Chart Coverage in Coast Pilot 5—Chapter 11
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
96°W
95°30'W
95°W
29°30'N
97°30'W
97°W
96°30'W
T E X A S
29°N
SAN LUIS PASS
Freeport
Matagorda
Port Lavaca
MATAGORDA BAY
28°30' N
MATAGORDA SHIP CHANNEL
SAN ANTONIO BAY
28°N
11311
ARANSAS PASS
Corpus Christi
Port Aransas
11309
27°30'N
11308
BAFFIN BAY
G U L F O F M E X I C O
27°N
LAGUNA MADRE
Port Mansfield
26°30'N
11303
Port Isabel
BRAZOS SANTIAGO PASS
11302
26°N
Brownsville
11301
M E X I C O

San Luis Pass to the Rio Grande

(1) This chapter describes the Texas Gulf Coast from San Luis Pass to the Rio Grande, a distance of about 238 miles, and Matagorda, Tres Palacios, Lavaca, Aransas and Corpus Christi Bays and their tributaries. Also discussed are the deepwater ports of Freeport, Point Comfort, Corpus Christi and Brownsville and many of the smaller barge ports.

(2)

COLREGS Demarcation Lines

(3) The lines established for this part of the coast are described in **33 CFR 80.845** and **80.850**, chapter 2.

(4)

ENCs - US3GC01M, US3GC02M
Charts - 11300, 11330

(5) From San Luis Pass to the entrance to Matagorda Bay at Pass Cavallo, the coast trends for 80 miles in a general southwest by west direction. From Pass Cavallo it curves gently southwest for 100 miles to latitude 27°N., where the trend is south; thence it curves gently a little east of south for 58 miles to the mouth of the Rio Grande. Throughout its whole distance the coast encloses a chain of shallow bays or lagoons, some of considerable size. These are separated from the Gulf by long, narrow islands and peninsulas that are generally low and sandy, with few natural distinguishing marks. Some of the bays and lagoons may be entered from the Gulf through dredged passes protected by jetties and others through small passes partly obscured by bars with little depth on them.

(6)

Shipping safety fairways and fairway anchorages

(7) A system of shipping safety fairways has been established along the Gulf Coast to provide safe lanes for shipping that are free of oil-well structures. Vessels approaching the passes and entrances to ports or bound along the Gulf Coast between San Luis Pass and Brazos Santiago Pass should proceed in the charted shipping safety fairways. Caution should be exercised when approaching or navigating in these fairways as they are unmarked.

(8) **Fairway Anchorages** have been established off some of the entrances to the ports, which will be generally free of oil-well structures. (See **33 CFR 166.100** through **166.200**, chapter 2, for regulations governing the **fairways** and **anchorages**.)

(9)

Dangers

(10) The coast has fairly uniform depths with few outlying dangers except in the vicinity of the passes and off the mouths of the San Bernard and Brazos River where shoaling to 10 feet is reported as far as 3/4 mile offshore; otherwise, vessels of a 40-foot draft can approach to within 6 miles of the shore. Other reported dangers are about 20 miles southwest of the entrance to the Brazos River and consist of occasional ridges of soft mud having as little as 4 fathoms over them, with general surrounding depths of 5 to 5½ fathoms. Oil wells may be encountered offshore, especially in the vicinity of Freeport Harbor. Mariners are cautioned to give them a wide berth especially when drilling operations are in progress.

(11)

Caution

(12) Hurricanes have caused considerable damage in the Gulf Coast area. Mariners are advised to exercise extreme caution as depths may vary from those charted and mentioned in the Coast Pilot. In addition, several hurricanes have created many new cuts or passes through the beachbarrier islands. Many of these cuts were reported in the stretch of beach extending north from about 6 miles north of Port Mansfield Channel for a distance of 20 miles. These openings in the beach should not be used for navigation.

(13)

Currents

(14) Along the west side of the Gulf of Mexico between Tampico and Corpus Christi is a north flow which in the vicinity of the 100-fathom curve off the mouth of the Rio Grande has an average velocity of nearly 0.5 knot.

(15) Strong currents caused by winds would be expected to set somewhat to the right of the wind direction or, near the coast, in a direction parallel to the shoreline, current velocities of 0.5 to 1 knot being produced by wind velocities of 20 to 40 miles per hour.

(16) However, it has been reported that at times strong currents set west toward the coast and the possibility of being carried inshore by such currents should be guarded against. The grounding of a vessel at a location 9 miles southwest of Aransas Pass was reported caused by strong west currents that accompanied winds from the north and northeast.

(17)

Weather

(18) The climate of the coast from San Luis Pass to the Rio Grande is the product of the combined effects of the

(23)

METEOROLOGICAL TABLE – COASTAL AREA OFF CORPUS CHRISTI, TEXAS
Between 26°N to 29°N and 95°W to 98°W

WEATHER ELEMENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARS OF RECORD
Wind > 33 knots [1]	1.6	2.0	0.8	0.4	0.3	0.1	0.0	0.1	0.6	0.8	1.5	1.5	0.7
Wave Height > 9 feet [1]	3.8	4.2	2.7	1.8	1.0	0.7	0.4	0.1	1.1	1.8	3.8	4.2	1.9
Visibility < 2 nautical miles [1]	4.3	2.4	3.5	3.3	1.1	0.6	0.3	0.2	0.5	0.3	0.8	1.9	1.5
Precipitation [1]	6.1	4.4	2.8	2.3	2.3	2.6	1.5	3.0	3.9	2.4	3.2	5.7	3.3
Temperature > 69° F	20.0	22.0	30.0	69.8	95.9	99.9	100.0	100.0	99.4	91.1	64.6	34.7	72.5
Mean Temperature (°F)	62.4	64.7	67.3	72.1	77.1	82.2	83.6	83.7	82.3	77.2	71.1	65.7	74.9
Temperature < 33° F [1]	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mean RH (%)	80	78	81	83	84	81	79	79	77	75	78	78	79
Overcast or Obscured [1]	42.5	32.3	35.4	27.6	17.5	8.3	6.2	8.5	11.8	12.3	24.8	35.7	20.6
Mean Cloud Cover (8^{ths})	5.5	4.8	5.1	4.8	4.3	3.6	3.5	3.9	4.0	3.7	4.5	5.2	4.3
Mean SLP (mbs)	1020	1018	1016	1014	1013	1014	1016	1015	1014	1017	1018	1019	1016
Ext. Max. SLP (mbs)	1040	1041	1036	1034	1031	1027	1025	1029	1027	1033	1041	1040	1041
Ext. Min. SLP (mbs)	999	1000	990	991	990	1001	1001	1001	992	997	994	998	990
Prevailing Wind Direction	N	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	N	SE
Thunder and Lightning [1]	0.8	0.6	0.8	1.1	2.3	2.1	1.2	2.4	2.8	1.1	1.6	1.0	1.5

[1] Percentage Frequency

humid subtropical region to northeast, the semi-arid area to west and southwest and the warm, moist, moderating influences of the Gulf of Mexico. The maritime flow predominates, modifying the humidity and temperatures and decreasing the range of extremes. As a result, the few continental cold fronts reaching this coast are seldom severe. Winters are usually mild, and temperatures rarely drop below freezing in coastal waters. Inland, freezes occur on about 4 to 8 days annually. Spring is characterized by mild, brisk days with frequent showers. There is little change in the day-to-day weather of summer, except for an occasional rain shower or possibly a thunderstorm. Tropical cyclones are a threat from late May into early November. The early fall is an extension of summer, while November is a transition to winter with its greater temperature ranges, stronger winds and first occurrences of "northers."

(19) While the frequency of north winds increases in winter because of the southerly latitude, southeasterlies remain predominant. However, northerlies and northeasterlies are responsible for most of the windspeeds over 20 knots. At times during the winter, an atmospheric wave will develop along a stationary front off the coast. This is usually associated with the remnants of a polar high. These waves may intensify and head northeast. They can develop into strong extratropical storms, known as "Texas Lows." Offshore, gales blow 1 to 2 percent of the time, and seas of 8 feet or more occur 10 to 15 percent of the time from November through March. Seas of 20 feet or more, while not frequent, do occur occasionally during winter.

(20) Another winter navigational hazard is fog, which is reported 2 to 7 percent of the time in open waters from December through April. Visibilities fall below 0.5 mile about 1 to 3 percent of the time. Fog is most likely with winds out of the east through south.

(21) During the warmer months, the Bermuda High increases in strength and generates a persistent southeasterly flow, which produces an almost monotonous summer period interrupted only occasionally by a rain shower or tropical cyclone. Windspeeds drop, on average, during the summer, although annual extremes are likely to occur if there is hurricane activity. On average, an 85-knot wind is likely once in 10 years, while a 105-knot wind blows once every 50 years.

(22) While the hurricane season lasts from late May into early November, tropical cyclones are most likely during August and September along this coast. Since 1900, some 45 tropical cyclones have affected this area; 35 of these have generated hurricane-force winds. A hurricane can be expected about every 3 years, on average. Many of the hurricanes that strike this area are devastating. Between 1875 and 1900, three hurricanes generated tides that nearly destroyed Indianola and Brownsville. Since 1900, twenty severe hurricanes have hit this area. From Freeport to Brownsville, they have generated tides of 10 to 17 feet and wind gusts to 175 mph. During the September 1919 hurricane, some 300 to 600 people lost their lives in Corpus Christi as tides rose to 16 feet. In August 1945, the Matagorda Bay area was devastated as 135-mph winds were reported at Port Lavaca, while 153-mph gusts were measured on the anemometer of the Bauer Dredging Co. before the instrument failed. Beulah generated 18-foot tides on Padre Island in September 1967, while Celia in August 1970 delivered 130-mph sustained winds at Aransas Pass, as did Harvey in 2017.

(24)

ENCs - US5TX51M, US3GC02M
Charts - 11322, 11330

(25) **Freeport Harbor**, lying 40 miles southwest of Galveston entrance, is the harbor for the town of

Freeport. The area is known locally as Brazosport. The principal industryies are based on the petrochemical and mineral resource industries as well as their related support industries. The largest employer is the Dow Chemical Corporation, which operates four large plants. Other industries are oil, sulfur and shrimp. Oil, chemical products, LPG, LNG, breakbulk, automobiles, heavy equipment, and fruit are the principal exports. The Intracoastal Waterway crosses Old Brazos River about 1 mile above the jettied entrance. At this point, the Dow Barge Canal leads north and the river channel west. Old Brazos River has been dammed about 6 miles above the jettied entrance. Below the dam, the old river channel is now a tidal estuary and the harbor is protected against flood conditions in the river.

(26)

Prominent features

(27) The buildings, stacks, and tanks of the chemical plants, in addition to the cargo cranes and docked tankers, are the most prominent features. From seaward, by day, the State Route 332 fixed highway bridge crossing the Intracoastal Waterway is also prominent. By night, the numerous lights and flared gas at the chemical plants can be seen, and the obstruction lights on the radio towers at Freeport are conspicuous. **Freeport Coast Guard Station** is on the north side of the entrance channel.

(28) **Vessels should approach Freeport Harbor through the prescribed Safety Fairways.** (See **33 CFR 166.100** through **166.200**, chapter 2.)

(29)

COLREGS Demarcation Lines

(30) The lines established for Freeport Harbor are described in **33 CFR 80.845**, chapter 2.

(31)

Channels

(32) The ship channel has been improved by construction of jetties on either side of the entrance. Federal project depths are 48 feet from deep water in the Gulf to the jetty channel, thence 46 feet to the upper turning basin, in the channel to Brazosport turning basin and in the turning basin, in the channel to the upper turning basin and in the upper turning basin, thence 36 feet in the Brazos Harbor approach channel and turning basin. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A.

(33) A vertical lift tide gate with a horizontal clearance of 75 feet, a reported vertical clearance of 69 feet, and a depth over the sill of 16 feet crosses the channel just above Stauffer turning basin. The tide gate is closed during hurricane conditions or when tides are 2.5 feet or more above normal.

(34) Above Stauffer turning basin, a depth of 10 to 12 feet can be carried to the wharves at Freeport.

(35)

Anchorages

(36) Anchorages are on either side of the Safety Fairway leading to the entrance channel. (See **33 CFR 166.100** through **166.200**, chapter 2.)

(37)

Dangers

(38) About 6 miles southwest of the entrance to Freeport Harbor, Brazos River has generated a shoal extending about ¾ mile into the Gulf off the mouth of the river. This area is foul and should be given a wide berth. It is reported that several vessels have stranded in this vicinity and that the depths are considerably less than charted. The bottom is soft mud, indicating that silting from the river has occurred.

(39) Oil drilling structures may be erected in the Gulf near the approach to Freeport Harbor. Mariners should be on the lookout for these structures and give them a wide berth.

(40)

Security zones

(41) The Captain of the Port (COTP) Houston-Galveston has established **security zones** in Freeport Harbor. (See **33 CFR 165.1** through **165.33** and **165.814**, chapter 2, for limits and regulations.)

