

PUB. 131
SAILING DIRECTIONS
(ENROUTE)



WESTERN
MEDITERRANEAN



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Pub. 131, Sailing Directions (Enroute) for Western Mediterranean, Eleventh Edition, 2004, is issued for use in conjunction with Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea. The companion volume is Pub. 132.

This publication has been corrected to 27 November 2004, including Notice to Mariners No. 48 of 2004.

Explanatory Remarks

Sailing Directions are published by the National Geospatial-Intelligence Agency (NGA), under the authority of Department of Defense Directive 5105.40, dated 12 December 1988, and pursuant to the authority contained in U. S. Code Title 10, Sections 2791 and 2792 and Title 44, Section 1336. Sailing Directions, covering the harbors, coasts, and waters of the world, provide information that cannot be shown graphically on nautical charts and is not readily available elsewhere.

Sailing Directions (Enroute) include detailed coastal and port approach information which supplements the largest scale chart produced by the National Geospatial-Intelligence Agency. This publication is divided into geographic areas called "Sectors."

Bearings.—Bearings are true, and are expressed in degrees from 000° (north) to 360°, measured clockwise. General bearings are expressed by initial letters of points of the compass (e.g. N, NNE, NE, etc.). Adjective and adverb endings have been discarded. Wherever precise bearings are intended degrees are used.

Coastal Features.—It is assumed that the majority of ships have radar. Available coastal descriptions and views, useful for radar and visual piloting are included in geographic sequence in each Sector.

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NGA Maritime Division Website (PDUs)

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Courses.—Courses are true, and are expressed in the same manner as bearings. The directives "steer" and "make good" a course mean, without exception, to proceed from a point of origin along a track having the identical meridional angle as the designated course. Vessels following the directives must allow

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Currents.—Current directions are the true directions toward which currents set.

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Heights.—Heights are referred to the plane of reference used for that purpose on the charts and are expressed in meters.

Index-Gazetteer.—Navigational features and place-names are listed alphabetically in the back of the book. The approximate position, along with the Sector and paragraph numbers (e.g. 1.1), facilitate location in the text.

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Light and Fog Signals.—Lights and fog signals are not described, and light sectors are not usually defined. The Light Lists should be consulted for complete information.

Ports.—Directions for entering ports are depicted where appropriate by means of chartlets, sketches, and photos, which facilitate positive identification of landmarks and navigational aids. These chartlets and sketches are not always to scale, however, and should be used only as a general informational guide in conjunction with the best scale chart. Specific port facilities are omitted from the standard format. They are tabulated in Pub. 150, World Port Index.

Radio Navigational Aids.—Radio navigational aids are not described in detail. Publication No. 117 Radio Navigational Aids and NOAA Publication, Selected Worldwide Marine Broadcasts, should be consulted.

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Special Warnings.—A Special Warning may be in force for the geographic area covered by this publication. Special Warnings are printed in the weekly Notice to Mariners upon promulgation and are reprinted annually in Notice to Mariners No. 1. A listing of Special Warnings currently in force is printed in each weekly Notice to Mariners, Section III, Broadcast Warnings, along with the notice number of promulgation. Special Warnings are also available on the Maritime Division website.

NGA Maritime Division Website (Special Warnings)

http://164.214.12.145/warn/warn_j_query.html

Wind Directions.—Wind directions are the true directions from which winds blow.

Reference List

The principal sources examined in the preparation of this publication were:

British Hydrographic Department Sailing Directions.
French Sailing Directions.
Italian Sailing Directions.
Spanish Sailing Directions.

Various port handbooks.

Reports from United States naval and merchant vessels and various shipping companies.

Other U.S. Government publications, reports, and documents.

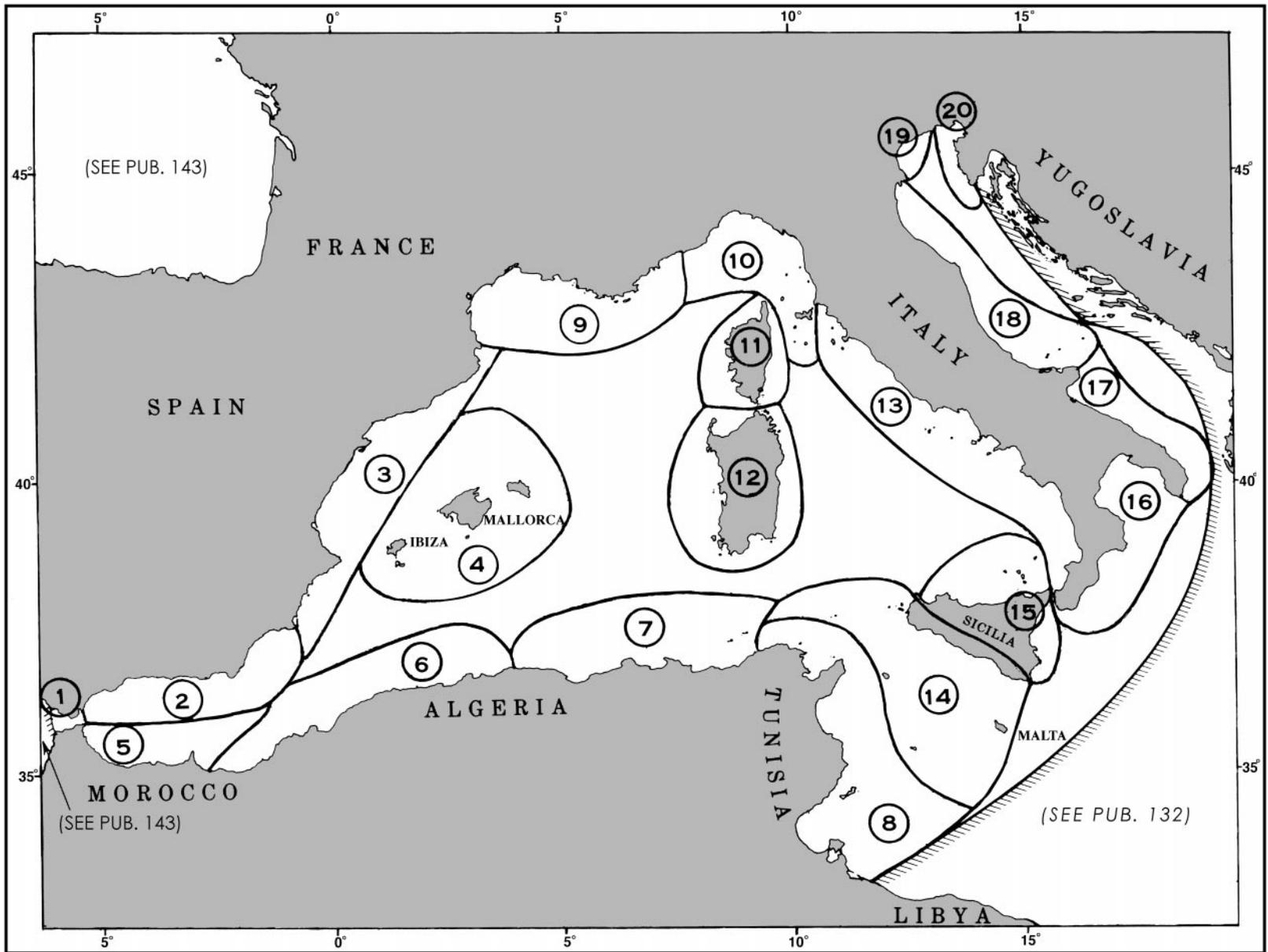
Charts, light lists, tide and current tables, and other documents in possession of the Agency.

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SECTOR LIMITS — PUB. 131

Conversion Tables

Feet to Meters

Feet	0	1	2	3	4	5	6	7	8	9
0	0.00	0.30	0.61	0.91	1.22	1.52	1.83	2.13	2.44	2.74
10	3.05	3.35	3.66	3.96	4.27	4.57	4.88	5.18	5.49	5.79
20	6.10	6.40	6.71	7.01	7.32	7.62	7.92	8.23	8.53	8.84
30	9.14	9.45	9.75	10.06	10.36	10.67	10.97	11.28	11.58	11.89
40	12.19	12.50	12.80	13.11	13.41	13.72	14.02	14.33	14.63	14.93
50	15.24	15.54	15.85	16.15	16.46	16.76	17.07	17.37	17.68	17.98
60	18.29	18.59	18.90	19.20	19.51	19.81	20.12	20.42	20.73	21.03
70	21.34	21.64	21.95	22.25	22.55	22.86	23.16	23.47	23.77	24.08
80	24.38	24.69	24.99	25.30	25.60	25.91	26.21	26.52	26.82	27.13
90	27.43	27.74	28.04	28.35	28.65	28.96	29.26	29.57	29.87	30.17

Fathoms to Meters

Fathoms	0	1	2	3	4	5	6	7	8	9
0	0.00	1.83	3.66	5.49	7.32	9.14	10.97	12.80	14.63	16.46
10	18.29	20.12	21.95	23.77	25.60	27.43	29.26	31.09	32.92	34.75
20	36.58	38.40	40.23	42.06	43.89	45.72	47.55	49.38	51.21	53.03
30	54.86	56.69	58.52	60.35	62.18	64.01	65.84	67.67	69.49	71.32
40	73.15	74.98	76.81	78.64	80.47	82.30	84.12	85.95	87.78	89.61
50	91.44	93.27	95.10	96.93	98.75	100.58	102.41	104.24	106.07	107.90
60	109.73	111.56	113.39	115.21	117.04	118.87	120.70	122.53	124.36	126.19
70	128.02	129.85	131.67	133.50	135.33	137.16	138.99	140.82	142.65	144.47
80	146.30	148.13	149.96	151.79	153.62	155.45	157.28	159.11	160.93	162.76
90	164.59	166.42	168.25	170.08	171.91	173.74	175.56	177.39	179.22	181.05

Meters to Feet

Meters	0	1	2	3	4	5	6	7	8	9
0	0.00	3.28	6.56	9.84	13.12	16.40	19.68	22.97	26.25	29.53
10	32.81	36.09	39.37	42.65	45.93	49.21	52.49	55.77	59.06	62.34
20	65.62	68.90	72.18	75.46	78.74	82.02	85.30	88.58	91.86	95.14
30	98.42	101.71	104.99	108.27	111.55	114.83	118.11	121.39	124.67	127.95
40	131.23	134.51	137.80	141.08	144.36	147.64	150.92	154.20	157.48	160.76
50	164.04	167.32	170.60	173.88	177.16	180.45	183.73	187.01	190.29	193.57
60	196.85	200.13	203.41	206.69	209.97	213.25	216.54	219.82	223.10	226.38
70	229.66	232.94	236.22	239.50	242.78	246.06	249.34	252.62	255.90	259.19
80	262.47	265.75	269.03	272.31	275.59	278.87	282.15	285.43	288.71	291.99
90	295.28	298.56	301.84	305.12	308.40	311.68	314.96	318.24	321.52	324.80

Meters to Fathoms

Meters	0	1	2	3	4	5	6	7	8	9
0	0.00	0.55	1.09	1.64	2.19	2.73	3.28	3.83	4.37	4.92
10	5.47	6.01	6.56	7.11	7.66	8.20	8.75	9.30	9.84	10.39
20	10.94	11.48	12.03	12.58	13.12	13.67	14.22	14.76	15.31	15.86
30	16.40	16.95	17.50	18.04	18.59	19.14	19.68	20.23	20.78	21.33
40	21.87	22.42	22.97	23.51	24.06	24.61	25.15	25.70	26.25	26.79
50	27.34	27.89	28.43	28.98	29.53	30.07	30.62	31.17	31.71	32.26
60	32.81	33.36	33.90	34.45	35.00	35.54	36.09	36.64	37.18	37.73
70	38.28	38.82	39.37	39.92	40.46	41.01	41.56	42.10	42.65	43.20
80	43.74	44.29	44.84	45.38	45.93	46.48	47.03	47.57	48.12	48.67
90	49.21	49.76	50.31	50.85	51.40	51.95	52.49	53.04	53.59	54.13

Abbreviations

The following abbreviations may be used in the text:

Units

°C	degree(s) Centigrade	km	kilometer(s)
cm	centimeter(s)	m	meter(s)
cu.m.	cubic meter(s)	mb	millibars
dwt	deadweight tons	MHz	megahertz
FEU	forty-foot equivalent units	mm	millimeter(s)
grt	gross registered tons	nrt	net registered tons
kHz	kilohertz	TEU	twenty-foot equivalent units

Directions

N	north	S	south
NNE	northeast	SSW	southsouthwest
NE	northeast	SW	southwest
ENE	eastnortheast	WSW	westsouthwest
E	east	W	west
ESE	eastsoutheast	WNW	westnorthwest
SE	southeast	NW	northwest
SSE	southsoutheast	NNW	northnorthwest

Vessel types

LASH	Lighter Aboard Ship	ro-ro	Roll-on Roll-off
LNG	Liquified Natural Gas	ULCC	Ultra Large Crude Carrier
LPG	Liquified Petroleum Gas	VLCC	Very Large Crude Carrier
OBO	Ore/Bulk/Oil		

Time

ETA	estimated time of arrival	GMT	Greenwich Mean Time
ETD	estimated time of departure	UTC	Coordinated Universal Time

Water level

MSL	mean sea level	LWS	low water springs
HW	high water	MHWN	mean high water neaps
LW	low water	MHWS	mean high water springs
MHW	mean high water	MLWN	mean low water neaps
MLW	mean low water	MLWS	mean low water springs
HWN	high water neaps	HAT	highest astronomical tide
HWS	high water springs	LAT	lowest astronomical tide
LWN	low water neaps		

Communications

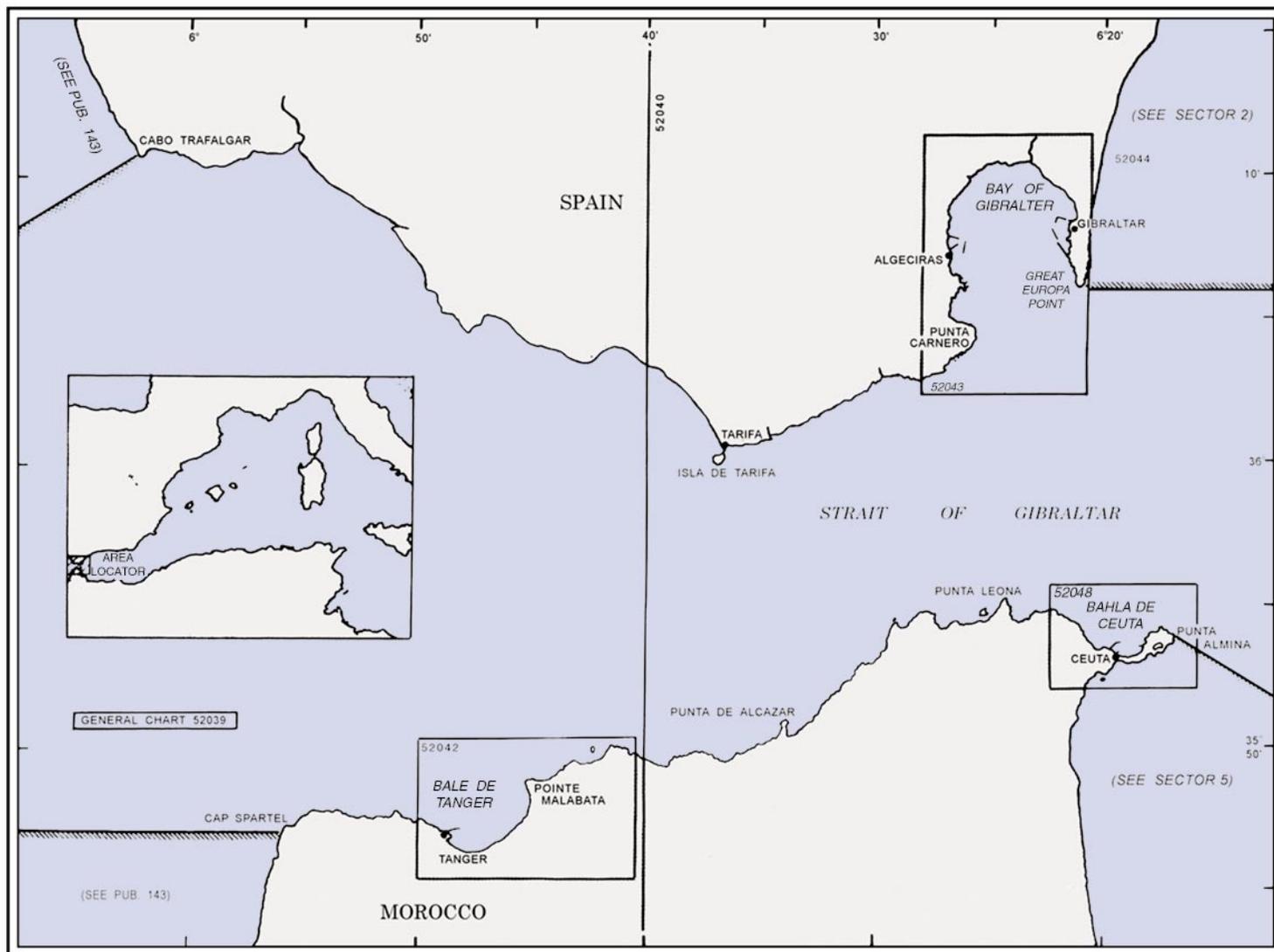
D/F	direction finder	HF	high frequency
R/T	radiotelephone	VHF	very high frequency
LF	low frequency	UHF	ultra high frequency
MF	medium frequency		

Navigation

LANBY	Large Automatic Navigation Buoy	SPM	Single Point Mooring
NAVSAT	Navigation Satellite	TSS	Traffic Separation Scheme
ODAS	Ocean Data Acquisition System	VTC	Vessel Traffic Center
SBM	Single Buoy Mooring	VTS	Vessel Traffic Service

Miscellaneous

COLREGS	Collision Regulations		
IALA	International Association of Light-house Authorities	No./Nos.	Number/Numbers
		PA	Position approximate
IHO	International Hydrographic Office	PD	Position doubtful
IMO	International Maritime Organization	Pub.	Publication
loa	length overall	St./Ste.	Saint/Sainte



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 1 — CHART INFORMATION

SECTOR 1

THE STRAIT OF GIBRALTAR

Plan.—This sector first describes the N side of the Strait of Gibraltar from Cabo Trafalgar (36°11'N., 6°02'W.) to Great Europa Point (36°06'N., 5°21'W.). It then describes the S side of the strait from Cap Spartel (35°37'N., 5°56'W.) to Punta Almina (35°54'N., 5°17'W.).

General Remarks

1.1 The Strait of Gibraltar is bounded on the N side by the coast of Spain and Gibraltar, a dependent territory of the United Kingdom; it is bounded on the S side by the coast of Morocco and the Spanish towns of Cueta and Melilla.

Tides—Currents.—In the middle of the strait, the E current commences at about the time of HW at Gibraltar and the W current about 6 hours later. As the shores are approached on either side, the times at which these currents commence becomes progressively earlier as indicated by the series of dashed lines on the chart. In the central area of the W part of the strait, the current attains a rate of 1 knot S of Cabo Trafalgar and 1.7 knots S of Punta Camarinal (36°05'N., 5°48'W.). In the central and narrower area of the E part of the strait between Isla de Tarifa (36°00'N., 5°37'W.) and Europa Point (36°06'N., 5°21'W.), the currents attain rates up to 2 knots in each direction. Rates increase from the central areas towards the shores on both sides of the strait and currents attain rates up to 3 knots in each direction inshore. In the central area, the currents set in the direction of the axis of the strait, but near the land they generally follow the direction of the coast.

Tidal races or overfalls may occur in the deep water within the strait. Tidal races also occur off most of the salient points and eddies form in the bays between them. On the N side of the strait, a tidal race, known as Riza del Cabo, extends SW from Cabo Trafalgar to Bajo Aceitera, 1.8 miles SW. This race is always present, whatever the state of tide, and its strength depends on whether it is springs or neaps. It is reported to be the most violent race within the strait. During heavy weather and when the tidal current is running strongly, this race may extend as far SW as Banco del Hoyo.

During the strongest period of the tidal current, a race of considerable violence forms over and in the vicinity of Bajo de Los Cabezos (36°01'N., 5°42'W.). In heavy weather, it may extend entirely across the strait.

Comparatively smaller races also occur off Isla de Tarifa, Punta de Cala Arenas (36°03'N., 5°27'W.), close E of La Perla, and Europa Point.

On the S side of the strait, strong tidal races occur off Cap Spartel and 4 miles E of Pointe Judios. Overfalls, resembling breakers, occur N of Tanger (35°47'N., 5°48'W.). Small races occur off Pointe Ciris (35°55'N., 5°29'W.) and all the other salient points located E of Punta Almina (35°54'N., 5°17'W.).

During the strongest period of the tidal current in each direction, the most violent races occur off the coast and over the banks between Pointe Malabata (35°49'N., 5°45'W.) and Hejar Lesfar (3.2 miles ENE).

Traffic Control.—An IMO-adopted Traffic Separation Scheme (TSS), which may best be seen on the chart, is situated within the narrows of the strait and in the W approaches.

A mandatory Vessel Traffic Service is in operation in the Strait of Gibraltar, including the TSS and Inshore Traffic Zones. The following categories of vessels are required to participate in the reporting system:

1. All vessels 50m long and over.
2. All vessels, regardless of length, carrying hazardous and/or potentially polluting cargo.
3. Vessels engaged in towing or pushing another vessel when the combined length of the vessel and tow or pushed vessel is over 50m.
4. Any category of vessel less than 50m long and engaged in fishing in the Traffic Lane or the Separation Zone.
5. Any category of vessel less than 50m long which is using the appropriate Traffic Lane or Separation Zone in order to avoid immediate danger or engage in fishing.

The reporting system covers the area between longitudes 5°58'W and 5°15'W

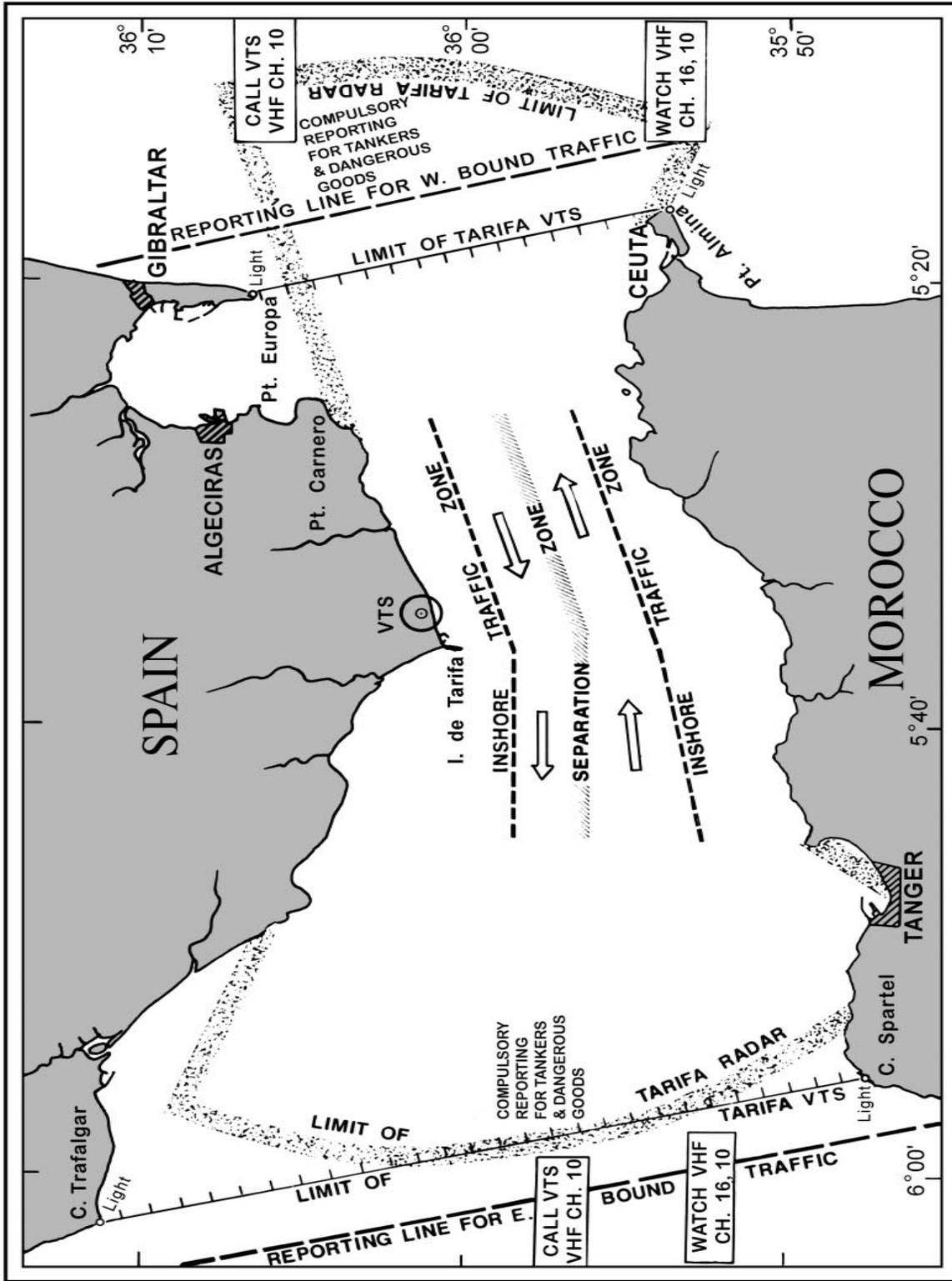
This area includes the Traffic Separation Scheme in the Strait of Gibraltar and the designated Inshore Traffic Zones.

The report, called a GIBREP, from the vessel to the Tarifa VTS Center should contain only information which is essential to achieve the objectives of the system.

GIBREP Information	
Designator	Information required
A	Vessel's name and call sign. IMO Identification Number on request.
C	Position (latitude and longitude), or
D	Range and bearing from a landmark.
E	Course.
F	Speed.
G	Last port of call.
I	Next port of call.
P	Hazardous cargo, IMO class, or UN number and quantity
Q or R	Breakdown; damage and/or deficiencies affecting the structure, cargo, or equipment of the vessel; or any other circumstances affecting normal navigation, in accordance with the provisions of the SOLAS and MARPOL Conventions.

Tarifa VTS broadcasts regular warnings to mariners and traffic, navigational, and weather conditions, in Spanish and English.

Sector 1. The Strait of Gibraltar



Tarifa Vessel Traffic Service

Tarifa Traffic can also provide a particular vessel with information regarding the vessel's position, course and speed, or the identification of traffic in the vicinity. The vessel should request this information.

Caution.—Local magnetic anomalies have been reported in the approaches to the strait.

Several submarine cables lie within the Strait of Gibraltar and may best be seen on the chart.

Tunny nets may be found at certain seasons of the year extending up to 7 miles seaward from the shores bounding the Strait of Gibraltar.

Submerged tunny nets lying off the coasts of Spain and Africa, under Spanish jurisdiction, are indicated by the following:

1. By day—A white flag, with a black letter A at the center, displayed from a boat or buoy moored at the center and outer end of the net.
2. By night—A red light above a white light shown from a boat or buoy moored at the outer end of the net, and two vertical white lights shown from a boat or buoy moored at the center of the net. These lights are visible from about 2 miles.

The Strait of Gibraltar—North Side

1.2 Banco del Hoyo (36°05'N., 6°15'W.), a sandy bank, has depths of 16 to 22m and lies 14 miles WSW of Cabo Trafalgar. This bank extends for about 5 miles in an E-W direction and the least depths lie near its W end. It should be avoided in heavy weather as the sea is apt to break over it.

Banco de Trafalgar (36°08'N., 6°07'W.), a shoal composed of stones, has a least depth of 6.6m and lies 5 miles SW of Cabo Trafalgar. There are overfalls on this shoal and it is inadvisable to pass over it in heavy weather. At such times, the water in the vicinity is of a yellowish color.

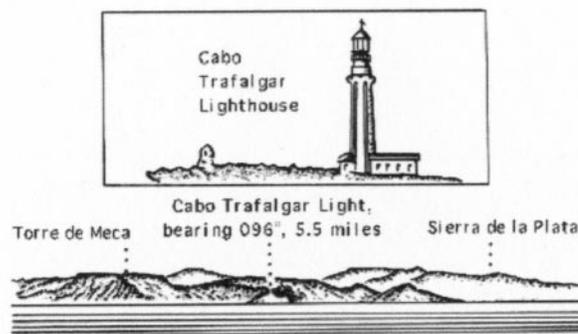
Placer de Meca (36°11'N., 6°06'W.), a rocky shoal, lies 3.2 miles W of Cabo Trafalgar and has a least depth of 5m near its SE end. This shoal is covered with a thin layer of sand and the sea breaks over it in heavy weather.

Bajo Aceitera (36°10'N., 6°04'W.) has a depth of 1.2m and lies at the outer end of a dangerous rocky ridge which extends up to 1.7 miles SW of Cabo Trafalgar. A passage leads between the shoal and the cape, but it should not be attempted. Broken water extends across this shoal and a tidal race in its vicinity is caused by the unevenness of the bottom.

Bajeta de Fuera and **Los Cabezos** (36°01'N., 5°43'W.) lie close together, 3.5 miles SSE of Punta Paloma. Several wrecks, some dangerous, lie in this vicinity and the sea breaks heavily on these shoals during SW gales. A wide berth should be given to this area.

La Perla (36°04'N., 5°25'W.), a dangerous group of pinnacle rocks, lies 1.2 miles S of Punta Carnero and has a least depth of 4.7m. Las Bajas, a rocky shoal with a minimum depth of 11.6m, lies close E.

1.3 Cabo Trafalgar (36°11'N., 6°02'W.), 20m high, is formed by a small, sandy, and uneven peninsula which is connected to the mainland by a low and sandy isthmus. When seen from the NW or SE, it appears like an island.



Cabo Trafalgar

A light is shown from a prominent tower, 51m high, standing on the cape. A radiobeacon is situated at the light. Torre de Meca, a conspicuous round tower, stands 1.3 miles NE of the cape.

Arrecife del Canaveral, a drying reef, extends up to 0.3 mile offshore, 1.3 miles E of Cabo Trafalgar. Anchorage, with shelter from N winds, can be obtained by small vessels, in depths of 14 to 16m, between Arrecife de Canaveral and the cape. There is good holding ground, but the nature of the bottom should first be ascertained as it is rocky in places.

Picacho de Barbate (36°12'N., 5°58'W.), a sharp peak, is very conspicuous and has a high white spot which is visible from seaward.

Ensenada de Barbate, a bay, is entered between Punta del Tajo (36°10'N., 5°59'W.) and Punta de Zahara, 6.5 miles SE. The Rio Barbate enters this bay 3.2 miles E of Punta del Tajo and is fronted by a shallow bar. The town of Barbate stands on the W bank of this river. Bajo de Zahara, a shoal, has a least depth of 8.5m and lies 1 mile S of the mouth of the river.

