymah should use Main Channel. Main Channel shows general depths of 25 to 45m from the N end of the TSS to its junction with the traffic lanes for Ju Aymah.

South of the junction, the inbound lane is restricted to a width of about 0.2 mile due to a shoal reported to exist in position 26°50.5'N., 50°10.0'E.

The S end of the scheme has been wire dragged to a depth of 17.7m. The critical area in the outbound lane is in the vicinity of the S end. The dangers lying near Main Channel are described with Ras Tannurah in paragraph 16.14.

The Ju Aymah Departure Channel, with depths of 38 to 56m, provides a safe route for laden vessels proceeding from Ju Aymah Oil Terminal to sea, and is best seen on the chart.

East Channel is a buoyed channel providing access to Ad Dammam or Ras Tannurah. This fairway is open to dry cargo vessels drawing 10.4m and less, or tankers of like drafts and lengths of less than 244m. The fairway is reported to have a least known depth of 12.2m, but passes over an 11.9m depth about 15 miles NE of Ras Tannurah.

Pilotage.—See Damman Port (paragraph 16.12) and Ras Tannurah (paragraph 16.14) for details on pilotage.

Regulations.—See Pub. 160, Sailing Directions (Planning Guide) South Atlantic Ocean and Indian Ocean for details pertaining to vessels in Saudi Arabian waters.

See Damman Port (paragraph 16.12) and Ras Tannurah (paragraph 16.14) for details on required entry messages, departure regulations, and other regulations.

Inbound vessels should contact the Ras Tannurah pilots on VHF channels 14 and 16 when 100 miles from Ras Tannurah/Ras al Ju Aymah for anchoring, boarding, and berthing instructions.

Inbound vessels may not exceed a speed of 5 knots between Lighted Buoy E and the S limit of the tanker anchorage E of Sea Island. After passing S of Lighted Buoy 9, inbound vessels must not overtake and must maintain an interval of at least 1 mile between ships proceeding in the same direction.

Outbound vessels may not exceed a speed of 5 knots between the S limit of the tanker anchorage and Lighted Buoy G and Lighted Buoy 18. Until N of Lighted Buoy B, outbound vessels may not overtake and must maintain an interval of at least 1 mile between ships proceeding in the same direction.

All vessels using East Channel should keep to the starboard side of the fairway. Overtaking is prohibited between Lighted Buoy RTE 4 and Lighted Buoy RTE 8. Outbound vessels should not depart this channel until Lighted Buoy RTE 2 has been cleared.

All anchored vessels should maintain a listening watch on VHF channels 10 and 16.

Anchorage.—North Holding Anchorage, centered about 28 miles N of Ras Tannurah, shows charted depths of 25 to 47m, bottom quality unknown. Holding Anchorage, about 20 miles NE of Ras Tannurah, shows charted depths of 19.8 to 23m, bottom quality unknown.

Directions.—See also the Regulations topic. Sail as safe navigation permits to the vicinity of Ras Tannurah Lighted Buoy, then proceed W to the appropriate lane of the Traffic Separation Scheme. If proceeding to North Holding Anchorage, do not leave the TSS until clear of Ras Tannurah Entry Lighted Buoy in position 27°06'N, 50°23'E.

Take care when navigating near either end, but exercise particular caution near the junction of Main Channel and the Ju Aymah traffic lanes; partially-loaded tankers sailing from Ras Tannurah to Ju Aymah may be met, in addition to other traffic following the scheme.

Vessels sailing from North Holding Anchorage to the berths should enter the inbound lane of the Traffic Separation Scheme and not pass W of **Fasht Gharibah** (27°00'N., 50°13'E.).

Vessels that are departing Ras Tannurah and are heading for North Holding Anchorage should follow the outbound traffic lane as through proceeding to sea, then alter course W at Ras Tannurah Approach Lighted Buoy and proceed to the anchorage.

Vessels should not cross the separation zone in order to proceed directly to the anchorage.

Vessels should steer WNW to pass 1 mile N of Lighted Buoy RTE2. Then alter course to SSW to pass W of Lighted Buoy RTE6 and E of Lighted Buoy RTE5; then steer WSW to pass between Lighted Buoy RTE7 and Lighted Buoy RTE8.

Take care not to steer too N a course, as Hayr Khawrah, a shoal with a least charted depth of 3.6m, lies just N of the track. The channel passes between many shoals and dangers best seen on the chart.

Caution.—Local authorities should be contacted for the latest information on depths and approach routes before using the Eastern Channel.

Dammam Port (26°30'N., 50°12'E.)

World Port Index No. 48335

16.12 Dammam Port, also known as King Abdul Aziz Port or Mina al Malik Abd al Aziz, is the principal dry cargo port on the E seaboard of Saudi Arabia. The port is connected by road and rail to the mainland. The port is formed entirely on reclaimed land.

The basins and jetties are connected to the mainland by a wide causeway, 3.5 miles long, carrying a road and a railway.

Another large area of reclaimed land, known as Al Shati, extends 3 miles N from the town of Ad Dammam, 3 miles W of the causeway.

There is limited shelter for small craft at the SE corner of Al Shati, but otherwise there are no port facilities at Ad Dammam.

Saudi Ports Authority Home Page—The Ports

<http://www.ports.gov.sa>

Damman Port—Berth Information							
Berth	Length	Depth	Remarks	Berth	Length	Depth	Remarks
East Basin				West Basin			
No. 1	240m	14.0m	Bulk grain. Can accommodate a vessel with a maximum draft of 13.5m.	No. 23	240m	12.6m	Containers.
No. 2	240m	14.0m	Bulk grain.	No. 24	240m	12.7m	Containers.
No. 3	240m	14.0m	Bulk grain.	No. 25	240m	13.8m	Containers.
No. 4	180m	12.0m	General cargo.	No. 26	240m	13.8m	Containers.
No. 5	180m	12.0m	General cargo.	No. 27	240m	13.8m	Containers and ro-ro.
No. 6	150m	9.0m	General cargo.	No. 28	240m	13.8m	Discharging grain.