(42)

Bridges

(43) No bridges cross the channel from the entrance to the upper turning basin. An overhead power cable with a clearance of 63 feet crosses the harbor just above the Stauffer turning basin. A fixed highway bridge with a clearance of 60 feet crosses the harbor about 0.4 mile above the turning basin. The Union Pacific railroad bridge, with a vertical lift span having a clearance of 10 feet in the closed position and 69 feet in the open position, crosses the harbor about 1 mile above the turning basin. (See **33 CFR 117.1** through **117.59** and **117.975**, chapter 2, for bridge regulations.) A highway bridge that has a clearance of 20 feet is about 0.3 mile above the railroad bridge. An overhead power cable at the bridge has a clearance of 58 feet.

(44)

Currents

(45) The current off the entrance of Freeport Harbor generally sets to the west, with a countercurrent near the beach, largely influenced by the direction of the wind. The bar is rough with an east breeze.

(46) Strong crosswinds and currents at the jetty entrance make navigation difficult for larger vessels. Difficulty in navigation is experienced with larger vessels at the junction with the Intracoastal Waterway when strong currents are flowing from the canal. Large vessels are difficult to turn in the smaller upper turning basin.

(65)

Facilities at Freeport, Texas

Name	Location	Berthing Space (feet)	Depths* (feet)	Deck Height (feet)	Purpose	Owned/ Operated by:
Dow Chemical U.S.A. Texas Operations A-14 Dock	28°56'49"N., 95°18'21"W.	820	42	25	Receipt of chemicals and petrochemicals	Dow Chemical Company
Dow Chemical U.S.A. Texas Operations A-13 Dock	28°56'49"N., 95°18'25"W.	600	16 - 24	16		Dow Chemical Company
Dow Chemical U.S.A. Texas Operations A-8 Dock	28°56'41"N., 95°18'25"W.	650	42	16	Receipt of chemicals and petrochemicals	Dow Chemical Company
Dow Chemical U.S.A. Texas Operations A-22 Dock	28°56'36"N., 95°18'59"W.	685	42		Chemicals and petrochemicals	Dow Chemical Company
Port Freeport Docks Brazos Harbor Dock 1	28°56'22"N., 95°20'23"W.	625	36	16	General Cargo	Brazos River Harbor Navigation District
Seaway Docks 1, 2 and 3	28°56'21"N., 95°19'21"W.	820	42	15	Crude oil	Brazos River Harbor Navigation District
Phillips 66 Docks 2 and 3	28°56'02"N., 95°19'49"W.	1040	41	16	Crude oil, VGO, LPG	Phillips 66 Company
Phillips 66 Dock 4	28°56'14"N., 95°20'08"W.		40	16	Barge dock, clean oi, chemicals	Phillips 66 Company
Seaway Dock 1	28°56'11"N., 95°19'15"W.				Fuel barge berth	Brazos River Harbor Navigation District
Seaway Docks 2 and 3	28°56'21"N., 95°19'21"W.	820	42	15	Crude oil	Brazos River Harbor Navigation District
Freeport LNG 1 and 2	28°56'21"N., 95°18'30"W.	1050	42		LNG	Freeport LNG

* The depths given above are reported. For information on the latest depths contact the port authorities or the private operators.

(47)

Weather

(48) Weather in this area is only an occasional navigational problem. Winds blow at 28 knots or more about 3 to 4 percent of the time in November and from January through April. Average speeds are 12 to 14 knots during this period. Fog is also a winter problem, and visibilities drop below 0.25 mile on about 3 to 6 days each month from November through April. Thunderstorms are most frequent from April through September, during the afternoon and evening. These thunderstorms are usually air mass types as opposed to the less frequent but more severe thunderstorms that occur with fronts and squall lines from fall through spring. Tropical cyclones, particularly severe hurricanes, are most likely in August and September.

(49)

Pilotage, Freeport

(50) Pilotage is compulsory for all foreign vessels and U.S. vessels under register in foreign trade. Pilotage is optional for coastwise vessels that have on board a pilot licensed by the federal government.

(51) Freeport and all ports in Brazoria County are served by Brazos Pilots Association, P.O. Box 2246, Freeport, TX 77542; telephone 979–233–1120 (Answered 24 hours); FAX 979–233–7071; Email: office@brazospilots.com. Brazos Pilots Association station address is: P.O. Box 1076, 2502 Deep Sea Drive, Freeport, TX 77542.

(52) Vessels are taken in day or night. Pilots board vessels about 1 mile off of Freeport Entrance Lighted Buoy FP (28°52'30"N., 95°14'02"W.). Two pilot boats are utilized, the 65- foot BRAZOS PILOT and the 55-foot FREEPORT PILOT 1. Both pilot boats have a black hull and white superstructure, stenciled with the word PILOT on both sides of the hull and the superstructure. Standard day and night pilot signals are shown. The pilot station monitors VHF-FM channels 14 and 16 twenty-four hours a day. The pilot boat monitors VHF-FM channel 16 and uses channel 14 as a working frequency.

(53) Pilot boarding speed should be 8 to 10 knots. The height of the ladder should be 3 meters above water level. Vessels over 750 feet LOA or vessels having a beam in excess of 107 feet and vessels of 700 feet LOA and over with drafts in excess of 36½ feet shall enter the harbor only during daylight hours. Other restrictions apply to specific docks and some movements will be on a per job basis; check with Pilot Station.

(54) Pilots can be obtained from the Brazos Pilots Association by the above telephone or FAX number or by prior arrangement through ships' agents; a minimum of 2-hour notice of time of arrival is requested.

(55)

Towage

(56) Tugs up to 6,000 hp are available at Freeport.

(57)

Quarantine, customs, immigration and agricultural quarantine

(58) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(59) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.) The closest hospital to Freeport is at Lake Jackson.

(60) Freeport is a **customs port of entry**.

(61)

Harbor regulations

(62) The Navigation and Canal Commissioners of the Brazos River Harbor Navigation District have jurisdiction and control of the navigable waters of the district. The district includes that portion of Brazoria County west of the west bank of Chocolate Bayou. A **speed limit** of 8 mph for all vessels proceeding in the channels and 5 mph while passing the wharf, dock or moored craft is enforced. The general manager acts as Port Director. The Terminal Superintendent assigns berths on application for the facilities operated by the Brazos River Harbor Navigation District.

(63)

Wharves

(64) Freeport has more than 75 wharves and piers—only the deep-draft facilities are listed in the facilities table. The alongside depths are reported; for information on the latest depths contact the operator. Almost all the piers and wharves have highway, railway, water and shore power connections. General cargo at the port is at times handled by ship's tackle; special handling equipment, if available, is listed under Mechanical Handling and Storage in the table. Two Post Panamax Gantry cranes in addition to a 110 ton crane are available.

(66)

Supplies

(67) Gasoline, diesel fuel, marine bunkers, water, ice and most marine supplies are available at Freeport.

(68)

Repairs

(69) The Port of Freeport has no facilities for making major repairs or for drydocking deep draft vessels; the nearest such facilities are at Galveston. A ship yard on the west side of the harbor 0.1 mile below Stauffer turning basin has a travel lift. Some of the yards may have gasfreeing and barge cleaning facilities.

(70)

Small-craft facilities

(71) Small craft can find excellent protection in the harbor at Freeport. Numerous small piers and wharves are along the waterfront. There are a few small-craft facilities along the Intracoastal Waterway between the Freeport Harbor Channel and the entrance to Oyster Creek.

(72)

Communications

(73) The Union Pacific Railroad serves the Freeport area. Numerous trucklines operate from the port. Good paved roads and highways radiate to all points.

(74)

ENC - US5TX51M
Chart - 11322

(75) **Brazos River** enters the Gulf about 6 miles southwest of Freeport Harbor entrance. The mouth of the river is not used as an entrance due to logs, shoaling and general foul ground. The Intracoastal Waterway crosses the river 1.6 miles above the mouth, with flood gates at both the East and West entrances to the Intracoastal Waterway from the Brazos River. A depth of 8 feet at ordinary river stage is available to **Bolivar Landing**, 36 miles upriver from the Intracoastal Waterway. Most of the traffic on the river consists of offshore oil supply vessels en route to or from their base on the east side of the river, about 0.1 mile below the State Route 36 highway bridge, and chemical barges enroute to and from the wharf of a chemical company, about 2.7 miles above this highway bridge.

(76) Overhead power cables having a minimum clearance of 42 feet cross Brazos River between the Intracoastal Waterway and Brazoria. State Route 36 fixed highway bridge, 3.1 miles above the waterway, has a clearance of 50 feet. The FM Highway 2004 fixed bridge, 14.7 miles above the waterway, has a clearance of 37 feet. Three bridges at **Brazoria**, about 20 miles above the waterway, have a minimum clearance of 33 feet at low-river stages and 5½ feet at high-river stages. An overhead power cable crosses the river about 0.8 mile above Brazoria; clearance is not known.

(77) **San Bernard River** flows into the Gulf 3.5 miles southwest from the mouth of Brazos River. San Bernard River is obstructed at the mouth by a shifting sandbar over which the channel depths vary from 3 to 5 feet. From the Intracoastal Waterway, 0.8 mile above the mouth, the channel has been dredged to a point near the West Columbia highway bridge 22 miles above the Intracoastal Waterway.

(78) Some critical reaches in the river are caused by narrow widths or sharp bends. Complaints have been made that tows navigating the river have damaged wharves and the vessels moored to them; operators are advised to reduce speed to avoid wave-action damage. When towing barges in tandem, particular care must be taken to prevent any part of the tow striking the banks, boats or structures along the banks.

(79) There is a launch ramp and restaurant about 3.5 miles above the junction of the San Bernard River, thence, there is a launch ramp about 8 miles above the junction near Churchill.

(80) Between the waterway and the upstream limits of the improvement, San Bernard River is crossed by three fixed highway bridges with least clearance of 36 feet horizontal and 13 feet vertical and by a railroad swing bridge with a clearance of 19 feet. The swing bridge is equipped with radiotelephone at 409–548–3268. The bridgetender monitors VHF-FM channel 10; call sign KI-2524. (See **33 CFR 117.1** through **117.59** and **117.984**, chapter 2, for drawbridge regulations.) Least clearance of overhead cables is 38 feet.

(81) Cedar Lakes, East Matagorda Bay, Caney Creek, Live Oak Bayou, Old Gulf, Colorado River, and Matagorda are described in chapter 12.

(82)

Matagorda Bay

(83) **Matagorda Bay** is a large body of water separated from the Gulf by **Matagorda Peninsula**. Depths in the bay range from 5 to 13 feet, averaging 10 to 12 feet over the greater part. Considerable oil development and fishing are carried on in the bay and its main tributaries Tres Palacios and Lavaca Bays.

(84) **Vessels should approach Matagorda Bay through the prescribed Safety Fairways.** (See **33 CFR 166.100** through **166.200**, chapter 2.)

(85)

COLREGS Demarcation Lines

(86) The lines established for Matagorda Bay are described in **33 CFR 80.850**, chapter 2.

(87) **Matagorda Ship Channel** is a 22-mile-long deepwater channel from the Gulf to and through a land cut in Matagorda Peninsula thence through Matagorda and Lavaca Bays to a public terminal at Point Comfort. The entrance to the land cut is protected by jetties. The channel is marked with lighted buoys in the Gulf of Mexico and lights in through Matagorda Bay. The federal project provides for a depth of 40 feet through the Sea Bar Channel and Jetty Channel, thence 38 feet through the land cut and Matagorda and Lavaca Bays to a turning basin of the same depth at Point Comfort. Caution should be used when transiting near the channel limits due to abandoned structures immediately outside the channel limits that may or may not be visible above the waterline. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A.

(88) <Deleted Paragraph>

(89) **Matagorda Ship Channel Entrance Lighted Buoy MB**, 3 miles southeast of the jetties, marks the channel approach.

(90) **Matagorda Ship Channel Entrance Light** (28°25'18"N., 96°19'06"W.), 64 feet above the water, is shown from a skeleton tower on a concrete block on the north jetty at the entrance to Matagorda Bay.

(91) A lighted **316.7°** range and lighted buoys mark the entrance channel through the jetties and land cut, and lighted ranges, lights and buoys mark the bay channel.

(92)

Anchorages

(93) Anchorages are on either side of the safety fairway. (See **33 CFR 166.100** through **166.200**, chapter 2.) With north winds or smooth sea, fair anchorage is available in 45 to 75 feet. There is a wreck covered 46 feet in the anchorage on the north side of the fairway. There is a submerged wreck and two obstructions with a least depth of 45 feet in the anchorage on the south side of the fairway.

(94) Good anchorage for small craft may be found on the west side of Pass Cavallo in **Saluria Bayou** in 7 to 10 feet.

(95) The usual storm anchorages for small boats in Matagorda Bay area are: the Harbor of Refuge south of Port Lavaca, in depths of 13 feet; **Chocolate Bay**, with depths of 1 to 2 feet; Lavaca Bay, on the east side to the north of the causeway, with depths of 4 to 5 feet; **Lavaca River** with depths of about 5 feet across the bar; Carancahua Bay with depths of 3 feet across the bar; and Tres Palacios Bay, off Palacios, with depths of 4 to 5 feet. Small craft should not anchor in Matagorda Bay in the vicinity of the land cut through Matagorda Peninsula as strong currents and turbulent water are reported in this area.