A small harbor, protected by breakwaters, is situated 1 mile W of the river mouth. It has shallow depths and is mostly used by fishing vessels and recreational craft with local knowledge. During offshore winds, vessels may obtain anchorage within the bay in any convenient location; however, anchorage is unsafe with winds from seaward. A light is shown from a tower, 22m high, standing close NE of the harbor.

Between April and August, tunny nets are laid 1 mile S of the harbor entrance.

1.4 Ensenada de Zahara (36°07'N., 5°51'W.), a bight, lies 6 miles SE of Barbate. Anchorage may be obtained in this bight, sheltered from Levanters (E winds), but heavy squalls come off the land. The bottom of the bight is generally sandy, but with some rocks. Several rocky patches lie close inshore and front the sandy beach in the N part of the bight.

Punta de Gracia is located 2 miles SE of Ensenada de Zahara and is formed by the extremity of a high spur. A light is shown from a conspicuous tower, 75m high, standing on this point.

Punta Camarinal (36°05'N., 5°48'W.), located 1 mile SE of Punta de Gracia, is low, rounded, and prominent. It rises to Sierra de la Plata, a steep and prominent ridge.

Ensenada de Bolonia, a small bay, is entered 1 mile E of Punta Camarinal and affords good shelter from winds from the NW through N to E. Depths of 9 to 11m lie up to 0.4 mile offshore in the bay, but the nature of the bottom should be ascertained before anchoring, as it is rocky in some places.

1.5 Punta Paloma ($36^{\circ}04'N.$, $5^{\circ}43'W.$) is located 4.5 miles ESE of Punta Camarinal. A light is shown from a building, 45m high, standing on this point, but the light structure is reported to be difficult to identify as it is similar to other buildings in the vicinity.

Sierra de San Bartolome ($36^{\circ}05'N.$, $5^{\circ}43'W.$), 450m high, stands 2 miles N of Punta Paloma and is conspicuous because of the numerous peaks at its summit. A long, bare patch of yellow sand, which commences at the NW side of Punta Paloma, rises to a position about halfway up this mountain and then descends to terminate near the head of Ensenada de Valdevaqueros, 1.5 miles E.

Ensenada de Valdevaqueros ($36^{\circ}04'N.$, $5^{\circ}41'W.$), a small bay, affords good anchorage with shelter from NE winds. A good berth lies, in depths of 8 to 10m, near the beach at the head of the bay.

Isla de Tarifa ($36^{\circ}00'N.$, $5^{\circ}37'W.$) is flat, of moderate elevation, and is joined to the mainland by a causeway. A light is shown from a conspicuous tower, 33m high, standing on the S part of the island. A racon and a radiobeacon are situated at the light.

A conspicuous water tower stands on the mainland, 1.4 miles NNE of the light. A prominent signal station stands on Castillo de Santa Catalina, at the head of the causeway.

1.6 Tarifa ($36^{\circ}01'N.$, $5^{\circ}36'W.$) (World Port Index No. 38300), a small port, is situated on the mainland, close NNE of Isla de Tarifa. The harbor, protected by two breakwaters, fronts an old walled city. It is used by small naval vessels, fishing vessels, and ferries. A hydrofoil craft service is reported to operate from here to Tangier. In addition, the roadstead anchorage can accommodate large vessels.

Tides—Currents.—Tides rise 1.4m at springs and 1m at neaps.

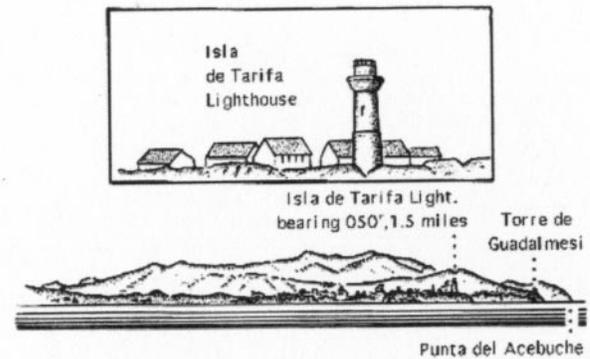
The tidal currents set W on the flood and E on the ebb.

Depths—Limitations.—The entrance to the harbor is 100m wide. The inner side of the E breakwater provides 460m of total berthing space with depths of 4 to 8m alongside. A ro-ro berth is situated at the elbow. Muelle No. 1, at the inner side of the W breakwater, has 217m of space with depths of 3 to 4m alongside. It is mostly used by ferry vessels. Muelle No. 2, 135m long, has depths of 3 to 4m alongside and is used by fishing vessels. The small basins at the N side of the harbor are used by naval craft.

Anchorage.—Large vessels can obtain temporary anchorage, over a bottom of sand and gravel, E of the head of the E breakwater. Local knowledge is advised.

1.7 Punta Camorro ($36^{\circ}01'N.$, $5^{\circ}35'W.$), located 1 mile ENE of Tarifa, is high, steep, and of a whitish color. It is readily distinguished from the W.

Punta Guadalmesi, located 3.2 miles ENE of Punta Camorro, is formed by a bold, grayish cliff. A prominent tower stands on its summit.



Tarifa

Ensenada del Tolmo is entered between Punta Guadalmesi and Punta del Acebuche, 3 miles E. It is bordered by a white sandy beach on which lie numerous rocks. A castle, in ruins, stands on a hillock, 1 mile W of Punta del Acebuche. Prominent Guardia Civil stations stand on the W side of the mouth of a stream, which lies 0.7 mile W of the castle, and 0.3 mile W of Punta del Acebuche. During offshore winds, this bay affords good anchorage, in depths of 10 to 13m, to small vessels. Punta del Acebuche is low, but is easily identified from the E or W. Dos Hermanas, two black above-water rocks, lie about 0.3 mile E of this point.

Punta de Cala Arenas is located 1 mile ENE of Punta del Acebuche and surmounted by the ruins of a castle. Canillas, 307m high, stands 1 mile WNW of the point and a radio mast is reported to stand on its summit. Torre de Fraile, a prominent tower, stands on the hillside, 0.2 mile W of the point.

Cala Arenas, a cove, lies close E of Punta de Cala Arenas and has a sandy beach at its head. It affords anchorage, in depths of 3 to 5m, sand, to small vessels with local knowledge.

The coast between Cala Arenas and Punta Carnero, 1.5 miles NE, is fronted by rocks and is generally foul. Isla de las Palomas, a low and barren islet, lies 0.3 mile offshore, 0.7 mile NE of Punta de Cala Arenas. Numerous rocks lie between the islet and the shore.

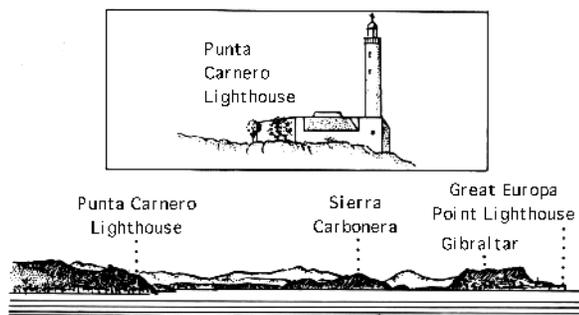
The Bay of Gibraltar

1.8 The Bay of Gibraltar ($36^{\circ}08'N.$, $5^{\circ}24'W.$) is entered between Punta Carnero and Europa Point, 4.5 miles ENE. It extends N for 5.5 miles and is bordered on the E side by the Rock of Gibraltar. This bay is entirely open to the S; depths of over 200m extend up to 4 miles into it.

Europa Point, the E entrance point, presents a cliffy face, 0.3 mile wide.

Great Europa Point ($36^{\circ}07'N.$, $5^{\circ}21'W.$) is the SE termination of this cliffy face. A light is shown from a prominent tower, 19m high, standing on this point. A conspicuous radar dome is situated 0.5 mile N of the light.

Punta Carnero ($36^{\circ}04'N.$, $5^{\circ}26'W.$), the W entrance point, is formed by the E termination of a range of hills and has a



The Bay of Gibraltar—Entrance

steep SE slope. It is fronted by dangers which extend up to 0.2 mile offshore. A light is shown from a tower, 19m high, standing on the point. A prominent tower stands 0.2 mile W of the light.

A dangerous wreck lies about 0.2 mile offshore, 0.3 mile NNE of this point.

Caution.—Because of a strong NW to NE set caused by tidal currents along the coastline of Punta Carnero, sailing close to shore is not recommended. Numerous accidents have occurred here due to the strong currents.

Ensenada de Getares is entered between Punta Carnero and Punta de San Garcia, 1.8 miles N. Anchoring is prohibited in the bay as best seen on the chart.

A conspicuous coast guard station stands on Punta de San Garcia.

Punta del Rodeo is located 0.5 mile N of Punta de San Garcia and is fronted by dangers which extend up to 0.2 mile offshore.

Mar de Isidro, with a least depth of 15.8m, lies about 1 mile ESE of Punta del Rodeo and is marked by a lighted buoy.

Numerous submarine cables, which may best be seen on the chart, lie in the entrance to the Bay of Gibraltar and in the vicinity of Ensenada de Getares.

Algeciras (36°08'N., 5°27'W.)

World Port Index No. 38310

1.9 Algeciras lies on the W side of the Bay of Gibraltar, 3 miles N of Punta Carnero. The port is situated SW and NW of Isla Verde, a former island, which has been connected to the mainland by extensive reclamation. The port authority also administers marine installations at the head of the Bay of Gibraltar.

Port of Algeciras Home Page

<http://www.apba.es>

Tides—Currents.—Tides rise 1.1m at springs and 0.9m at neaps.

Depths—Limitations.—Dique Norte, the main outer breakwater, extends about 1 mile N from the reclaimed land adjoining Isla Verde. Its inner side has 1,500m of total berthing

space, with depths of 12 to 16m alongside, which is mainly used for bunkering.

Other main facilities include the following:

1. Muelle de la Isla Verde, in the S part of the harbor, is used by general cargo, container, and ro-ro vessels. It has 980m of total berthing space with depths of 9 to 12m alongside.

2. Muelle de la Galera South, in the SW part of the harbor, is used by ro-ro, ferry, and passenger vessels. It has 640m of total berthing space, with depths of 6 to 10m alongside.

3. Muelle de la Galera North is mainly used by general cargo and reefer vessels. It has 280m of total berthing space, with a depth of 10.5m alongside.

4. Muelle del Navio (Muelle Juan Carlos I), in the central part of the harbor, is used by container, bulk, and general cargo vessels. It has 1,900m of total berthing space, with depths of 10.5 to 14m alongside. Terminal 2000, located on the N part of Muelle del Navio, is 644m long, with a depth alongside of 16m.

A buoyed channel, dredged to a depth of 7m has been established N of Muelle del Navio. It leads from the causeway connecting Muelle deL Navio with the mainland into the bay W of Anchorage Area B.

An lighted offshore SBM tanker berth lies in a depth of 60m, 1 mile SSW of Punta del Gallo. Several hoses, 290m long and marked by orange lights, are attached to the buoy. Three submarine pipelines extend NNE from the berth to the shore. Anchorage is prohibited within 550m of the SBM and within 150m of the pipelines as shown on the chart. Tanker vessels up to 500,000 dwt and 30m draft can be accommodated at this offshore terminal. The buoy is equipped with a radar reflector and a racon.

There is also an extensive basin in the W part of the harbor for the use of fishing vessels.

Generally, vessels up to 14m draft can be accommodated and there are no restrictions for length or beam.

Aspect.—A fort and a tank farm are situated on Isla Verde. In addition, several slipways and workshops stand on the S side of this former island.

Numerous conspicuous white houses stand along the waterfront of the town. A church, with a prominent tall steeple, stands in the town.

Pilotage.—Pilotage is compulsory for merchant vessels of over 50 grt entering the Bay of Gibraltar and proceeding to Algeciras. Pilots can be contacted on VHF channel 13 and board about 2.2 miles SE of the head of Dique Norte. During E storms, pilots generally wait inside the head of the breakwater.

Vessels proceeding to the refinery or CEPSA monobuoy at the head of the bay should send an ETA and request for pilot 72 hours, 48 hours, and 24 hours in advance. If required, pilots may be conveyed by helicopter and vessels should contact the Helicsa helicopter service.

Caution.—A prohibited anchorage area, the limits of which may be seen on the chart, E and S of the former Isla Verde.

A submarine pipeline extends 0.4 mile E of former Isla Verde.

A shoal area lies close NNW of the harbor entrance and is marked by a lighted buoy.

The Bay of Gibraltar—Head

1.10 Punta del Rinconcillo (36°09'N., 5°27'W.), surmounted by a prominent coast guard station, is located 1.6 miles N of Isla Verde. Torre del Almirante stands on a cliff, 0.3 mile S of the point. This conspicuous reddish tower is partially in ruins. Ermita del Baleares, a conspicuous building, is situated 0.3 mile W of Punta del Rinconcillo and is visible from all parts of the bay.

Depths of less than 5m lie up to 0.5 mile SE of Punta del Rinconcillo.

Torre de Entre Rios, a square and dark tower, stands on a hill, 1.5 miles NNE of Punta del Rinconcillo. The Rio Palamones flows into the bay close S of this prominent tower and a conspicuous hotel stands near its mouth.

Puerto Acerinox (36°10'N., 5°25'W.) is situated 0.5 mile E of Torre de Entre Rios. It consists of a small harbor basin which is protected by a large L-shaped breakwater. The Muelle de Levante, used for handling scrap metals, is situated at the E side of the basin. It is 250m long and has a depth of 9.5m alongside.

A bulk and coal berth, 360m long, extends along the outer side of the breakwater. It has depths of 23 to 30m alongside and can accommodate vessels up to 270,000 dwt.

Punta del Gallo (36°11'N., 5°24'W.), fronted by rocks, is located 1 mile E of Puerto Acerinox. A round fort stands on this point.

San Roque is situated 2 miles NNE of the point. This city is very prominent as it stands on high ground.

A conspicuous oil refinery, with its associated tanks and prominent chimneys, stands close N of Punta del Gallo. A power station, with several conspicuous chimneys, is situated 0.7 mile E of the refinery.

1.11 CEPSA Oil Terminals (36°11'N., 5°24'W.) are situated at the head of the bay.

A T-head pier, which extends 400m from the shore, is situated 0.3 mile E of Punta del Gallo. Its head is 700m long and has five berths. Tanker vessels up to 315m in length and 20m draft can be accommodated alongside.

Pilotage for the above terminals is compulsory and is provided at the port of Algeciras. A mooring master and crew will board vessels in the vicinity of the SBM.



CEPSA Oil Terminals

Puente Mayorga (36°11'N., 5°23'W.), a town, is situated 1 mile E of Punta del Gallo. Its conspicuous white houses form a good landmark when approaching the terminals at the head of the bay. A prominent shipyard is situated on reclaimed land, 0.5 mile SSE of the town.

Puente Mayorga Water Terminal (36°11'N., 5°23'W.), consisting of six dolphins, lies 0.2 mile S of the town. A submarine pipeline, with a floating connection, extends NNE from the offshore berth to the shore. Vessels up to 115,000 dwt and 18m draft can be handled.

1.12 La Linea de la Concepcion (36°10'N., 5°21'W.), situated 2 miles SE of Puente Mayorga, is served by Muelle de San Felipe, a jetty, which extends 650m WSW from the shore. This jetty has depths of 3 to 5m alongside and is used by passenger and fishing vessels. It is protected on the S side by a breakwater which extends 1,150m W, 310m NW, and then 170m N. A circular prohibited area of radius 450m is centered at the N extremity of Dique de Abrigo, as seen on the chart.

Anchorage.—Vessels wishing to anchor within the bay without the assistance of a pilot must first contact the pilot station by VHF. The station will indicate the most suitable anchorage berth, taking into consideration such factors as the weather, size of vessel, draft, length of stay, class, etc.

Three anchorage areas, designated A, B, and C and best seen on the chart, have been established in the Bay of Gibraltar.

Gibraltar (36°08'N., 5°21'W.)

World Port Index No. 38330

1.13 Gibraltar, a remarkable mountainous promontory, known generally as the Rock of Gibraltar, rises abruptly on the N side of the E end of the Strait of Gibraltar. The N and E sides of this promontory are precipitous and the S side is formed by several successive short terraces which terminate in a cliff at Europa Point. The W side, on which stands the town, falls in rugged slopes.

The steep, inaccessible E, or Mediterranean, side of the Rock of Gibraltar is marked by a conspicuous rainwater catchment device situated 1.5 miles N of Great Europa Point. A low sandy isthmus connects the N side of the Rock to the mainland. The airport, with its runway extending into the bay, occupies the S side of this isthmus, close S of the boundary with Spain.

The port is situated on the W side of the Rock of Gibraltar and fronts the town. It is composed of a commercial harbor, a navy base, and a ship repair complex.

Winds—Weather

With W winds, cold front squalls may be severe. Heavy thundershowers often develop after the passage of a cold front. Intense down currents occur E of the Rock during a strong W flow. During W gales, gusts of over 70 knots have been experienced on Windmill Hill. During E gales, gusts of 60 knots have been reported.

Tides—Currents

Tides rise 1m at springs and 0.7m at neaps.

The N current sets into the principal harbor area by way of South Entrance. It sets out by way of North Entrance and the viaduct at North Mole. The S current sets into the harbor by way of North Entrance and the viaduct. It sets out through South Entrance.

In the vicinity of South Entrance, the flow is more or less in the direction of a line which joins the mole heads. As there is generally little or no flow inside the entrance, the sterns of vessels entering, or the bows of vessels leaving, should be swung towards Detached Mole with a N current and towards South Mole with a S current.

In North Entrance, the direction of flow is more or less in a direction at right angles to a line which joins the mole heads. Vessels entering or leaving will usually be slightly assisted or retarded by the flow. However, if vessels enter or leave obliquely, a strong set towards Detached Mole may be experienced with a S current or a weak set towards North Mole may be experienced with a N current. All these effects may be modified by eddies which form off the mole heads.

Within the principal harbor area, the flow is weak and irregular, but with a general tendency N or S according to the direction of the current outside. At times, there may be a flow in a counterclockwise direction around either the N or S half of the harbor. The presence of large ships and their movements in the harbor may cause considerable changes.

Caution is required when passing through either North Entrance or South Entrance, due to the effect of the currents. Some idea of the direction of the current may be formed by observing how vessels at anchor outside the harbor area are aligned.

Depths—Limitations

The harbor is enclosed by three moles. North Mole extends W and S from the N part of the port. The North Entrance is 200m wide and lies between the S extremity of North Mole and the N extremity of Detached Mole. South Mole extends 0.6 mile NW from the S part of the port. The South Entrance is 180m wide and lies between the S extremity of Detached Mole and the N extremity of South Mole.

The commercial and bunkering facilities are situated in the N part of the harbor. The extensive repair yards and drydocks, which can handle vessels up to 75,000 dwt, are situated in the S part of the harbor. An area lying close N of North Mole has facilities for small craft and yachts.

The main commercial facilities are described in the accompanying table.

In addition, there is 790m of berthing space alongside the inner side of Detached Mole. Vessels up to 420m in length, with a maximum draft of 9m, can be accommodated. Vessels with deeper drafts may be accommodated for short durations on a half-tide basis. The harbor has facilities for cargo, bunkering, passengers, petroleum, container, and ro-ro vessels.

Aspect

An aeronautical radiobeacon and an aeronautical light are situated at an elevation of 405m, on the N part of the Rock of Gibraltar, 2 miles N of Great Europa Point.

Prominent landmarks when approaching the harbor include the following:

1. The Casino, a large white building floodlit at night, standing 1.2 miles N of Europa Point.
2. The Rock Hotel, a white building, standing close N of the Casino.
3. The dockyard clock tower, illuminated at night, situated 0.4 mile SSW of the Rock Hotel.
4. The dockyard tower standing at the NW end of the main quay, 0.2 mile W of the Rock Hotel.
5. The Lloyd's Signal Station standing on Windmill Hill, 0.4 mile N of Europa Point.

Pilotage

Pilotage is compulsory for all vessels except those outbound from the anchorage. Pilots may be contacted on VHF channel 12, 14, or 16 and generally board about 0.7 mile W of Europa Point. During bad weather, pilots may board about 1.2 miles NW of the point. Vessels should send an ETA 24 hours in advance and a confirmation 2 hours before arrival. All vessels underway or at anchor in the bay must maintain a listening watch on VHF channel 12.

Pilots may be conveyed by helicopter and if required vessels should contact Helicsa helicopter service.

The Lloyd's Signal Station on Windmill Hill will accept reports from vessels transiting the Strait of Gibraltar.

Regulations

Regulations for the control of Admiralty Waters and Port Waters (Commercial Port) are in effect. According to the regulations, vessels other than British Naval Vessels may not enter the principal harbor area, known locally as Admiralty Waters, without the permission of the harbormaster.

Gibraltar—Main Commercial Facilities			
Berth	Length	Depth alongside	Remarks
Western Arm Quay West	490m	9.3m	Maximum draft of 9.6m
Western Arm Quay East	450m	9.1m	Maximum draft of 8.5m
Jetty No. 1	200m	8.7-8.9m	
Jetty No. 2	100m	8.7m	
Jetty No. 3	245m	11.1m	

Gibraltar—Main Commercial Facilities			
Berth	Length	Depth alongside	Remarks
Jetty No. 4	200m	7.6-7.7m	
Jetty No. 5	120m	7.8m	

Signals

The signals described in the accompanying table are displayed from the dockyard tower when vessels, other than naval vessels, are about to enter or leave the berths on the North Mole, Detached Mole, or Western Arm.

Gibraltar—Signals		
Meaning	Day signal	Night signal
Vessel is entering	Red square flag over Flag I	Two red lights, horizontally disposed
Vessel is leaving	Red square flag over Flag O	Two green lights, horizontally disposed

Anchorage

Commercial vessels usually anchor W of North Mole, Detached Mole, and South Mole, but clear of the prohibited anchorage area.

Smaller vessels can anchor inshore according to their draft. Caution is necessary when approaching this anchorage area as the tidal currents may be strong.

Caution

Anchorage is prohibited within an area, the limits of which are shown on the chart, extending up to 1.2 miles W of the W end of the airport runway. A lighted float is moored within this area.

A prohibited area, the limits of which are shown on the chart, extends up to 0.5 mile W of the W end of the airport runway.

Winds from the SW blow directly into the bay and a heavy sea may be experienced in the anchorage area.

Several isolated patches of foul ground are known to exist within an the area extending up to 1 mile seaward of the South Mole.

Several submarine cables lie in the vicinity of the harbor and may best be seen on the chart.

Several mooring buoys are situated within the harbor.

Several wrecks lie in the approaches to the harbor and may best be seen on the chart.

In bad weather, a swell sometimes enters South Entrance and is accompanied by violent squalls. At such times, additional precautions in securing alongside may be required.

Caution is required when entering the harbor through South Entrance, due to the tidal currents which run across the fairway.

Passing vessels should remain well clear of the entrances to the harbor.

The Strait of Gibraltar—South Side

1.14 Off-lying dangers.—**Banco Majuan** (35°55'N., 5°59'W.), an extensive bank, lies 7.5 miles NNW of Cap Spartel and has a least depth of 50m.

Lajas de Spartel, which frequently breaks, consists of two rocks which lie 0.5 mile W and 0.7 mile WSW of Cap Spartel.

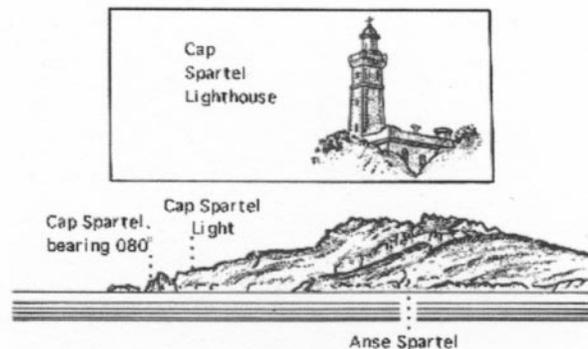
Banco de Fenix (35°52'N., 5°43'W.), the principal danger on the S side of the strait, lies 3 miles NNE of Pointe Malabata. It consists of a number of rocky heads and has a least depth of 15.3m.

Cap Spartel (Cap Espartel) (35°47'N., 5°56'W.) is the NW extremity of Africa and the SW limit of the Strait of Gibraltar. It is dominated by **Jebel Quebir**, 326m high, which is the summit of a range of hills extending from **Tanger**. The cape terminates seaward in an enormous black hummock-shaped rock. When seen from the N or S, this rock appears as an islet. A conspicuous tower stands on the summit of **Jebel Quebir**. The high land above the cape is rendered prominent from the NW by two long vertical patches of grey rock which are located about a third of the way down from the summit.

A light is shown from a prominent tower, 24m high, standing on the cape. A radiobeacon is situated close SW of the light.

A dangerous stranded wreck lies 0.5 mile S of the light.

Caution.—It is reported that a depression in the land lying to the S of the cape is liable to be mistaken at night for the entrance to the Strait of Gibraltar when the low land cannot be seen. Caution is advised in this vicinity and vessels should note the depths by sounding continuously. Vessels should remain at least 1 mile off the coast when rounding the cape.



Cap Spartel

1.15 Ras Bousaboun (Pointe des Juifs) (35°48'N., 5°51'W.), located 4 miles E of Cap Spartel, can be identified by its conspicuous white cliffs. **Anse Judios**, a cove, lies 0.7 mile

ESE of the point. The Rio de Los Judios flows through a valley into this cove. The valley separates the high land on the E side of Cap Spartel from Plateau du Marshan. This prominent break in the land can be identified even at night in clear weather.

Pointe Malabata (35°49'N., 5°45'W.) is a bold, prominent headland which terminates in steep cliffs. A light is shown from a prominent tower with a dwelling, 18m high, standing on the summit of the cliffs. A prominent disused battery is situated close to the light. Vessels should not normally approach this point closer than 1 mile.

Almirante Rock, which is generally indicated by a swell, lies about 0.5 mile N of Pointe Malabata and is marked by a lighted buoy. It has a least depth of 6.3m and breaks in heavy seas.

Tangier Bay (Baie de Tanger) (35°48'N., 5°47'W.) is entered between Pointe Amaier, located 1.2 miles E of Pointe des Juifs, and Pointe Malabata, 4 miles ENE. It is mostly bordered by a sandy beach and backed by high land. The port of Tanger occupies the W side of this bay.

Sevil du Burj, a shoal with a least depth of 3.6m, lies in the E part of the bay, about 1 mile SSW of Pointe Malabata. Gandouri Shoal, with a least depth of 5.5m, lies about 0.7 mile SW of Sevil du Burj.

Tanger (Tangier) (35°47'N., 5°49'W.)

World Port Index No. 45755

1.16 The port of Tanger lies on the SW side of Tangier Bay and is protected by an outer breakwater which extends 0.6 mile NE and E from a point on the shore, 1 mile ESE of Pointe Ammaier.

Winds—Weather.—From October to May, the prevailing winds are generally from the W to SW. From May to October, they are from the E to NE and are often very strong.

Tides—Currents.—Tides rise 2.4m at springs and 1.9m at neaps.

Depths—Limitations.—The port is entered between the breakwater, on the N side, and a mole, which has been built on a large reclaimed area, on the S side. It is composed of an inner and an outer harbor. The inner harbor lies between the root of the breakwater and the root of the mole, and is used mainly by fishing boats and small craft.

The main facilities in the outer harbor include a quay, situated at the inner side of the breakwater, which has 600m of total berthing space and depths of 6.2 to 9.5m alongside; a tanker berth, situated at the outer end of the breakwater, which has a face 72m long, with a depth of 12m alongside; a ferry pier, 135m long, with a depth of 6.5m alongside; Mole de Commerce, with Berths C1-2 and Berths P1-5, with 700m of berthing space and depths alongside from 2.5 to 12m; and Quai No. 2, situated at the N side of the mole, with 620m of total berthing space and depths of 6 to 12m alongside.

The port has facilities for tanker, container, ro-ro, ferry, passenger, and general cargo vessels with drafts up to 11.8m.

Aspect.—The W side of the bay is dominated by the harbor and the city.

Conspicuous landmarks include the following:

1. A water tower standing 1 mile W of the root of the breakwater.

2. Le Charf, an isolated and conical hill, standing 1.5 miles S of the head of the breakwater. It is 109m high and a white house, with a minaret, surmounts the summit. A light is shown from a building, 7m high, standing on the slope of this hill, close below the summit.

3. A radio mast standing 1 mile SW of Le Chart.

4. A tower standing on a hill, 1.6 miles SE of the head of the breakwater. It overlooks the ruins of the old village of Tanger.

5. A walled enclosure, with two white towers, situated close to the shore, 1.5 miles ESE of the head of the breakwater.

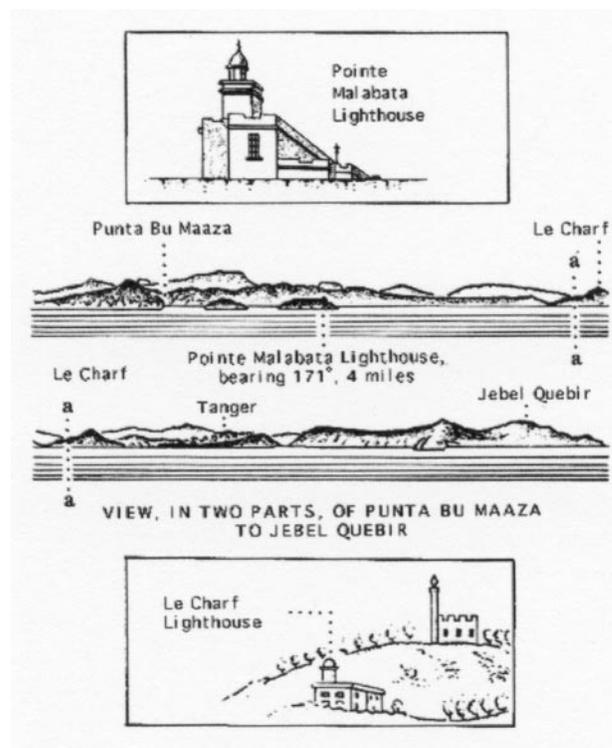
6. A prison building standing 0.4 mile ENE of the walled enclosure.

Prominent landmarks include the following:

1. A mosque standing about 1.5 miles WSW of the breakwater head.

2. The light structure, 16m high, standing on the head of the breakwater.

3. Maison Gautsch, a large isolated house, stands close to the shore, 0.9 mile S of the head of the breakwater.



Approach to Tanger

Pilotage.—Pilotage is compulsory for all vessels over 50 grt when entering or leaving the roadstead or the harbor.

Vessels should send an ETA at least 6 hours in advance and a confirmation message 1 hour before arrival. Pilots can be contacted on VHF channel 12 or 16 and generally board about 0.5 mile N of the head of the breakwater.

Signals.—Port signals are given in the accompanying table.

TANGER PORT SIGNALS

Meaning	Day Signal	Night Signal
Entry prohibited	● ▲ ●	(R) (W) (R)
Departure prohibited	▼ ▲ ▼	(G) (W) (G)
Entry and departure prohibited	▼ ▲ ●	(G) (W) (R)

G - Green R - Red W - White

Tanger Port Signals

Anchorage.—The bay is the only anchorage roadstead of any importance on the S side of the Strait of Gibraltar which can be used by vessels of any size. Although exposed to N and NE winds, it affords security from winds from other directions.