(96) **Pass Cavallo**, 108 miles southwest of Galveston Entrance, an entrance to Matagorda Bay from the Gulf, is about 0.35 mile wide between **Matagorda Island** and Matagorda Peninsula. The pass is obstructed by a bar that is subject to frequent changes in location and depths. The depths vary from 3 to 8 feet. With a sea or swell running outside, there is virtually a continuous line of breakers across the bar. The pass is subject to swift currents and is not considered navigable. It is used only by a few local vessels that draw less than 5 feet and have thorough local knowledge.

(97)

Currents

(98) The tidal current in Pass Cavallo is believed to attain a velocity of 2 knots with currents of 5 knots reported. It is reported to be very strong in the land cut through Matagorda Peninsula, especially on the runoff of the ebb after strong south winds. The current in Matagorda Ship Channel attains a reported velocity of about 3 knots and up to 7 knots under severe conditions. Daily predictions of the tidal current are available from the Tidal Current prediction service at *tidesandcurrents.noaa.gov*. Links to a user guide for this service can be found in chapter 1 of this book.

(99)

Pilotage, Matagorda Bay

(100) Pilots are available for Matagorda Bay day or night. Ships having a beam greater than 102 feet or are more than 725 feet in length will only be piloted during daylight

hours. The pilots board vessels approximately 2 miles seaward of Matagorda Ship Channel Entrance Lighted Buoy MB (28°23'01"N., 96°17'01"W.) from one of two pilot boats with the word PILOT on each side of the superstructure, The pilot boat is equipped with VHF-FM channels 16 and 10 and monitors channel 16 two hours prior to a vessel's ETA. Pilots can be obtained 24 hours a day by telephone (361–552–9988) or through the ships' agents or the Port Lavaca/Point Comfort Control Station on VHF-FM channel 16 or 7A; 24-hour and 4-hour notices of time of arrival are requested—*www.mbpilots.com*.

(101) **Halfmoon Reef** extends about 3 miles off **Palacios Point**, the southwest point of the tongue of land extending between the east and north portions of Matagorda Bay. The reef is composed of shells and is 100 to 500 yards wide. A light is off the southeast end of the reef. A fish haven, marked by private lighted buoys, is on the reef and has a reported least depth of 1 foot.

(102) **Tres Palacios Bay**, about 6 miles north of Palacios Point, is a shallow bay on the northeast side of Matagorda Bay. A federal project provides for a channel 14 feet deep leading from the Intracoastal Waterway through Matagorda Bay and Tres Palacios Bay to two basins at the head of the harbor of Palacios. (See Notice to Mariners and latest editions of charts for controlling depths.) The channel is marked by lights and daybeacons, and the channel entrance is protected by two breakwaters marked by lights at the outer ends.

(103) **Palacios**, a fishing and farming community, is on the west side of Tres Palacios Bay. Two elevated water tanks in the town show prominently from the bay.

(104) Commercial facilities in Palacios are involved with seafood processing for the most part. The town has a hospital, and a busline and a motor freight line serve the town. State Route 35, the main coastal highway, passes through the town.

(105) The three turning basins at the head of the harbor at Palacios are operated by the Board of Directors of Navigation District No. 1 of Matagorda County through a **harbormaster** (www.portofpalacios.com). Berthing facilities are available. The larger of two shipyards at the head of turning basin number one has two marine lifts that can handle vessels up to 100 feet and 150 tons for general repairs.

(106) A boat basin and marina are on the east side of town and provide transient berths, diesel fuel, gasoline, water, ice, electricity and pumpout. An alongside depth of 6 feet is available; VHF-FM channel 16 is monitored.

(107) Southwest of **Turtle Bay**, between **Well Point** and **Schicke Point**, is a fish haven known as Gadwall Reef. The minimum depth of the fish haven is 5 feet, but it has been reported to bare at low water.

(108) **Carancahua Bay**, 6 miles west of Tres Palacios Bay, is a shallow, unimportant body of water frequented only by small pleasure boats and oil-drilling equipment. In 1982, it was reported that there were depths of 3 to 6 feet inside the bay. It was further reported that numerous wellheads, oyster shell reefs, platforms and other obstructions, some marked by private lights, occupied the bay making navigation hazardous. Numerous beach houses are on both sides of the bay. State Route 35 highway bridge crossing the bay 7 miles above the entrance has a fixed channel span with a width of 18 feet and a clearance of 13 feet.

(109) **Keller Bay**, an arm on the east shore of Lavaca Bay, is the site of oil exploration and development. Shell is barged through a privately maintained channel to **Olivia**, a small farming community on the east side of the bay. Barges drawing 6 feet are brought in to Olivia.

(110) **Lavaca Bay**, an arm of Matagorda Bay at its northwest corner, has general depths of 4 to 5 feet with several shoals and reefs throughout the upper part of the bay.

(111) A federal project in Port Lavaca Bay provides for a 14-foot channel leading northwest through Lavaca Bay from Matagorda Ship Channel off **Gallinipper Point** for about 3.5 miles to a turning basin at the mouth of **Lynn Bayou** at Port Lavaca; the channel is well-marked by lights, buoys and daybeacons. From the south side of Port Lavaca Channel, a channel leads southwest for about 1.4 miles to the **Harbor of Refuge** south of Port Lavaca; the channel is marked by daybeacons and a light. From the north side of Port Lavaca Channel, a channel leads generally northward through Lavaca Bay to the entrance of **Lavaca River**, and through the river to a fixed bridge just south of the confluence with the **Navidad River**, a distance of about 15 miles. The channel is marked by daybeacons through the bay and just inside the mouth. (See Notice to Mariners and latest editions of charts for controlling depths.)

(112) State Route 35 highway causeway, crossing Lavaca Bay from **Noble Point** to Point Comfort, has a fixed span over the navigation channel with a clearance of 43 feet. About 0.5 mile of the former highway bridge adjacent to the southwest end of the causeway has been retained as a fishing pier. An overhead power cable crossing Lavaca Bay about 500 yards northwest of the causeway has a clearance of 69 feet over the channel. State Route 616 highway bridge has a fixed span with a clearance of 15 feet, and the Missouri-Pacific railroad bridge has a swing span with a clearance of 12 feet, which crosses Lavaca River near its junction with the Navidad River in the vicinity of the towns of **Vanderbilt** and **Lolita**. (See **33 CFR 117.1** through **117.59** and **117.969**, chapter 2, for drawbridge regulations.) Overhead power/telephone cables crossing Lavaca River between its mouth and the bridges near its junction with the Navidad River have a least clearance of 59 feet.

(113) **Point Comfort**, on the east side of Lavaca Bay, is the site of the ship and barge wharves of a large aluminum company, the Calhoun County Navigation District's general cargo facilities, and an electric power plant. (see www.calhounport.com).

(114) About 0.5 mile southwest of Point Comfort, a privately marked and dredged channel leads north from

Matagorda Ship Channel to the private facilities on the west side of the point. In 1996, the reported controlling depth was 38 feet for about 0.8 mile above the intersection with Matagorda Ship Channel, thence in 1992, the controlling depth was 26 feet for about another 0.2 mile to a basin, thence 8 feet to the head of the channel; thence in 2001, 12 feet was reported in the basin at the head of the channel.

(115)

Quarantine, customs, immigration and agricultural quarantine

(116) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(117) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(118) Port Lavaca-Point Comfort is a **customs port of entry**.

(119)

Towage

(120) A 2,000 hp tug and two 3,000 hp tugs are available.

(121)

Wharves

(122) Port of Port Lavaca/Point Comfort, Liquid Cargo Ship Terminal Berths (28°38'37"N., 96°33'05"W.): 165-foot south and north face; 1,100 feet of berthing space with dolphins; 36 feet alongside south face; deck height, 20 feet; receipt of ammonia and naphtha; shipment of adiponitrile, caustic soda, methyl-ethyl glycol and ethylene dichloride; owned by Calhoun County Navigation District and operated by Formosa Plastics Corp. USA and BP Chemicals Corp.

(123) Alcoa, Point Comfort Operations, Bauxite Pier (28°38'43"N., 96°33'48"W.): 60 to 80-foot face; 875-foot sides, 875-foot sides, 875 feet of berthing space, 36 feet alongside; deck height, 20 feet; 50 acres open storage; two traveling gantry canes served by belt-conveyor system with 2,000-ton per hour unloading rate; receipt of bauxite, fluorspar and occasionally limestone; owned and operated by Alcoa, Inc.

(124) Alcoa, Point Comfort Operations, Bulk Loading Dock (28°39'07"N., 96°33'47"W.): 50-foot platform; 500 feet of berthing space; 36 feet alongside; deck height, 18 feet; loading tower and spout served by belt-conveyor system with 400-ton per hour loading rate; shipment of alumina; owned and operated by Alcoa, Inc.

(125)

Supplies

(126) Some marine supplies and provisions are available at Port Lavaca. Bunker C fuel oil can be obtained by barge from Corpus Christi or Houston on 2 days advance notice. Light diesel oil is available by tank truck.

(127) **Port Lavaca** is a city on the west shore of Lavaca Bay in a fishing, farming and industrial area. The municipal harbor (28°37.3'N., 96°37.5'W.) is under the jurisdiction of the Port Lavaca Port Commission. The local regulations are administered by the city manager. There are several boat basins along the waterfront south of the municipal harbor; depths of 6 to 14 feet are reported in the basins. These facilities are maintained by the port commission and local fishing, dredging and oil companies. Diesel fuel, water, marine supplies, provisions and ice are available. Engine and above-the-waterline repairs can be made. A hospital is in the city.

(128) The Harbor of Refuge is south of Port Lavaca. The marginal barge wharves of a chemical company and a fertilizer company are along the north side of the harbor.

(129) **Garcitas Creek**, empties into the head of Lavaca Bay. Shell barges drawing 6 feet are brought in to the town of **La Salle**. The creek is used frequently by fishermen and recreational boaters.

(130) **Port O'Connor** is a small settlement at the southwest end of Matagorda Bay north of Pass Cavallo. The town is approached via the Intracoastal Waterway route between two jetties that extend into the bay and are marked by lights at their outer ends. The channel through the jetties favors the south jetty. Mariners are cautioned to keep in the channel as the entire width between the jetties is not dredged and shoal areas with rocky bottom lie outside the channel. Vessels should make their entrance approach well east of the jetties and through the buoyed Intracoastal Waterway. Numerous docks and slips for shrimp boats and pleasure craft are along the north side of the waterway at Port O'Connor. Gasoline, diesel fuel, water, ice and provisions are available. **Port O'Connor Coast Guard Station** is on the north bank of the waterway about 1 mile west of the town.

(131)

Espiritu Santo to Cedar Bayou

(132) **Espiritu Santo** and San Antonio, Mesquite and Aransas Bays are a series of shallow bodies of water extending southwest along the coast for a distance of 50 miles from Pass Cavallo to Aransas Pass, separated from the Gulf by Matagorda Island and **San Jose Island**. The bays are filled with islands, reefs and shoals and are of little commercial importance except as a link in the Intracoastal Waterway.

(133) **Espiritu Santo Bay** is entered from Matagorda Bay through the Intracoastal Waterway and Ferry Channel. The bay has general depths of 5 to 8 feet. In the east part of the bay, **Ferry Channel** extends from the waterway south to a fish and wildlife reserve at the former Matagorda Air Force Range on Matagorda Island; the channel is marked by daybeacons. In 1984, the reported controlling depth was 8 feet.

(134) **San Antonio Bay** has depths up to 5 and 6 feet. It is separated from Espiritu Santo Bay by the **First Chain of Islands**, through which are South Pass and Steamboat Pass. **South Pass**, an old unmarked dredged cut, has a depth of about 4 feet. The channel extends between two islands and close to the privately maintained markers on the north side of the south island. **Steamboat Pass**, 1.5 miles to the north, has less than 3 feet of water.

(135) The Intracoastal Waterway crosses San Antonio Bay from the vicinity of **Grass Island** to **False Live Oak Point**. The spoil banks on both sides of the channel have several openings. Small islets are in the spoil bank area.

(136) Numerous reefs, some of which bare at low water, are in and about the bay, particularly in the upper end. They make navigation difficult, and local information is essential.

(137) North of **Swan Point** and **McDowell Point** the delta of Guadalupe River divides the head of San Antonio Bay into **Guadalupe Bay** and **Mission Lake** on the east and **Hynes Bay** on the west. **Goff Bayou** and **Schwing Bayou** flow into Mission Lake.

(138) **Guadalupe River** empties into the north end of San Antonio Bay. A depth of about 2 feet can be carried from the bay into the north fork of the river. Snags and driftwood make navigation almost impossible, but there are navigable depths as far as the San Antonio River, about 10 miles above the mouth.

(139) **Victoria Barge Canal** is a dredged channel that leads from the Intracoastal Waterway northwest along the east side of San Antonio Bay, thence through landcuts along the east side of Guadalupe Bay, Mission Lake and Green Lake, thence in a dredged cut to **Pickering Basin (Port of Victoria)** about 30 miles above the Intracoastal Waterway and about 7 miles below the city of **Victoria**. A 330-foot public dock with 9 feet alongside is in the basin; water and electricity are available.