Deep-draft vessels can anchor, in depths of 10 to 12m, within a designated area, the limits of which are shown on the chart, lying 0.3 mile S of the breakwater head.

During a severe E wind (Levanter), vessels can anchor, in depths of 11 to 15m, sand, close W of a small beach, about 0.5 mile SSW of Pointe Malabata. The nature of the bottom should be ascertained as it is reported to be rocky in places.

Caution.—Buoree Rock, with a least depth of 0.9m, lies about 1 mile E of the head of the breakwater and is marked by a lighted buoy.

There is heavy fishing vessel and ferry traffic in the approach to Tanger.

A dangerous wreck, marked by a lighted buoy, lies about 0.5 mile ENE of the head of the breakwater.

Tanger is the only place in Morocco, between Cap Spartel and Ceuta (35°54'N., 5°19'W.), where landing is permitted.

The channel leading between Pointe Malabata and Almirante Rock should not be used by deep-draft vessels except in cases of necessity.

Several submarine cables, which may best be seen on the chart, lie within the bay and anchorage is prohibited in their vicinity.

A prohibited anchorage area, the limits of which are shown on the chart, extends up to 0.4 mile E from the harbor entrance.

A hydrofoil ferry is reported to run between Tanger and Tarifa.

Navigational aids have been reported (1993) to be unreliable in the approaches to and in the port. Aids may be missing, unlit, out of position, or not as charted.

1.17 Punta Altares (35°50'N., 5°43'W.) is located 1.5 miles NE of Pointe Malabata and is the termination of a steep triangular cliff.

Punta Alboassa (Bou Maaza) is located 1.5 miles NE of Punta Altares. It rises steeply to Monte Khandak Zrarah, 237m high, which has a prominent conical summit. From the E or W, this point appears as a bold, rounded, and rocky headland.

Cala Grande, a bight, is entered 1.7 miles E of Pointe Alboassa. Small vessels, with local knowledge, can obtain temporary anchorage, in depths of 16 to 18m, about 0.5 mile off the beach at the head of this bight, but there is no shelter from offshore winds and the tidal currents are strong.

Monte San Simonito, 246m high, stands 2.5 miles SSE of Cala Grande, and has two peaks. It can be easily distinguished from the surrounding mountains by its form.

A number of prominent buildings stand on this point. A cove, with a sandy beach, lies close E of the point and affords excellent shelter from W or SW winds for small vessels with local knowledge. Depths of 10m lie up to 0.2 mile off the beach.

1.18 Punta de Alcazar (Ksar es Sghir) (35°51'N., 5°34'W.), located 4.5 miles E of Cala Grande, is a high and salient point fringed by rocks.

A light is shown from the head of a pier, 75m long, which extends E from Punta de Alcazar.

Ras Ciress (35°55'N., 5°29'W.) is located 5.2 miles NE of Punta Alcazar. It rises steeply to a remarkable sharp rocky ridge, known as Monte Cires, which extends 0.6 mile S of the point. This ridge attains an elevation of 230m and from some positions appears similar to the Rock of Gibraltar. A light is shown from a tower, 8m high, standing on the point.

Islotes Cires, two above-water rocks, lie 0.2 mile N of the point and are fronted by foul ground.

Ensenada de Cires, a small bight, is entered close E of Ras Ciress. It is bordered by a sandy beach and affords temporary anchorage, in a depth of 26m, to small vessels with local knowledge.

Montana Haffa del Benatz, 476m high, stands 3.5 miles SSE of Ras Ciress. It is a conspicuous and rugged mountain, with a rounded summit, and is visible from all parts of the strait.

Punta Cruces is located 1.6 miles E of Ras Ciress and rises steeply to a peak, 0.9 mile SSW. Punta Almansa, 120m high, is located 0.7 mile ESE of Punta Cruces. It rises precipitously from the sea and has a flat top.

Ensenada de Almansa, a bay, is entered between Punta Cruces and Punta Almansa. Small vessels, with local knowledge, can obtain anchorage, in depths of 5 to 8m, sand, in the middle of this bay. It is reported to be one of the best anchorages along this part of the coast.

Isla Perejil, an island, lies close offshore, midway between Punta Almansa and Ras Leona, 2 miles ESE. It is 73m high and covered in shrubs. Small vessels, with local knowledge, can find sheltered anchorage, in depths of 11 to 14m, between

this island and the mainland SE, but it should only be used in case of necessity.

Two coves are located on the E side of the island and they afford shelter to small craft with local knowledge. The channel lying between the island and the mainland is obstructed by rocks.

Ras Leona terminates in cliffs, 71m high, and is conspicuous. A ruined tower standing on the summit of this point is not easy to distinguish.

1.19 Jebel Moussa (35°54'N., 5°25'W.), 850m high, stands 1.5 miles S of Ras Leona. It has a remarkable peak and is the highest mountain on the S side of the strait. Along with the Rock of Gibraltar, it serves to mark the E entrance to the strait.

Punta Benzu (35°55'N., 5°23'W.) is located 1 mile ESE of Punta Leona. The Spain-Morocco border has its origin between Ras Leona and Punta Benzu and is best seen on the chart. A circular tower stands on the cliffs above the point.

Bajo de Benzus, with a least depth of 4.3m, lies 0.5 mile NE of the point.

Ensenada de Benzus, a small bay, is entered between Punta Benzu and Ras Leona. Several quarries and a number of white buildings are situated on its E side and stand out clearly against the land. Small vessels, with local knowledge, can obtain anchorage sheltered from winds between the E and W, through S, within this bay.

Punta Blanca (35°55'N., 5°22'W.), located 0.8 mile E of Punta Benzu, is high, steep, and a dark reddish color. The point is surmounted by the ruins of a tower and fronted by above-water rocks.

Laja de Lana, with a least depth of 5.8m, lies about 0.3 mile NNW of the point. Bajo Susan, with a least depth of 2.1m, lies about 0.2 mile E of Laja de Lana. Laja de Maiz, with a least depth of 1.5m, lies about 0.3 mile E of the point.

An isolated rock, with a depth of 9.7m, was reported (1986) to lie about 0.2 mile NNW of Bajo Susan.

Punta Bermeja (35°54'N., 5°21'W.), a reddish-colored point, is located 1 mile SE of Punta Blanca. The coast between is fronted by rocks and shoals, some above-water.

1.20 Bay de Ceuta (35°55'N., 5°19'W.) is entered between Punta Bermeja and Punta de Santa Catalina, 3 miles E, and is open to the N.

Montana del Renegado, 328m high, stands 0.8 mile SW of Punta Bermeja. It is surmounted by a tower and slopes gradually E to the isthmus on which the modern town of Ceuta is built. The ruins of the ancient town of Ceuta, surrounded by ruined walls, are situated on the slope of the hill, 0.5 mile W of the W end of this isthmus.

Peninsula de la Almina, located on the E side of the bay, is composed of seven small hills which ascend gradually to Monte Hacho, the largest and the highest. A conspicuous fort is situated on the summit of Monte Hacho.

Punta de Santa Catalina (35°54'N., 5°17'W.), the N extremity of the peninsula, is low and is fronted by numerous high rocks. Islote Ileo, the largest of these rocks, is surmounted by the ruins of a fort. The remains of a causeway lie between the point and Islote Ileo. A depth of 9.6m lies about 0.5 mile WSW of Punta de Santa Catalina.

Bajo Isabel (35°55'N., 5°17'W.), which extends up to 0.3 mile N of Punta de Santa Catalina, has a least depth of 3.6m. This rocky shoal is visible because of the clearness of the water and strong tide rips occur in its vicinity.

Punta Almina (35°54'N., 5°17'W.), located 0.6 mile SE of Punta de Santa Catalina, is described in paragraph 5.3.

Ceuta (35°54'N., 5°19'W.)

World Port Index No. 45730

1.21 Ceuta is located within Spanish territory at the S side of the E end of the Strait of Gibraltar.

Winds—Weather.—The prevailing winds are NW, SW, and W in the spring; NE and E in the summer; N and NE in the autumn; and NW and W in the winter.

Tides—Currents.—Tides rise 1m at springs and 0.8m at neaps.

Depths—Limitations.—The harbor is enclosed by two breakwaters. Dique de Poniente extends E from the shore of the bay and has a total length of 1,500m. Dique de Levante extends W from the shore of the bay and has a total length of 580m. The entrance between the breakwater heads is 300m wide.

The breakwaters have quays on their inner sides with depths up to 10.7m alongside. Muelle del Canonero Dato, situated in the W part of the harbor, has 1,119m of total berthing space with depths of 4 to 7m alongside. Muelle de Espana, situated in the S part of the harbor, has 810m of total berthing space with depths of 2.9 to 10m alongside. Pantalans Este and Oeste are two piers situated in the SE part of the harbor. They are both 178m long and have depths of 5 to 9.5m alongside.

The harbor has facilities for ro-ro, container, ferry, general cargo, passenger, LNG, and tanker vessels. In addition, there are extensive facilities for fishing vessels. Vessels up to 220m in length and 10.2m draft can be accommodated.

Aspect.—The modern and prominent city of Almina stands on the N and W slopes of Peninsula de la Almina. A radio-beacon and racon are situated at the light structure on the head of Dique de Poniente. A light is shown from Punta Almina, 0.5 mile SE of Punta de Santa Catalina. A prominent tank farm is situated on the W side of the harbor.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 9, 12, 13, 14, 15, or 16 and generally board 0.5 mile seaward of the harbor entrance. Vessels should send an ETA at least 24 hours in advance.

It is reported that vessels over 180m in length and/or 9.1m draft should send an ETA at least 48 hours in advance.

Anchorage.—Vessels can anchor N of Dique de Poniente, but not E of the head. The best berth lies, in a depth of 26m, stone, about 0.5 mile NW of the head, but it is somewhat exposed.

Fresh SE winds cause a heavy sea in the bay; during W winds, heavy squalls can come down off the mountain. Vessels should be prepared to leave at the onset of such weather.

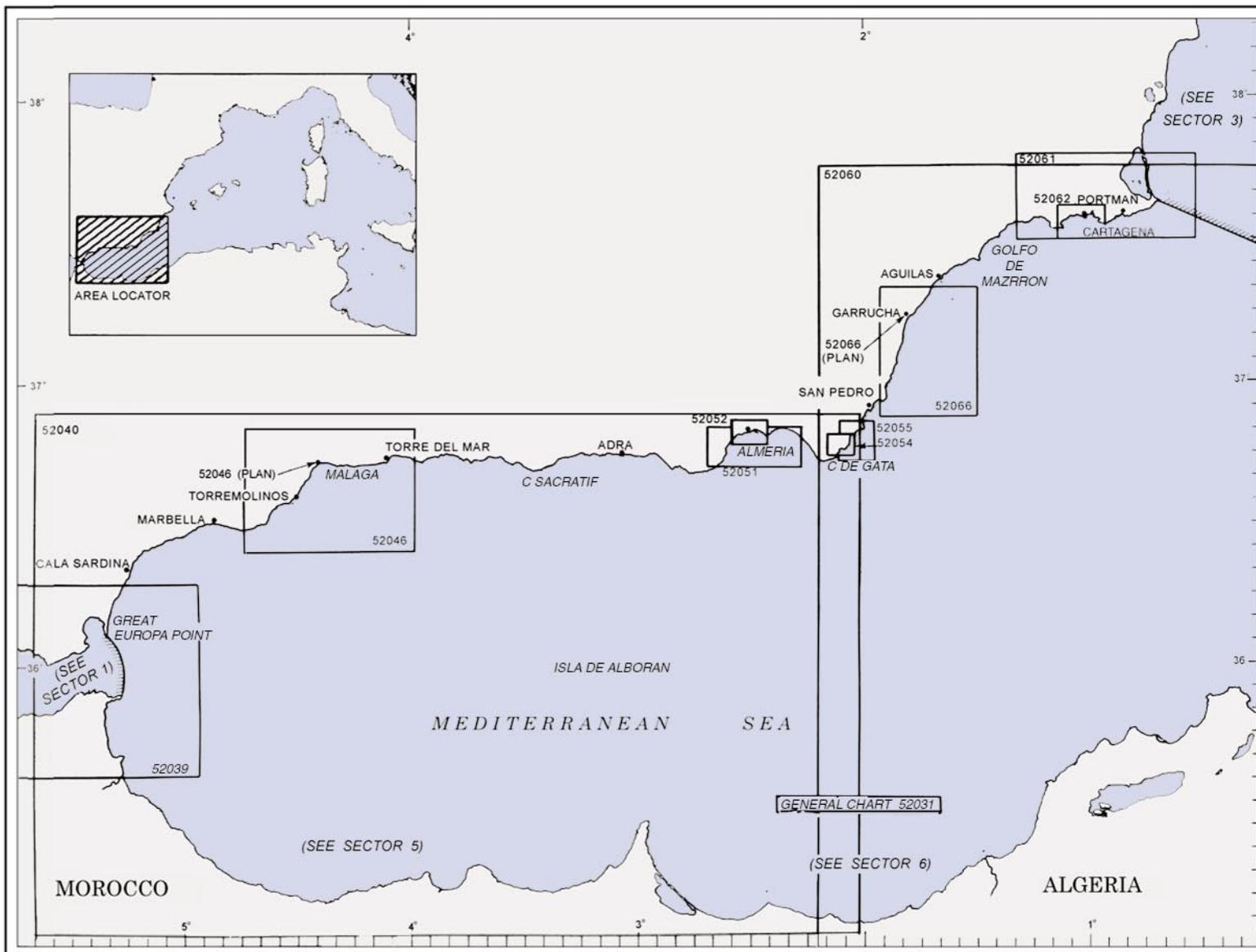
Caution.—A prohibited anchorage area, the limits of which are shown on the chart, lies on the N side of Dique de Levante and extends up to 1.3 miles N of the harbor entrance.

Several submarine pipelines lie across the entrance to the harbor and may be seen on the chart.

Several submarine cables lie in the vicinity of the E side of the approach to the harbor entrance and may best be seen on the chart.

A wavemeter buoy is moored about 0.9 mile SE of Punta Bermeja.

Tunny nets may be found in the bay from October to March. A good lookout should be kept for these nets, which are generally marked.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.
SECTOR 2 — CHART INFORMATION

SECTOR 2

SPAIN—GREAT EUROPA POINT TO CABO DE PALOS

Plan.—This sector first describes the E coast of Gibraltar from Great Europa Point to the Spanish border. It then describes the Mediterranean coast of Spain as far as Cabo de Palos (37°38'N., 0°41'W.).

General Remarks

2.1 Numerous dangerous wrecks lie within 2 miles of the coasts described in this sector and may best be seen on the charts.

Numerous outfall pipelines extend up to 0.8 mile seaward from the coasts described in this sector.

Several submarine cables lie within the waters described in this sector and may best be seen on the charts.

Explosive Dumping Ground Areas, the limits of which are shown on the chart, lie 2.7 miles SE of Europa Point and 8 miles S of Cartagena.

Submarines frequently exercise in the area lying E of the Strait of Gibraltar.

Caution is necessary when estimating the distance from the seaward edge of the plain of Llanos de Almeria (Campo de Dalías) (36°45'N., 2°43'W.), as, due to its blending with the horizon and being backed by high land, its apparent distance is often misleading.

Off-lying Islands and Banks

2.2 Isla de Alboran (35°56'N., 3°02'W.), a Spanish possession, lies 50 miles SSE of Cabo Sacratif. This island is flat, reddish, and about 20m high. The cliffs on its S side are steep, but they are less so on its N side. Islote de la Nube lies close NE of Punta del Islote, the NE extremity of the island. Both the island and the islet are fringed with sunken rocks, and depths of less than 11m lie within 0.2 mile of the island in several directions. A light is shown from a tower with a dwelling, 19m high, standing near the SW extremity of the island.

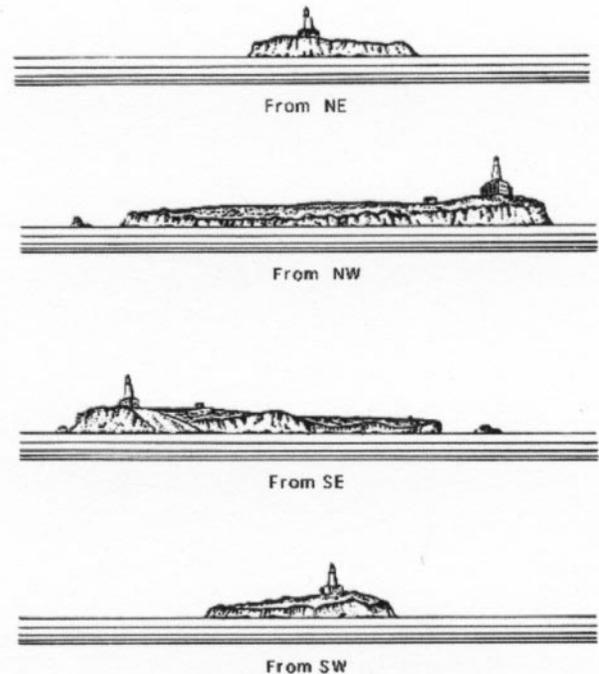
Temporary anchorage, affording some shelter from W and NW winds, can be obtained by vessels, in depths of 16 to 20m, between 0.3 and 0.4 mile E of the light. However, it is reported that several unmarked submarine cables lie near this anchorage. A circular fishing prohibited area, best seen on the chart, surrounds the island.

Placer de Las Bovedas (36°25'N., 4°59'W.), an extensive bank, lies 8 miles SW of Marbella and has a least charted depth of 17m, sand and rock. It has been reported by local mariners and fishermen that a very steep-to patch, with a depth of only 14.6m, exists on this bank.

Vessels should avoid passing over the bank, especially in heavy seas, as rocky heads, with less depths than those charted, may exist.

Chella Bank (36°31'N., 2°51'W.) lies 16 miles SE of Adra and has a least depth of 72m.

An isolated patch, with a least depth of 40m, was reported (1981) to lie about 15 miles SW of Cabo de Gata.



Four views of Isla de Alboran

Great Europa Point to Malaga

2.3 Great Europa Point (36°07'N., 5°21'W.) has been previously described in paragraph 1.8 in connection with the entrance to the Bay of Gibraltar.

The E side of Gibraltar is steep and inaccessible. The large rain-water catchment, situated 1.5 miles N of Great Europa Point, is very conspicuous. A conspicuous white hotel stands at the S end of Catalan Bay, close N of this catchment.

A jetty, 87m long, is situated 1 mile N of Great Europa Point. It has a depth of 5.5m alongside the head and is used by naval vessels.

A lighted float is moored 0.5 mile E of the E end of the airport runway.

Sierra Carbonera, 315m high, rises 3.5 miles N of the runway at Gibraltar. This mountain and the Rock of Gibraltar form a valley, which from the E and in poor visibility, has been mistaken for the approach to the Strait of Gibraltar. Torreón, an ancient and prominent watch tower, stands at an elevation of 285m, nearly 0.5 mile S of the highest point of Sierra Carbonera. A conspicuous radio tower, 70m high, stands close N of this watch tower.

Punta Torre Nueva, a low and rocky point, is located 6 miles NNE of Great Europa Point. A coast guard station stands near this point and a small yacht harbor, protected by breakwaters, is situated 1.7 miles SSW of it. A more extensive breakwater is found 0.2 mile S of the yacht basin. This structure extends E into Blackstrap Bay for almost 0.9 mile.

Punta Mala (Punta Carbonera), marked by a light, is located 2.6 miles NNE of Punta Torre Nueva. This point consists of reddish rock. An ODAS lighted buoy has been established 12 miles E of Punta Mala in position 36°14'N, 5°01.5'W.

The Rio Guadjarro flows into the sea, 2.5 miles NNE of Punta Mala. Its mouth is protected by two short breakwaters and fronted by a shallow bar. An extensive yacht harbor, protected by breakwaters, is situated 0.6 mile N of the river mouth.

2.4 Punta de la Chullera (36°19'N., 5°15'W.), located 2.3 miles NNE of the mouth of the Rio Guadjarro, is of moderate elevation and is fronted by a reef. Torre de la Chullera stands on a hill above the point.

Piedra Alcorrin, a small islet, lies close offshore, 1.5 miles NNE of Punta de la Chullera. This islet is fringed with rocks and several rocky heads, some of which dry, lying N of it.

An extensive yacht harbor, protected by breakwaters, is situated 1 mile N of Piedra Alcorrin.

Between Piedra Alcorrin and Punta Torre de Salto de la Mora, 2.7 miles NNE, there is the sandy shore of Fondeadero de la Sabanilla, through which five streams flow into the sea.

Castillo de la Sabanilla, a ruined tower, stands close to the shore, 1 mile N of Piedra Alcorrin. A disused factory and a chimney, 38m high, are situated 0.7 mile NNE of the ruined tower. La Sabinilla, an important fishing village, is situated 1 mile NNE of Castillo de la Sabanilla. Manilva, a town, stands 1.5 miles NW of La Sabanilla on moderately high ground and is clearly visible from seaward. The Rio Manilva flows from the N part of the town and enters the sea 0.5 mile N of La Sabanilla.

2.5 Punta del Salto de la Mora (36°23'N., 5°13'W.) is located 1 mile NE of La Sabanilla. This point is rocky and surmounted by a prominent tower.

Laja de Salto de la Mora, a drying shoal, is the outermost of a group of dangers which lie within 0.3 mile E of the point. This shoal is usually marked by breakers and should be given a wide berth.

Anchorage can be obtained, by vessels with local knowledge, anywhere off this part of the coast, in suitable depths, as far S as Mala Bahia.

Torre de Arroyo Vaquero stands on a small hill dominating a rocky point, 1.5 miles NE of Punta del Salto de la Mora. The coast in this vicinity is rocky and fronted by reefs. Costra Natura, with conspicuous pyramid-shaped buildings, is situated close NNE of Torre de Arroyo Vaquero.

Sierra Bermeja (36°29'N., 5°12'W.), one of the most prominent features along this coast, stands 6 miles N of Punta del Salto de la Mora. This mountain rises to a rocky, cone-shaped peak, 1,452m high, and is visible from a great distance.

Punta de la Sal Vieja (36°25'N., 5°10'W.) is located 3.2 miles NE of Punta del Salto de la Mora, and several submerged rocks extend up to 0.2 mile S of it. Roquero de Alfero, a detached rocky patch, lies 0.4 mile S of the point and has

depths of 9 to 13m. A prominent tower stands near the point, and Las Mesas, 96m high, rises 0.6 mile NNW of the point.

2.6 Puerto de Estepona (36°25'N., 5°09'W.) (World Port Index No. 38350), an extensive yacht harbor, lies between Punta de la Sal Viejo and Punta de la Doncella, 0.4 mile ENE. It is protected by two breakwaters and has an entrance 80m wide. There are depths of 5m in the entrance and 3 to 4.5m within the basins. Anchorage can be taken, in a depth of 13m, about 0.7 mile E of Punta de la Doncella. A light is shown from a tower with a dwelling, 21m high, standing on Punta de la Doncella. A lighted buoy is moored about 0.7 mile ENE of the light and marks the seaward extremity of several coast protection groins.

Punta de los Marmoles, low and fringed with a beach, is located 1.5 miles NE of Puerto de Estepona. Several rocky heads, with depths of 5 to 8m, lie within 0.5 mile SE of this point. Roqueros de la Cipresses, with a least depth of 10m, lies 0.5 mile S of the point.

Torre del Padron stands on a moderately-high hill, 3 miles ENE of Puerto de Estepona. A prominent steel bridge spans the mouth of the Rio del Padron, close E of this tower.

Punta del Castor (36°26'N., 5°06'W.), located 1 mile NE of Torre del Padron, is low and projects little from the coast. This point is fronted by several rocks and a river flows into the sea close W of it.

Punta de Guadalnaza, a sandy point, is located 1.7 miles E of Punta del Castor. Torre de Guadalnaza and a coast guard station stand on the point. A conspicuous white tower is reported to stand about 0.3 mile E of the point.

Caution.—An anchorage prohibited area, the limits of which are shown on the chart, lies in the vicinity of Punta de Guadalnaza and extends up to 2 miles seaward.

A 12.2m rock shoal lies 1.3 miles S of the mouth of the Rio Guadalnaza

A trawling prohibited area, the limits of which are shown on the chart, lies in the vicinity of Punta de Guadalnaza and extends up to 10 miles seaward.

2.7 Punta de Banos (36°28'N., 5°00'W.), a low and rocky point, is located 2.2 miles E of Punta de Guadalnaza and surmounted by a tower. Torre de Saladillo stands on a sandy hill-ock close to the coast, 1 mile W of this point.

Monte Mayor, 570m high, stands 4 miles NNW of this point. Its summit is conical and is crowned by the prominent ruins of a castle.

Torre de las Bovedas stands on the coast, 1 mile NE of Punta de Banos. A prominent coast guard station is situated close E of it. Torre de Duque stands on the coast, 3 miles NE of Punta de Banos. Laja de Duque, an extensive reef, lies close inshore, 0.4 mile SW of Torre de Duque.

Puerto Deportivo Jose Banus (36°29'N., 4°57'W.), an extensive yacht harbor, lies close E of Torre de Duque. It is protected by breakwaters and has an entrance 80m wide. There are depths of 3 to 7.5m inside the harbor basins; the basins are subject to silting.

Punta de los Nabueles (36°30'N., 4°56'W.), a rocky headland, is located 1.5 miles NE of Puerto Deportivo Jose Banus. Torre de Alarcon, a prominent tower surrounded by trees, stands 0.2 mile W this point.

Sierra de Marbella (36°34'N., 4°54'W.) is not as high as Sierra Bermeja, but it slopes down to the coast and forms an excellent landmark. The W peak rises to a height of 1,261m and stands 3 miles NNW of Marbella. The E peak rises to a height of 1,184m and stands 1.5 miles NE of the W peak.

2.8 Marbella (36°30'N., 04°53'W.), a town, stands on both banks of the Rio de la Teneria, 2.5 miles E of Punta de los Nabueles. A light is shown from a tower standing at the W end of the town; a prominent hotel is situated 0.2 mile E of it.

Puerto Deportivo, an extensive yacht harbor, is situated close SE of the light. It is formed by two moles, with an entrance 60m wide, and has depths of 0.9 to 3m. Numerous small moles, which form private small craft shelters, are situated close E and W of this yacht harbor.

Puerto de Marbella, a fishing harbor, is situated 0.8 mile E of the yacht harbor and is protected by two breakwaters. Five towers, which form part of a disused ore handling structure, stand close E of the harbor.

During offshore winds, anchorage may be taken, in a depth of 20m, sand, about 0.4 mile S of the fishing harbor. Numerous fish havens, best seen on the chart, are situated close to the coast SE to SW from Marbella.

Cabo Pino (36°29'N., 4°44'W.), a yacht harbor, is situated 7.4 miles ESE of Marbella. It is protected by breakwaters and is shallow. It was reported (1984) that this harbor was closed due to landslides.

Punta de Calaburras (36°31'N., 4°38'W.), located 5 miles ENE of Cabo Pino, is an easily identifiable point. An aeronautical light is shown from a tower, 25m high, standing on the point. A disused light tower and a coast guard hut stand near the light.

Sierra de Mijas (36°37'N., 4°40'W.), 1,150m high, stands 6.5 miles N of Punta de Calaburras. From the E, this mountain range can be identified by the town of Mijas, which appears as a white band and is situated about halfway up the S slope.

2.9 Fuengirola (36°32'N., 4°37'W.) (World Port Index No. 38365), a small harbor, is situated 2.2 miles NNE of Punta de Calaburras. It is protected by breakwaters and is used by yachts and fishing vessels. A fish haven is located in the former anchorage area SE of the port.

A conspicuous radio mast stands 4 miles NNE of the harbor. A marine farm, protected by artificial reefs, extends NE of the harbor and should be given a wide berth.

Punta Negra, a rocky point, is located 5 miles NE of Fuengirola. Torre Quebrada and a prominent hotel stand on the point. A small and shallow yacht harbor is situated near this point.

Puerto de Benalmadena (36°36'N., 4°31'W.), an extensive yacht harbor, is situated 1.2 miles NE of Punta Negra. It is protected by breakwaters and has depths up to 4m; the harbor is subject to silting.

Laja de Bermeja, an area of rocky shoals with a least depth of 2.5m, lies about 0.3 mile S of the S breakwater and is marked by a lighted buoy.

A fish haven extends NE of the port and should be given a wide berth.

Ensenada de Malaga

2.10 Ensenada de Malaga lies between Punta de Torremolinos and Punta de los Cantales, 11 miles NE, and is backed by mountainous scenery.

Punta de Torremolinos (36°37'N., 4°30'W.), the SW entrance point of Ensenada de Malaga, is rocky and attains no great elevation. The ruins of a castle and the town of Torremolinos, which is conspicuous from the E, stand close N of the point. The town is a resort associated with the Costa Del Sol.

A dangerous wreck lies about 0.6 mile offshore, 1 mile S of the point.

Small vessels anchor, in depths of 14 to 18m, off the village of Carihuela, about 0.7 mile SSE of Punta de Torremolinos.

Between Punta de Torremolinos and Malaga, 7 miles NE, the coast is low, flat, and rises inland to the foothills of the mountains. Numerous hotels and high-rise buildings stand in this vicinity.

A conspicuous radio mast stands near the village of Churriana, 3.5 miles N of Punta de Torremolinos.

Punta de los Cantales (36°43'N., 4°18'W.), the NE entrance point of the bay, is a moderately high, rocky point surmounted by a prominent tower. Puerto de El Candado, a yacht harbor, is situated 2.5 miles W of the point and is protected by breakwaters. A lighted buoy is moored about 1 mile WSW of this harbor and marks the seaward extremity of the coast protection groins.

2.11 Cros S. A. Ammonia Terminal (36°40'N., 4°26'W.) is situated 3.7 miles NE of Punta de Torremolinos. The berth, which is formed by two dolphins, lies 0.7 mile offshore. A submarine pipeline extends NW from the berth to the shore.

Espigon de la Central Termica (36°41'N., 4°26'W.), a jetty, extends 230m ESE from the shore, 4.6 miles NE of Punta de Torremolinos. A gas terminal, consisting of several mooring buoys, lies 0.5 mile SSE of the head of the jetty and is marked by a lighted buoy. A submarine gas pipeline extends NW from the terminal, which lies in a depth of 8.5m, to the shore.

Caution.—Anchoring and fishing prohibited areas, the limits of which are shown on the chart, lie in the vicinity of the above terminals and extend up to 3 miles from the shore.

Malaga (36°43'N., 4°25'W.)

World Port Index No. 38370

2.12 The port of Malaga lies 7 miles NE of Punta de Torremolinos and 58 miles NE of Great Europa Point. It consists of a medium-sized harbor, protected by breakwaters, and an offshore terminal.

Port of Malaga Home Page

<http://www.puertomalaga.com>

Winds—Weather.—Winds from the SE sometimes cause a heavy swell in the outer harbor area.

Tides—Currents.—Tides rise 0.7m at springs and 0.5m at neaps.