(140) State Route 35 fixed highway bridge with a clearance of 50 feet, the Victoria Barge Canal railroad lift bridge with a clearance of 22 feet down and 50 feet up, and a fixed highway bridge with a clearance of 49 feet, cross the channel 15 miles, 25 miles and 27.6 miles, respectively, above the Intracoastal Waterway. (See **33 CFR 117.1** through **117.59** and **117.991**, chapter 2, for drawbridge regulations.) Least clearance of overhead power and telephone cables crossing the channel is 53 feet.

(141) About 5.3 miles above the Intracoastal Waterway, a dredged channel leads east from Victoria Barge Canal to a turning basin at the town of **Seadrift.**

(142) The facilities in the basin are under the control of the Westside Calhoun County Navigation District. Mooring dolphins are along the north side of the basin, and a wharf is on the south side of the basin. The facilities are used to unload shell from barges, to load and unload barge shipments of general cargo, and for the fueling of vessels. In addition, there are service wharves and seafood processing plants in the basin. Gasoline, diesel fuel, water, ice and some provisions are available.

(143) Seadrift, a small fishing and farming community, has highway connections.

(144) A private channel about 0.3 mile south of the channel to Seadrift, privately marked by stakes, leads to a resort housing development at Swan Point. In 1999, a depth of 3.8 feet was reported in the channel with 3.0 feet in the harbor.

(145) About 12 miles above the Intracoastal Waterway, a privately dredged channel, with a reported controlling depth of 10 feet in 1982, leads to a basin at a large chemical plant at Long Mott.

(146) **Long Mott** is a small town on Mission Lake that has railroad and highway connections.

(147) **Mesquite Bay** lies between **Ayres Reef** and **Third Chain of Islands** and is of no commercial importance except for fish and oysters. The buildings of a ranch are on Matagorda Island opposite the southeast corner of the bay. A small water tank about 35 feet high shows prominently from the Gulf.

(148) A marked channel leads from the Intracoastal Waterway at the east end of Aransas Bay across Carlos Bay into Mesquite Bay.

(149) **Cedar Bayou**, separating Matagorda Island from San Jose Island, leads in a south direction from the southeast corner of Mesquite Bay toward the Gulf. A bar has closed the outlet to the Gulf.

(150)

Aransas Bay to Lydia Ann Channel

(151) **Aransas Bay**, 15 miles long and 3 to 4 miles wide, is used extensively as a shrimping ground. The Intracoastal Waterway crosses the bay and opposite Rockport turns west to and through Redfish Bay; at the turn, the channel of the Intracoastal Waterway Alternate Route continues to Lydia Ann Channel. **San Jose Island Dock Channel**, a privately maintained channel near Blind Pass at the southeast end of the bay, is marked by private daybeacons and a light. The periodic tide throughout the bay has a diurnal range less than 0.5 foot the variation in water level depends principally on the wind. Many piles along the south side of the Intracoastal Waterway do not show at high water; they are very dangerous, and caution should be used near this edge of the waterway.

(152) **St. Charles Bay**, an arm of Aransas Bay extending north, is the site of considerable hunting and sport fishing, but commercial fishing is prohibited. There are numerous homes in the vicinity of Hail Point on the west side of the bay near the entrance. A depth of 2 to 3 feet is found through the entrance with somewhat greater depths and numerous reefs inside. The bay is used by small craft as a refuge during tropical storms.

(153) A privately maintained channel, with a reported controlling depth of 2 feet, leads from the west end of Goose Island to **Neptune Harbor** and **Goose Island State Park**. A launching ramp is at the state park. A fixed highway bridge between the mainland and Goose Island, is reported to have a 15-foot span and a clearance of 2 feet.

(154) There is a yacht basin near the end of the causeway at **Lamar**. A privately maintained channel leads to the basin. In 1990, numerous shoals were reported to exist outside the basin entrance. Water, ice and a launching ramp are available in the basin.

(155) **Copano Bay**, a northwest extension of Aransas Bay, is used principally as a center for hunting and sport fishing. No commercial fishing, except oystering, is permitted.

Extreme caution is required to navigate the bay because of the numerous unmarked reefs. Depths up to 8 feet are found in the bay with 6 to 7 feet in the narrow sloughs or channels between the reefs. Numerous oil wells and pipelines fill the bay.

(156) Good anchorage for small craft is available in the bight south of **Redfish Point**, inside the bay on the south side at the entrance. Storm anchorages for drafts up to 3 or 4 feet may be had in the south end of the bay in the small bight at the northeast corner of **Port Bay**. Slightly greater draft can find good protection in the extreme northeast corner of Copano Bay in the bight off Redfish Point. Soft mud bottoms are at these anchorages.

(157) State Route 35 highway bridge crosses the entrance to Copano Bay and has a fixed span with a vertical clearance of 75 feet. Sections of a former bridge, along the west side of the causeway, remain as fishing piers. A launching ramp is at the southwest end of the causeway.

(158) **Mission Bay**, on the north shore of Copano Bay, is of no importance; only small skiffs can enter.

(159) **Bayside** is a small resort town on the northwest shore of Copano Bay. A large hotel shows prominently from the bay. Highway and telephone communications are available.

(160) **Aransas River**, emptying into the northwest end of Copano Bay, is shallow and navigable only for small craft of 1 foot or less. The State Route 136 highway bridge across the mouth has a 41-foot fixed span with a clearance of 15 feet. There is a small marina on the west side at the south end of the bridge. The channel leading to the facility had a reported controlling depth of 4 feet in 1982 and was privately marked by stakes. Water, ice, open and covered berths with electricity, marine supplies and a launching ramp are available. The marina is closed during the winter season. Overhead power and telephone cables at the bridge have clearances of 17 feet.

(161) The ruins of a bridge cross Port Bay about 1.5 miles above the entrance. In 1990, it was reported the cable had been removed. State Route 188 highway bridge crossing Port Bay about 4 miles above the entrance has a 41-foot fixed span with a clearance of 5½ feet; an overhead power cable crosses at the bridge.

(162) There are fish camps along Live Oak Peninsula between Port Bay and Redfish Point where provisions, berths and lodging are available.

(163) **Fulton**, an incorporated city on the west shore of Aransas Bay, is the site of a commercial fish harbor and yacht basin protected by a dike and breakwater. The harbor is entered from Aransas Bay through a dredged channel marked by lights and daybeacons. It was reported that when making the harbor, local residents bear on a prominent, isolated old mansion that fronts on the beach close west of the harbor; a large water tower about 1 mile west of the mansion should not be used. Berth assignments and ship movements in the harbor are under the direction of a **harbormaster** who maintains an office in Rockport. A no-wake **speed limit** is enforced in the harbor.

(164) The harbor at Fulton is used as a base by numerous shrimp boats and trawlers. Berths with electricity, water, ice and wet storage are available. A marina about 1.0 mile north of the harbor has berths, electricity, water, ice, a launching ramp and wet storage available.

(165) **Key Allegro**, a resort center built on filled-in marshland, is about a mile south of Fulton. **Little Bay** between the key and **Live Oak Peninsula** is shoal. Two private channels have been dredged into Little Bay to the lagoons and a marina on the west side of the key. The north channel had a reported depth of 1 foot in 2002. A hump-backed highway bridge crossing the channel from the key to the mainland has a 25-foot fixed span with a minimum clearance of 8 feet. The south entrance channel had a reported depth of 5.8 feet in 2001. Privately maintained lights mark the south channel. The marina has berths, gasoline, diesel fuel, pumpout, electricity, water and ice available. In 2008, 7 feet was reported in the approach and 9 feet alongside.

(166) A side channel branching off from the south Key Allegro Channel leads west to a boat basin on the long sandspit that extends east from Rockport Harbor. The reported depth in the channel was 5 feet in 1982. The channel is privately marked by stakes. A launching ramp is available.

(167) **Rockport** is a commercial fishing and resort city on the west shore of Aransas Bay, just southwest of Key Allegro. The approach to city from the Intracoastal Waterway can be made through a number of openings in spoil banks lining the north side of the waterway. Natural depths of 10 to 13 feet lead to the light marking the approach to the harbor. A dredged channel leads from Aransas Bay to a basin in the harbor. The basin is about 0.3 mile long and protected by a concrete breakwater. To enter, pass about 50 yards east of the approach light and head directly toward the light on the seawall at the basin entrance. The channel is marked by lights and daybeacons.

(168) There are excellent facilities in the basin for yachts and other craft. The marine laboratory of the Texas Parks and Wildlife Department is at the north end of the basin. Water, ice, wet storage, marine supplies and berthing space for more than 100 yachts and commercial vessels are available in the basin. Berth assignments and ship movements are under the direction of a **harbormaster**, who maintains an office at the northeast end of the basin. A no-wake **speed limit** is enforced in the harbor.

(169) Rockport has highway connection with Port Lavaca and Corpus Christi and railroad connections to the interior.

(170) **Cove Harbor** and **Palm Harbor**, 2.5 and 4 miles, respectively, south of Rockport, are discussed in chapter 12.

(171) **Lydia Ann Channel** extends south from the south end of Aransas Bay and connects with Aransas Pass. The entrance from Aransas Bay is by a dredged channel, and an alternate route of the Intracoastal Waterway. For detailed channel information and minimum depths as

reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A. The wreck of the S. S. JOHN WORTHINGTON, lies submerged on the east side of the channel in about 27°51'47"N., 97°02'59"W.—the wreck is marked by danger buoys. Caution is advised if approaching this wreck as the buoys may not accurately mark the outer ends.

(172)

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Chart - 11309

(173) **Aransas Pass**, 154 miles southwest of Galveston Entrance and 113 miles north of the mouth of the Rio Grande, is the principal approach from the Gulf to Aransas and Corpus Christi Bays and their tributaries. The pass lies between San Jose Island on the north and Mustang Island on the south. **Harbor Island**, directly opposite the inner end of the pass, separates Aransas Bay from Corpus Christi Bay.

(174) Two jetties extend into the Gulf from San Jose and Mustang Island. Several submerged wrecks lie to the south of the channel inside the jetties.

(175) The approach to Aransas Pass is marked by a lighted buoy, 5.5 miles offshore. The entrance channel is marked by lighted buoys and a **301.2°** lighted range.

(176)

Prominent features

(177) The water tank at Port Aransas is the first object sighted in approaching Aransas Pass in the daytime. The microwave tower is the first object sighted at night. Also prominent are a condominium apartment and other buildings at Port Aransas. The privately maintained lighthouse, a 65-foot high red and brown brick tower on Harbor Island, and the buildings at Port Aransas will be sighted as the pass is approached.

(178) The flashing white and green rotating aerolight at the naval air station on Encinal Peninsula on the south side of Corpus Christi Bay is reported visible from the Gulf and from Corpus Christi Channel in the bay.

(179) **Port Aransas Coast Guard Station** (27°50.3'N., 97°03.5'W.) is on the northeast end of Mustang Island.

(180) Vessels should approach Aransas Pass through the prescribed Safety Fairways. (See **33 CFR 166.100** through **166.200**, chapter 2.) **Note:** The Aransas Pass Safety Fairway, the southeast approach to Aransas Pass, consists of partially divided parallel shipping fairways instead of a single fairway. These parallel fairways are not a traffic separation scheme. However, in the interest of vessel traffic safety, the use of the northeast lane for inbound **(298°)** traffic and the southwest lane for outbound **(118°)** traffic is recommended.

(181)

COLREGS Demarcation Lines

(182) The lines established for Aransas Pass are described in **33 CFR 80.850**, chapter 2.

(183) A **safety zone** has been established around loaded liquified petroleum gas (LPG) vessels transiting Corpus Christi Channel between the outer end of Aransas Pass jetties and Port of Corpus Christi Oil Dock No. 10, including La Quinta Channel. (See **33 CFR 165.1** through **165.8**, **165.20**, **165.23**, and **165.808**, chapter 2, for limits and regulations.)

(184)

Channels

(185) A dredged approach channel leads northwest from the safety fairway between two jetties to an inner basin between Port Aransas and Harbor Island. The federal project depth is 49 feet in the entrance channel and 47 feet in the basin. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A.

(186) The Coast Guard advises vessels to exercise particular caution where the channel intersects the alternate route of the Intracoastal Waterway at Lydia Ann Channel, about 1.6 miles above the entrance jetties, and where Corpus Christi Channel intersects the Intracoastal Waterway main route, about 7.1 miles above Lydia Ann Channel. Situations resulting in collisions, groundings and close quarters passing have been reported by both shallow and deep-draft vessels. The Coast Guard has requested vessels make a **SECURITE** call on VHF-FM channels 12 and 13 prior to crossing the Intracoastal Waterway, particularly during periods of restricted visibility.

(187) **Corpus Christi Channel** leads west-southwest from the inner basin at Port Aransas into Corpus Christi Bay. The channel turns west just south of Ingleside Cove and continues across the bay to the entrance of Corpus Christi harbor, thence through the harbor to a turning basin at Viola, 23.5 miles from the outer bar. The federal project depth is 47 feet in the channel from Port Aransas to Viola. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A.

(188) **La Quinta Channel** branches north from Corpus Christi Channel near Port Ingleside and follows the northeast side of Corpus Christi Bay to a turning basin 5.5 miles above the entrance. The federal project depth is 47 feet in the channel and basin. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A. A

detached breakwater is on the east side of the channel entrance, south of Port Ingelside.

(189) **Jewell Fulton Canal** branches off La Quinta Channel about 2 miles northwest of its junction with Corpus Christi Channel. The canal extends about 0.8 mile northeast to a turning basin in **Kinney Bayou**. The entrance channel is marked by daybeacons, and the basin is marked by private daybeacons and an unlighted range. A boatyard in the bayou has a 50-metric ton mobile hoist and can handle boats to 60 feet for hull and engine repairs.

(190)

Anchorages

(191) Vessels should anchor off Aransas Pass in the Aransas Pass Fairway Anchorages. (See **33 CFR 166.100** through **166.200**, chapter 2.)

(192) Inside Aransas Pass, there is no suitable anchorage for deep-draft vessels. Light-draft vessels up to about a 10-foot draft can anchor in Lydia Ann Channel north of Inner Basin. Also, lighter draft vessels can anchor in Corpus Christi Bay in depths up to 13 feet.

(193)

Currents

(194) The currents at times have velocities exceeding 2.5 knots in Aransas Pass; they are greatly influenced by winds. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(195) It is reported that the currents outside Aransas Pass are variable. Southbound currents when reinforced by northerly winds have produced a drift that has been reported as high as four knots across the mouth of the jetties.

(196) Winds from any east direction make a rough bar and raise the water inside as much as 2 feet above normal. Winds from any west direction have an opposite tendency. A sudden shift of the wind from south to north makes an especially rough bar for a short time. During summer months, south winds prevail, becoming moderate to fresh in the afternoon.

(197)

Weather

(198) Although located on the Gulf, Corpus Christi has an intermediate climate between that of the humid subtropical region to the northeast and those of the semiarid region to the west and southwest.

(199) The normal rainfall for Corpus Christi is about 30 inches a year. Peak rainfall months are June and September, and March is the driest. The season of tropical storms is from June to November and affects the rainfall during this period; otherwise these months are usually dry. Several months during the years of record have had no rainfall or only a trace, while nearly eight inches fell in one 24-hour period in October 1995. Since records began in 1887, snow has fallen on an average of about 1 day every 2 years. The average annual snowfall is less than one inch, and the greatest 24-hour snowfall was one inch, occurring in January 1967 and again in February 1973.

(200) There is little change in the day-to-day weather in the summer, except for an occasional rain shower or a tropical storm in the area. Maximum temperatures range in the high eighties to low nineties, except for brief periods in the high nineties, occasioned by a shift in the wind direction from the prevailing southeast to south and southwest. The sea breeze during the afternoon and evening moderates the heat of the summer day. The average annual temperature at Corpus Christi is 72.1°F with an average high of 81.2°F and an average low of 62.5°F. August is the warmest month with an average high of 84.6°F, and January is the coolest with an average high of 56.4°F. Minimum temperatures are usually in the low seventies. The record maximum temperature in Corpus Christi was 109°F, recorded in September 2000. The maximum temperatures usually occur about noon, with afternoons more pleasant than mornings in that they are usually cloudless and windy. In the summer season, the region receives nearly 80 percent of possible sunshine. The coolest reading on record at Corpus Christi is 11°F, recorded in 1899. Extreme maximums in excess of 100°F have occurred in each month March through September, and extreme minimums below freezing have occurred in each month October through March.

(201) The fall months of September and October are essentially an extension of the summer months. November is a transition to the conditions of the coming winter months, with greater temperature extremes, stronger winds and the first occurrences of "northers." From late November through February, fog is likely to occur in the vicinity of Aransas Pass and Port Aransas.

(202) Relative humidity, because of the nearness of the Gulf of Mexico, is high throughout the year. However, during the afternoons the humidity usually drops to 50 and 60 percent.

(203) Severe tropical storms average about one every 10 years. Lesser strength storms average about one every 5 years. The city of Corpus Christi has a feature not found in most other coastal cities. A bluff rises 30 to 40 feet above the level of the lowlands areas near the bay. This serves as a natural protection from high water. Protection for the main city is now furnished by seawalls. The chief hurricane months are August and September, although tropical storms have occurred as early as June and as late as October. Since 1950, nine tropical systems have come within 50 miles of Corpus Christi; most notable was hurricane Celia, which raked the area with 160 mph gusts (140 knots) in early August 1970. However, most of the storms pass either to the south or east of the city. Tornadoes are of infrequent occurrence in the area. Hail occurs about once a year.

(204) The National Weather Service maintains an office in Corpus Christi where **barometers** may be compared, or they may be compared by telephone. (See Appendix A for address.)

(205)

Pilotage, Corpus Christi Bay

(206) Pilotage is compulsory for all foreign vessels and U.S. vessels under register in foreign trade. Pilotage is optional for coastwise vessels that have on board a pilot licensed by the federal government.

(207) Aransas Corpus Christi Pilots serve Aransas Pass Outer Bar and Jetty Channel, Corpus Christi Ship Channel to Viola Basin, and LaQuinta Channel. The pilots' office address is P.O. Box 2767, Corpus Christi, TX 78403; telephone 361–888–6230 or 361–884–5899; FAX 361–749–6933; email: dispatch@accpilots.com; and website: accpilots.com.

(208) The pilots board vessels between the sea buoy, Aransas Pass Entrance Lighted Buoy AP, and Lighted Buoy 3. The Aransas Corpus Christi Pilots maintain a pilot station on the south jetty; (telephone 361–749–5444). Three pilot vessels are maintained on station. Two 52-foot vessels and one 70-foot vessel. Each pilot vessel has an orange hull and white super structure.

(209) Pilot services are available 24 hours a day, and arrangements for pilot services are made by telephone or VHF-FM channel 12 by hailing Aransas Corpus Christi Pilots. A 3-hour advance notice of time of arrival at the Aransas Pass Entrance Lighted Buoy AP is required. A 3-hour notice is required for sailings and shifting. Update of a vessel's estimated time of arrival at the AP buoy can also be emailed to dispatch@accpilots.com.

(210)

Towage

(211) Tugs up to 6,800 hp and up to 80 metric tons of bollard pull are available in the Port of Corpus Christi. They serve all the channels in the Corpus Christi Bay area and offshore. Harbor tugs are powerful and maneuverable vessels which can travel in any direction. When assisting vessels, tugs may or may not be made up to the vessel with a line. Passing vessels should provide a wide berth for the operation. Harbor tugs produce a very powerful propeller wash which may affect vessels passing in close proximity. Harbor tugs have much deeper drafts than towboats and will usually be restricted to the deeper areas of the channel. While assisting vessels, the actions of the tugs are at the direction of the Pilot or the vessel's Master. It is common practice for the Pilot to make a broadcast on VHF-FM channels 12 or 16 before shifting to a working channel to direct the operation of the harbor tugs. Divers, salvage equipment and spill response are available and some tugs are equipped for firefighting. Specific tug requirements are listed in the Rules and Regulations Governing Pilots and Pilotage on the Corpus Christi Ship Channel which can be found at https://corpuschristipilotboard.com/.

(212)

Quarantine, customs, immigration and agricultural quarantine

(213) **Quarantine, customs, immigration** and **agricultural quarantine** officials are stationed in Corpus Christi. Vessels subject to such inspections generally make arrangements through ships' agents; officials usually board vessels at their berths.

(214) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(215) Public hospitals are available in Corpus Christi.

(216) Corpus Christi is a **customs port of entry**.

(217)

Coast Guard

(218) The U.S. Coast Guard **Sector Office** Corpus Christi and Corpus Christi Coast Guard Air Station is located at the Corpus Christi International Airport. (See Appendix A for address.)

(219) **Port of Corpus Christi** is on the west side of Corpus Christi Bay about 20 miles from the outer end of the jetties at Aransas Pass. The port limits include all of Nueces County and San Patricio County, TX. Corpus Christi Main Harbor includes all of the waterfront facilities along the Industrial Canal, Tule Lake Channel and Viola Channel, including the turning basins from Corpus Christi Turning Basin to Viola Turning Basin. Harbor Island, Port Aransas, Port Ingleside and La Quinta are included in the port area.

(220) The principal exports include crude oil, gasoline, diesel fuel, petroleum coke, hot briquet iron, liquid natural gas (LNG) and sorghum.

(221)

Harbor regulations

(222) Port of Corpus Christi Authority, headed by the Port Executive Director, has jurisdiction and control over the Port of Corpus Christi. The **harbormaster** assigns berths and enforces port regulations. VHF-FM channels 12 and 16 (call sign, KKQ-769) are monitored continuously from the harbormaster's office on the third floor at 1305 North Shoreline Boulevard. Vessels entering the Inner Harbor may not exceed a safe maneuvering and steerage speed and will not create any unusual wake. Vessels violating the speed restriction described herein are liable for damage to any terminal facility caused by unusual wake. Furthermore, any traffic entering the La Quinta Channel must check in with the Harbormaster on VHF-FM channel 12, the check in points are as follows: Aransas-Corpus Christi Bay Cutoff Channel Daybeacon 37; Baffin Bay Daybeacon 7; Aransas Pass Lighted Buoy 7 and Aransas Pass Lighted Buoy 8 and Aransas Bay Alternate Route Light 51.

(223)

Wharves

(224) Corpus Christi has more than 100 piers and wharves. Only the deep-draft facilities are listed in the facilities table for Corpus Christi. Water and electrical shore power connections are available at most piers and wharves upon request. Almost all the facilities have highway and railroad connections.

(225) General cargo at the port is usually handled by ship's tackle. Over 162 acres of open storage space (65½ hectares) and 1,497,508 square feet of covered storage

(226)

Facilities at Corpus Christi, Texas

Name	Location	Berthing Space (feet)	Depths* (feet)	Deck Height (feet)	Purpose	Owned/ Operated by:
Harbor Island						
Kellogg Brown & Root Harbor Island Offshore Facility Wharf	27°50'34"N., 97°04'57"W.	800	20	8	• Offshore mooring • Oil-well service vessels • Fueling and providing water to small vessels	Kellogg Brown & Root, Inc.
Port Ingleside						
Koch Pipeline Co. Ingleside Terminal Wharf	27°49'08"N., 97°11'59"W.	1,000	40	18	• Receipt and shipment of crude oil • Bunkering vessels	Koch Pipeline Co., LP
La Quinta Channel						
Occidental Chemical Corp. Ingleside Plant, Ship Wharf	27°52'08"N., 97°14'43"W.	920	40	15	Shipment of caustic soda, vinyl chloride monomer and ethylene dichloride	Occidental Chemical Corp.
Sherwin Alumina Sherwin Plant, Alumina Dock	27°52'44"N., 97°15'38"W.	960	37-39	9	N/A	Sherwin Alumina, LP
Sherwin Alumina Sherwin Plant, Bauxite Dock	27°52'44"N., 97°16'04"W.	• 705 west • 630 east	45-47	10	N/A	Sherwin Alumina, LP
North side Corpus Christi Turning Basin						
Port of Corpus Christi Authority, Northside General Cargo Terminal Cargo Dock No. 9	27°48'52"N., 97°23'47"W.	750	33	15	Receipt and shipment of conventional general cargo	Port of Corpus Christi Authority
Port of Corpus Christi Roll On/Roll Off Ramp	27°48'52"N., 97°23'47"W.	60	35	6½	Reciept of Ro/Ro cargo	Port of Corpus Christi Authority
Port of Corpus Christi Authority, Cargo Dock No. 10	27°48'54"N., 97°23'53"W.	700	35	15	Receipt and shipment of refrigerated and frozen general cargo	Port of Corpus Christi Authority
Port of Corpus Christi Authority, Oil Dock No. 1	27°48'53"N., 97°24'05"W.	1,000	40	16	• Receipt and shipment of crude oil, petroleum products, and petrochemicals • Loading/bunkering barges	Port of Corpus Christi Authority
Port of Corpus Christi Authority, Oil Dock No. 2	27°48'53"N., 97°24'12"W.	142	15-16	9½	• Receipt and shipment of crude oil, petroleum products, and petro-chemicals • Loading/bunkering barges	Port of Corpus Christi Authority
South side Corpus Christi Turning Basin						
Port of Corpus Christi Authority, Cargo Dock 8	27°48'43"N., 97°24'13"W.	1,060	42	15	Receipt and shipment of containerized general cargo	Port of Corpus Christi Authority
Port of Corpus Christi Authority, Cargo Dock Nos. 14 and 15	27°48'43"N., 97°24'22"W.	938	32-33	15	Receipt and shipment of containerized general cargo	Port of Corpus Christi Authority
Citgo Refining & Chemicals, Port Avenue Terminal Wharf	27°48’43”N., 97°24’38”W.	178	40	12	Shipment of petroleum products	Citgo Refining & Chemicals, Inc.
Flint Hills Resources Tanker Dock No. 3	27°48'46"N., 97°24'52"W.	900	45	14	• Receipt of crude oil, petroleum products, and petrochemicals • Bunkering of berthed tankers	Flint Hills Resources, LP, a subsidiary of Koch Industries, Inc.
North side Industrial Canal						
ADM/Growmark Elevator Wharf	27°49’04”N., 97°25’24”W.	327	42	13	Shipment of grain	ADM/Growmark, subsidiary of Archer Daniels Midland Co.
South side Industrial Canal						
Flint Hills Resources Dock No. 2	27°48’50”N., 97°25’03”W.	800	38-40	10	• Receipt and shipment of crude oil, petroleum products and petrochemicals • Bunkering of berthed tankers	Flint Hills Resources, LP, a subsidiary of Koch Industries Inc.
Citgo Refining & Chemicals, Corpus Christi Refinery, Ship Dock No. 1	27°48’58”N., 97°25’22”W.	800	40	14	• Receipt and shipment of petroleum products and petrochecmicals • Loading bunkering barges	Citgo Refining & Chemicals, Inc.
South side Avery Point Turning Basin						
Citgo Refining & Chemicals Corpus Christi Refinery Barge Dock No. 7	27°49’07”N., 97°25’47”W.	100	22	15	Shipment of petroleum products	Citgo Refining & Chemicals, Inc.