Depths—Limitations.—The port is protected by two breakwaters and is divided into outer and inner harbors. The outer harbor entrance is 260m wide and has a depth of 14m. The inner harbor entrance is 112m wide and has a depth of 11m.

The main facilities include the following:

1. Quay 1, which has 472m of total berthing space, with depths of 8 to 9.4m alongside.
2. Quay 2, which is 450m long and has a depth of 10.5m alongside.
3. Quay 3, which has 569m of total berthing space, with depths of 8.6 to 10.5m alongside.
4. Quay 4, which is 448m long and has a depth of 8m alongside.
5. Quay 5, which is 110m long and has a depth of 8.5m alongside.
6. Quay 6, which has 500m of total berthing space, with a depth of 10.5m alongside.
7. East Quay, which is 300m long and has a depth of 11m alongside.
8. Quay 7, which is 340m long and has a depth of 13.5m alongside. It can accommodate vessels up to 363m in length and 8.8m draft.
9. Quay 8, which is 240m long and has a depth of 13.5m alongside. It can accommodate vessels up to 215m and 13.4m draft.

There are facilities for fishing, passenger, general cargo, tanker, bulk, and ro-ro vessels. Generally, there are no restrictions with regard to length or breadth. Large passenger vessels up to 9.9m draft and tankers up to 13.4m draft can be handled within the harbor.

An offshore tanker terminal, consisting of seven mooring buoys, is situated 1 mile S of the outer breakwater head. A submarine oil pipeline, the seaward end of which is marked by a buoy, extends WNW from the terminal to the shore. A lighted buoy is moored about 0.3 mile ESE of the terminal berth, which lies in a depth of 22m and can accommodate tankers up to 300,000 dwt.

A navigation prohibited area is situated in the vicinity of the terminal berth and an anchoring and fishing prohibited area is situated in the vicinity of the submarine pipeline. The limits of both these areas may best be seen on the chart.

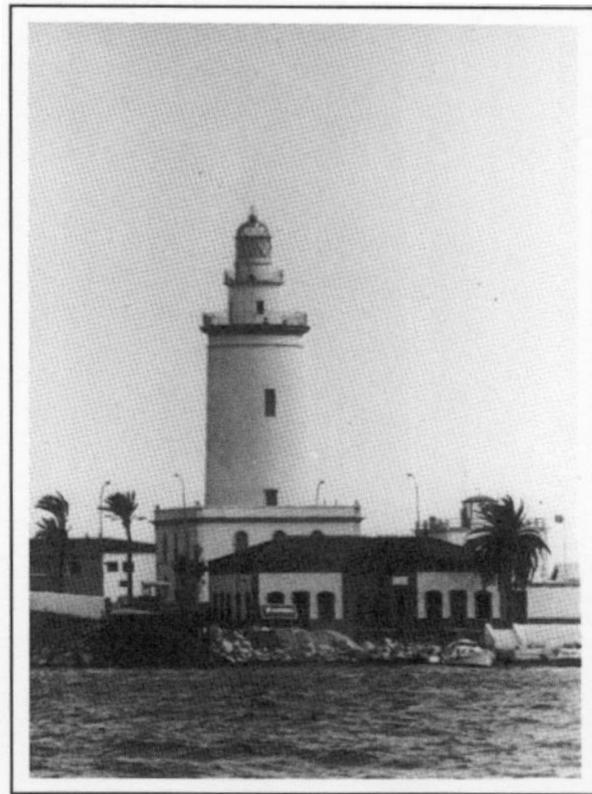
Aspect.—A light is shown from a conspicuous tower, 33m high, standing near the root of the E breakwater. A radiobeacon is situated at the light.

Prominent landmarks include the cathedral, with a single spire, standing 0.7 mile N of the harbor entrance; the bull ring, formed of dull yellow brick, standing close E of the cathedral; and Castillo de Gibralfaro, 141m high, standing above the bull ring.

Pilotage.—Pilotage is compulsory for vessels of 50 grt and over. Pilots can be contacted on VHF channel 12 and generally board 1 to 3 miles from the port. During bad weather, pilots will board near the harbor entrance. Vessels should send an ETA 72 hours, 48 hours, and 24 hours in advance. Messages may be sent through Aranjuez (EAD) (EDZ) or Gibraltar (ZDK).

Pilots may be conveyed by helicopter if required; vessels should contact Helicsa helicopter service.

Anchorage.—Designated anchorages to the E and SE of the breakwater may best be seen on the chart.



Malaga Light

Caution.—When entering the harbor, vessels should stay well clear of the breakwaters in order to avoid off-lying rubble.

Several submarine cables lie in the approaches to the bay and the harbor and may best be seen on the chart.

Care must be taken to pass well clear of the prohibited area and the terminals situated SE of the harbor entrance.

Several wrecks, some dangerous, lie in the approaches to the port and the offshore terminal and may best be seen on the chart.

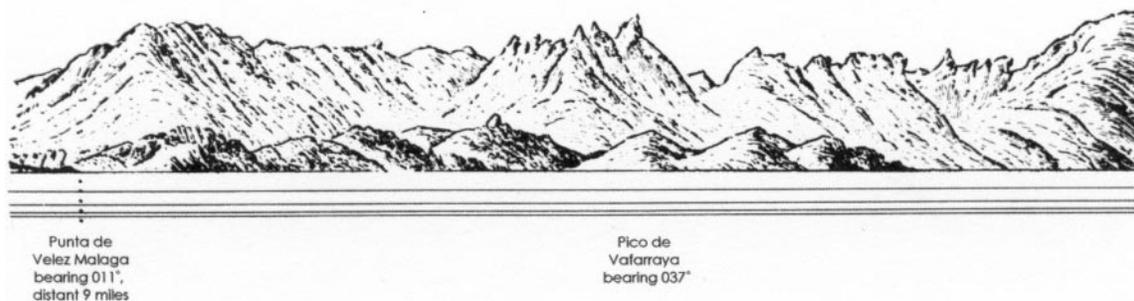
Malaga to Motril

2.13 Punta de Velez-Malaga (36°43'N., 4°07'W.), low and sandy, is located 9 miles E of Punta de los Cantales. This point is slowly extending seaward as a result of the deposits brought down by the freshets of the Rio de Velez and should not be closely approached. During offshore winds, anchorage can be obtained off the coast between these points.

The mountains, which back this stretch of the coast, attain considerable heights. Some of the loftier peaks and summits are snow-covered for the greater part of the year and are visible from the African coast.

Pico de Zafarraya (37°00'N., 4°04'W.), 2,134m high, has a conspicuous summit which terminates in a sharp cone.

Torre del Mar (36°44'N., 4°05'W.), a small town, is situated 1.3 miles NNE of Punta de Velez-Malaga and is marked by an isolated factory with a conspicuous chimney. It is fronted by a



Pico de Zfarraya from SW

small harbor, with a depth of 2m, used by yachts and fishing craft.

Torre del Mar Light is shown from a tower, 26m high, standing 1 mile NE of Punta de Velez-Malaga.

A small craft harbor, protected by breakwaters, fronts the town of La Caleta de Velez, 2 miles NE of Punta de Velez-Malaga. A submarine outfall pipeline extends about 1 mile seaward from a point close E of this town.

Fondeadero de Torre del Mar (36°43'N., 4°07'W.), lying off the town, affords good anchorage, during offshore winds, in a depth of 10m, sand and mud. Large vessels, especially in the bad weather season, should anchor, in depths of 18 to 20m, taking care to avoid the numerous marine farms in the area.

2.14 Punta de Torrox (36°44'N., 3°57'W.) is low. The land in the vicinity of this point is also low, but gradually rises inland to hills of moderate height. A light is shown from a tower, with a dwelling 23m high, standing on the point.

The Rio Rilamar flows into the sea close E of the point and a coast guard hut stands on its E bank.

Fondeadero de Nerja (36°45'N., 3°52'W.) affords anchorage, in depths of 15 to 20m, sand, with a rocky bottom nearby. This roadstead fronts the town of Nerja, which stands 4 miles ENE of Punta de Torrox.

Fondeadero de Herradura (36°44'N., 3°45'W.) lies in the bay entered between Punta de Cerro Gordo, located 9 miles E of Punta de Torrox, and Punta de la Mona, 1.5 miles SE. This roadstead affords anchorage, in depths of 10 to 20m, muddy sand, with some rocky bottom, but is reported to be dangerous in winter.

A light is shown from Punta de la Mona and a yacht harbor, protected by breakwaters, is situated close NE of it.

Punta de San Cristobal (36°44'N., 3°42'W.), fronted by a reef, is located 2 miles E of Punta de la Mona. The town of Almunecar stands on a hill above this point. A conspicuous church tower and a large hotel, above which are situated the ruins of an ancient castle, stand in the town.

The town of Salobrena (36°45'N., 3°35'W.) stands 5 miles E of Almunecar. Two factories, each with a tall chimney, are situated in the town.

Punta del Rio (36°43'N., 3°33'W.) is located 2.3 miles SE of Salobrena. This point, which is mostly formed by river sediment, is extending to the S and should be approached with caution. Several prominent oil tanks stand 1 mile NE of the point.

Caution.—Several outfall pipelines are reported to extend up to 0.8 mile seaward from the coast between Punta de Torrox and Punta del Rio.

Several small bights lying between Punta de Torrox and Punta del Rio afford anchorage, but local knowledge is advised.

Motril (36°45'N., 3°31'W.)

World Port Index No. 38375

2.15 Motril, a small port, lies 1.5 miles NE of Punta del Rio and is protected by two breakwaters.

Depths—Limitations.—The harbor entrance is 130m wide and has a depth of 10m. The main facilities include Levante Quay, 285m long, with a depth of 9.0m alongside; Costa Quay, 298m long, with a depth of 9.0m alongside; and Muelle de Poniente, on the W side of the harbor, 107m long, with a depth of 7.0m alongside. Muelle de Graneles, at the root of Muelle de Poniente and used for handling bulk cargo, is 260m long, with a depth alongside of 10.5m. A dangerous wreck lies close SSE of the head of Muelle de Poniente.

Vessels up to 190m in length and 9.1m draft can be accommodated. There are facilities for ro-ro, general cargo, tanker, and bulk vessels. In addition, a yacht basin is situated in NW part of the harbor.

Aspect.—The prominent city stands in the middle of a plain, 1.5 miles N of the harbor. Several conspicuous oil tanks are situated close W of the harbor.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 12 and board about 1 mile from the entrance. Vessels should send an ETA at least 24 hours in advance and contact the harbor when in VHF range.

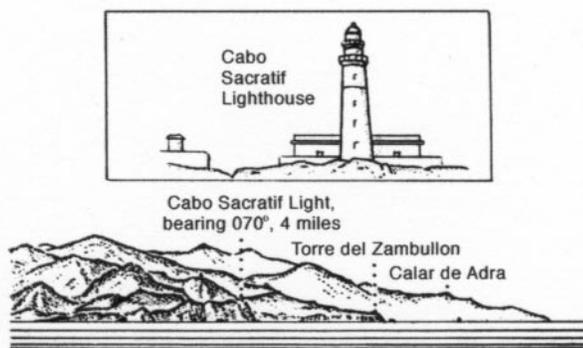
Anchorage.—The roadstead situated E of the harbor is shoal and fringed with breakers. Vessels should anchor, in depths of 14 to 15m, mud, about 0.2 mile from the harbor entrance or 1.2 miles S of the head of W breakwater.

Motril to Adra

2.16 Cabo Sacratif (36°42'N., 3°28'E.), which is easily identified, is a rocky headland of moderate height. It is formed by the SW spur of Sierra de Jolucar, which rises to a height 832m about 3.5 miles NE. Two conspicuous radar domes stand on the summit.

A light is shown from a prominent tower, with a dwelling 17m high, standing on the summit of the rocky headland. The ruins of Torre del Chucho are situated close to the light. A conspicuous lattice radio mast stands on the summit of a hill 8.2 miles NNE of the light. A dangerous wreck lies 1 mile SW of the light.

Due to a shoal, which extends SE, vessels should stay at least 1 mile clear of the cape.



Cabo Sacratif

Ensenada de Calahonda is entered close W of Punta Zambullon, which is located 3.2 miles ENE of Cabo Sacratif. Small vessels up to 100 grt can moor in this bay with their sterns secured to the shore, but local knowledge is essential. Larger vessels can anchor, in depths of 25 to 30m, about 230m off-shore.

The town of Gualchos stands at a height of 324m, 2.5 miles NNE of Punta Zambullon. It is situated in a steep-sided ravine, formed like an amphitheater, and is a very conspicuous landmark.

2.17 Punta del Melonar (36°43'N., 3°21'W.), a high and steep point, is located 2 miles NE of Punta Zambullon. A light is shown from a tower, 12m high, standing on the point.

The Sierra Nevada extends parallel with the coast and about 20 miles inland as far E as Golfo de Almeria. These mountains are the highest in Spain and are covered with perpetual snow. The most conspicuous summits are Pico Mulahacen (37°05'N., 3°15'W.), 3,482m high, and Pico Veleta, 3,392m high, standing 3 miles W of the former. Both of these mountains are visible on clear days from seaward.

The village of Castell de Ferro is situated 0.8 mile NE of Punta del Melonar and is fronted by Fondeadero de Castell de Ferro, which affords anchorage sheltered from NW winds, in depths of 14 to 20m, soft mud. Squalls sometimes blow heavily

down the ravines in this vicinity and, as the bottom is steep and the holding ground poor, vessels are liable to drag anchor.

Punta Negra (36°45'N., 3°14'W.), surmounted by a ruined tower, is named from the dark color of the land in its vicinity. The village of La Rabita stands on a small plain at the foot of a hill, 2 miles E of the point. A prominent castle is situated on the summit of the hill.

Adra (36°44'N., 3°02'W.)

World Port Index No. 38380

2.18 Adra, a small port, lies 9 miles E of Punta Nagra and is protected by two rubble breakwaters and two interior jetties.

Depths—Limitations.—Facilities include a main quay, 140m long, which can handle general cargo vessels up to 2,600 grt and a 5.5m draft, and Levante Quay, 200m long, which can handle fishing vessels up to 4m draft.

Aspect.—A light is shown from a prominent tower, 26m high, standing 1 mile W of the harbor entrance. Torre de los Perdigones stands on a small promontory, close N of the harbor. This tower is an excellent landmark and can be easily identified from the other towers and chimneys in the vicinity. It is shaped like a truncated cone, 40m high, and the lower one-third is white while the upper two-thirds are brick-colored.

Pilotage.—Pilotage is compulsory for vessels of more than 50 grt. Pilots can be contacted by VHF and board vessels about 0.5 mile outside the harbor entrance. Vessels should send an ETA 72 hours, 48 hours, and 24 hours prior to arrival.

Anchorage.—Anchorage can be obtained, in a depth of 14m, sand, about 0.3 mile W of the head of the W breakwater. This anchorage is sheltered from NE and NW winds and the holding ground is mostly good. However, this anchorage is dangerous with onshore winds.

Caution.—Vessels should stay clear of the breakwater heads because of the slope of the rubble of which they are formed.

Depths in the port change frequently due to silting; local knowledge is necessary to enter the port.

Adra to Almeria

2.19 Punta de los Banos (36°42'N., 2°51'W.) is located 9 miles SE of Adra. A light is shown from a prominent tower, 21m high, standing on the point. The town of Dalias is situated 7.5 miles N of this point and shows up well from seaward against the dark mountainous background.

Torre de Aljamilla stands 4 miles E of Adra. Torre de Balerma stands in a large village, 2.5 miles SE of Torre de Aljamilla.

Llanos de Almeria, also known as Campo de Dalias, is a low plain which, beginning near Torre de Aljamilla, extends E to the W shore of Golfo de Almeria. Caution is necessary in estimating the distance from the seaward edge of this plain.

Bajo Culo de Perros, a reef, lies about 0.7 mile S of Punta de los Banos and has a least depth of 3.9m.

Almerimar (36°42'N., 2°48'W.), an extensive yacht harbor, is situated 2.5 miles E of Punta de los Banos and is protected by breakwaters.

Punta de las Entinas is located 4 miles ESE of Punta de los Banos, and a shoal extends up to 0.5 mile S and SE of it. This point derives its name from several "entinas" or shoals which

are formed by seaweed. A dangerous wreck lies 0.8 mile ESE of Punta de las Entinas, with a minimum depth of 2.5m. These shoals, marked by a lighted buoy, grow from the bottom to the surface and are separated by narrow channels. A conspicuous group of buildings, which is reported to be lighted at night, stands 0.7 mile N of the point.

Punta del Sabinal (36°41'N., 2°42'W.) is located 3.7 miles E of Punta de las Entinas. A light is shown from a tower with a dwelling, 30m high, standing 0.2 mile N of the actual point. Punta Elena, the W entrance point of Golfo de Almeria, is located 2.5 miles ENE of the point.

2.20 Golfo de Almeria (36°46'N., 2°25'W.) lies between Punta Elena and Cabo de Gata, 22 miles E. Its shores are free from off-lying dangers and can be safely approached. The W shore is backed by cliffs and the E shore is low and flat.

Torre de los Cerrillos, which is in ruins, stands close W of Punta Elena and a conspicuous hotel stands in Playa Serena, 2 miles NE of it.

Puerto de Roquetas, a small craft harbor, is situated 4.5 miles NE of Punta Elena. It is protected by breakwaters and has depths of 1 to 3.7m. Castillo de Roquetas, which is in ruins, is situated close S of the harbor and a disused light structure stands close SE of it. Torre de los Bajos, which is in ruins, stands 2.3 miles NNE of the castle.

Anchorage, sheltered from W winds, can be obtained off the coast between the ruins of Castillo de Roquetas and Torre de los Bajos. A good berth lies, in a depth of 30m, sand, 1 mile offshore. Vessels of light draft can anchor, in a depth of 16m, close inshore, about 0.6 mile NE of the castle.

Puerto Deportivo Aguadulce, a marina, is situated 2 miles NE of Torre de los Bajos and is protected by breakwaters.

Sierra de Gador (36°54'N., 2°50'W.), a branch of the Sierra Nevada, stands 12 miles NW of the head of the gulf. This range attains heights of over 2,300m and is conspicuous from seaward.

Caution.—Several submarine cables extend seaward from the vicinity of the head of the gulf and may best be seen on the chart.

Several marine farm areas have been established along the shores of the gulf. These extend up to 1.5 miles seaward and may best be seen on the chart.

Almeria (36°50'N., 2°28'W.)

World Port Index No. 38390

2.21 The port of Almeria lies at the head of Golfo de Almeria and is protected by a main breakwater which extends 1 mile SE.

Port of Almeria Home Page

<http://www.portel.es/almeria>

Tides—Currents.—Tides rise 0.5m at springs and 0.4m at neaps.

Depths—Limitations.—The harbor entrance is dredged to a depth of 14.9m. A channel, with a dredged depth of 12m, leads into the harbor and another, with a dredged depth of 14.4m,

leads to the ore berth. A yacht marina is situated in the NW part of the harbor and a fishing vessel basin is situated close W of the root of the breakwater.

The main facilities include Muelle Levante, 350m long, with depths of 8 to 10m alongside; Muelle Ribera, which has 900m of total berthing space with depths 6.5 to 9.5m alongside; Muelle Poniente, which has 855m of total berthing space with depths of 10 to 11.7m alongside; and the CAM ore jetty, which has a depth of 14.4m alongside.

There are facilities for ro-ro, general cargo, passenger, tanker, and bulk vessels. Vessels up to 78,000 dwt, 259m in length, and 13.6m draft have been accommodated.

Aspect.—Alcazaba, a conspicuous citadel, is situated close NW of the city and a monument stands close SE of it. This monument is conspicuous by day and illuminated at night. Several conspicuous buildings and chimneys stand at a power station, 1 mile ESE of the harbor entrance.

Punta del Rio, a level and sandy headland, is located 2 miles SE of the power station. It is formed from the sediment brought down by the Rio Andarax which enters the sea at this point. A lighted buoy is moored about 0.3 mile S of the point and vessels should not attempt to pass to the N of it. A prominent television mast, 20m high, stands close NW of the point.

Punta de Torrejon is located 1.5 miles W of the harbor entrance and is surmounted by Castillo de San Telmo, a coast guard station.

A light is shown from a tower, 7m high, standing on Castillo de San Telmo.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channels 12 and 16 and board near the harbor entrance. Vessels should send an ETA at least 48 hours in advance.

Anchorage.—Anchorage may be obtained, in depths of 18 to 20m, in Rada de Almeria, about 0.2 mile WSW of the head of the breakwater.

Caution.—A submarine pipeline extends 0.7 mile S from the root of the main breakwater and is marked by a lighted buoy.

Almeria to Cartagena

2.22 El Cabo de Gata (36°43'N., 2°12'W.), located 14 miles SE of Almeria, is a rugged headland at the S end of the Sierra de Gata range. A light is shown from a prominent tower, 19m high, standing on the cape.

A rock, with a least depth of 3.3m, lies about 0.6 mile SSE of the light and vessels should not attempt to pass between it and the cape. Artificial reefs have been established 1 mile NW of the cape and should be given a wide berth. A wave recorder buoy is moored 0.7 mile SW of the light.

Small vessels, with local knowledge, can obtain anchorage, sheltered from E winds, off Playa de Corralete. The best berth lies, in a depth of 10m, sand and weed, about 2.5 miles NW of the cape.

Torre de Vela Blanca stands on a headland, 1 mile E of Cabo de Gata. A conspicuous white patch lies at the foot of this headland and resembles a vessel under sail.

Regulations.—A voluntary IMO-established Traffic Separation Scheme (TSS) with associated VTS has been established off Cabo de Gata. The VTS regulates traffic 5 to 12 miles off-

shore, with an associated inshore traffic zone established between the traffic scheme and the coast. Vessels may establish contact with the radio reporting system GATREP on VHF channels 16, 10, and 74 when within 3 miles of entering the TSS. The report should be formatted to include the following information:

GATREP Information	
Designator	Information required
A	Vessel's name, call sign, and IMO number.
C	Latitude and longitude
D	Position giving distance and bearing from a landmark
E	Vessel's course.
F	Vessel's speed.
G	Last port of call.
H	Next port of call.
P	Dangerous cargo, if applicable.
Q	Defects, damages, cargo loss, or incidents leading to pollution.
R	Any other circumstances affecting SOLAS and MARPOL conventions.

The radio reporting system will furnish participating vessels with information relative to conditions affecting navigation to include the presence of vessels restricted in their ability to maneuver, concentrations of fishing vessels relative to the TSS, and meteorological conditions. A continuous listening watch on VHF must be maintained if using the TSS.

2.23 Morron de los Genoveses, a promontory, forms the S end of a cove which is entered 4 miles ENE of Cabo de Gata. This promontory is 69m high and conical, with a somewhat flattened summit. Sheltered anchorage can be obtained, in depths of 8 to 10m, off Puerto Genoves, within this cove; local knowledge is advised.

Monte del Fortin, a promontory surmounted by the ruins of a castle, separates Puerto Genoves from Ensenada de San Jose, a cove on its N side. Anchorage can also be obtained by small vessels, in depths of 10 to 12m, within this cove. A yacht harbor, protected by breakwaters, is situated at the N end of Ensenada de San Jose.

Ensenada de los Escullos lies 3.5 miles NE of Ensenada de San Jose. A prominent castle stands on the shore of this bay. Anchorage, sheltered from W and SW winds, can be obtained anywhere in the bay according to draft. Large vessels can anchor, in a depth of 22m, coarse sand, about 0.5 mile E of the castle.

Los Frailes, two conspicuous peaks, stand at the W side of Ensenada de los Escullos and are excellent landmarks for rounding Cabo de Gata.

2.24 **Punta de la Polacra** (36°50'N., 2°00'W.) is located 12 miles NE of Cabo de Gata. An isolated rock lies close S of the point, and when seen from a distance, appears like a vessel

under sail. A light is shown from a tower, 14m high, standing on the point.

Punta de Media Naranja (36°56'N., 1°54'W.) is located 7.5 miles NE of Punta de la Polacra. Several small bays lying between these points offer sheltered anchorage to vessels with local knowledge.

La Mesa de Roldan is a high tableland which extends between Punta de Media Naranja and Punta de los Muertos, 1.2 miles NE.

Mesa de Roldan Light is shown from a tower, 18m high, standing on the summit of La Mesa de Roldan, 0.3 mile NNW of Punta de la Media Naranja.

Cala de Agua Amarga, entered 1 mile WSW of Mesa de Roldan Light, affords shelter to small craft from NE winds. A pier extends S from the shore of this bay and several mooring buoys are situated in its vicinity.

Punta Carboneras, surmounted by a castle, is located 3.5 miles NNE of Mesa de Roldan Light. A small island lies on a reef which extends up to about 0.5 mile SE of the point.

Puerto Pesquero, a small fishing harbor, is situated close SW of the point and is protected by a breakwater.

2.25 **Puerto de Carboneras** (36°58'N., 1°53'W.) (World Port Index No. 38395), a small harbor, is situated 1.2 miles S of Punta Carboneras and is protected by a breakwater which extends 0.4 mile E and S. The harbor basin has depths of 7 to 19m and is used by coal vessels. A quay, 241m long, has depths of 15m alongside.

A conspicuous chimney, 200m high, stands near the harbor.

Pilotage is compulsory. Pilots can be contacted on VHF channel 12 or 16 and are available from Garrucha. Pilots board 1 mile off the jetty. Vessels should send their ETA 24 hours and 12 hours in advance.

Anchorage is available NE of the breakwater.

Puerto de Hornos Ibericos (36°59'N., 1°53'W.), a small harbor, is situated 0.5 mile S of Puerto de Carboneras. It is protected by a high-angled breakwater and is used by cement and gypsum carriers. Muelle Norte, at the N side of the basin, has a depth of 9m alongside, and Muelle Este, at the E side of the basin, has a depth of 13m alongside. Vessels up to 77,000 dwt, 245m in length, and 14.0m draft have been accommodated.

2.26 **Torre del Penon** (37°04'N., 1°51'W.) stands on a low promontory, 4.5 miles N of Punta Carboneras. Torre de Macenas, formed by a ruined castle, stands 0.6 mile N of Torre del Penon. A coast guard hut is situated near it.

Anchorage can be obtained, in depths of 10 to 25m, sand, about 1 mile N of Torre de Macenas, but this berth is only safe in settled weather.

Sierra Cabrera (37°05'N., 1°56'W.) is the highest range on this part of the coast; the peaks are visible from 40 to 45 miles seaward. Mojacar (37°08'N., 1°51'W.), a prominent town, stands on the crest of a high hill at the E end of this range.

Puerto de Garrucha (37°10'N., 1°50'W.), a small harbor, is situated 11.5 miles NNE of Punta Carboneras and is protected by two breakwaters. A fishing quay is situated on the N side of the harbor and a yacht basin lies at the W side. A quay, situated at the inner side of the breakwater, has depths of 1 to 10m alongside.

The town backs the harbor; a light is shown from a structure, 10m high, standing close S of it. A prominent castle is situated close S of the light structure. Several prominent chimneys also stand in the vicinity of the town.

Pilotage is compulsory. Pilots board 1 mile off the jetty. Vessels should send their ETA 24 hours and 12 hours in advance. During offshore winds, anchorage can be obtained, in depths of 15 to 30m, off the middle of the town.

Punta de Sarria (37°19'N., 1°42'W.) is located 9.5 miles NE of Garrucha and several dangerous reefs lie close SE of it. A prominent ruined castle stands on a steep point, 4 miles NE of Punta de Sarria. Isla de los Terreros, 34m high, lies 0.6 mile S of the ruined castle. This island is steep-to and is separated from the mainland by a narrow channel with a depth of 7.5m. Isla Negra, another small island, lies 0.2 mile NE of the ruined castle. It is 25m high and dark, but can be seen easily against the pale cliffs behind it.

During NE winds, anchorage can be obtained by vessels with local knowledge, W of Isla de los Terreros. The best berth lies, in depths of 13 to 14m, mud and weed, about 0.7 mile from the island.

2.27 Aguilas (37°24'N., 1°34'W.) (World Port Index No. 38410), a small port, is situated in a bay, 8.5 miles NE of Punta de Sarria. The harbor is protected by a breakwater which has a main quay on the inner side. It is 300m long with depths of 8.8 to 9.8m alongside. Vessels up to 160m in length and 9.7m draft can be accommodated. In addition, a jetty for fishing vessels is situated within the harbor and an extensive yacht marina lies on the N side of the bay. Pilotage is compulsory. Pilots can be contacted on VHF channel 16 and board about 1 mile from the entrance.

Monte de las Aguilas, a rocky peninsula, forms the W side of the harbor. It is 70m high, conical in shape, reddish in color, and is easy to identify. The ruins of Castillo de San Juan are situated on the summit of this peninsula. A light is shown from a tower, 23m high, standing close E of the ruins.

Punta de la Aguilica, located 0.6 mile ENE of the light, forms the E side of the bay and is fronted by rocks. Isla de la Aguilica lies close S of this point.

2.28 Hornillo (37°24'N., 1°33'W.) (World Port Index No. 38420) is situated in a bay on the E side of Punta de la Aguilica. It is an ore-handling installation and considered to be part of the port of Aguilas. Isla del Fraile, 80m high, lies 0.6 mile ENE of the E side of Punta de la Aguilica and forms the E side of the bay. A main pier is situated at the W side of the bay and has depths of 6 to 10m alongside. Vessels up to 160m in length and 8.8m draft can be accommodated alongside. Pilotage is compulsory and available from Aguilas. Anchorage can be obtained, in a depth of 20m, 0.2 mile E of the pier head.

Cala Bardina (37°26'N., 1°31'W.) lies 2 miles NE of Hornillo. This bay affords good shelter from E winds to vessels with local knowledge. Anchorage can be obtained, in a depth of 24m, sand and weed, about 200m off the E shore, or, in a depth of 14m, sand and gravel, about 0.2 mile off the beach at the head.

Cabo Cope (Mounte Cope) (37°25'N., 1°28'W.), a reddish promontory, forms the E side of Cala Bardina. It is 248m high, rocky, and steep-to on the SE side. Vessels can anchor, in a depth of 20m, off the NE side of this promontory.

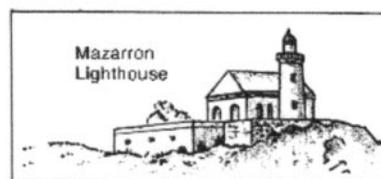
Golfo de Mazarron lies between Cabo Cope and Cabo Tinoso, 18 miles E.

Punta de Calnegre is located 6 miles NE of Cabo Cope. During offshore winds, anchorage can be obtained, in depths of 11 to 13m, mud, off Playa de Calnegre, on the S side of the point. Anchorage can also be obtained, in depths of 13 to 14m, weed, off Playa de Parazuelos, on the N side of the point.

Sierra Morera (37°35'N., 1°20'W.) stands NE of Punta de Calnegre and consists of three main peaks which are visible from a great distance. The two W peaks are the highest and the E peak has a slightly whiter color than the others.

2.29 Rada de Mazarron (37°33'N., 1°13'W.) indents the coast 15 miles NE of Cabo Cope. This bay lies between Cabezo del Puerto and Punta de la Azohia, 4 miles E, and has mostly sandy shores.

Mazarron Light is shown from a tower, 11m high, standing on the edge of Cabezo del Puerto.



Mazarron Light,
bearing 353°, 18 miles

Approach to Golfo de Mazarron from S

A small yacht harbor, protected by a breakwater, is situated on the E side of a point, 1 mile WSW of the light.

La Galerica located 0.3 mile N of Mazarron Light, consists of two above-water rocks which are by foul ground.

Cabezo del Puerto has steep sides. It is surmounted by a conspicuous monument, 13m high. A prominent tall building stands 0.8 mile W of this monument. Torre Vieja (Torre de Salinas), 11m high, surmounts a low hill, 0.6 mile N of Cabezo del Puerto.

The town of Mazarron stands along the W shore of the bay NW of Mazarron Light. Numerous prominent villas and hotels are situated in this vicinity.

A small harbor, with depths of 1 to 7m and protected by a breakwater, is located in the vicinity of Cabezo del Puerto

Vessels may anchor, in a depth of 15m, about 0.2 mile NE of Mazarron Light.

Cabezo del Mojon, located 1.5 miles NE of Cabezo del Puerto, is conspicuous because of its dark grey color. Isla Plana, a flat islet, lies 0.8 mile E of this point and is fronted by rocks on the S side. The pylons of a disused mineral transporter are situated 0.8 mile E of this islet.

Punta de la Azohia (37°33'N., 1°10'W.) is surmounted by Torre de la Azohia, an octagonal building. Vessels may anchor, in depths of 13 to 14m, sand, about 0.2 mile NW of this point.

2.30 Cabo Tinoso (37°32'N., 1°06'W.) is high, precipitous, and reddish in color. A light is shown from a tower, 10m high, standing on the cape.

Caution.—Strong currents, usually E, are reported to be frequently experienced off Cabo Tinoso.

A local magnetic anomaly was reported (1977) to exist about 3 miles S of Cabo Tinoso.

Submarines exercise frequently in an extensive area centered 25 miles S of Cabo Tinoso.

An explosives dumping area, the limits of which are indicated on the chart, lies 7 miles SE of Cabo Tinoso. Depth charge dropping exercises may be carried out within this area.

An unexploded ordnance obstruction area, marked by a buoy, lies about 3.2 miles SE of Cabo Tinoso.

2.31 Cala Salitrona (37°33'N., 1°07'W.), a cove, lies 1.2 miles NW of Cabo Tinoso and affords good shelter from winds between the NW and SW. Anchorage may be obtained by small vessels with local knowledge within this cove.

Punta del Moco, a steep headland, is located 3 miles NE of Cabo Tinoso. El Roldan, 495m high, has a conspicuous summit. This mountain rises fairly steeply from the shore, 1.5 miles ENE of the point, and is an excellent landmark.

Isla de Las Palomas, a rocky islet, lies 0.5 mile offshore, 1 mile S of El Roldan. A marine farm has been established 0.3 mile N of Isla de Las Palomas. La Terrosa lies 1 mile ENE of this islet and consists of a rock connected to the shore by a spit of sand.

Caution.—Shoaler depths than charted may exist in the vicinity of Isla de las Palomas and La Terrosa.

Algameca Grande, an indentation, is located 0.7 mile NE of La Terrosa. A small military harbor, protected by a breakwater,

lies within this indentation. Algameca Chica, a small cove, lies close E of Algameca Grande and affords anchorage to small craft with local knowledge.

2.32 Punta de la Podadera (37°35'N., 0°59'W.), steep-to and surmounted by a fort, is located on the E side of Algameca Chica. Punta de Trinca-Botijas is located 0.7 mile SE of Punta de la Podadera. It is high, cliffy, and surmounted by two batteries.

Bajo de Santa Ana lies about 100m offshore, 0.3 mile NW of Punta de Trinca-Botijas. This shoal has a least depth of 3.2m and is marked by a lighted buoy.

Bajo de las Losas, marked by a lighted buoy, consists of several flat-topped submerged rocks and lies about 0.3 mile S of Punta de Trinca-Botijas.

Punta del Gate is located 0.3 mile SE of Bajo de las Losas .

Punta de los Aguilones (37°34'N., 0°58'W.), comparatively steep-to, is located 0.9 mile SSE of Punta del Gate. Islote de Escombreras lies 0.2 mile W of Punta de los Aguilones and is steep-to and hilly. A light is shown from a tower, with a dwelling, 8m high, standing on the island.

Bajo de Escombreras lies 0.2 mile W of the W end of Islote de Escombreras. This shoal has a least depth of 8.9m and is marked by a lighted buoy.

Cartagena (37°35'N., 0°59'W.)

World Port Index No. 38430

2.33 The port of Cartagena, a natural harbor, is entered between Punta de la Podadera and Bajo de Santa Ana. It has facilities for commercial shipping and is also a navy base.

Port of Cartagena Home Page

<http://www.apc.es>



Port of Cartagena

Tides—Currents.—Tides within the harbor are usually negligible. During winds from the S, the water level may rise up to 0.5m. During winds from the N, the level may decrease by the same amount.

Depths—Limitations.—The harbor is protected by two breakwaters. Dique de Navidad extends 150m SE from a point on the W shore of the harbor, 0.3 mile NE of Punta de Podadera. Dique de Curra extends 700m W from a point on the E shore of the harbor, 0.5 mile NE of Bajo de Santa Ana. The entrance to the harbor has a width of 250m and a depth of 12.5m.

Curra Wharf, 762m long, is situated on the N side of Dique de Curra. It has a depth of 11.8m alongside and is mostly used by naval vessels. A small shipyard and a naval basin lie on the W side of the harbor.

The main facilities include Muelle de Alfonso XII (Muelle Comercial), 943m long, with depths of 7.6 to 12.5m alongside; Muelle de Santa Lucia, 375m long, with depths of 8.6 to 12.5m alongside; and Muelle de San Pedro, 440 long, with a depth of 12.1m alongside.

There are facilities for general cargo, container, ro-ro, and fishing vessels.

Aspect.—The harbor is easily recognized by the broken edge of the mountain as it descends towards the port on one side or the other. The city, surrounded by a wall, is situated N of the head of the harbor and is conspicuous. A circular hill, surmounted by the ruins of Castillo de la Concepcion, rises in the S part of the city.

Castillo de Galeras, Castillo de Atalaya, and Castillo de San Julian stand 0.5 mile NW, 1.5 miles NW, and 1 mile E, respectively, of Punta de la Podadera. Other prominent landmarks include the light structure on the head of Dique de Navidad; two chimneys, each 100m high, standing 0.5 mile NE of Bajo de Santa Ana; and the military hospital building situated close E of Castillo de la Concepcion.

Pilotage.—Pilotage is compulsory. Vessels should send an ETA 24 hours and 12 hours in advance. Pilots may be contacted on VHF channel 11, 12, 14, or 16 and generally board vessels about 1.2 miles WNW of Islote de Escombreras. Pilots may board large vessels bound for Ensenada de Escombreras about 1.5 miles WNW of Islote de Escombreras.

Anchorage.—Designated anchorages are, as follows:

1. For small craft (length of up to 100m):
 - Area A—37°34.7'N, 0°59.3'W.
 - Area B—37°34.6'N, 0°59.7'W.
 - Area C—37°34.0'N, 0°58.2'W.
 - Area L—37°34.3'N, 1°07.0'W.
 - Area M—37°33.0'N, 1°07.1'W.
2. For medium-sized vessels (length between 100 and 200m):
 - Area D—37°34.4'N, 1°00.1'W.
 - Area E—37°34.0'N, 1°00.6'W.
3. For VLCC's and LPG vessels:
 - Area F—37°33.7'N, 1°01.6'W.
 - Area G—37°33.3'N, 1°02.5'W.
 - Area H—37°32.8'N, 1°03.5'W.
 - Area I—37°33.7'N, 1°04.3'W.
 - Area J—37°33.4'N, 1°05.3'W.
 - Area K—37°33.2'N, 1°06.4'W.

Caution.—An anchoring and fishing prohibited area, the limits of which are shown on the chart, lies in the vicinity of Punta de Trinca-Botijas and extends up to 300m W.

Shoaler depths than charted may exist in Darsena de Cartagena.

Cartagena to Cabo de Palos

2.34 Escombreras (37°34'N., 0°58'W.) (World Port Index No. 38425) is situated 1.5 miles SE of Cartagena. It is protected by a breakwater and is a terminal for oil tankers and natural gas vessels

Depths—Limitations.—The harbor is entered between Punta del Gate and the N end of Dique Muelle Bastarreche, a breakwater, which extends 0.4 mile NE from Punta de los Aguilones.

The main bulk facilities include Principe Felipe Quay, 350m long, with a depth of 16m alongside, and Agribulk Quay, 480m long, with a depth of 14.5m alongside.

In addition, there are eight berths for tankers, with depths of 8 to 26m alongside, and three berths for LPG/LNG vessels.

Tanker vessels up to 250,000 dwt, 360m in length, and 21m draft can be accommodated. Gas vessels up to 240m in length and 14m draft can be accommodated.

Pilotage.—See Cartagena in paragraph 2.33.

Anchorage.—It has been reported (1997) that large tankers awaiting entry to the oil terminal at Ensenada de Escombreras anchor S of Punta de la Podadera. Caution is necessary when transiting the approaches to Cartagena as these tankers will cross the approach to Cartagena en route to the oil terminal.

Caution.—A submarine pipeline extends 0.2 mile WNW from a point on the shore, close W of the root of Dique Muelle Bastarreche.

Shoaler depths than charted may exist in Escombreras, including the charted dredged area, and in Boca Chica.

2.35 Cabo del Agua (37°33'N., 0°56'W.), located 2 miles E of Punta de los Aguilones, is high, rugged, and terminates in three peaks. During strong E winds, heavy squalls occur off this cape and it should be approached with caution.

Cala del Gorguel, a cove, is entered 2.5 miles NE of Cabo del Agua. It affords anchorage to small vessels, sheltered from N winds, in a depth of 12m, sand and mud, midway between the entrance points. A rocky islet lies near the shore, close SW of this cove.

Punta de la Chapa (37°35'N., 0°51'W.) is located 4 miles NE of Cabo del Agua and forms the E side of a small bay. A light is shown from a tower, with a dwelling 8m high, standing on the point. La Bola, a rock, lies 0.2 mile NW of the light and has a least depth of 2.7m. It is marked by a beacon and breaks during onshore winds.

The former small craft harbor of Portman lies in the bay, close NW of the light. Repeated landslides have closed this harbor. A lighted buoy is moored off the former entrance.

Cabo Negrete, located 1 mile E of Punta de la Chapa, is high, rugged, and black in color. Cerre de Sancti Spiritus, 436m high, stands 2.7 miles NW of this cape and is prominent.

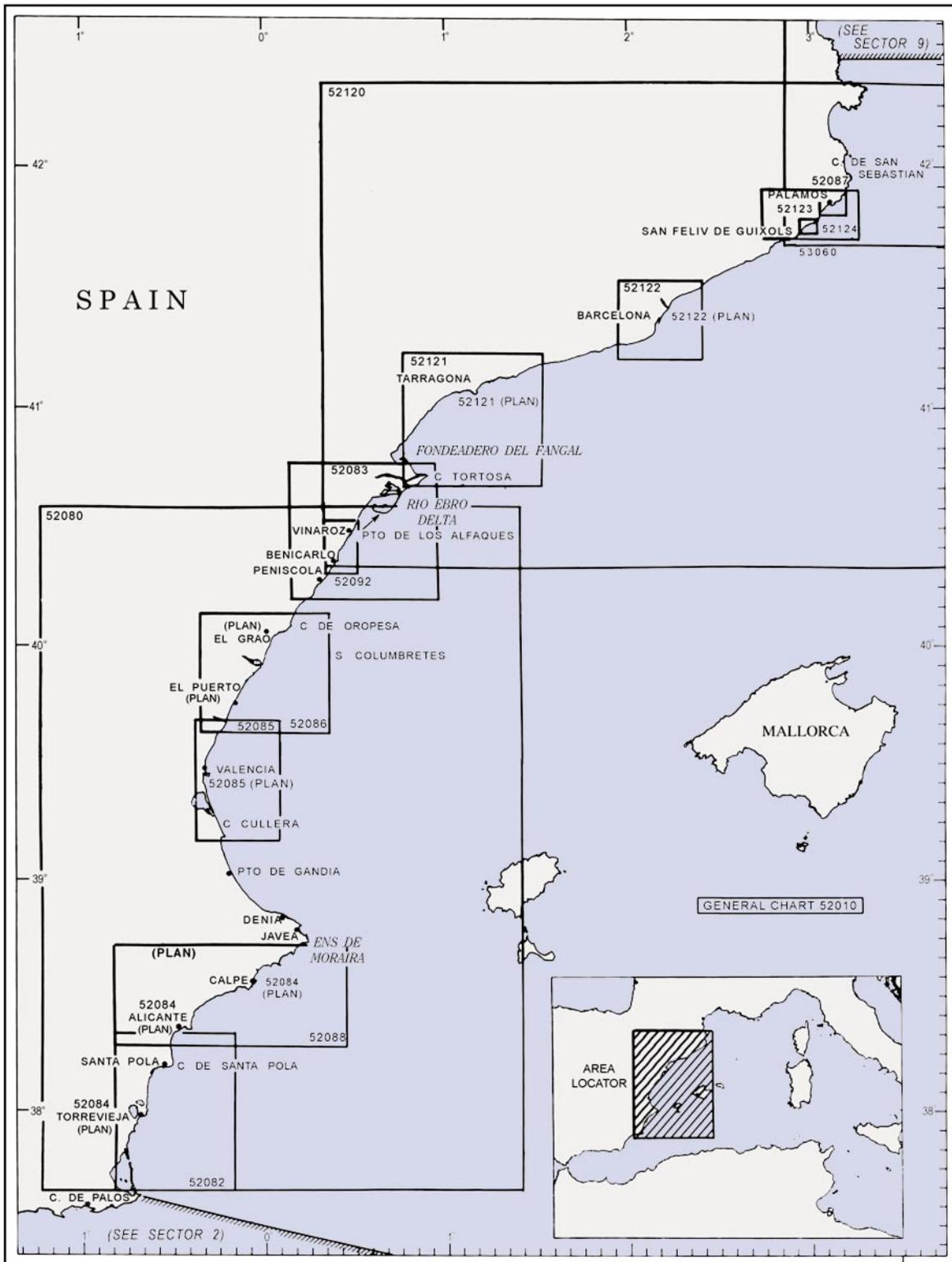
Los Juncos are two conspicuous hills which back this part of the coast. Junco Grande (37°36'N., 0°46'W.) is 338m high and the W hill, and El Junquet (37°37'N., 0°43'W.) is 288m high and the E.

Punta de la Espada (37°36'N., 0°44'W.) is located 5.2 miles ENE of Cabo Negrete. Bajo del Descargador, with a least depth of 2.9m, lies 0.2 mile offshore, 0.7 mile NE of this point.

Cala Avellan, a small inlet, lies 2 miles NE of this point. La Barra, a village, is situated at the head of the inlet. It stands on the isthmus that joins the peninsula of Cabo de Palos and

contains numerous prominent resort chalets. A small harbor basin, protected by a breakwater, fronts the village and is used by fishing craft and pleasure boats.

Cabo de Palos (37°38'N., 0°41'W.), located 0.5 mile ENE of Cala Avellan, is described in paragraph 3.3.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.
SECTOR 3 — CHART INFORMATION

SECTOR 3

SPAIN—CABO DE PALOS TO CABO CERBERE

Plan.—This sector describes the E coast of Spain from Cabo de Palos (37°38'N., 0°41'W.) to Cabo Cerbere (42°26'N., 3°11'E.), at the border of France; the descriptive sequence is from SW to NE.

General Remarks

3.1 Large stretches of the coast within this sector have been transformed into built-up areas. Many villages, which are situated along the shore, are tourist resorts and are comprised of large prominent buildings and chalets.

Tides—Currents.—Off Cabo de Palos, the E current sets NE. Between this cape and Cabo de San Antonio, the current divides; one branch sets ESE and flows S of Islas Baleares and the other continues NE into Golfo de Valencia.

During E winds, vessels crossing Golfo de Valencia, especially from the N to S, should exercise caution to avoid being set inshore by the current which sometimes attains a rate of 3 knots.

Caution.—Numerous oil field installations, including uncharted drilling platforms, may be encountered along this coast.

Several submarine well heads and obstructions lie off this stretch of coast and may best be seen on the chart.

Winds from the NE frequently raise a heavy sea in the vicinity of Islas Columbretes.

Submarines frequently exercise off this stretch of coast.

Off-lying Islands and Dangers

3.2 Islas Baleares (38°38'N., 0°23'E.), consisting of four principal islands and several small islets, lie off this section of the coast. Ibiza, the SW island of the group, lies 48 miles ENE of Cabo de San Antonio (38°48'N., 0°12'E.). They are fully described in Sector 4.

A bank, with a least depth of 46m, lies 31 miles E of Cabo de Palos.

Islas Columbretes (39°54'N., 0°41'E.) consists of a small archipelago of volcanic islets and shoals. Columbrete Grande, the NE islet, lies 28 miles ESE of Cabo de Oropesa (40°05'N., 0°09'E.). The archipelago consists of four groups and one off-lying sunken rock, with deep channels between them. The islets are, in most places, steep-to and generally inaccessible.

Vessels are advised to give this archipelago a wide berth.

Columbrete Grande, the largest islet of the archipelago, is in the form of a crescent and attains heights of 65m and 45m, respectively, at its N and S ends. Its low central part is formed of lava and rock. Three smaller islets lie close E of this large islet.

Monte Colibri Light is shown from a tower with a dwelling, 20m high, standing on the summit near the N end of the islet. A racon is situated at the light.

Lights are also shown from the N and SE extremities of the islet.

Placer de la Barra Alta, a small and rocky shoal, lies about 8 miles SW of the light on Columbrete Grande and has a least depth of 9.3m.

Islote El Bergantin, lying 2.5 miles S of Columbrete Grande, is formed by a conspicuous columnar rock, 32m high. At a distance it appears like a square-rigged vessel under sail. Several dangers lie within 0.5 mile of this rock, except off its W side which is clear and steep-to.

Islote La Horadada lies 1.5 miles N of El Bergantin. This islet is 55m high and several dangers lie within 0.3 mile of it.

La Ferrera (Islote Malaspina), 44m high, lies 1 mile N of La Horadada and is saddle-shaped. Several dangers lie within 0.3 mile of this islet.

Caution.—A marine reserve area, within which fishing and anchoring are prohibited, surrounds the Islas Columbretes and may best be seen on the chart.

A rock, about 400m in length and 100m wide, lies 200m S of La Ferrera. It is covered by a minimum depth of 1.8m and extends in a N to S direction.

Afortunada Oil Complex (40°42'N., 1°20'E.), located 22 miles E of Cabo Tortosa, is described in paragraph 3.31.

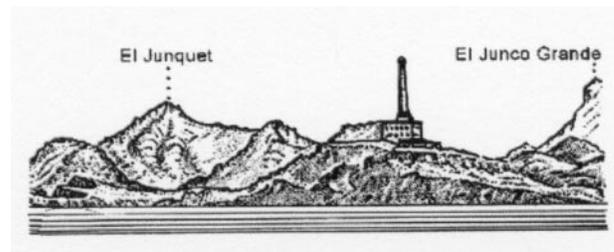
Cabo de Palos to Alicante

3.3 Cabo de Palos (37°38'N., 0°41'W.) is the seaward extremity of a small peninsula which is joined to the mainland by a narrow isthmus. It is fringed with small rocky islets and is indented. A light is shown from a prominent tower with a dwelling, 51m high, standing on the cape. A racon is situated at the light.

A marine reserve area lies 1.2 miles N of Cabo de Palos; anchoring and fishing are prohibited in this vicinity.

La Barra, a village, is situated on the isthmus and contains numerous prominent resort chalets and buildings.

A submarine cable extends 0.6 mile ESE from the cape to a wave recorder which is marked by a buoy. It was reported (1993) that this buoy was missing. Anchoring and fishing are prohibited in the vicinity of the cable.



Cabo de Palos Light from NE

El Vivero, a resort, extends along this stretch of coast up to 1 mile NW of the cape and is fronted by a yacht harbor. Several

high-rise blocks of flats and hotels stand in the vicinity of the N end of the cape and are conspicuous from seaward.

Regulations.—A Traffic Separation Scheme (TSS) has been established E of Cabo de Palos. The scheme consists of Traffic Lanes, a Separation Zone, and an Inshore Traffic Zone.

Las Hormigas (37°39'N., 0°39'W.), formed by a chain of islets and rocky shoals, extends up to 3 miles NE of Cabo de Palos.

Islas Hormiga, the largest islet of this chain, lies 2.3 miles NE of the cape and is 13m high. A light is shown from a tower with a dwelling, 9m high, standing on the SW extremity of this islet. Bajo de Fuera, the outermost danger of the chain, lies about 0.7 mile NE of Islas Hormiga and has a least depth of 3.8m.

Caution.—Although the channels lying between Las Hormigas are frequently used, they are not recommended for vessels without local knowledge. Vessels rounding the cape are advised to stay clear of the coast and the dangers in this vicinity.

A marine reserve surrounds the islands and is marked by lighted buoys. It should be avoided.



Islas Hormiga Light

3.4 Punta de Calnegre (37°40'N., 0°43'W.), a rocky point partly covered with sand, is located 2.3 miles NW of Cabo de Palos. A rocky hillock, 43m high, stands close W of it. Two marine farms, best seen on the chart, are located E of the point.

Isla Grosa (37°44'N., 0°42'W.), 95m high, lies 1.5 miles offshore, 3.7 miles NNE of Punta de Calnegre. This island is high, steep-sided, and flat-topped. A light is shown from a structure standing on the summit. Anchorage, sheltered from E winds, can be obtained by vessels with local knowledge, in a depth of 8.2m, weed, about 0.4 mile W of the island.

Islote El Farallon is located 0.4 mile E of the NE extremity of Isla Grosa. This islet is 22m high and has a sharp pointed summit. La Laja, a small rocky patch, lies about 0.3 mile NE of this islet and has a least depth of 1.3m.

Punta del Estacio (37°45'N., 0°43'W.) is located 7 miles NNW of Cabo de Palos. It is formed by the low and rocky SE extremity of a small peninsular which projects from the coast. A light is shown from a tower, 29m high, standing on the point. A coast guard hut and several other buildings are situated near the light tower. An extensive yacht harbor, protected by a breakwater, is situated close W of this point at the main entrance to Mar Menor.

Mar Menor, a large salt water lagoon, is enclosed by the coastal barrier which extends NNW from Cabo de Palos. Several small yacht harbors are situated within this lagoon.

Cerro del Cabezo Gordo (37°48'N., 0°54'W.), 312m high, is an isolated and conspicuous hill. When seen from NE, it has some resemblance to Isla Grosa and care should be taken, especially in misty weather, to avoid mistaking this hill for the island.

San Pedro del Pinatar (37°49'N., 0°45'W.), a village, is situated 5 miles NNW of Punta del Estacio. An L-shaped mole fronts the village and forms a small harbor. The inner side of the mole is quayed. It provides 137m of berthing space with a depth of at least 4.9m, and 168m of berthing space with depths of 2.7 to 4.6m alongside.

Several prominent buildings associated with the growth in the tourist trade have been constructed in the vicinity of the village. A conspicuous windmill is reported (1993) to stand 1.5 miles S of the harbor.

Torre de la Horadada stands on a rocky headland, 2.7 miles N of San Pedro del Pinatar. A refuge harbor for small craft, protected by a breakwater, is situated close SW of this tower. Two fish havens marked by lighted buoys, best seen on the chart, are found 2 miles E of the breakwater.

Cabo Roig (37°54'N., 0°43'W.) is a conspicuous reddish headland surmounted by a tower and a coast guard hut. A yacht marina is situated close W of this cape.

Punta Prima (Punta Delgada) is located 2 miles NNE of Cabo Roig. Several small coves lie between these points.

3.5 Torrevieja (37°58'N., 0°41'W.) (World Port Index No. 38435), a small port, lies 2 miles NNE of Punta Prima and is protected by breakwaters. The entrance is 250m wide and has a depth of 11m. The main quays have 350m of berthing space with a depth of 9.5m alongside, and 266m of berthing space with a depth of 8m alongside. Vessels up to 180m in length and 9m draft have been accommodated. An extensive yacht marina is situated in the N part of the harbor. Pilotage is compulsory. Pilots can be contacted on VHF channel 12 or 16 and board 0.6 mile S of the entrance. Anchorage can be obtained, in depths of 12 to 14m, about 0.5 mile SE of the head of the breakwater and is best seen on the chart. An anchorage for vessels carrying hazardous materials is located further seaward as shown on the chart. Several mooring buoys are situated within the harbor.

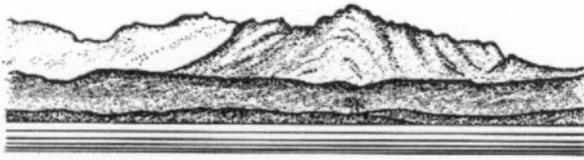
Cabo Cervera (38°00'N., 0°39'W.), located 2.3 miles NE of Torrevieja, is low and surmounted by the ruins of a tower.

An aeronautical light is shown from a prominent radio tower standing 0.7 mile inland, 4.2 miles NNW of Cabo Cervera.

The prominent town of Guardamar del Segura is situated at the foot of a hill, 5 miles N of Cabo Cervera. The hill is surmounted by the ruins of a castle. An obstruction area, within which fishing is prohibited, lies 2 miles E of the town and may best be seen on the chart.

Sierra de Callosa (38°07'N., 0°54'W.), rising to a height of over 570m about 12 miles WNW of Guardamar, is rugged, dark in color, and easy to identify from seaward.

3.6 Bahía de Santa Pola (38°07'N., 0°37'W.) lies between Torre de Pinet, situated 4.5 miles N of Guardamar, and Cabo de Santa Pola, 6 miles ENE. It affords good shelter from winds SW through NE, but care is necessary and local knowledge is advised for entering.



Sierra de Callosa bearing 331°, distant 30 miles

Several fish havens lie in the bay and depths of less than 9m extend up to as far as 1.2 miles from shore. Fondeadero de Tamarit, in the NW part of the bay, affords anchorage, in depths of 5 to 6m, weed, but local knowledge is required.

Santa Pola (38°11'N., 0°34'W.), a town, stands on the N shore of the bay and is fronted by a small harbor which is protected by breakwaters. A prominent two-storied customs house stands on outer breakwater. A small commercial quay has depths of 2.8 to 5m alongside and is used by coasters. Anchorage may be taken, in depths of 6 to 7m, weed, about 0.2 mile S of the entrance. Larger vessels may anchor, in depths of 12 to 14m, farther SE.

Isla de Tabarca (38°10'N., 0°28'W.), lying 3 miles SSE of Cabo de Santa Pola, is low and level. Bajo del Oeste, a rock, lies about 0.5 mile WNW of the W end of the island and has a least depth of 4.2m.

Freu de Tabarca, the channel leading between the island and Cabo de Santa Pola, should not be attempted by vessels with deep drafts or by vessels without local knowledge.

The N and S sides of Isla de Tabarca are fronted by rocks. A light is shown from a tower, 11m high, standing near the E end of the island.

Caution.—A submarine water pipeline extends ESE between the Cabo de Santa Pola and Isla de Tabarca. Anchoring and fishing are prohibited in the vicinity of this pipeline.

Islote de la Nao, an islet, is located 0.3 mile ESE of the E end of the island. Bajo de la Nao, a rock with a least depth of 3.7m, lies about 0.8 mile ESE of this islet and is marked by a lighted buoy.

A stranded wreck lies 0.7 mile ESE of the breakwater to Santo Pola. The wreck is marked by a lighted buoy.

A marine reserve area surrounds the waters in the vicinity of Isla de Tabarca. Its limits are marked by lighted buoys and may best be seen on the chart.

3.7 Cabo de Santo Pola (38°13'N., 0°30'W.) is moderately high and of a reddish color. From the N or S, it first appears as a flat projection ending in a steep slope. On nearer approach, the level ground at the foot of the slope comes into view. A light is shown from a metal structure surmounting a tower, 15m high, standing on the crest of the slope.

Bahia de Alicante (38°20'N., 0°28'W.) lies between Cabo de Santa Pola and Cabo de las Huerta, 10 miles NE. This bay is easily identified by the mountains and hills in its vicinity. Its shores may be safely approached to within about 1 mile.

A submarine pipeline (gas) lies 5 miles N of Cabo de Santa Pola and is marked by a lighted buoy at its seaward extremity. Several gas storage tanks stand near the shore of the bay, W of this terminal. It is reported (1994) that vessels up to 140m in length and 8.5m draft can be handled here.

A yacht harbor, protected by breakwaters, is situated in the NE part of the bay at Albufereta, 2 miles W of the cape.

Alicante (38°20'N., 0°29'W.)

World Port Index No. 38440

3.8 The port of Alicante lies in the NW part of Bahia de Alicante, 4 miles WSW of Cabo de las Huerta. It is protected by Dique de Abrigo de Levante, a breakwater, which extends 0.4 mile SSE and then 0.8 mile SW.

Tides—Currents.—The tides at the port are negligible.

Depths—Limitations.—The port consists of an inner harbor and an outer harbor. The approach channel is dredged to a depth of 14.5m. A yacht marina is situated on the N side of the inner harbor.

There is 1,437m of total main berthing space, with depths of 3.6 to 8.1m alongside, within the inner harbor. There is additional berthing space, with depths of 6.8 to 11m alongside, within the outer harbor as shown in the table below.

Alicante—Berthing Information			
Berth	Length	Depth	Remarks
Muelle 12	296m	8m	General cargo
Muelle 11	360m	11m	Tanker and containers
Muelle 10	203m	6-8.7m	General cargo
Muelle 9	103m	8.7m	General cargo
Muelle 7	240m	8.7m	Fishing vessels

There is 970m of additional space at Muelle 14, with depths of 8 to 12.5m alongside, on the inner side of Dique de Abrigo de Levante, the main breakwater.

In addition, there is a new quay, Muelle 17, which extends SW on reclaimed land, from the outer harbor. It has a berth, 306m long, with a depth of 14.5m alongside.

There are facilities for passenger, general cargo, bulk, ro-ro, tanker, container, and fishing vessels. Vessels up to 243m in length and 14.3m draft can be accommodated.

Aspect.—The port may be easily identified by the prominent mountains and hills in its vicinity. Sierra de Fontcalent, 446m high, stands 5 miles W of the harbor. Sierra de Jijona, 1,230m high, stands 10.5 miles NNE of Sierra de Fontcalent.

Castillo de Santa Barbara surmounts a conspicuous hill, 179m high, which stands in the NE part of the city, 0.3 mile N of the root of the main breakwater. Cerro de San Julian, 1 mile NE of Castillo de Santa Barbara, attains a height of 181m.

An aeronautical light is shown at an airport, 4.5 miles SW of the harbor entrance.