Facilities at Corpus Christi, Texas

Name	Location	Berthing Space (feet)	Depths* (feet)	Deck Height (feet)	Purpose	Owned/ Operated by:
Port of Corpus Christi Authority, Oil Dock No. 3	27°49'13"N., 97°25'55"W.	142	14-17	9½	• Receipt and shipment of crude oil, petroleum products and petrochemicals • Loading bunkering barges • Mooring of tugs and barges	Port of Corpus Christi Authority
South side Tule Lake Channel						
Citgo Refining & Chemicals, Corpus Christi Refinery, Ship Dock No. 3	27°49'30"N., 97°29'31"W.	1,000	48	22	Receipt of crude oil and asphalt by tanker and barge	Citgo Refining & Chemicals, Inc.
Port of Corpus Christi Authority, Oil Dock No. 4	27°49'17"N., 97°29'59"W.	850	44-45	16	• Receipt and shipment of crude oil, petroleum products and petrochemicals • Bunkering and loading barges	Port of Corpus Christi Authority
Port of Corpus Christi Authority, Oil Dock No. 7	27°49'20"N., 97°26'08"W.	850	44-45	16	• Receipt and shipment of crude oil, petroleum products and petrochemicals • Bunkering and loading barges	Port of Corpus Christi Authority
Port of Corpus Christi Authority, Oil Dock No. 11	27°49'22"N., 97°26'18"W.	850	43-45	16	• Receipt and shipment of crude oil, petroleum products and petrochemicals • Bunkering and loading barges	Port of Corpus Christi Authority
Interstate Grain Port Terminal Co., Corpus Christi Elevator Wharf	27°49'01"N., 97°28'12"W.	920	37	10	Shipment of grain	Interstate Grain Port Terminal Co.
Valero Refining Co., Ship Dock No. 2	27°49'10"N., 97°28'47"W.	1,000	45	18	• Receipt and shipment of crude oil and petroleum products • Fueling vessels • Loading bunkering barges	Valero Refining Co.
Valero Refining Co., Ship Dock No. 3	27°49'15"N., 97°28'57"W.	1,000	45	18	• Receipt and shipment of LP-gas, crude oil and petroleum products • Fueling vessels • Loading bunkering barges	Valero Refining Co.
North side Tule Lake Channel						
Port of Corpus Christi Authority, Bulk Terminal, Dock No. 1	27°49'05"N., 97°27'39"W.	835	34	12	Receipt and shipment of misc. bulk ores, and dry bulk by vessel and barge	Port of Corpus Christi Authority
Port of Corpus Christi Authority, Bulk Terminal, Dock No. 2	27°49'05"N., 97°27'44"W.	1,270	44-45	13	Shipment of coke, coal and misc. dry bulk commodities by vessel and barge	Port of Corpus Christi Authority
South side Viola Turning Basin						
Port of Corpus Christi Authority, Oil Dock No. 8	27°50'31"N., 97°31'16"W.	1,000	45	16	• Receipt and shipment of crude oil, petroleum products and petrochemicals by tanker • Fueling small-craft • Bunkering vessels	Flint Hills Resources, LP, a subsidiary of Koch Industries
Port of Corpus Christi Authority, Oil Dock No. 9	27°50'34"N., 97°31'23"W.	320	25	9½	• Receipt and shipment of crude oil, petroleum products and petrochemicals by tanker • Fueling small-craft	Port of Corpus Christi Authority/Flint Hills Resources, LP, a subsidiary of Koch Industries
Port of Corpus Christi Authority, Oil Dock No. 10	27°50'35"N., 97°31'29"W.	400	N/A	9½	N/A	Port of Corpus Christi Authority/Flint Hills Resources, LP, a subsidiary of Koch Industries

* The depths given above are reported. For information on the latest depths contact the port authorities or the private operators.

(139,100 square meters) are available, and over 900,000 cubic feet (25,490 cubic meters) of cold storage space are available in the port.

(227)

Supplies

(228) Water is available at several of the Port's Public Docks upon request including Cargo Docks 1, 2, 8, 9, 14, 15, as well as Bulk Terminals 1 and 2, and Oil Docks 1, 2, 4, 7, 11 and 15, and bunker fuels are available at the oil wharves and by barge at other berths. General and marine supplies are available; unusual items can be obtained from Galveston or Houston.

(229)

Repairs

(230) Corpus Christi has no facilities for making major repairs or for drydocking deep-draft vessels; the nearest such facilities are at Galveston. Several well-equipped firms are available for making above-the-waterline repairs to vessels. Shafts up to 25 feet in length can be produced by a local firm.

(231) Repair facilities are available for medium-draft vessels. The largest floating drydock has a lifting capacity of 3,570 tons, length of 240 feet, width of 82 feet and 23 feet over the keel blocks. The largest vertical boatlift has a capacity of 150 tons and can handle 125-foot vessels. A marine railway can handle keeled vessels up to 650 tons and flat bottom craft up to 1,000 tons; length of cradle, 140 feet, clear width of cradle at top of keel blocks, 52 feet.

(232) Regulations have been established by the Port of Corpus Christi, Port Commission, governing the repairing of ships, particularly "hot work." Copies of these regulations can be obtained from the port officials.

(233)

Communications

(234) Port Corpus Christi is served by three Class I railroads, Burlington Northern Santa Fe (BNSF), Kansas City Southern (KCS), and Union Pacific (UP), along with a short-line operated by Genessee & Wyoming and the Port's own rail line, Corpus Christi Rail Terminal. Numerous motor freight lines operate from the port, and buslines serve the city. Airlines provide transportation from Corpus Christi International Airport northwest of the city. Over 100 shipping companies provide water transportation to ports on the Gulf, Atlantic and Pacific Coasts and all world ports. Taxi and local bus service is available.

(235) **Port Aransas** is a small commercial fishing and resort town on the north end of **Mustang Island** at the inner end of Aransas Pass. A marked dredged channel leads south to a harbor basin from inside the pass. There are boatyards and a municipal marina in the basin. Berths with electricity, gasoline, diesel fuel, water, ice, marine supplies, provisions, pumpout and launching ramps are available. A 1,200-foot fishing pier extends into the Gulf about 0.5 mile south of Aransas Pass. An automobile ferry operates between Port Aransas and Harbor Island. Port Aransas Coast Guard Station is in the harbor basin.

(236) **Harbor Island** is at the head of Aransas Pass. Large oil-handling plants with berths are on the southeast end of the island (see Wharves, Corpus Christi.). A dredged turning basin is east of the berths along the north side of the ship channel. State Route 361 causeway begins at the ferry landing and crosses Morris and Cummings Cut and Redfish Bay and leads to the town of Aransas Pass on the mainland. A facility on the southeast end of Harbor Island, operated by Martin Energy, allows for temporary dockage to vessels with fuel accounts.

(237) Pilings, some submerged, of a former mooring slip were reported north of Harbor Island on the west side of Lydia Ann Channel.

(238) From the Inner Basin off Harbor Island, a dredged channel leads northwest for about 5.2 miles and intersects with the Intracoastal Waterway and turning basin just off the town of **Aransas Pass**, with a connecting channel leading into **Conn Brown Harbor**. Detailed channel information is available through NOAA Electronic Navigational Charts. The most recent surveys of the area are posted by the U.S. Army Corps of Engineers (See Appendix A for contact information.)

(239) The Intracoastal Waterway crosses the west end of Aransas Channel and extends along the east side of the town, sheltered from Redfish Bay by spoil banks. South of the causeway the canal offers good protection to small boats. The channel and harbor to the north of the causeway have several seafood processing plants. A large shrimp boat fleet operates out of the town.

(240) There are boatyards and marinas in the harbor. The largest marine railway can handle craft up to 120 feet for general repairs or storage. Gasoline, diesel fuel, water, ice, marine supplies, open and covered berths with electricity and launching ramps are available.

(241) A 5-mph **speed limit** is enforced in the channel and harbor from Harbor Island to the town of Aransas Pass. The **harbormaster** has an office at the Port of Corpus Christi Authority at 1305 N Shoreline Blvd., Corpus Christi, TX 78401. The town has both highway and railroad connections to all parts of the state.

(242) **Corpus Christi Bayou**, at the south end of Aransas Bay, provides small craft a shortcut from Aransas Bay via **Morris and Cummings Cut** to Corpus Christi Bay. The bayou had a reported controlling depth of about 2 feet in 1982. The channel is crooked and difficult to follow, as only a few piles mark the channel.

(243) The controlling depth through Morris and Cummings Cut is about 4 feet. About midway, this cut is crossed by the dredged Aransas Channel. A fixed bridge crosses the cut just south of the dredged channel and has a width of 24 feet. Southeast of this bridge is another fixed bridge with a width of 28 feet and a clearance of 8 feet. Overhead power cables crossing at the bridges have a clearance of 31 feet.

(244) A privately maintained and marked channel leads from the south end of Morris and Cummings Cut to a basin at the south end of the town of Aransas Pass; the reported controlling depth in 1990 was about 5 feet.

(245) **Redfish Bay** is shallow; it extends north along the mainland from Corpus Christi Bay to Aransas Bay. The dredged channel of the Intracoastal Waterway is adjacent to the mainland shore, traversing the bay north to south and joining Corpus Christi deep-draft channel at Port Ingleside.

(246) **Corpus Christi Bay** is a large body of water, roughly elliptical in shape, lying to the west of Mustang Island and connected with Aransas Pass by the Corpus Christi Channel. The bay is about 15 miles long in an east and west direction and 11 miles wide at its widest part. About the east end of the bay the depths are 8 to 11 feet, and most of the rest of the bay has depths of 12 to 13 feet.

(247) A **seaplane restricted area** is in Corpus Christi Bay. (See **33 CFR 334.800**, chapter 2, for limits and regulations.)

(248) **Shamrock Cove**, on the southeast side of Corpus Christi Bay, affords good anchorage for small boats in depths of 7 to 8 feet, soft mud bottom. Shoals extend

about 0.2 mile west and 0.3 mile south of **Shamrock Point**.

(249) In **Port Ingleside**, on the north shore of Corpus Christi Bay about 7.5 miles west of Aransas Pass, is a privately owned oil terminal. There are piers in a basin and a deep-draft wharf north of the Corpus Christi Channel.

(250) Just west of the oil terminal is a **restricted area** (See **33 CFR 334.802,** chapter 2, for limits and regulations.) The naval base was reported closed in 2010 and the restricted area no longer active.

(251) **Ingleside on the Bay**, a fishing community on the east shore of Ingleside Cove, has a marina at the south end of the cove that can accommodate boats up to 50 feet. Berths, electricity, water, ice, launching ramp and wet storage are available. The unmarked channel leading to the facility had a reported controlling depth of about 6 feet in 2002.

(252) **Nueces Bay** is a tributary of Corpus Christi Bay partially separated from it by sandspits and has depths of only 1 to 2 feet. **Indian Point** and **Rincon Point**, the northeast and southeast points forming the entrance, are connected by U.S. Route 181 highway causeway. **Rincon Canal**, marked by daybeacons and an unlighted **320°** range, leads northwest from Corpus Christi Bay to the Rincon Industrial Park complex at the southeast end of Nueces Bay inside Rincon Point. The Industrial Park, in various stages of construction, will serve as a shallow-draft commerce terminal. A fixed highway bridge crosses the main channel and has a clearance of 50 feet. The poles of a former power cable extend across the entrance to Nueces Bay below the causeway, and the piling of a former railroad bridge remains, except for removed sections at both ends.

(253) **Nueces River** emptying into the west part of Nueces Bay is navigable for shallow-draft boats for a distance of 9 miles to a dam. The river is of no commercial importance.

(254)

ENC - US5TX23M
Chart - 11311

(255) **Corpus Christi Harbor**, on the north side of Corpus Christi, consists of inland basins connected by an industrial canal. The basins and connecting canal are landlocked and well protected.

(256) **Corpus Christi**, on the west side of Corpus Christi Bay and 18 miles from Aransas Pass, is the most important city commercially on the Texas coast southwest of Galveston. The principal industries are in seafood processing, agriculture, livestock, meat packing and freezing, petroleum products, petrochemical and industrial chemicals, natural gas, manufacture of plastics, steel products, aluminum, zinc, machinery, oil field equipment, paper products, agricultural fertilizers, cement, gypsum products, textiles and the shipment of wheat, cotton, corn, barley, sorghum, dry bulk materials and general cargo.

(257) The city has several hospitals, a large municipal auditorium, a large boat harbor and a Coast Guard air station.

(258)

Bridges

(259) U.S. Route 181 fixed highway bridge over the entrance to Corpus Christi Turning Basin is under construction (2018). An overhead power cable crosses the canal midpoint between the first turning basin and Avery Point Turning Basin with a clearance of 165 feet. Another overhead cable crosses Viola Channel between Tule Lake Turning Basin and Viola Turning Basin with a clearance of 195 feet at mean low tide.

(260)

Small-craft facilities

(261) The bay waterfront at Corpus Christi is protected by a breakwater nearly 2 miles long. Depths in most of the area behind the breakwater range from 6 to 10 feet, not including the ship channel crossing the north end. The main entrance is through the ship channel. Depths of 6 to 10 feet can be carried south inside the breakwater to three large wharves of the municipal marina, about 0.7 mile south of the ship channel; boats should pass inshore of the center of this protected waterway. There are four openings in the breakwater south of the ship channel. The northernmost two are very shallow and are not used, with depths of 1 foot to bare. The southernmost opening, which provides a direct entrance to the marina from the bay, has depths of about 7 feet and is marked on its north and south sides by lights.

(262) There is a marina supervisor, with an office on the center wharf, who assigns berths and can be contacted at 361–826–3980. A municipal patrol and rescue boat operates from the marina. The patrol boat can be contacted through the Corpus Christi police and marine radio. The boat monitors VHF-FM channel 16 when underway and is also equipped with VHF-FM channels 6, 12 and 26.

(263) The marina is opposite the center of the city and has excellent accommodations for yachts and small vessels. Protected berths for more than 500 craft are available with reported depths of 8 to 11 feet. Gasoline, diesel fuel, electricity, water, ice, pumpout, winter storage and launching ramps are available. A repair yard has a 15-ton mobile lift and can handle boats up to 40 feet; hull, engine and electronic repairs can be made.

(264) A repair yard on the north side of the Tule Lake Channel portion of the harbor channel has an 89-ton vertical lift and a 140-foot marine railway.

(265) The Corpus Christi Yacht Club is at the marina.

(266)

Anchorages

(267) A **special anchorage** area is in the area south of the municipal marina. (See **33 CFR 110.1** and **110.75**, chapter 2, for limits and regulations.)

(268)

ENC - US3GC01M
Chart - 11300

(269) **Laguna Madre** is a shallow body of water extending south from Corpus Christi Bay for a distance of 100 miles. Depths range from zero to 9 feet with reefs and mudflats throughout. The Intracoastal Waterway traverses Laguna Madre from Corpus Christi Bay to Port Isabel, TX (See chapter 12.) **Padre Island**, a low, barren storm-swept strip of sand beach, separates Laguna Madre from the Gulf. Most of the Island is part of the **Padre Island National Seashore** and subject to the rules and regulations of the U.S. Department of Interior's National Park Service.

(270) A natural fishing reef is 1.5 miles offshore about 15.6 miles north of Port Mansfield jetties. Another natural fishing reef is 4.5 miles offshore about 11.2 miles north of the jetties.

(271)

Port Mansfield

(272) **Port Mansfield**, 70 miles south of Corpus Christi Bay, is a commercial fishing and popular sport fishing and recreational center and a base for oil exploration in Laguna Madre. A water tank at the town is prominent.

(273) **Vessels should approach Port Mansfield through the Port Mansfield Safety Fairway.** (See **33 CFR 166.100** through **166.200**, chapter 2.)

(274)

COLREGS Demarcation Lines

(275) The lines established for Port Mansfield are described in **33 CFR 80.850**, chapter 2.

(276) An 8.6-mile dredged channel leads from the Gulf, from a point 78 miles south of Aransas Pass and 31 miles north of Brazos Santiago Pass, through a jettied entrance and a land cut across Padre Island, and thence across Laguna Madre to a turning basin at Port Mansfield. A shrimp-boat basin and a small-craft basin extend south from the southwest and southeast corners of the turning basin, respectively. (See Notice to Mariners and latest edition of charts for controlling depths.) The entrance to the dredged channel is marked by a light off the ends of the north and south jetties in ruins. The channel is marked by lights and daybeacons.

(277)

Anchorages

(278) Vessels may anchor off the entrance to Port Mansfield on either side of the safety fairway.

(279) Port Mansfield, under the jurisdiction of the Willacy County Navigation District, has a port director; a **harbormaster** assigns berths. There are berthing facilities, open storage space and a transit shed with covered storage space. The basins have been bulkheaded, and vessels up to 128 feet can be berthed at finger piers in the shrimp-boat basin. There are about 200 berths in the small-craft basin.

(280) There are four marinas in the shrimp-boat basin that provide gasoline, diesel fuel, ice, water and limited marine supplies.

(281) A **speed limit** of 4 knots is enforced in the harbor. An improved highway connects with the nearest railroad shipping point at **San Perlita**, 14 miles distant, and with **Raymondville**, the nearest town of any size, 28 miles distant. Raymondville has a hospital, telegraph communications and rail and highway connections.

(282)

ENCs - US4TX11M, US5TX13M
Charts - 11301, 11303

(283) **Arroyo Colorado** enters Laguna Madre through **Arroyo Colorado Cutoff**. A dredged channel, 90 miles south of Corpus Christi, leads from the Intracoastal Waterway through Arroyo Colorado Cutoff and Arroyo Colorado to a turning basin at Port Harlingen, 22 miles from the mouth. See Notice to Mariners and the latest edition of the chart for controlling depths.

(284) A barge assembly basin, with attendant mooring dolphins and depths of about 14 feet, is on the north side of Arroyo Colorado Cutoff about 1.7 miles west of the Intracoastal Waterway. This basin is intended for the temporary mooring of barges.

(285) **Rio Hondo** is a small town on the Arroyo Colorado, about 20 miles above its mouth. There are privately operated wharves for the unloading of petroleum products and chemicals and limited berthing facilities for pleasure craft. Water is available at a small pier. Ice by truck and provisions are available. There are railroad and highway connections to the north part of the state.

(286) State Route 106 highway bridge at Rio Hondo has a vertical lift span with a clearance of 27 feet down and 73 feet up. (See **33 CFR 117.1** through **117.59** and **117.951**, chapter 2, for drawbridge regulations.) Overhead power and telephone cables close south of the bridge have clearances of 63 feet. An overhead power cable with a clearance of 73 feet is about 0.8 mile below Rio Hondo.

(287) **Port Harlingen**, under the jurisdiction of the Arroyo Colorado Navigation District known as the Port Commission, is east of Harlingen and about 2 miles above Rio Hondo. A Port Director is in charge of operations and enforces the regulations established by the Port Commission. A **speed limit** of 8 knots in the channel and 4 knots in the turning basin is enforced. The Port Director assigns berths. There are two reinforced concrete wharves 650 feet and 100 feet long, three oil unloading piers and aggregates and fertilizer wharf. A transit shed on the largest wharf has 12,000 square feet of covered storage, with a rail siding at a loading platform in the rear of the shed. All the wharves had a reported depth of 12 feet alongside in 1982. Forklifts, crawler cranes, a grain elevator and a compressed gas and oil storage facility are available. Water is available at the large wharf. Gasoline and diesel fuel are available by truck. The principal imports are petroleum products,

steel products and chemicals. The principal exports are grain, chemicals and crude petroleum. There are railroad and highway connections to **Harlingen** and the interior. At Harlingen and **San Benito** there are hospitals, a grain elevator, railroad and bus transportation and communication facilities.

(288)

ENCs - US4TX11M, US5TX12M
Charts - 11301, 11302

(289) **Brazos Santiago Pass (Brazos Santiago)**, the approach to Port Isabel and Port Brownsville, is a narrow pass from the Gulf to the lower end of Laguna Madre, between the south end of Padre Island and the north end of **Brazos Island**. It lies 236 miles south-southwest from Galveston entrance, 106 miles south from Aransas Pass and 6 miles north from the mouth of the Rio Grande.

(290)

Prominent features

(291) In approaching Brazos Santiago Pass on a clear day, the radio antenna at **South Padre Island Coast Guard Station** and the water tank and Port Isabel Light are the first objects sighted. Soon thereafter the mariner will pickup Brazos Santiago Light and the Coast Guard station inside the entrance on the north side. The light on top of the radio antenna of the Coast Guard station is prominent at night. On clear nights it is reported to be visible 20 or more miles offshore. The large hotels and condominiums on Padre Island north of the entrance are prominent.

(292) **Port Isabel Light** (26°04'36"N., 97°12'24'W.), 91 feet above the water, is shown from the white conical brick tower; the light is maintained by the State.

(293) Vessels should approach Brazos Santiago Pass through the **Brazos Santiago Pass Safety Fairway** or the **Coastwise Safety Fairway**. (See **33 CFR 166.100** through **166.200**, chapter 2.)

(294)

COLREGS Demarcation Lines

(295) The lines established for Brazos Santiago are described in **33 CFR 80.850**, chapter 2.

(296)

Channels

(297) The pass has been improved by the construction of two rubble mound jetties extending nearly 1 mile into the Gulf and by dredging a channel between them from deep water in the Gulf. Federal project depths are 44 feet in the Brazos Santiago Pass entrance channel, thence 42 feet through the jetty channel and across Laguna Madre to the junction of the channels leading to Port Brownsville and Port Isabel, 36 feet to Port Isabel turning basin, and 42 feet from the junction to the **Brownsville Turning Basin**. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A.

(298) The entrance is marked by a lighted buoy about 2 miles east of the jetties, a lighted **269.4°** entrance range, and lighted buoys off ends of the jetties. The channels are well marked by lights, lighted buoys, daybeacons and lighted ranges.

(299) In the 16-mile channel to Brownsville Turning Basin. **Boca Chica Passing Basin** is 7 miles and **Goose Island Passing Basin** 11.3 miles above the outer end of the entrance jetties.

(300) Private interests have dredged a ship basin at the south end of Padre Island just inside Brazos Santiago Pass entrance. The basin had a reported approach and alongside depth of 6 feet in 2013. There is a large marina in the basin where gasoline, diesel fuel, water, ice, open berths, storage and surface launching ramps are available.

(301)

Anchorages

(302) Vessels should anchor in the Brazos Santiago Pass Fairway Anchorages on either side of the safety fairway. (See **33 CFR 166.100** through **166.200**, chapter 2.)

(303) Directly off the entrance to Brazos Santiago Pass, the bottom is soft and affords fair anchorage with good holding ground; farther north and south the bottom is harder. After entering the pass, ships must proceed to the wharves. Once inside Brazos Santiago Pass, there is no satisfactory anchorage for deep-draft vessels.

(304)

Currents

(305) Tidal currents of 6 knots were reported in the vicinity of Brazos Santiago Pass and Port Isabel that may cause strong cross currents on the Intracoastal Waterway at about Mile 665.1W, especially with a flood tide and strong southeast winds. Caution is advised for large vessels transiting between Port Isabel and Long Island. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(306)

Dangers

(307) An unmarked dangerous wreck is 4.5 miles north of Brazos Santiago Pass Entrance Lighted Whistle Buoy BS, and a fish haven is 1.3 miles north of the buoy.

(308)

Weather

(309) The climate of Brownsville is partly manmade. The prevailing winds of the area are from the Gulf of Mexico but do not produce a truly marine climate. The region could be classified as semiarid because of the lack of rainfall, the result of the low elevation of the area, which fails to give the air from the Gulf sufficient lift to cause condensation and of the considerable subsidence of the winds aloft due to the presence of mountains starting about 100 miles to the west. The manmade, and most

important, climatic factor of this region is the irrigation that has changed the entire lower Rio Grande Valley into a semitropical area.

(310) The normal annual rainfall of about 26 inches is poorly distributed, with maxima in June, September and October. Most of the precipitation comes in the form of thunderstorm activity, and often a single thunderstorm will account for the entire month's rainfall. Some extreme rainfalls have occurred when hurricanes were in the vicinity. However, the frequency of hurricanes in this area is very small, and the general path is a north and south one just off the coast in the Gulf. Since 1950 only eight tropical systems have approached Brownsville. Perhaps the most noteworthy were Beulah in September 1967 and Allen in August 1980. Beulah made a direct hit at Brownsville with an estimated wind of 109 knots observed at the airport. Allen provided a 68-knot gust at the airport. The greatest 24-hour rainfall at Brownsville occurred during Beulah. Over 12 inches was documented on September 20, 1967.