Pilotage.—Pilotage is compulsory for vessels over 50 grt. Pilots may be contacted on VHF channel 14 or 20 and board vessels about 1 mile S of the harbor entrance.

Anchorage.—Anchorage may be taken, in a depth of 16m, good holding ground, about 0.5 mile off the outer breakwater.

In winter, with strong NW winds, vessels may drag if anchored too far offshore.

Alicante to Gandia

3.9 Cabo de las Huerta (38°21'N., 0°24'W.), located 4 miles ENE of Alicante, terminates in a low point. A hill rises close NW of the cape and is a prominent whitish color. A reef, with a depth of less than 5m over its seaward end, extends up to 0.3 mile E of the cape. A light is shown from a tower, 8m high, standing on the cape.

During NW winds, anchorage can be obtained off Playa de las Huertas, which extends as far as 3.5 miles N of the cape.

Villajoyosa (38°30'N., 0°14'W.), a small harbor, is situated 13 miles NE of Cabo de las Huerta. It is protected by breakwaters and is mostly used by fishing boats. A yacht marina is situated within this harbor.

Cabezo del Tosal (38°31'N., 0°10'W.), a small promontory, is located 2.8 miles ENE of Villajoyosa. It is conspicuous, whitish in color, and surmounted by a coast guard station.

Ensenada de Benidorm lies between Cabezo del Tosal and Punta de la Escaleta, 3 miles E. This bay affords shelter from NW and NE winds.

Islote de Benidorm (38°30'N., 0°48'W.) lies 2 miles SW of Punta de la Escaleta. It is cliffy, barren, and reddish. A flat, whitish, and rocky shoal, with a least depth of 5.8m, extends 200m in a NNE to SSW direction and should be given a wide berth by deep draft vessels. This shoal lies 0.2 mile S of this island. A light is shown from a tower, 4m high, standing on the island.

Benidorm (38°32'N., 0°08'W.) (World Port Index No. 38437), a resort town, is situated at the head of Ensenada de Benidorm. It has numerous tall buildings and surrounds a rocky point, which is surmounted by a conspicuous church with a blue dome. Anchorage, during offshore winds, can be obtained, in depths of 20 to 26m, muddy sand and weed, about 0.4 mile SW of the church.

Caution.—The head of a small mole, which fronts the town, should be given a wide berth due to submerged foundations. Considerable silting has also taken place in its vicinity.

Tunny nets are laid out annually in the E part of Ensenada de Benidorm.

A fishing prohibited area, the limits of which are shown on the chart, lies centered 1 mile NNE of Islote de Benidorm.

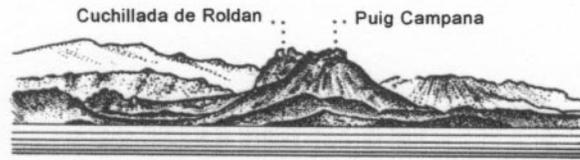
3.10 Sierra Helada (38°33'N., 0°05'W.), a range of hills, extends 3 miles NE of Punta de la Escaleta. When seen from the SW or NE, it presents a steep slope on the seaward side and a gradual decline on the inland side.

Islote Mediana (Isla Mitjana) lies close inshore, 1.5 miles NE of Punta de la Escaleta. It usually cannot be distinguished against the cliffs, except from a short distance.

Punta del Albir (38°34'N., 0°03'W.) is located 2 miles NE of Islote Mediana. A light is shown from a tower with a dwelling, 8m high, standing on the point.

Puig Campana, the most conspicuous mountain along this part of the coast, rises to a height of 1,436m, 7 miles WNW of Punta del Albir. When seen from the SSE, this mountain can

easily be identified by Cuchillada de Roldan, a large and deep ravine lying between its summit and another peak, 1,366m high, standing 0.5 mile SW.



Cuchillada de Roldan bearing 347°, distant 12 miles

3.11 Altea (38°36'N., 0°03'W.), a town, is situated 2 miles N of Punta del Albir. It is marked by a prominent church with high blue and white cupolas. A small harbor, which includes a yacht marina, is situated 0.5 mile SSW of the town and is protected by breakwaters. Anchorage can be obtained, in depths of 16 to 20m, mud, 0.5 mile E of the harbor entrance.

A dangerous wreck lies about 0.4 mile SSE of the harbor entrance.

Islote de Altea lies 0.2 mile offshore, 2.5 miles NE of the harbor. A reef extends between this islet and the mainland. A small yacht harbor, protected by a breakwater, is situated 1 mile NE of the islet.

A dangerous wreck lies about 0.7 mile S of the islet.

Numerous fish havens, best seen on the chart, are located in the Ensenada de Altea.

Ensenada de Calpe is entered between Cabo Toix, whose summit is topped by a television relay tower, located 5 miles NE of Punta del Albir, and Punta Ifach, 2.5 miles ENE. A small craft harbor, protected by breakwaters, is situated close NW of Punta Ifach.

Punta Ifach is formed by the E extremity of Monte Ifach, a peninsula, which somewhat resembles the Rock of Gibraltar. Its seaward sides are formed by high, reddish cliffs and the land to the NW of it is very low. When seen from the SW or NE, it appears as an island.

During good weather, anchorage can be obtained, in a depth of 12m, sand and weed, within Ensenada de Calpe, about 0.3 mile offshore. During W or SW winds, anchorage can also be obtained, in a depth of 26m, sand and mud, off Playa de la Fosa, about 0.6 mile N of Punta Ifach.

Caution.—A dangerous wreck lies 0.5 mile from land in the center of the bay in front of Ensenada de Calpe.

Punta de Las Basetas, located 1.2 miles N of Punta Ifach, is surmounted by a large tower.

3.12 Cabo Blanco (38°40'N., 0°07'E.), located 3 miles NE of Punta Ifach, slopes steeply down to the sea. The high land standing above this cape is surmounted by a tower.

Ensenada de Morayra lies between Cabo Blanco and Cabo Morayra, 1.7 miles ENE. A yacht harbor, protected by breakwaters, is situated close W of Cabo Morayra. This bay affords shelter from W, N, and E winds. Vessels may anchor, in a depth of 16m, sand or mud, about 0.5 mile WNW of Cabo Morayra.

Monte Isabela, 442m high, stands 3 miles NNE of Cabo Morayra. This hill is conical in shape and easy to identify.

Several marine farms have been established within the bays lying NE and W of Punta Ifach. These farms are protected by artificial reefs and fishing is prohibited in their vicinity. Vessels anchoring in the bays should have local knowledge.

Cabo de la Nao (38°44'N., 0°14'E.), located 5 miles NE of Cabo Morayra, is fairly steep-to. A large rock lies at its foot, near a cave. A light is shown from a tower with a dwelling, 20m high, standing on the cape. A radiobeacon is situated at the light.

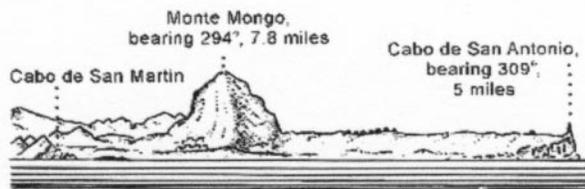
Isla del Descubridor, 57m high, lies close offshore, 1 mile WSW of the cape. The narrow channel lying between this island and the mainland cannot be used.

Cabo Negro, located 1 mile N of Cabo de la Nao, is sheer cut and fronted by rocks. Isla del Portichol, 68m high, lies close offshore, 0.7 mile N of this cape.

Cabo de San Martin, located 1.2 miles N of Cabo Negro, has a steep-sided hillock standing at its extremity.

Javea (38°48'N., 0°11'E.), a small harbor, is situated within a bay, 2.4 miles NNW of Cabo de San Martin. It is protected by two breakwaters and is used by small craft and yachts. Anchorage can be obtained, in depths of 14 to 20m, sand, E of the harbor.

Caution.—Submarine cables extend E from a point on the shore lying close S of Javea.



Ensenada de Javea

3.13 Cabo de San Antonio (38°40'N., 0°12'E.), located 0.7 mile ENE of Javea, is formed by a high and level promontory which falls steeply towards the sea. A light is shown from a tower with a dwelling, 17m high, standing on the E extremity of the cape.

A signal station is situated near the light and a hermitage stands close SSW of it. Several windmills stand on a ridge, 1.2 miles W of the cape.

Monte Mongo (38°48'N., 0°08'E.), 752m high, has a conical peak surmounted by a castle. This hill is conspicuous and from a distance appears as an island. During E or NE winds, it generally becomes obscured by clouds.

Ibiza (38°55'N., 1°20'W.), the nearest island of the Islas Baleares, lies 48 miles ENE of Cabo de San Antonio and is described in paragraph 4.6.

3.14 Denia (38°50'N., 0°07'E.) (World Port Index No. 38450), a small port, lies 4.7 miles WNW of Cabo de San Antonio and is protected by two breakwaters.

Depths—Limitations.—The entrance channel is dredged to a depth of 5m. The main quay is 208m long and has a depth of 5.5m alongside. Vessels up to 100m in length and 5m draft can be accommodated. The port is mostly used by pleasure craft, yacht, and vehicular ferries.

Aspect.—Castillo de Denia stands on a hill near the NW end of the harbor. The prominent spire of the church and the square-topped belfry of another church stand close SE and SW, respectively, of the castle. Several high-rise buildings are situated in the vicinity of the town and are conspicuous from seaward.

A lighted range indicates the entrance channel.

Pilotage.—Pilotage is compulsory for vessels over 50 grt. Pilots can be contacted on VHF channel 16 and board in position 38°52'N, 8°53'E. Vessels should send their ETA at least 6 hours in advance and request a pilot from Gandia.

Anchorage.—Vessels up to 91m in length may anchor within the harbor. Larger vessels may anchor, in depths of 12 to 18m, in the roadstead, or in a depth of 26m, mud, about 0.8 mile NE of the N breakwater.

Caution.—Bajo La Androna, a shoal with a least depth of 3.4m, lies close N of the head of the S breakwater and projects into the entrance channel.

An outfall pipeline extends from the shore on the NW side of the harbor. Its seaward end is marked by a buoy.

3.15 Algar de la Almadraba (38°55'N., 0°02'E.), centered about 6 miles NW of Denia, is an extensive area of foul ground which lies off this stretch of coast. This area has depths of 25 to 36m and heavy seas are raised over it by onshore winds.

Oliva (38°55'N., 0°07'W.), a conspicuous town, stands at the foot of a small hill, 12 miles NW of Denia. Two small piers, with depths of 3m alongside, extend from the coast adjacent to this town.

Torre de Piles stands near the beach, 2 miles N of Oliva. Several prominent buildings are situated near this tower. It was reported (1990) that the tower was not visible from seaward.

Gandia (39°00'N., 0°09'W.)

World Port Index No. 38460

3.16 Gandia, a small port, lies at the mouth of the Rio San Nicolas, 20 miles NW of Cabo de San Antonio. It is protected by two breakwaters.

Depths—Limitations.—The entrance to the harbor is about 100m wide, with a depth of 9m. An extensive yacht marina is situated in the N part of the harbor.

Information concerning the main commercial facilities are given in the accompanying table.

Gandia—Berthing Information			
Berth	Length	Depth	Remarks
Muelle Sur	150m	6.0m	General cargo
Muelle Norte	125m	5.5m	General cargo
Muelle Frutero	300m	5.5m	General cargo

Gandia—Berthing Information			
Berth	Length	Depth	Remarks
Muelle Serpis	300m	9.0-10.0m	General cargo. Ro-ro vessels.
Muelle Sur extension	150m	6.5m	General cargo
Moto-Veleros	174m	4.5m	Fishing vessels

There are facilities for general cargo, bulk, and ro-ro vessels. Vessels up to 107m in length and 5.5m have been accommodated.

Aspect.—El Mitjanet, a rocky patch, with a least depth of 5.6m, lies about 0.5 mile N of the harbor entrance. It extends parallel with the coast and about 0.4 mile offshore.

The town of Gandia is situated on the N bank of the Rio Serpis in the middle of a cultivated plain, 1.5 miles SW of the harbor.

Pilotage.—Pilotage is compulsory as local knowledge is essential due to shifting shoals near the entrance. Pilots board about 0.5 mile off the harbor entrance and can be contacted on VHF channel 16.

Anchorage.—Anchorage can be obtained, in a depth of 20m, 1.2 miles ENE of the head of the N breakwater. Due to El Mitjanet, extreme care should be taken.

Caution.—Fish havens front the port to the E and NE as best seen on the chart.

A dangerous wreck lies 4.5 miles NNE of the N breakwater light at Puerto de Gandia.

Gandia to Valencia

3.17 La Vinyeta (39°04'N., 0°11'W.), an area of rocky patches, extends between Gandia and the Rio Jucar, 10 miles NNW. It lies up to 1 mile offshore and has depths of 10 to 20m.

From Gandia to Valencia, the coast is low and sandy, with the exception of Cabo Cullera, and generally may be approached to within 1 mile.

Torre La Vall and Torre de Jucar stand 6.2 and 9.7 miles NW, respectively, of Gandia. Several buildings are situated in the vicinity of these towers. It is reported (1990) that these towers are not visible from seaward.

El Moro, marked by a beacon, is a small above-water rock which lies about 0.6 mile NNE of the mouth of the Rio Jucar. During offshore winds, anchorage may be taken, in a depth of 6m, about 0.3 mile N or S of El Moro.

The Rio Jucar is shallow and its mouth encumbered by a bar. Two jetties extend 0.2 mile seaward from the mouth of the river.

Monte de las Zorras (39°10'N., 0°15'W.), 222m high, is prominent and stands just S of Sierra de Cullera, a range, which rises steeply from the plains.

Cabo Cullera (39°11'N., 0°13'W.) rises steeply from the sea and is the E extremity of Sierra de Cullera. A light is shown from a tower, 16m high, standing on the cape.

A small yacht harbor, protected by breakwaters, is situated 0.5 mile SW of the cape.

Santos de Sucia Hermitage stands 2.5 miles inland, 5.7 miles NW of Cabo Cullera. It is situated on a prominent hill, 38m high, in the middle of the coastal plain and is conspicuous.

Casa del Rey, where several prominent buildings stand, is located 4 miles NW of Cabo Cullera. Penas del Moro, a rocky and shallow reef, extends up to 0.3 mile offshore, about 0.5 N of Casa del Rey.

El Perello, a small yacht harbor, is situated 6 miles NNW of Cabo Cullera and protected by breakwaters.

La Albufera de Valencia (39°20'N., 0°21'W.), a shallow lake, lies just inland behind the coastal sand banks. Caserio El Saler, a small village, is situated at its N end. A small, square tower stands in the village and is visible from seaward.

Caution.—Dangerous wrecks lie 1 mile NE of Cabo Cullera and 2 miles E of Gola del Perello.

Valencia (39°27'N., 0°19'W.)

World Port Index No. 38480

3.18 The port of Valencia lies 17 miles NNW of Cabo Cullera and is protected by breakwaters. It is backed by a prominent city which stands on a plain, 2 miles inland.

Port of Valencia Home Page

<http://www.valenciaport.com>

Depths—Limitations.—The Rio Turia, which formerly flowed through the N part of the city, was diverted and now enters the sea 1.4 miles WSW of the harbor entrance. An extensive marina, protected by rubble breakwaters, lies close N of this new river mouth. A small craft harbor, consisting of two basins, is situated 0.4 mile N of the marina.

Muelle de Levante extends 0.9 mile SSE from the shore at the N side of the port. Dique de Norte extends about 0.5 mile E from the SE end of Muelle de Levante. Dique del Este extends 0.6 mile S from the E end of Dique de Norte. The harbor entrance, 600m wide, lies between the S end of Dique de Este and a rubble breakwater, which is part of the Muelle Darsena Sur to the SW.

The entrance fairway is 500m wide and dredged to a depth of 16m.

The main berthing facilities are described in the accompany table.

Valencia—Berthing Information		
Berth	Length	Depth alongside
Muelle Sur	600m	14m
Muelle de Levante	1,400m	9-14m
Espigon Norte	176m	9m
Poniente	436m	9-11m
Espigon Turia	811m	9-14m
Muelle de Turia	387m	9m

Valencia—Berthing Information		
Berth	Length	Depth alongside
Transversals Poniente and Levante	699m	7m
Muelle Aduana	190m	7m
Estacion No. 1, Estacion No. 2, and Estacion No. 3	358m	7m
Grao	195m	7m
Nazaret	175m	7m
Muelle Norte	600m	16m
Pantalan	210m	12m
Muelle Dique del Este	225m	11m

The port has facilities for ro-ro, container, general cargo, bulk, passenger, and tanker vessels. Vessels of up to 65,000 dwt, 290m in length, and 13.2m draft have been accommodated within the harbor.

Aspect.—Islas Columbretes (39°54'N., 0°41'E.), previously described in paragraph 3.2, lie in the outer approach to the port and form a good landmark.

A lighted buoy is moored about 0.4 mile S of the head of Dique del Este. A light is shown from a prominent tower, 22m high, standing on the E end of Dique de Norte.

An aeronautical radiobeacon is situated 2 miles W of the harbor entrance.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 11, 12, 14, or 16 and board about 1.5 miles SE of Nuevo Dique del Este.

Anchorage.—Vessels may anchor off the harbor entrance in the charted area, but must keep the approach clear. Good holding ground is found, in a depth of 18m, about 1 mile SE of the light.

An anchorage area for vessels carrying dangerous cargo is located about 2.5 miles SE of the head of the breakwater and is best seen on the chart.

Caution.—The harbor and entrance channel are subject to silting.

Winds from the NE usually cause a heavy swell to set WSW across the entrance of the harbor.

Due to the existence of submarine cables, a prohibited anchoring and trawling area, the limits of which are shown on the chart, extends up to 13 miles seaward from a point on the shore lying close N of the harbor.

Outfall pipelines extend ESE from the mouth of the Rio Turia; they extend up to 2 miles seaward.

It is reported (1997) that extensive works are being carried out within the harbor.

3.19 Torre de Puig (39°35'N., 0°17'W.) stands 7.5 miles N of Valencia. A coast guard station is situated close to this tower. A prominent convent stands on the slope of a hill, 1.5 miles WNW of the tower.

From Valencia to Sagunto, the coast is formed by a sandy beach backed by an almost continuous line of villages. Puerto

de Alboraya and Puerto de Farnais are small craft harbors which are situated 3 miles and 6 miles N, respectively, of Valencia.

Algar de Albuixech, Algar del Puig, and Algar de Murviedro are areas of rock and weed, with depths of 15 to 20m, which lie off this stretch of coast.

Grao de Murviedro, where a number of warehouses are situated, is located 4 miles NNE of Torre de Puig and fronted by a reef. Anchorage, with local knowledge, can be obtained, in depths of 10 to 12m, sand, off Grao de Murviedro.

Sagunto (39°39'N., 0°13'W.)

World Port Index No. 38490

3.20 The small port of Sagunto (Puerto de Sagunto) lies 12 miles NNE of Valencia and is privately owned. It consists of a harbor basin, which is protected by a breakwater, and an outer ore terminal. It has been reported (1994) that extensive reclamation is in progress on the outer boundary of the Escollera de Levante.

Depths—Limitations.—Escollera de Levante, the main breakwater, extends 0.6 mile SSE from the N side of the harbor basin.

The main facilities include Muelle Norte, 570m long, with a depth of 9.8m alongside; Muelle Centro, 660m long, with a depth of 11.2m alongside; and Muelle Sur, 580m long, with a depth of 9.8m alongside. There are facilities for ro-ro and bulk vessels.

Pantalan, the ore terminal, consists of a pier, with a loading platform at its head, which extends 0.8 mile ESE from near the root of the main breakwater. The platform berth can accommodate vessels up to 90,000 dwt and a draft of 14m.

The entrance channel, about 100m wide at its narrowest, is dredged to 9.5m and is marked by lighted buoys.

Aspect.—The port area is easily recognized from offshore by the existence of several industrial installations.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 12 or 16 and generally board vessels about 1 mile SE of the harbor entrance.

Anchorage.—Anchorage may be taken, in depths of 20m or more, good holding ground, E to SE of the ore pier.

A designated dangerous cargo anchorage lies about 5 miles S of Cabo Canet.

Caution.—A shoal area, with a least depth of 1.6m, extends W from the W side of the breakwater and lies adjacent to the entrance channel.

An isolated patch, with a depth of 4.5m, lies about 0.2 mile S of the head of the breakwater.

Winds from the N or E may be strong enough to cause a troublesome swell in the harbor entrance and prevent entry or exit.

Sagunto to Tarragona

3.21 Cabo Canet (39°40'N., 0°12'W.), low and sandy, is located 1 mile NNE of Sagunto. A light is shown from a prominent tower, 30m high, standing 0.2 mile inland of the cape.

A small yacht harbor is situated close N of the cape. Sierra de Almenara, 186m high, stands inland, 5 miles N of the cape.

This hill is crowned by a castle and a tower which can be seen from seaward.

A marine farm, marked by lighted buoys, lies close NE of the ore loading platform at Sagunto.

An outfall, marked by a buoy, lies 1 mile N of Cabo Canet. Fish havens front the coast between Cabo Canet and Bajo Punta La Llosa and are best seen on the chart.

Bajo Punta La Llosa, with a least depth of 5.5m, lies 1.5 miles offshore, about 4.5 miles NNE of Cabo Canet.

Pico Espadan, 1,105m high, stands 13 miles inland, 16 miles NNW of Cabo Canet. This mountain is the most conspicuous distant landmark along this stretch of coast.

3.22 Burriana (39°53'N., 0°03'W.) (World Port Index No. 38495), a small port, lies 13 miles NE of Cabo Canet and is protected by breakwaters.

Depths—Limitations.—The harbor entrance has a depth of 6m.

The main facilities include Transversal Quay, 180m long, with a depth of 5.5m alongside, and Levante Quay, 400m long, with a depth of 5m alongside. Vessels up to 150m in length and 5.2m draft can be accommodated.

Aspect.—The prominent town of Burriana stands on the S bank of the Rio Bechi, 1.5 miles N of the harbor.

Pilotage.—Pilots are available and generally board vessels about 1 mile from the harbor entrance. The port can be contacted on VHF channel 16.

Anchorage.—Vessels can anchor, in a depth of 10m, about 0.2 mile S of the head of the E breakwater.

Caution.—A sandy shoal, with a depth of 3.3m, lies about 0.5 mile SW of the head of the E breakwater.

Stony patches, with depths of 2.7m and 3m, lie about 0.6 mile NE and 0.9 mile NNE, respectively, of the head of the E breakwater.

Several wrecks and a triangular fish haven lie in the approach to the harbor and may best be seen on the chart.

3.23 Puerto de Castellon Oil Terminal (39°56'N., 0°03'E.) is situated offshore, 7 miles NE of Burriana. It consists of an offshore sea berth, formed by mooring buoys, lying at the seaward end of a submarine pipeline, which extends 2.5 miles ESE from the shore. In addition, a berthing platform is situated along this pipeline, 1.2 miles from the shore.

Depths—Limitations.—Vessels of unlimited length, with drafts up to about 12.5m, can be accommodated at the berthing platform. Vessels of unlimited length, with drafts up to 19.8m, can be accommodated at the sea berth.

Aspect.—The sea berth is marked by a lighted buoy moored about 0.5 mile E of it. In addition, two lighted buoys are moored about 0.5 mile N of the seaward end of the pipeline.

Pilotage.—Pilotage is compulsory. Vessels should send an ETA 72 hours and 24 hours in advance.

Pilots can be contacted on VHF channel 13 or 16 and board, as follows:

1. Sea berths—near Outer Lighted Buoy.
2. Platform—about 0.5 mile NE of the platform.

If possible, vessels should maintain a continuous listening watch on VHF channel 13.

Anchorage.—Vessels may anchor, in a depth of about 30m, seaward of Outer Lighted Buoy. The holding ground is reported to be good.

Caution.—Navigation is prohibited between the outer approach lighted buoy and the berthing platform, except for vessels berthing. Small craft may pass between the berthing platform and the shore, but must not anchor or fish in the vicinity of the pipeline.

3.24 El Grao (Puerto de Castellon) (39°58'N., 0°01'E.) (World Port Index No. 38500), a small port, lies 8 miles NNE of Burriana and is protected by breakwaters.

Depths—Limitations.—A basin, with a depth of 4.1m, lies on the SW side of the harbor and is used by fishing vessels. In addition, a yacht marina is situated within the harbor.

There are depths of 6.8 to 8m alongside the quays in the commercial basin. Vessels up to 201m in length and 9.9m draft have been accommodated in the outer harbor.

Aspect.—The prominent town of Castellon de la Plana stands in the middle of a plain, 2.5 miles WNW of the harbor, and is visible from seaward.

A light is shown from a structure, 27m high, standing on the head of the E breakwater. A radiobeacon is situated at the light.

A conspicuous flare is emitted from a chimney, 75m high, which stands 1.7 miles SW of the harbor entrance. The buildings, tanks, and chimneys of an oil refinery and a heating plant, which are situated in the vicinity of the flare, are prominent from seaward.

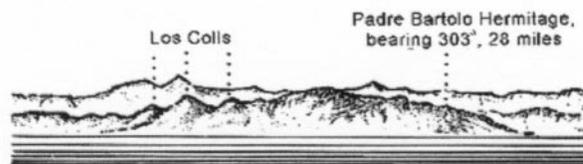
Pilotage.—Pilotage is compulsory. Pilots may be contacted on VHF channel 12 or 16 and board close off the breakwaters.

Anchorage.—Anchorage can be obtained, in depths of 11 to 13m, fair holding ground, E of the head of E breakwater. This anchorage is completely exposed and vessels are advised to put to sea on the approach of bad weather.

3.25 Torre de Benicasim (40°03'N., 0°04'E.) stands on the coast, 5 miles NNE of El Grao. The prominent town of Benicasim stands at the foot of a hill, 1 mile NW of this tower.

Olla de Benicasim, a roadstead, lies off Torre de Benicasim. Anchorage can be obtained, in depths of 7 to 11m, between 0.6 mile and 1 mile offshore.

Cabo de Oropesa (40°05'N., 0°09'E.), located 9 miles NE of El Grao, is the low termination of Los Colls, a range of mountains with three conspicuous peaks. A light is shown from a tower with a dwelling, 13m high, standing on the cape. An old watch tower stands close to the light.



Los Colls from SE

Caution.—Several marine farm areas, the limits of which are shown on the chart, lie offshore between Cabo de Oropesa and Peniscola.

Several wrecks and obstructions lie E to SE of Benicasim from 2 to 3 miles off the coast.

3.26 Torre de Almadun (40°19'N., 0°22'E.), standing 17 miles NE of Cabo de Oropesa, is conspicuous.

Peniscola (40°21'N., 0°24'E.), located 3 miles NE of Torre de Almadun, is a small and rocky fortified peninsula. It is 64m high and the summit is surmounted by a large, ancient, and conspicuous castle. Peniscola Light is shown from a tower with a dwelling, 11m high, standing on the SE wall of the castle.

Small vessels can anchor, in a depth of 6m, close N of the peninsula. This berth is sheltered from SW winds, but is exposed to E winds.

Puerto de Peniscola, a small craft harbor, lies SW of the peninsula and is protected by a breakwater.

Puerto de Benicarlo, a small harbor, lies 4.6 miles NE of Puerto de Peniscola. It is protected by breakwaters, but is subject to silting. Anchorage, exposed to onshore winds, can be obtained, in depths of 5 to 12m, about 0.7 mile E of the harbor. The harbor is used by pleasure craft, fishing vessels, and small coasters.

3.27 Vinaroz (40°28'N., 0°29'E.) (World Port Index No. 38510), a small port, lies 3.5 miles NE of Puerto de Benicarlo and is protected by breakwaters.

Winds—Weather.—The harbor provides shelter against all winds except those from between the S and SW. However, even when these winds blow hard and frequently, it is not dangerous to anchor because the bottom has very good holding ground.

Depths—Limitations.—There are depths of 3.5 to 7m alongside the quays within the harbor. The entrance fairway is 200m wide and is dredged to a depth of 7m. The harbor is used by pleasure craft, fishing vessels, and coasters.

Pilotage.—Pilotage is compulsory for vessels over 50 tons.

Anchorage.—Vessels can anchor, in depths of 10 to 11m, close E of E breakwater.

3.28 Pena de Bel (40°37'N., 0°10'E.), 1,004m high, stands 16 miles WNW of Vinaroz and is a good distant landmark.

Casa de Sol del Riu, a prominent building with a tower, stands on the S side of the mouth of the Rio Cenia, 4 miles NE of Vinaroz.

Las Casas de Alcanar, a small harbor, lies 6 miles NE of Vinaroz. It is protected by breakwaters and is used by yachts and fishing craft.

Sierra de Montsia dominates this stretch of coast and possesses several prominent peaks. Pare Pascual, 764m high, stands 9 miles NNE of Vinaroz and is one of these prominent peaks.

Cargadero de Alcanar (40°40'N., 0°40'E.), a small harbor, lies 1.5 miles NE of Las Casas de Alcanar. It is protected by breakwaters and has facilities for the loading of cement. An entrance channel, marked at its outer end by lighted buoys, leads NW from offshore and is dredged to a depth of 12m. Pilotage is compulsory. Pilots can be contacted by VHF and are available from San Carlos de la Rapita. Vessels up to 40,000 grt and 10.1m draft have been accommodated.

Caution.—Several marine farm areas, the limits of which are shown on the chart, lie offshore between Vinaroz and the channel leading to Cargadero de Alcanar.

3.29 Alfaques de Tortosa (40°40'N., 0°40'E.), the delta of the Rio Ebro, commences close NE of Cargadero de Alcanar and is gradually extending seaward on its SE and NE sides. The alluvium first forms shoals and islets which become connected to the land and form small harbors; subsequently, lagoons or salt pans are finally formed. Puerto de los Alfaques, lying on the S side of the delta, and Fondadero del Fungal, lying on the N side, are examples of such harbors.

The Rio Ebro is one of the largest rivers in Spain, but due to the shallow bar and numerous shifting shoals at the mouth, it can only be entered by vessels of light draft. Local knowledge is essential.

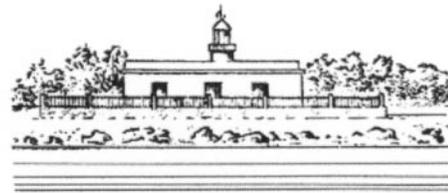
Puerto de Los Alfaques (40°37'N., 0°36'E.), a deep bight, is formed by a low and sandy peninsula which extends SW from the delta of the Rio Ebro. It has a maximum depth of 6.5m and is entered between Punta de la Senieta, located 2.5 miles NNE of Cargadero de Alcanar, and Punta Corballera, 2.2 miles SSE.

Anchorage may be taken anywhere in this bight with fair to good holding ground over a mud bottom. Strong squalls sometimes cause a difficult sea in the shallow waters and may cause dragging. Sustained strong winds from the E through SSW may raise the water level and those from other directions may lower it. There are no discernible tides within the bight and the depths are continuously decreasing due to silting. A pier is situated in the SE part of the bight and extends 0.9 mile N from the S shore.