(311) Temperatures in summer and fall are not extremely high but are fairly constant in the lower nineties during the daytime and in the middle seventies at night. The average annual temperature at Brownsville is 74.1°F with an average high of 82.8°F and an average low of 65.0°F. August is the warmest month with an average temperature of 84.7°F, and January is the coolest with an average temperature of 60.5°F. The prevailing onshore winds from the Gulf moderate the temperatures. The highest temperature recorded at Brownsville was 106°F recorded in March 1984. Each month March through August has recorded temperatures in excess of 100°F while each month November through March has recorded temperatures at or below freezing. The lowest temperature on record at Brownsville is 16°F, recorded in December 1989.

(312) Winter temperatures are mild, with the normal daily minimum for January, the coldest month, being 51.0°F. Frequently an entire winter will pass without a temperature as low as the freezing point occurring.

(313) Snow seldom occurs in Brownsville; however, local newspaper records reveal that 6 inches of snow blanketed the area in 1895.

(314) Glaze is rare in Brownsville, but, during a cold wave in 1951, ice accretion was 1 to 1½ inches for the most severe glaze of record.

(315) The National Weather Service maintains an office in Brownsville where **barometers** may be compared, or they may be compared by telephone. (See Appendix A for address.)

(316)

Pilotage, Brownsville

(317) Pilotage is compulsory for all foreign vessels and U.S. vessels under register in foreign trade. Pilotage is optional for coastwise vessels that have on board a pilot licensed by the federal government.

(318) The Brazos Santiago Pilots Association serves the Port of Brownsville and Port Isabel, Texas. The pilots mailing address is P.O. Box 414, Port Isabel, TX 78578; telephone/fax 956–943–3680.

(319) The pilots board vessels 1 mile east of the sea buoy. The Brazos Santiago Pilots maintain a station on South Padre Island at a marina near the Port Isabel Coast Guard Station. The pilot boat "PILOT VII" is 51 feet long with an orange hull and white deckhouse with the word PILOT on the house. The pilot boat "VI" is 27 feet long with a red hull and a white deckhouse. The pilot boats monitor VHF-FM channels 16 and 12 and work on channel 12.

(320) When boarding, pilots will make contact over VHF approximately 30 minutes before planned boarding time. The pilot will give pilot ladder rigging instructions at that time. Pilots request a boarding speed of 7 knots.

(321) Pilot services are available 24 hours a day, weather permitting. Arrangements for pilot service can be made through the Brownsville Harbormasters office by telephone 969–831–8256 and through the ships' agents. A minimum 4-hour notice of time of arrival is required.

(322)

Quarantine, customs, immigration and agricultural quarantine

(323) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(324) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(325) There are two hospitals in Brownsville.

(326) Brownsville is a **customs port of entry**.

(327)

Towage

(328) Two tugs of 1,600 and 1,800 hp are available at Brownsville for docking and undocking vessels, coastwise towing or salvage work.

(329)

Harbor regulations

(330) The Port Commission of the Brownsville Navigation District has jurisdiction and control over the Brownsville Ship Channel and turning basin and all wharves and transit sheds owned or operated by it. The Port Commission establishes rules and regulations governing the port. The Port Director is in charge of operations, and the **harbormaster** assigns berths and enforces the regulations. A **speed limit** of 8 knots in Brownsville Ship Channel and 4 knots in the turning basin is enforced.

(331) **Port Brownsville**, about 14.5 miles from the inner end of Brazos Santiago Pass, is the port for the city of Brownsville. Exports include cotton, cotton products, lead, agricultural implements, zinc, sulfate, ores, chemicals, petroleum products, and citrus fruit. Imports are fruit, steel products, ores, and general cargo. Offshore oil rigs are constructed and repaired in Port Brownsville.

(332) **Brownsville**, about 5 miles west-southwest of Port Brownsville, is a fast growing metropolis and the largest city in the rich agricultural section on the north side of

(336)

Facilities at Brownsville, Texas

Name	Location	Berthing Space (feet)	Depths* (feet)	Deck Height (feet)	Purpose	Owned/ Operated by:
North side of Brownsville Ship Channel						
Brownsville Navigation District, Oil Dock No. 3	25°57'35"N., 97°22'45"W.	325	35	14.8	Receipt and shipment of petroleum products	Brownsville Navigation District
Brownsville Navigation District, Oil Dock No. 2	25°57'22"N., 97°23'24"W.	350	32	14.8	Receipt and shipment of petroleum products, solvents, liquid wax, latex and vegetable oils	Brownsville Navigation District/Transmontaigne Terminaling Co.
Brownsville Navigation District, Oil Dock No. 1	25°57'19"N., 97°23'31"W.	325	32	14.8	Receipt and shipment of petroleum products, hexane and other solvents	Brownsville Navigation District/Transmontaigne Terminaling Co.
North side of Turning Basin						
Brownsville Navigation District, Docks Nos. 7 and 8	25°57'14"N., 97°23'49"W.	1,000	29	12	Receipt and shipment of steel and general cargo	Brownsville Navigation District
Brownsville Navigation District, Docks Nos. 1, 2 and 4	25°57'07"N., 97°24'08"W.	1,250	32	12	Receipt and shipment of general cargo, ores and bulk materials	Brownsville Navigation District
West end of Turning Basin						
Brownsville Navigation District, Dock No. 3	25°57'59"N., 97°24'04"W.	450	32	12	Receipt and shipment of steel products and ores	Brownsville Navigation District
South side of Turning Basin						
Brownsville Navigation District, Docks Nos. 10 & 11	25°57'03"N., 97°23'53"W.	• 650 west • 600 north	• 21 • 28	12	• Receipt and shipment of dry bulk commodities, ores, metals and heavy machinery • Steel by barge	Brownsville Navigation District
Brownsville Navigation District, Docks Nos. 12 & 13	25°57'08"N., 97°23'40"W.	1,250	28-29	12	Receipt and shipment of steel, misc. ores and general cargo	Brownsville Navigation District
South side of Brownsville Ship Channel						
Port of Brownsville, B.C. Dock	25°57'19"N., 97°23'10"W.	400	39-42	12	Shipment of grian and stone	Brownsville Navigation District/Port Elevator-Brownsville, LC and Global Stone, LC
Brownsville Navigation District, Liquid Cargo Dock	25°57'20"N., 97°22'24"W.	450	34	14	Receipt and shipment of petroleum products and liquid wax	Brownsville Navigation District/Citgo Petroleum Corp. and Transmontaigne Terminaling Co.

* The depths given above are reported. For information on the latest depths contact the port authorities or the private operators.

the lower Rio Grande Valley that extends 100 miles west from the river mouth. Noted as a resort city, it is also a gateway to Matamoros, Mexico, on the opposite side of the Rio Grande.

(333)

Wharves

(334) The port of Brownsville has more than 40 piers and wharves. Only the deep-draft facilities are listed in the facilities table for Brownsville. All the facilities described are owned and operated by the Brownsville Navigation District of Cameron County unless otherwise stated. All the facilities have highway, railroad and water connections. Almost all have electrical shore power connections.

(335) General cargo at the port is usually handled by ship's tackle; special handling equipment, if available, is mentioned in the description of the particular facility. Two 150-ton floating cranes are available. About 52 acres of open storage space, over 1 million square feet of covered storage and over 2 million cubic feet of cold storage space are available in the port.

(337)

Supplies

(338) All manner of marine supplies and provisions are available at the port. Fresh water is available at most of the wharves. Gasoline, diesel fuel and kerosene are available at the oil wharves. Bunker fuels can be delivered by barge from Corpus Christi by special arrangements.

(339)

Repairs

(340) Port of Brownsville has no facilities for making major repairs or for drydocking deep-draft vessels; the nearest such facilities are at Galveston. Several firms are available for making above-the-waterline repairs to vessels. Shafts up to 30 feet long can be produced by a local firm. The largest marine railway can handle vessels up to 200 tons.

(341)

Small-craft facilities

(342) **Brownsville Fishing Harbor** is on the north side of the channel 3.6 miles below the head of the turning basin at Port Brownsville. Berthing facilities are usually

leased to fishing companies, and facilities for private yachts are very limited. There are seafood processing plants, marine supply outlets and marine engine repair facilities in the fishing harbor. Two shipyards have marine ways, the larger capable of handling vessels up to 100 feet for general repairs. Gasoline, diesel fuel, water, ice, launching ramps, open and covered berths and marine supplies are available. There is bus and taxi service from the basin to Brownsville. Most of the public facilities for yachts are at Port Isabel.

(343)

Communications

(344) Brownsville is connected with points in both the United States and Mexico by three Class I railroads; the Union Pacific, the Southern Pacific and the National Railways of Mexico. Switching service within the port is done by the Brownsville and Rio Grande International Railroad. Several barge lines offer service at the port. Numerous motor freight lines operate out of the port and Brownsville. Steamship agencies represent numerous lines that offer service to all ports of the world. Airlines operate from the Brownsville-South Padre Island International Airport about 4 miles east of the city, with daily scheduled flights to all parts of the United States. There is local taxi and bus service and interstate bus service to all points.

(345) **Port Isabel**, about 2.5 miles west from Brazos Santiago Pass, is an important point for the shipping of petroleum products by barge and the receipt of barge shipments of sand and gravel. It has a large shrimp boat fleet, and the town is widely patronized as a resort for sport fishing and recreation.

(346)

Channels

(347) North of Port Isabel, a dredged channel branches off the Intracoastal Waterway in a southwest direction towards the Port Isabel small-boat basin. The channel turns south before entering the basin and, once inside, turns southeast to a turning basin.

(348) Another dredged channel branches off the Intracoastal Waterway between Port Isabel proper and Long Island in about 26°04'03"N., 97°12'25"W. The channel leads west from the waterway and curves around Port Isabel in a northerly direction.

(349) The deep-draft Port Isabel Channel departs the Laguna Madre Channel about 2.8 miles above the jetties and leads north for 1.2 miles to the turning basin at Port Isabel. A federal project provides 42 feet through Laguna Madre Channel and 36 feet through Port Isabel Channel and turning basin. (See Notice to Mariners and latest editions of charts for controlling depths.) The Intracoastal Waterway is described in chapter 12.

(350) A causeway crossing the Intracoastal Waterway between Port Isabel and Padre Island has a fixed span with a clearance of 73 feet. The fixed span of the former causeway crossing the south end of Laguna Madre between Long Island and Padre Island has been removed; a 38-foot navigation opening remains.

(351)

Wharves

(352) There are over 25 piers and wharves at Port Isabel. Most are of shallow draft and are used mainly by the seafood industry and for marine services and repairs. Only the deep-draft facilities are described. The deep-draft facilities on the turning basin are owned by the Port Isabel-San Benito Navigation District and are managed by a **port director**, who assigns berths and controls the movement of vessels. A **speed limit** of 4 knots in the harbor and 8 knots in the ship channel is enforced.

(353) The Port Isabel Turning Basin General Cargo Wharf, on the west side of the turning basin, has a 550-foot face with 30 feet reported alongside. About 50,000 square feet of covered storage, 72,000 square feet of open storage space and storage tanks with 192,000-barrel capacity are available. The wharf is used for the receipt and shipment of general cargo, the receipt of sand and gravel and the shipment of crude oil. The wharf has highway, fresh water, shore power and pipeline connections.

(354) The port has lay berth facilities for vessels to 200 feet long and 24-foot draft. An additional 600-foot cargo dock with 24 feet alongside is available and is currently used by the offshore drilling industry.

(355)

Supplies

(356) Port Isabel has no waterfront facilities for bunkering deep-draft vessels; fuel can be supplied to vessels berthed in the turning basin by tank barges from Corpus Christi. Gasoline, diesel fuel and marine lubricants are available to fishing boats and other small vessels.

(357)

Repairs

(358) Port Isabel has no facilities for making major repairs or for drydocking deep-draft vessels; the nearest such facilities are at Galveston. Several firms are available for making above- and below-the-waterline repairs to smaller vessels. The largest marine railway can handle vessels up to 140 feet and 800 tons for general repairs.

(359)

Small-craft facilities

(360) There are several marinas at Port Isabel.

(361)

Communications

(362) Port Isabel has highway connections, and the Cameron County Municipal Airport is about 10 miles northwest of the city.

(363) **Del Mar Beach**, on Brazos Island, is a swimming and fishing resort.

(364) The **Rio Grande** empties into the Gulf of Mexico 6 miles south of Brazos Santiago Pass. The International Boundary and Water Commission states (December 28, 1953) that the river forms the International boundary between the United States and Mexico for 1,241 statute

miles; further, that the total length of the boundary is 1,935 statute miles from the Gulf of Mexico to the Pacific Ocean. No survey of the river has been made recently, but access to the river over the entrance bar is limited to skiffs and small boats; inside, the channel is changeable. The International Boundary Commission has several dams on the Rio Grande to prevent freshwater from wasting into the Gulf.

(365) The east coast of Mexico is described in Pub. No. 144, Sailing Directions (Enroute), Caribbean Sea, published by the National Geospatial-Intelligence Agency.