3.30 San Carlos de la Rapita (40°37'N., 0°36'E.) (World Port Index No. 38520), a small port, lies in the NW corner of Puerto de Los Alfaques and is protected by breakwaters.

Depths—Limitations.—The entrance is 90m wide. A yacht basin is situated on the W side of the harbor. The commercial quays have 565m of total berthing space with depths of 4 to 6m alongside. In addition, there are facilities for fishing vessels. Vessels up to 5.4m draft have been accommodated.

Aspect.—A light is shown from a tower with a dwelling, 7m high, standing on Punta de la Senieta, 0.7 mile SSW of the harbor. A light is shown from a metal tower, 9m high, standing on Punta Corballera.



San Carlos de La Rapita Light

The harbor fronts the N part of the town. A prominent church stands in the SW part of the town. Cerro de la Guar-

diola, 116m high, stands at the NW end of the town and is surmounted by a tower.

Pilotage.—Pilotage is compulsory. Pilots may be contacted on VHF channel 11, 12, 14, or 16 and board close outside the breakwaters. Vessels should send an ETA at least 24 hours in advance.

Anchorage.—Sheltered anchorage may be found about 1.5 miles SE of the harbor.

3.31 Punta de la Bana (40°34'N., 0°40'E.) is located on the S side of the sandy peninsular, 2.9 miles E of Punta Corballera. A light is shown from a tower, 26m high, standing on the point. An old and disused light tower stands close NE of the light.

Isla de Buda, located 12 miles NE of Punta de la Bana, is very low and at times submerged in places. It was formerly separated from the rest of the delta by the S mouth of the Rio Ebro, which has since silted up.

Cabo Tortosa (40°43'N., 0°54'E.), located 15 miles NE of Punta de la Bana, is the S entrance point of the principal mouth of the Rio Ebro. It should not be approached within 2 miles and special caution should be taken at night and in thick weather.

It is reported that winds from the NE give rise to a current which sets into the bight lying N of the cape.

A light is shown from a tower, 21m high, standing on the N bank at the mouth of the river.

A light with racon is shown from a framework tower situated on a platform, 18m high, standing 2 miles E of the cape.

Golfo de San Jorge lies between Cabo de Tortosa and Cabo de Salou, 23 miles NE.

Afortunada Oil Complex (40°42'N., 1°20'E.) lies 22 miles E of Cabo Tortosa and consists of a production platform with several lighted buoys and wells in its vicinity. Another platform stands 12 miles NNW of the main complex and a submarine pipeline extends about 25 miles in a N direction from the main complex to the shore.

3.32 Punta del Fango (40°40'N., 0°40'E.), located 6 miles NW of Cabo Tortosa, is formed by the W end of a low peninsula. A light is shown from a tower, 18m high, standing 1.5 miles E of the point.

Golfo de la Ampolla lies between Punta del Fango and Cabo Roig, 2 miles NW. The latter cape is 6m high and may be identified by a reddish scar on it. La Ampolla, a resort village, is situated 1 mile SW of Cabo Roig and is fronted by a small harbor which is used by fishing craft and protected by a breakwater.

Anchorage can be obtained, in a depth of 6m, mud and sand, SW of Cabo Roig.

Caution.—Punta de Fango is reported to be extending seaward.

Numerous fish farms and havens have been established within the 25m depth contour line along this stretch of coast.

Modules for the construction of artificial reefs have been laid in the SW part of the gulf. The reefs lie within the areas centered approximately 3 miles N, 4.7 miles NW, and 10.2 miles NW from Cabo de Tortosa Light. Mariners are advised to avoid these areas.

3.33 Cabo de San Jorge (40°55'N., 0°50'E.) is located 8 miles NE of La Ampolla. This cape may be easily identified by the ruined fort which surmounts its summit.

Cala de la Ametlla, a small cove, lies 2.5 miles SW of the cape and is used by fishing craft.

Los Frailes, formed by three conspicuous peaks, stands 3 miles NW of Cabo de San Jorge and attains a height of 470m. La Mamelleta, 713m high, stands 1.7 miles NE of Los Frailes.

The conspicuous buildings of two nuclear power stations stand on the coast between 1 and 1.5 miles NE of Cabo de San Jorge. Two lighted buoys are moored about 0.3 mile offshore and mark the water intake facilities.

Punta de Riu Llastres is located 6.5 miles NE of Cabo de San Jorge and a small yacht harbor is situated on its S side.

Puerto de Cambrils, a small yacht harbor, lies 5 miles W of Cabo de Salou and is protected by breakwaters.

Cabo de Salou (41°03'N., 1°10'E.), yellowish in places, is formed by the S extremity of a rocky promontory. From a distance it appears as an island because of the low land close N of it. A light is shown from a tower, 11m high, standing on the cape. A radiobeacon is situated at the light.

A tower, 120m high, stands close NE of the light and two prominent tall buildings are situated on the point.

Rada de Salou, which extends 4 miles W of the cape, affords anchorage, sheltered from winds from the NW through N to E. The roadstead has depths of 10 to 12m, good holding ground, sand and weed, about 0.3 mile offshore. Small vessels can anchor closer inshore. At all times, especially in winter, vessels should be prepared to put to sea on any indication of a S wind. The village of Salou is situated 3.2 miles E of Puerto de Cambrils and is fronted by a small craft harbor. A prominent high-rise building stands in the vicinity of the village.

Punta de Rincon is located 0.7 mile NE of Cabo de Salou. The coast between is high and rocky. Playa del Rincon de Salou, a sandy beach, extends 0.5 mile NE from this point. Anchorage, sheltered from NW winds, can be obtained, in depths of 7 to 10m, fine sand, about 0.3 mile this beach.

Tarragona (41°06'N., 1°14'E.)

World Port Index No. 38540

3.34 Tarragona lies 3 miles NE of Cabo de Salou. The port is protected by a breakwater and includes an offshore oil terminal.

Winds—Weather.—The port affords excellent protection from E winds, but does not provide shelter from W winds. Winds from the W and particularly the NW blow strongly in winter. Winds from the SW sometimes blow directly into the entrance of the port, raising a heavy sea. The water level in the harbor may rise or fall as much as 0.9m, depending on the prevailing wind.

Depths—Limitations.—The breakwater, which extends 2 miles SW from the shore fronting the city, is formed by the seaward sides of Muelle de Levante, Muelle de Aragon, Muelle Navarra, the Rompeolas breakwater, and Dique Levante.

The entrance fairway, which leads adjacent to Dique Levante, has a dredged depth of 21m.

Muelle Cataluna was designed to handle vessels up to 150,000 dwt and 300m in length.

Tarragona—Berthing Information		
Berth	Length	Depth
Muelle Cataluna	695m	20.0m
Muelle Aragon	1,267m	12.4m
Muelle Lerida	510m	8.0-10.0m
Muelle Levante	352m	9.0m
Muelle Costa	350m	6.6m
Muelle Reus	719m	10.0m
Muelle Rioja	218m	12.0m
Muelle Castilla	1,212m	14.4m
Muelle Inflammables	660m	12.4-14.4m

There are facilities for general cargo, passenger, ro-ro, container, bulk, natural gas, and tanker vessels. A new fishing pier is under construction in the W part of the Darsena Interior. Vessels up to 280m in length and 18m draft have been accommodated within the harbor.

Asesa oil pier extends 0.5 mile SE from a point on the shore, 1.1 mile NNW of the head of the breakwater. It has three berths and can accommodate vessels up to 50,000 dwt.

Repsol oil pier extends 0.7 mile SE from a point on the shore 1.1 mile WNW of the head of the breakwater. It has five berths and can accommodate vessels up to 100,000 dwt.

An offshore oil terminal, consisting of an SBM, is situated 1 mile S of the head of the breakwater. The buoy has a floating oil containment boom that is affected by the currents when not in use by vessels moored to the SBM. A submarine pipeline extends NW from this terminal to the head of the Repsol oil pier. This terminal is capable of handling vessels up to 335,000 dwt, unlimited length, and 40m draft. Tankers of 161,600 dwt, 352m in length, and 22.4m draft have been accommodated.

Aspect.—The city of Tarragona stands at the foot of and on the side of a hill, 110m high, that slopes steeply to the sea, close NE of the harbor. The prominent cathedral and several other large buildings stand near the summit of the hill which is surmounted by the remains of old fortifications. Several conspicuous silos stand at the N end of Muelle de Castilla and at the W end of Muelle de Reus.

An oil refinery, conspicuous at night, is situated near the root of the oil pier. A prominent chimney, 65m high, stands 0.3 mile NE of the root of this pier.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 9, 12, 14, or 16 and generally board about 0.2 mile SE of the head of the breakwater. Vessels intending to anchor should contact the pilot station in order to agree on a position.

Regulations.—A Vessel Traffic Service is in operation at Tarragona. Vessels should make pre-entry reports 1 hour prior to arrival at the Tarragona port limits. At least 9 miles before arrival at the breakwater, vessels should report name, flag, call sign, port of registration, draft, gross tonnage, last port of call,

cargo, and identification. Vessels carrying dangerous goods should make the pre-arrival report at least 2 hours prior to arrival at the port limits.

Anchorage.—Anchorage can be obtained, with offshore-winds, in depths of 16 to 26m, mud or sand, within a designated area lying S of the breakwater. Care should be taken to avoid three rocky patches, covered with sand, which lie close S of the breakwater. These patches may best be seen on the chart and are named Banco del Sagrista, Los Carbunclos, and Piedras del Pastor.

Large vessels can anchor, in depths of 35 to 37m, about 1.5 miles ESE of the head of the breakwater. This berth is reported to have good holding ground, but has a heavy ground swell in winter.

Caution.—Caution is necessary when entering because of strong eddies existing off the mole heads. Entry should not be attempted if a heavy sea is running.

Due to the existence of submarine pipelines, anchorage prohibited areas, the limits of which are shown on the chart, lie within the approaches to the port.

It is reported that considerable development is being carried out within the port. A new passenger terminal is being developed in the area of the Muelle de Lerida.

A submarine pipeline extends 25 miles in a S direction from the vicinity of the harbor to an extensive offshore oil complex.

For further information on off-lying islands and dangers, see paragraph 3.2.

Tarragona to Barcelona

3.35 Cabo Gros (41°08'N., 1°24'E.) is located 7 miles ENE of Tarragona. The coast between is hilly with areas of sandy beach separated by rocky points.

Punta de la Mora, located 2.3 miles W of Cabo Gros, is surmounted by a prominent tower with a dwelling attached.

Torredembarra Light is located S of the village of Torredembarra on Cabo Gros. It is a white octagonal tower with a copper colored dome.

A sandy beach extends between Cabo Gros and Villanueva y Geltru, 16 miles ENE. During strong onshore winds, the sea breaks some distance offshore over the rocky bottom along this stretch. Numerous small fishing villages and yacht harbors are situated along this part of the coast, which is backed inland by several high mountains.

A prominent power station, with a conspicuous chimney, is situated 3.7 miles W of Villanueva y Geltru.

Villanueva y Geltru (41°13'N., 1°44'E.), a small town, stands on the W bank near the mouth of Torrente de Estany. Several conspicuous tall churches and factory chimneys are visible from seaward.

A small harbor, protected by breakwaters, fronts the town and is used by pleasure craft, fishing boats, and small coasters. During offshore winds, anchorage may be taken, in depths of 7 to 11m, sand, close off the harbor entrance.

A light is shown from a structure, 21m high, standing close NE of the harbor.

El Montanazo, an isolated shoal with a depth of 15m, lies about 3 miles SSE of the light.

Sitges (41°14'N., 1°48'E.), a small village, is situated 3.7 miles ENE of Villanueva y Geltru. A conspicuous church

stands on a rocky point fronting this village; a yacht harbor stands 0.7 mile E of it. Anchorage, sheltered from NW winds, can be obtained, in depths of 10 to 12m, sand, off the village.

It is reported that several high-rise buildings and hotels stand along the coast in this vicinity.

Vallcarca (41°14'N., 1°52'E.), a privately-maintained small port, lies 2.5 miles E of Sitges and is protected by an L-shaped breakwater. A main berth, 100m long, has a depth of 6m alongside and is used by coasters.

Cement factories, with smoke constantly rising from them, are situated close to the harbor and are conspicuous.

Puerto de Garraf, a small craft harbor, is situated 2 miles ENE of Vallcarca. It is protected by breakwaters, but is subject to silting. Yacht marinas front the coast at Vallbona and Ginesta, which lie 1 mile and 3 miles ENE, respectively, of Puerto Garraf.

Playa de Vallbona extends 9.5 miles ENE from a point on the shore, located 2.5 miles E of Garraf, to the mouth of the Rio Llobregat. This beach is free from off-lying dangers, but should be given a wide berth, as the sea breaks heavily on it and there is an appreciable set towards it.

An outfall pipeline extends 1 mile SSE from a point on the shore, lying 0.9 mile SW of the river mouth.

The **Rio Llobregat** (41°20'N., 2°09'E.) enters the sea 1 mile SSW of the entrance to the port of Barcelona. A light is shown from a structure, 31m high, standing 0.4 mile NNE of the mouth of the river. A radiobeacon is situated at the light.

A lighted buoy is moored about 0.8 mile SSE of the light and marks the coastal bank.

Caution.—Vessels rounding the bend near the mouth of the Rio Llobregat should give the coast a berth of at least 2 miles. The lighted buoy, which marks the coastal bank, is reported to be often missing or out of position.

Barcelona (41°21'N., 2°10'E.)

World Port Index No. 38550

3.36 The port of Barcelona lies 45 miles ENE of Tarragona and is protected by an extensive outer breakwater. It is reported to be the largest and best equipped port on the Mediterranean coast of Spain.

Port of Barcelona Home Page

<http://www.apb.es>

Winds—Weather

From January to May, the prevailing winds are between the W and N. Although strong at times, they generally blow from the land and do not raise a sea. Winds from the S and W predominate in summer, blowing during the day and ceasing after sunset. From September to January, strong winds and gales from the N through E to S are prevalent, causing heavy seas at the harbor entrance and sending a swell into the outer basin.

In winter, winds from between the NE and SE are accompanied by rain, and if strong, send in a heavy sea. Gales from the S, though not frequent, cause much damage in the

roadstead and harbor; but both are somewhat sheltered, should the wind be WSW. During the winter, the wind is likely to change its direction very suddenly. This causes a cross swell and is very dangerous for small craft.

Tides—Currents

Strong SE winds cause variable currents in the harbor entrance. During good summer weather, variable currents, which affect maneuvering and cause variations of the water level, may be experienced within the harbor.

Onshore winds may increase the water level by 0.9m; offshore winds decrease it by 0.3m.

Depths—Limitations

Dique del Este, the outer breakwater, extends 2.5 miles SSW from abreast the city.

The main port facilities are described in the accompanying table.

Barcelona—Berthing Information		
Berth	Length	Depth
Muelle Barcelona	984m	8.0-9.5m
Muelle Adosado	1,393m	11.8-12.0m
Muelle Levante	258m	11.2m
Muelle San Betran	529m	11.0m
Muelle Poniente	1,040m	7.8-11.0m
Muelle Costa	452m	11.2m
Muelle Contradique	1,079m	10.8-12.0m
Muelle Oeste	424m	12.0-14.0m
Muelle Sur	1,150m	12.0-14.0m
Muelle Alvarez	998m	6.6-12.0m
Muelle Lepanto	468m	7.8-11.0m

In addition, there are six oil berths, with depths of 8.4 to 12m alongside, which can handle tankers up to 60,000 dwt.

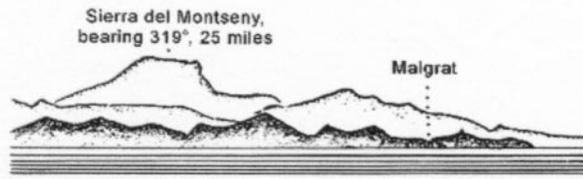
The port has facilities for general cargo, container, ro-ro, bulk, tanker, natural gas, cruise passenger, and fishing vessels. Vessels of up to 293m in length and 13.7m draft have been accommodated.

There are also extensive repair facilities within the port, including a drydock which can handle vessels up to 50,000 dwt.

Aspect

Approaching from the SW, Montana de Monserrat, with its bare conical peaks, forms an unmistakable distant landmark. This range rises 24 miles NW of the mouth of the Rio Llobregat. Pico de San Jeronimo, 1,235m high, is the highest peak and has a prominent monastery situated on its E slope.

Approaching from the E, Sierra del Montseny, standing 30 miles NNE of the mouth of the Rio Llobregat, forms a conspicuous landmark. The E rocky summit of this range attains a



Sierra de Montseny from SE



Approach to Barcelona from S

height of 1,707m and is covered with snow almost the whole year.

Castillo de Montjuich, situated 2.7 miles NNE of the mouth of the Rio Llobregat, stands on the summit of a hill, 207m high. The seaward side of this hill is faced with reddish cliffs. A light is shown from a structure, 13m high, standing on the SE side of the hill, close S of the castle. It is obscured N of a bearing of 240°.

Tibidabo, 519m high, is the highest peak of a mountain range which rises 3 miles NW of the city. A temple, with a large statue, a tall tower, and a television antennae stand on the summit of this peak. A hotel and the semi-spherical dome of an astronomical observatory are situated on its S slope.

Two conspicuous framework masts, 115m and 80m high, stand, respectively on Muelle de Barcelona and Muelle de Nuevo.

The high ground behind Castillo de Montjuich gives a good radar return, but the breakwater lights tend to get lost in the city lights, and by day are difficult to discern between the port buildings.

Pilotage

Pilotage is compulsory. Pilots may be contacted on VHF channel 11, 12, 14, or 16 and board about 1 mile S of the E breakwater head. Vessels should stay at least 1 mile from the harbor entrance until directed to approach by the pilot station. Vessels should contact Barcelona Traffic Coordinator, on VHF channel 10 or 16, 2 hours before arriving at the landfall buoy.

Regulations

A speed limit of 4 knots is in force within the port.

Anchorage

The roadstead is sheltered only from offshore winds and is dangerous in winter. Anchorage can be obtained by deep-draft vessels, in a depth of 40m, about 1 mile SE of the breakwater head. Small vessels may anchor closer inshore.

The charted North Anchorage is for vessels carrying dangerous cargo. The charted South Anchorage is for vessels carrying non-dangerous cargo.

Caution

Due to the existence of several submarine cables and a submarine gas pipeline, a prohibited anchoring and fishing area, the limits of which are shown on the chart, lies in the vicinity of the port.

Caution is necessary when approaching from the S. Vessels should keep to the E of the lighted buoy marking the coastal bank

It is reported that extensive development is being carried out within the port. Work is in progress (2004) to extend the harbor SSW.

A bridge, with vertical clearance of 20m, connects Muelle de Levante with Muelle de Poniente

Work has commenced on two new sea walls. Additional work on a new quay is due to start within a year. The long-term plan is to double port capacity by 2011.

Barcelona to Cap Cerbere

3.37 The **Rio Besos** (41°25'N., 2°14'E.), lying 3.2 miles NE of the root of the breakwater at Barcelona, is frequently dry. However, when flowing during freshets, it discolors the sea in the vicinity of the mouth for a considerable distance.

A large power station is situated at the mouth of the Rio Besos and is fronted by a pier, 95m long. Torre de Besos, a tall and reddish tower, stands 1.2 miles SW of the river mouth.

It is reported (1994) that an extensive yacht harbor, protected by breakwaters, has been constructed 1.2 miles SW of Torre de Besos.

Several small jetties and a submarine pipeline, associated with a former offshore oil berth, extend seaward from the shore in the vicinity of the river mouth.

Badalona, a small town, is situated 1.5 miles NNE of the Rio Besos and is backed by hills. Vessels bound for the CAMPSA Terminal have pilot services available. The pilot may be called on VHF channel 12, 14, or 20.

Playa de Mongat extends between the NE end of Badalona and Masnou, 2.5 miles NE. A hill, 69m high, stands on this beach and is surmounted by a prominent ancient castle. Open anchorage can be obtained, in a depth of 7m, about 0.3 mile off Playa de Mongat.

Caution.—An obstruction area and fish haven, the limits of which are shown on the chart, lies 2.5 miles ENE of Badalona.

3.38 El Masnou (41°29'N., 2°19'E.), a small town, is situated 2.5 mile NE of Badalona and is fronted by a yacht harbor. Turo de Mona, 175m high, stands 0.7 mile inland of the town and is prominent.

Los Colls, with depths of 6 to 9m, is a sandy bank which lies parallel to and between 0.3 mile and 0.6 mile off the coast on the NE side of the town. With offshore winds, anchorage can be obtained, in a depth of 18m, about 0.5 mile offshore in the vicinity of the town. Local knowledge is required.

Premia de Mar (41°29'N., 2°21'E.), a small resort town, is situated 1.5 miles ENE of Masnou and is fronted by a small harbor. During offshore winds, open anchorage can be obtained, in depths of 7 to 10m, about 0.3 mile off the town.

San Juan de Vilasar, a village, stands 1.5 miles ENE of Premia. The coast between is fringed by a rocky bank. Anchorage, sheltered from winds between the NW and NE, can be obtained, in a depth of 7m, about 200m off San Juan de Vilasar.

Vessels should avoid anchoring off the coast between San Juan de Vilasar and the mouth of the Riera de Argentona, 1.5 miles NE.

A conical hill, 308m high, stands 2 miles N of San Juan de Vilasar and is surmounted by a prominent ruined castle. A prominent cross stands on the summit of a smaller hill standing close S of the castle. A conspicuous building, surmounted by a parabolic antenna, stands close NE of San Juan de Vilasar.

Caution.—Due to the existence of several submarine cables, a prohibited anchoring and fishing area, the limits of which are shown on the chart, extends seaward in the vicinity of San Juan de Vilasar.

3.39 Riera de Argentona (41°31'N., 2°25'E.) flows into the sea 1.5 miles NE of San Juan de Vilasar. This river can be identified from seaward by the width of its valley and the gap in the hills through which it flows.

Mataro, an industrial town, is situated 1.5 miles NE of the mouth of the river. Anchorage, sheltered from SW winds by several rocky shoals, can be taken, in depths of 9 to 10m, sand, about 0.4 mile off the town. However, this roadstead is completely exposed to winds from the NE. A conspicuous building stands close SE of the town.

El Balis, a small yacht harbor, lies 3.2 miles NE of Mataro and is protected by breakwaters. El Vell, a stony bank with a depth of 16m, lies about 1.7 miles SSE of the harbor.

Caldetas (41°34'N., 2°32'E.), a small town, is situated 4 miles NE of the mouth of Riera de Argentona. With offshore winds, anchorage can be obtained off this town according to draft.

Arenys de Mar, another small town, is situated 1 mile NE of Caldetas and fronted by a small craft harbor protected by breakwaters. Small vessels can anchor, in a depth of 6m, off this town. Caution should be exercised by large vessels when anchoring in the roadstead because several rocky banks, with a covering of sand, lie within 1.5 miles of the coast in this vicinity.

The town of Caldetas is backed by mountains and dominated by a hill, which is surmounted by the ruins of a tower.

The town of Canet de Mar is situated 1 mile NE of Arenys de Mar. A tall cross, visible from all directions, stands on a hill, 1.2 miles inland of the town. The village of San Pol is situated

1.7 miles ENE of Canet de Mar. It stands at the bottom of a hill which is surmounted by a prominent church.

A foul area, within which fishing is prohibited, lies about 1 mile offshore between Canet de Mar and San Pol.

Calella Light is shown from a tower with a dwelling, 10m high, standing 1 mile ENE of San Pol.

The town of Calella is situated 5.5 miles NE of Arenys de Mar. With winds between the NW and NNE, anchorage can be obtained, in depths of 6 to 8m, fine sand, about 0.5 mile off the beach fronting the town.

The town of Malgrat is situated 4 miles ENE of Calella. A concrete block, dangerous to navigation, lies about 0.2 mile S of the town. Temporary anchorage can be obtained, in a depth of 8m, muddy sand, about 0.4 mile off the town.

Banco de Santa Susana, despite its proximity to the coast, has been the scene of many disasters to coastal vessels. It lies about 0.5 mile offshore, 2 miles SW of Malgrat. There are general depths of 5 to 8m, sand, on this shoal bank, but because of its shifting nature, lesser depths may be found; a depth of less than 1.8m was reported at one time. The bank is very steep-to on its seaward side and the sea breaks heavily over it with fresh onshore winds. Great caution should be exercised when in this vicinity.

The **Rio Tordera** (41°39'N., 2°47'E.) flows into the sea 1.5 miles ENE of Malgrat. It never dries and discharges a very large quantity of water after heavy rains. The sediment brought down by this river continues to extend the point located on the E side of its mouth, which should be given a wide berth.

3.40 Blanes (41°40'N., 2°48'E.) (World Port Index No. 38560), a small port, lies 1.8 miles NE of the mouth of the Rio Tordera and is backed by a prominent town. The harbor is protected by a breakwater and has depths of 4.5 to 7m alongside the quays. It is reported to be no longer used by commercial shipping and accommodates only fishing craft and yachts.

A conspicuous castle surmounts a hill, 168m high, which stands close NNE of the town. A prominent convent stands on a point lying close ENE of the town.

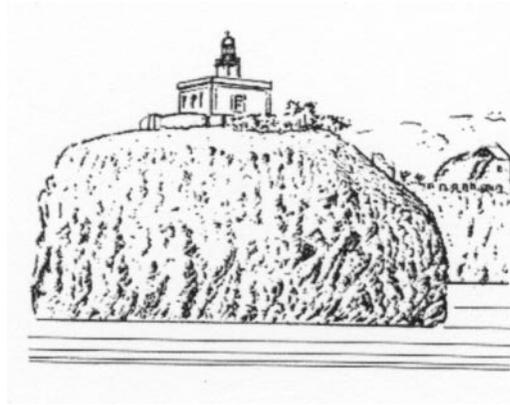
During the summer, with winds between the W and NE, anchorage can be obtained, in depths of 13 to 15m, sand, close off the harbor or off the coast between the harbor and the mouth of the Rio Tordera. This anchorage is not safe in winter.

The town of Lloret de Mar is situated 3 miles NE of Blanes. Anchorage can be obtained, in a depth of 7m, about 0.2 mile off the town.

Cabo de Tossa (41°43'N., 2°56'E.), located 3.5 miles ENE of Lloret de Mar, is the extremity of a small and steep-to peninsula which is surmounted by a castle. A light is shown from a tower on a building, 11m high, standing on the cape.

The town of Tossa is situated on the W shore of a small bay lying close N of the cape. This bay affords excellent shelter from winds between the SW and N. Vessels may anchor, in a depth of 15m, sand, close E of the SW corner of the bay and about 250m offshore.

Punta de Garbi (41°46'N., 3°02'E.) is located 5.5 mile NE of Cabo de Tossa. The coast between is backed by high mountains and several small islets lie close off the shore. The point is formed by the SE extremity of a high and rugged promontory, the summit of which is surmounted by Ermita de San Telmo, a prominent chapel.



Cabo de Tossa Light

3.41 San Feliu de Guixols (41°47'N., 3°02'E.) (World Port Index No. 38570), a small port, lies within a cove, 12.5 miles NE of Blanes.

Depths—Limitations.—The main facilities include North Quay, 116m long, with a depth of 3.8m alongside; East Quay, 108m long, with depths of 3 to 4m alongside; Commercial Quay, 98m in length, with depths of 6.4m alongside; and a quay, 480m long, with depths of 6 to 7m alongside, which lies on the inner side of the breakwater. Vessels of up to 120m in length and 6.8m draft have been accommodated.

It is reported (1994) that the harbor is mostly used by yachts.

Aspect.—This almost natural harbor lies in a cove which is entered between Punta de Garbi and Isla de Levante, 0.5 mile NE. The town is situated at the head of the cove. Isla de Levante, joined to the coast by a mole, lies at the bottom of a hill, 81m high, which is surmounted by the ruins of a mill. The harbor is protected by a breakwater which extends WSW from a point on the coast, close NW of Isla de Levante. A lighted range, situated at the head of the cove, indicates the entrance fairway.

Pilotage.—Pilotage is compulsory for vessels over 50 grt. Pilots may be contacted on VHF channel 9 and board about 0.5 mile S of the harbor entrance. Vessels arriving between midnight and 0700 must anchor outside the breakwater.

Anchorage.—Anchorage can be taken, in depths of 13 to 20m, sand, fair holding ground, outside the breakwater. Small vessels can anchor inside the harbor.

Caution.—Storms have damaged the breakwater. It should be given a wide berth to avoid any off-lying rubble.

A dangerous rock lies close E of Isla del Freu and is very close to the lighted range line. Use of the range must account for this danger.

3.42 Cala de San Pol (41°47'N., 3°03'E.), a small bay, is entered 1 mile NE of San Feliu de Guixols. Small vessels, with local knowledge, can obtain anchorage, sheltered from NW and W winds, in depths of 5 to 10m, sand, within this bay.

Punta Rojiza, a low and reddish point, is located 1 mile NE of Cala de San Pol and is surmounted by two small hills. A rock, with a least depth of 5m, lies about 0.3 mile SE of this

point and is almost always marked by breakers. A light is shown from a structure standing close off the point.

A depth of 1.4m lies 0.2 mile NE of Punta Rojiza.

Puerto de Aro, a small yacht harbor, is situated close NE of Punta Rojiza and is protected by a pier.

3.43 Palamos (41°50'N., 3°07'E.) (World Port Index No. 38580) is situated 6 miles NE of San Feliu de Guixols. The harbor lies in the NE part of a bay, which is entered between Punta de Torre Valentina, located 2.3 miles NE of Punta Rojiza, and Punta del Molino, 1.7 miles ENE.

Depths—Limitations.—La Llosa de Palamos, a rock with a depth of 3.4m, lies about 0.5 mile SW of Punta del Molino and is marked by a lighted beacon. A detached rocky shoal, with a depth of 1.9m, and Los Ancelles, a rocky patch with a least depth of 15m, lie close W and close SSW, respectively, of Punta del Molino.

The harbor is protected by a breakwater which extends 0.4 mile WSW from a point on the shore lying close N of Punta del Molino.

There are depths of 17 to 19m at the port entrance. The main facilities include Front Pier, 150m long, with a depth of 7.3m alongside; Old Pier, 200m long, with depths of 3 to 8m alongside; and New Pier, 220m long, with a depth of 14m alongside.

There are facilities for container, ro-ro, and fishing vessels. In addition, there is a yacht marina within the port. Vessels up to 220m in length and 13.9m draft can be accommodated.

Aspect.—Punta del Molino is the S extremity of a small peninsula on which the town stands. A light is shown from a structure, 8m high, standing on this point.

La Galera, a steep-to islet, lies close SE of Punta del Molino. Punta de Torre Valentina is surmounted by a tower.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 9 or 12 and board close outside the harbor. Vessels should send an ETA at least 24 hours in advance.

Regulations.—A speed limit of 4 knots is in force within the port.

Anchorage.—Large vessels can anchor, in depths of 14 to 18m, within the bay. Care should be taken to leave room for vessels proceeding to and from the harbor.

Caution.—Due to scattered masonry blocks lying in the vicinity, the head of the breakwater should be given a wide berth.

Winds from SW sometimes raise a heavy sea within the harbor.

3.44 Cabo Gross (41°51'N., 3°09'E.), a steep headland, is located 0.9 mile NE of Punta del Molino. A rocky patch, with a least depth of 7.6m, lies about 0.2 mile offshore, 0.4 mile SW of the cape.

Punta Castell, 36m high, is located 0.8 mile NE of Cabo Gross and is fronted by a small islet.

Las Hormigas (41°52'N., 3°11'E.), lying 1 mile E of Punta Castell, is a group of rocks. La Hormiga Grande, the highest rock, is 12m high and is marked by a light.

Vessels without local knowledge should not attempt to pass inshore of this group of rocks, the Freu de Las Hormigas, and it should be given a wide berth.

Cabo de San Sebastian (41°54'N., 3°12'E.) is located 7 miles NNE of Las Hormigas. It is formed by a conspicuous and reddish headland which is faced with cliffs. A light is shown from a tower with a dwelling, 12m high, standing 0.3 mile N of the S extremity of the cape. A radiobeacon is situated at the light.

Llanfranch, a small yacht harbor, lies at the head of a cove, close SW of the cape.

Los Ullastres, consisting of three rocky shoals, lies about 0.5 mile S of the cape and has a least depth of 7.1m.

Punta del Banch is located 2 miles N of the Cabo de San Sebastian. A small yacht harbor and a prominent hotel are situated 0.7 mile N of this point.

3.45 Cabo de Bagur (41°57'N., 3°14'E.) is located 4 miles NNE of Cabo de San Sebastian. It is surmounted by a one-storied prominent signal station.

Cala de la Tuna, a small bay, lies 1 mile N of Cabo de Bagur and affords shelter to small vessels from winds between E and S. Vessels with local knowledge may anchor, in depths of 16 to 18m, within the bay.

The Rio Daro and the Rio Ter flow into the sea 3 miles and 4 miles NNW, respectively, of Cala de la Tuna. A beach extends along the shore between the N entrance point of Cala de la Tuna and the mouth of the Rio Ter. A shoal bank fronts the beach and extends for some distance offshore. Due to the shifting nature of the bottom, and drying patches along the extent of Playa de Pals caused by the river flooding, along with numerous fish havens, a minimum distance of 0.8 mile should be given this stretch of coast.

Punta Guixeras (42°03'N., 3°13'E.), the SE extremity of a promontory, is located 2 miles NNE of the mouth of the Rio Ter. A Loran tower, 297m high, stands 0.5 mile NW of this point and is conspicuous.

Estartit, an extensive yacht harbor, lies close W of the point and is protected by breakwaters.

Islas Medas, formed by a group of rocky islets, lies 0.5 mile SE of Punta Guixeras. The channel leading between this group and the coast is deep, but local knowledge is required by even small craft in order to use the passages lying between the islets themselves.

Isla Meda Grande is the largest and NW islet of the group. A light is shown from a structure, 11 high, standing on its summit.

Caution.—A marine reserve area surrounds Islas Medas and extends to Punta Guixeras. Fishing and anchoring within this area are prohibited.

3.46 Golfo de Rosas (42°11'N., 3°11'E.) lies between Punta Trenca Brasos, located 3.5 miles NNW of Punta Guixeras, and Cabo Noffeo, 9 miles NE. Cala de Mongo and Cala de la Clota, the principal coves along this stretch of coast, are entered close S and 1.5 miles WNW, respectively, of Punta Trenca Brasos. They are both exposed to NE winds and are only available to small vessels with local knowledge.

A wharf, used by fishing vessels, is situated on the E side of Cala de la Clota, and an extensive yacht harbor lies in the vicinity of this cove.

The Rio Muga flows into the NW part of Golfo de Rosas, 8 miles NNW of Punta Trenca Brasos. The village of Castellon

de Ampurias stands on the N bank of this river, 2.5 miles inland. It is situated on a hill, 69m high, and is conspicuous from seaward.

3.47 Rosas (42°16'N., 3°11'E.) (World Port Index No. 38705), a small port, lies within a bay in the NE part of Golfo de Rosas close to the French border.

Depths—Limitations.—The main facilities include Commercial Quay, 304m long, with depths of 3.5 to 4.5m alongside; Extension Quay, 300m long, with depths of 4 to 4.5m alongside; and Breakwater Quay which has 320m of usable berthing space with depths of 7 to 10m alongside. Vessels up to 40m in length and 4m draft can be accommodated.

In addition, a yacht harbor is situated in the vicinity of the town.

Aspect.—The town is situated at the head of the bay. The prominent ruins of a citadel stand close NW of the town, and several conspicuous large hotels stand in this vicinity.

A light is shown from a tower on a dwelling, 11m high, standing on a point, 1.2 miles SSE of the citadel.

Pilotage.—Pilotage is available from Palamos. The harbor can be contacted by VHF.

Anchorage.—Large vessels can anchor in the bay. The most convenient berth, in depths of 14 to 17m, mud and sand, lies 0.5 mile offshore, S of the citadel.

Caution.—The anchorage is encumbered by a marine farm, marked by lighted buoys and a submarine pipeline, marked by a lighted buoy, to the W and NW of the area.

3.48 Cabo Norfeo (42°14'N., 3°16'E.) is high, steep-sided, and is surmounted by the ruins of a water tower. A high islet lies off the SE extremity of this cape.

Punta de Cala Nans is located 2 miles NNE of Cabo Norfeo. A light is shown from a structure, 7m high, standing on the point. A patch, with a depth of 1.6m, lies about 0.6 mile NNE of the light.

Cadaques (42°17'N., 3°17'E.), a resort town, is situated at the head of a bay which is entered between Punta de Cala Nans and Isla Arenella, 0.6 mile NNE. The latter island lies close off the promontory which forms the E side of the bay.

The town is fronted by a very small natural harbor with an anchorage area for large and small vessels.

The bay can be identified by Montana de Cadaques, 610m high, which stands 1.5 miles W of the town. Its summit is surmounted by the cupola of a radar installation.

San Sebastian Hermitage is situated 0.7 mile ESE of Montana de Cadaques, and the old Convent of San Pedro de Roda stands on the summit of a mountain, 4.2 miles WNW of Montana de Cadaques.

Casa Colom, a prominent building with two towers, stands on a hill at the NE side of the bay, 0.3 mile SE of the town.

Vessels of deep draft can obtain anchorage, in depths of 10 to 20m, SE of the center of the town. Small vessels can anchor, in a depth of 7m, farther inshore off the NE end of the town.

Caution.—A shoal bank extends 95m seaward from the beach which fronts the town. Bajo de La Entina, a shoal with a depth of 2.7m, lies about 0.3 mile S of the town, off the SW side of the bay.

Several dangers lie in the approach to the bay; local knowledge is required.

3.49 Punta Oliguera (42°17'N., 3°18'E.), low and rocky, is located 0.3 mile NE of Isla Arenella. Las Masinas, a group of dangers, lie 0.7 mile NE of this point. The group consists of one islet and several above-water rocks.

Cala Guillola, entered 1.2 miles NNW of Punta Oliguera, is open to the SE. This cove affords shelter from N winds, and vessels can anchor, in a depth of 14m, sand and weed.

Cabo Creus (42°19'N., 3°19'E.), located 2.3 miles NNE of Punta Oliguera, is formed by the SE extremity of a small and dark peninsula. A light is shown from a tower surmounting a dwelling, 11m high, standing on the summit of the cape.

Dedos de Cadaques, two conical peaks, rise 2 miles W of this cape and are prominent.

Isote La Encalladora, fringed by a reef on its SW side, lies close off the NE side of Cabo Creus. Isleta Maza, another rugged islet, lies 0.5 mile E of Cabo Creus.

Punta dels Farallons, fronted by several small islets, is located 2.5 miles WNW of Cabo Creus and terminates in a white cone. The coast between is indented with several coves and is fronted by numerous small islets, rocks, and shoals.

El Golfet, a cove, lying close W of Punta dels Farallons, affords anchorage, sheltered from winds from the E through S to W. However, it is exposed to N winds, which blow during the winter and becomes dangerous.

Punta de la Creu is located 2.5 miles WNW of Punta dels Farallons and fronted by a small islet. A hill, 119m high, rises close inland of the point.

3.50 Punta Sernella (42°21'N., 3°11'E.), a steep point, is located 0.7 mile WNW of Punta de la Creu. A rock, with a depth of 2.7m, lies close off this point. A light is shown from a square tower standing on the point.

The town of Selva stands on the E side of the bay, which lies between Punta de la Creu and Punta Sernella. It is fronted by a small harbor which is used by yachts and fishing craft.

There is good anchorage for large vessels in this bay, but winter winds from the N and NW may make the anchorage untenable. The best berth, in depths of 10 to 15m, muddy sand, lies in front of the town.

Ensenada de Llansa, a small bay, is entered 2 miles NW of Punta Sernella. It is not sheltered against winds from the NE and is only frequented by small vessels.

Cap Ras is located 2.5 miles NNW of Punta Sernella and is fronted by two islets. Cala Garvet lies between Cap Ras and Cap Lladro, 0.7 mile N. With offshore winds, this bay affords good anchorage, in a depth of 11m, to vessels with local knowledge.

Cap Lladro is formed by a whitish headland and fronted by an islet and a conical rock, both of which are of a whitish color. Cala Culera, entered close N of Cap Lladro, is a deep cove with good holding ground, but it is exposed to onshore winds and violent squalls that sweep down from the mountain slopes. A small harbor, protected by breakwaters, is situated at the head of this cove.

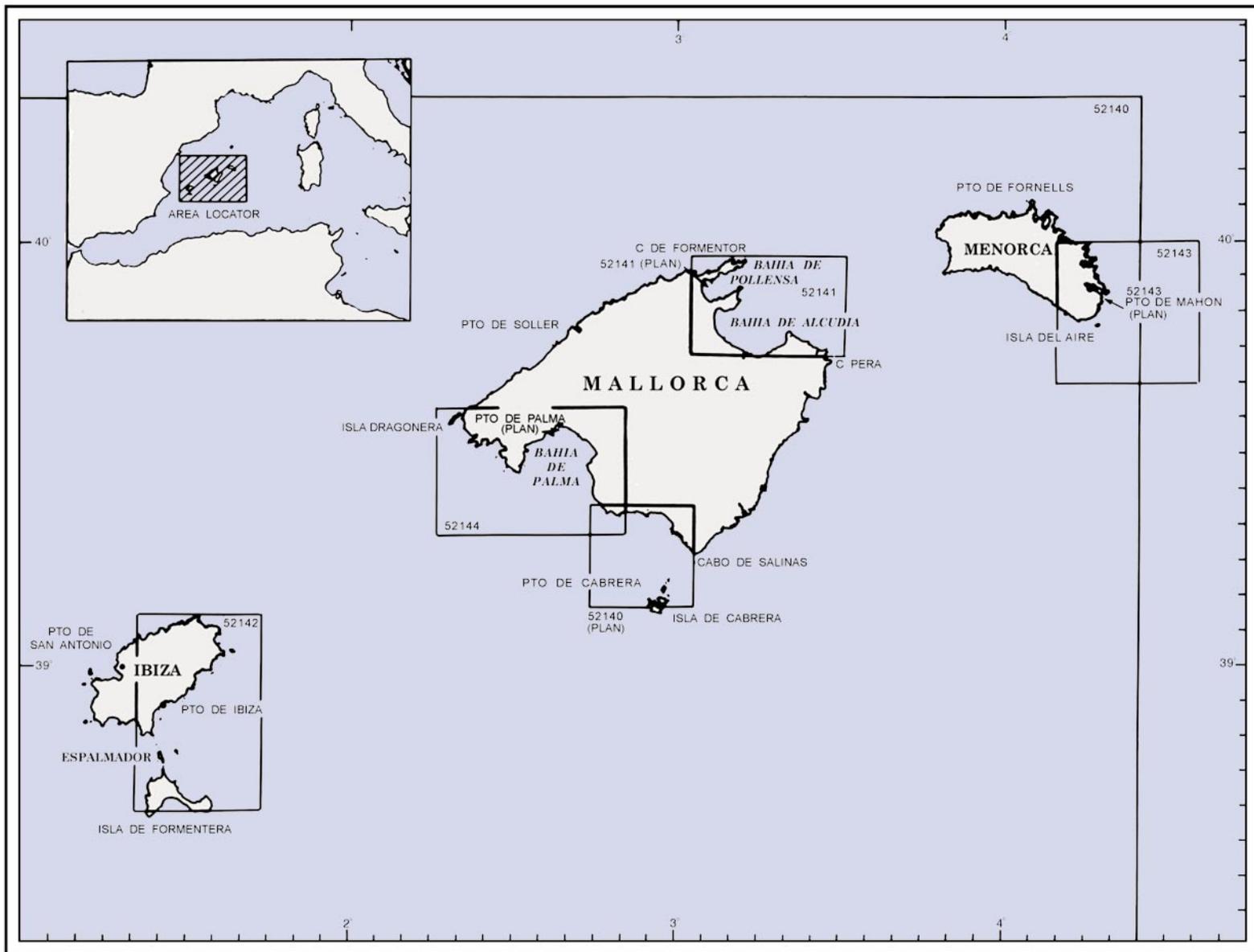
The whole coast between Cap Lladro and Cap Cerbere is high, rugged, and steep-to. The currents off the coast are often influenced by the prevailing wind.

Punta Gatillepis is located 0.5 mile N of the N entrance point of Cala Culera. The coast between is very steep and rises to a height of 198m.

Port Bou lies at the head of a cove which is entered on the N side of Punta Gatillepis. It is exposed to E winds, and although sheltered from N winds, is subject to heavy seas and ground swell. This cove is not considered a good shelter, except in cases of necessity.

The boundary between Spain and France lies in the vicinity of Cabo Falco, which is located 1 mile NE of Port Bou.

Cap Cerbere (42°26'N., 3°11'E.) is located 1.2 miles N of Cabo Falco and is described in paragraph 9.2.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.
SECTOR 4 — CHART INFORMATION

SECTOR 4

SPAIN—ISLAS BALEARES

Plan.—This sector describes the Islas Baleares and includes Isla de Formentera, Ibiza, Mallorca, and Menorca. The descriptive sequence is from SW to NE.

General Remarks

4.1 Islas Baleares form a group which consists of four main islands and several off-lying islets. The islands of the group are generally steep-to and rocky on their N sides, whereas their S sides are mostly low and accessible. Prominent vacation developments and resort high-rises are visible along the coasts of Ibiza and Mallorca, which are the most mountainous of the group.

Winds—Weather.—Good weather prevails along the coasts of Mallorca during the summer, with daily land and sea breezes. In winter, bad weather is experienced with N winds, and occasionally with winds from the S and SW. With strong onshore winds, the NW coast of this island should be given a wide berth.

Bahia de Alcudia and Bahia de Pollensa are exposed to NE and E gales, which cause heavy sea and swells in the roadsteads.

During N winds, a heavy sea is raised in Freu de Menorca.

The prevailing winds differ between the W and E sides of this group of islands. At Cabo Dartuch, the wind frequently blows from a different direction on each side of the cape.

Caution.—Numerous submarines cables lie in the vicinity of the islands and may best be seen on the chart.

Submarines exercise frequently in the vicinity of these islands.

Isla de Formentera

4.2 Isla de Formentera (38°42'N., 1°26'E.) is the fourth largest island of the group. When seen at a distance from the S, it appears as two islands.

Punta Rasa (38°41'N., 1°23'E.), 18m high, is located at the W side of the island. The coast in this vicinity is faced with steep-to cliffs, in places up to 80m high.

Punta Gabina, 1.5 miles N of Punta Rasa, is 14m high and surmounted by a tower, 9m high. Punta Pedreras lies 1.2 miles NE of Punta Gabina and the coast between is very cliffy.

Ensenada del Cabrito lies between Punta Pedreras and Punta Sabina, 0.7 mile E. Vessels with local knowledge can anchor, in a depth of 7m, in the W part of this bay.

Isla Sabina (38°44'N., 1°25'E.) lies close off Punta Sabina and is low and flat. It is connected to Isla de Formentera by a breakwater which forms Cala Sabina. Vessels with local knowledge can anchor, in a depth of 11m, in Cala Sabina, sheltered from offshore winds. The bottom is mostly sand, but in the greater depths it is weed with patches of rock. A small shelter mole extends E from the E side of Isla Sabina and a marina is situated in the W part of Cala Sabina.

A light is shown from a tower, 10m high, standing on Isla Sabina.

Los Trocados (38°46'N., 1°26'E.) is a narrow tongue of sand, with some rocky outcrops and dunes on it, which extends in a N direction. This tongue is so low and narrow in places that the sea breaks right across it in bad weather. In good weather, anchorage can be obtained, in depths of 10 to 25m, anywhere between Punta Pedreras and the N end of Los Trocados. The bottom is mostly weed with patches of sand, rocks, or gravel. In depths of less than 10m, sand predominates in the E part and rock in the S part.

4.3 Punta Prima (38°44'N., 1°28'E.), a low point, is located 2.3 miles SSE of the N end of the island. The coast between forms the E side of Los Trocados. A tower, 9m high, stands on a prominent hill, 33m high, 0.3 mile S of the point.

Cala Pujols lies at the head of the bay, which is entered on the W side of Punta Prima. This inlet is open to the N, but is frequented by fishing vessels. The shores of the bay are foul and several rocky islets, joined to the shore by tongues of sand, and rocks, awash, lie within it.

Ensenada de Tramontana lies between Punta Prima and Punta de la Creu, 5 miles ESE. This bay affords shelter during offshore winds, but it is open to the NE. Vessels can anchor, in depths of 12 to 15m, close offshore. The charted anchorage prohibited area must be avoided.

Punta Single Mal (38°40'N., 1°35'E.), the E extremity of the island, is located 1 mile NE of Punta Rotja. Formentera Light is shown from a tower surmounting a building, 22m high, standing on this point.

Punta Grava is located 2 miles W of Punta Rotja. La Mola, a flat-topped promontory, stands NE of this point. It rises to a height of 192m and the seaward sides are faced with white cliffs. Numerous palm trees and prominent buildings stand on this promontory.

4.4 Cabo Berberia (38°38'N., 1°23'E.), located 6.5 miles W of Punta Grava, is the SW extremity of the island. It is formed by a steep-to and cliffy headland. A light is shown from a tower, 19m high, standing on the cape.

Ensenada de Mitjorn lies between Cabo Berberia and Punta Grava. Anchorage may be obtained within the bay, according to draft, in depths of 5 to 40m, sand, weed, and stones. It is reported that an obstruction lies in the roadstead, 3.5 miles NE of Cabo Berberia. Torre de Catala, 9m high, stands at the head of the bay. It surmounts a small hill, 23m high, standing 0.2 mile inland.

Playa de Mitjorn extends between Torre Catala and Punta Grava. It lies on the SW side of a low and narrow isthmus which joins La Mola to the main part of the island. A white dune, which is conspicuous against the dark background of the pine groves, stands at its SE end.

Isla de Formentera—Off-lying Banks and Islands

4.5 Banco del Emile Baudot (38°43'N., 2°30'E.), with depths of 85 to 140m, lies about 43 miles E of Isla Formentera.

A bank, with depths of 76 to 118m, lies about 11 miles ENE of the E extremity of Isla Formentera.

Isla Espalmador (38°47'N., 1°26'E.) lies close N of the N extremity of Los Trocados, from which it is separated by a shallow bank. A reef lies on this bank and the sea breaks right across it in bad weather. The N and E coasts of the island are sandy with patches of rock. The W coast, which is the highest, is faced in places with red cliffs. A conspicuous tower, 9m high, stands on the edge of the cliffs, 0.3 mile N of Punta Gastabi, the SW extremity of the island.

Isla de los Puercos, a low islet, is connected by shoals to the N extremity of Isla Espalmador and is foul on its seaward sides. A light is shown from a tower, 25m high, standing on the NW extremity of this islet.

Isla Espardell (38°48'N., 1°29'E.), 29m high, lies 2.3 miles E of Isla Espalmador. This small island is uninhabited and its N and E sides are cliffy, whereas, its W side is sloping and accessible. A light is shown from a tower, 16m high, standing close to the N extremity of the island.

The channel between Isla Espardell and Isla Espalmador is called La Estancia.

Caution.—An integral reserve area has been established along the N, E, and S coasts of the island as shown on the chart. Underwater activities are not permitted without express permission within the reserve.

Ibiza

4.6 Ibiza (39°00'N., 1°25'E.) has a somewhat indented coast forming many coves. Monte Atalayasa, 475m high, is the highest summit on Ibiza and stands in the SW part of the island.

Punta Portas (38°50'N., 1°24'E.), a low and salient point, is the S extremity of the island. It is surmounted by a prominent tower.

Punta Rama, located 1.5 miles W of Punta Portas, is fronted by foul ground and above-water rocks, which extend up to about 0.2 mile seaward. It should not be approached closely.

Cabo Falco, located close W of Punta Rama, is high, cliffy, and terminates in a somewhat salient point.

Punta Yondal, located 2.5 miles NW of Cabo Falco, is low, rocky, faced with cliffs, and fronted by a reef. Ensenada de Codola, which lies between Cabo Falco and Punta Yondal, has a stony beach and affords anchorage sheltered from NE and SE winds. The bottom is formed of mostly sand, but is rocky near the entrance points.

Punta de Port Roig, located 1 mile WNW of Punta Yondal, is flat and has a small reef on its S side. The E side of this point consists of white cliffs. A prominent building stands on the cliffs, which rise to a height of 111m, 1.7 miles WNW of the point.

4.7 Cabo Llentrisca (38°51'N., 1°15'E.), located 2.5 miles WSW of Punta de Port Roig, is formed by a white salient

cliffy headland, 148m high. Monte Llentrisca, 414m high, stands 1.2 miles N of the cape.

Cabo Jueu, located 1.5 miles NW of Cabo Llentrisca, is a spur of Monte Atalayasa. La Oliva, a large and conspicuous rock, lies at its extremity.

Cap Blanch, a whitish and cliffy headland, lies 0.5 mile N of Cabo Jueu. Puig Pelat, a hill, rises near the coast, 1.5 miles N of this cape. It is 185m high, rounded, and prominent from seaward.

Cala Badella is entered 0.7 mile N of Puig Pelat and a small shoal lies off its N entrance point. Small craft, with local knowledge, can find suitable anchorage within this cove. There are depths of 21m in the entrance which decrease steadily towards the head.

Punta Embarcado is located 2.5 miles N of Cala Badella. The shore of the bay between is indented by several small coves.

Punta Torre de Rovira, located 1.5 miles NNE of Punta Embarcado, is surmounted by an ancient tower, 10m high.

4.8 Punta Chincho (38°58'N., 1°17'E.) is located 2.5 miles E of Punta Torre de Rovira. A light is shown from a tower, 8m high, standing on the point. It was reported (1992) that this light is not easy to identify at night.

Puerto de San Antonio Abad (38°58'N., 1°18'E.) (World Port Index No. 38620), a small natural harbor, lies between Punta Chincho and Cap Blanch, 1 mile N. It is protected by a breakwater and is mostly used by small craft and yachts with local knowledge. The port may be contacted on VHF channel 9.

Numerous prominent hotels front the town; a conspicuous high-rise building stands near the root of the breakwater.

In summer, vessels can anchor off the harbor according to draft. A good berth lies, in depths of 9 to 10m, weed, close E of the breakwater. In depths of less than 5m, the bottom is formed of mainly sand.

4.9 Cabo Nono (39°02'N., 1°18'E.), located 3 miles N of Puerto de San Antonio Abad, is prominent. Its rounded summit, 258m high, is covered with pine trees and the seaward side is formed by cliffs. Punta Galera, 18m high, is a whitish headland which extends 200m seaward from the foot of the cliffs.

Islas Margarita, consisting of two islets, lies 0.3 mile off-shore, 2 miles NE of Cabo Nono. The E and larger islet, which is formed in the shape of a horseshoe, is pierced by a natural tunnel. The passage lying between these islets and the coast of the main island is deep and clear of dangers.

Punta Torretas, located 3.5 miles NE of Cabo Nono, is also pierced by a natural tunnel. It is a salient point, which at a distance and on certain bearings, appears as two towers of a fortress.

Cabo Eubarca, located 1 mile NE of Punta Torretas, is high and cliffy. This cape is easy to identify as a regular cone, 262m high, stands at its seaward extremity. Ensenada de Eubarca, which lies between Cabo Eubarca and Cabo Rubio, 1.5 miles ENE, is quite exposed, but free of dangers.

Punta de la Creu, located 3.2 miles ENE of Cabo Eubarca, is faced with high cliffs. An islet lies close E of this point and another islet, which is joined to the main island by an isthmus, lies 0.4 mile SE of it.

Punta Cova de Orenga, located 1.2 miles E of Punta de la Creu, is a high and cliffy point at the foot of which is a large cave. A steep and rocky islet, 20m high, lies 0.5 mile NE of this point and is joined to the coast by a narrow isthmus.

Punta Moscarte (39°07'N., 1°32'E.), located 4 miles ENE of Punta Cova de Orenga, is the N extremity of Ibiza. The coast between is fronted by several small islets and indented by several bays and coves. A light is shown from a tower, 52m high, standing on the point.

4.10 Punta del Escullet (39°06'N., 1°36'E.), located 3 miles SE of Punta Moscarte, is fronted by Islas Hormigas, two prominent islets, 30m high. Escull de Pas, an islet, lies close off a point located 1.2 mile W of Punta del Escullet. This islet is 159m high and has a conspicuous cliffy summit.

From Punta del Escullet, the coast extends 0.5 mile SE to Punta Jonch, and then 0.7 mile SSE to Punta Grosa which is high and cliffy.

Punta Valls, surmounted by a tower, is located 2.7 miles S of Punta Grosa. The coast between is indented by several bays and fronted by numerous above-water rocks and islets.

Cabo Roig, located 0.5 mile S of Punta Valls, is formed by a grey cliff, 138m high. It is the E extremity of Ibiza. A dangerous wreck lies close E of this point.

Punta Arabi, located 3 miles SW of Cabo Roig, is fronted by four small islets. A rock, with a depth of 1.6m, lies about 1 mile SE of the point and is marked by a lighted beacon.

Ensendada de Santa Eulalia lies between Punta Arabi and the mouth of the Rio de Santa Eulalia, 2.5 miles WSW. This bay affords sheltered anchorage, with offshore winds, to vessels with local knowledge. The best berth is close inshore off the cove in its N part. An extensive yacht harbor is situated close NE of the town which stands close N of the river mouth.

Cabo Escoló Librell, 209m high, is located 3.7 miles SW of Punta Arabi and is faced with a whitish cliff.

Cabo Martinet is located 3.2 miles SW of Cabo Escoló Librell and two steep-to islets lie about 0.5 mile offshore, 1 mile ENE of it.

An aeronautical radiobeacon is reported to be situated close WNW of this cape.

Isla Grossa, 42m high, lies 1 mile SW of Cabo Martinet and is joined by a causeway to Isla Plana.

Isla Plana, 20m high, lies close NNW of Isla Grossa and is joined to the mainland by a low isthmus.

Islote Botafoch (38°54'N., 1°27'E.) is joined by a causeway to the SW side of Isla Grossa. A light is shown from a tower with a dwelling, 21m high, standing on the summit of the island.

Caution.—An outfall pipeline extends 1 mile SE from the NE side of Isla Plana and may best be seen on the chart.

4.11 Puerto de Ibiza (38°54'N., 1°27'E.) (World Port Index No. 38610), a small port, lies within a bay which is entered between Islote Botafoch and Punta Marloca, 0.7 mile WSW.

Depths—Limitations.—The harbor is protected by two moles. A yacht marina is situated in the E part of the harbor and extensive facilities for small craft lie in the NE part. A basin for fishing vessels is situated in the NW part. There are depths of 8m in the entrance and 7m alongside the commercial

quays which have six berths. Vessels up to 135m in length and 6.4m draft can be accommodated. In addition, tankers up to 4,000 tons and 6.1m draft can be handled.

Aspect.—The town of Ibiza rises SW of the inner harbor to the crest of a hill, which is surmounted by a prominent castle and a prominent cathedral.

Pilotage.—Pilotage is compulsory for vessels over 500 grt anchoring or entering the harbor. Vessels should send an ETA at least 24 hours in advance. Pilots can be contacted on VHF channel 13 or 16, and generally board 1 mile SE of Isla Grossa.

Anchorage.—Vessels can anchor, in depths of 14 to 26m, SW of Islote Botafoch. Designated anchorage berths, which are indicated on the chart, have been established between 0.3 and 1.2 miles SW of the island.

4.12 Punta Marloca (38°54'N., 1°26'E.) is the SE extremity of a large promontory. Isla Negre del Este, 12m high, and Isla Negre del Oeste, 3m high, lie close E and 0.2 mile WSW, respectively, of this point. These two islands are known collectively as Islas Negres and are composed of blackish rock. Only small craft, with local knowledge, should attempt to pass between them and the mainland.

Punta de la Mata is located 1 mile WSW of Punta Marloca and Islas Ratas, 11m high, lies 0.2 mile E of it. The channel lying between this point and the island is foul.

The coast between Punta Marloca and Punta de la Mata is backed by hillocks, some of which are surmounted by prominent windmills.

Punta de la Sal Rosa, 9m high, is located 1.7 miles S of Punta de la Mata and is surmounted by a tower. An islet, which is joined to the shore by a reef, lies close S of the point.

Punta Corpomari (38°51'N., 1°24'E.) is located 0.7 mile S of Punta de la Sal Rosa and two small islets lie close off it. The land behind the point is prominent and rises to a height of 159m.

Punta Portas, which has been previously described in paragraph 4.6, is located 1.5 miles S of Punta Corpomari.

Ibiza—Off-lying Islands and Dangers

4.13 Isla Ahorcados (38°49'N., 1°25'E.), 10m high, lies 1 mile SSE of Punta Portas. This small island is rocky and fringed with a shoal bank. A light is shown from a tower, 19m high, standing on the S end of the island.

Los Freus is the collective name of three channels leading across a ridge which extends between Isla de los Puercos and the S end of Ibiza. Several small islets lie along this ridge.

Freu Grande, the S channel, leads between Isla de los Puercos and Isla Ahorcados. It is the deepest and the widest channel.

A detached rocky patch, with a least depth of 4.5m, lies about 0.2 mile SW of Isla Ahorcados and a shoal patch, with a depth of 6.1m, lies about 0.5 mile NNW of Isla de los Puercos and is marked by a lighted beacon.

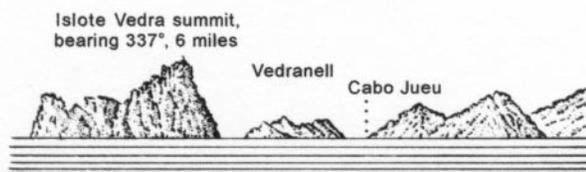
Caution.—During gales, the currents in Freu Grande are strong and irregular. They frequently set in directions contrary to the winds so that heavy seas are experienced.

Due to the existence of submarine cables, a fishing and anchoring prohibited area, the limits of which are shown on the chart, lies between Ibiza and Formentera.

Marine reserves, best seen on the chart, lie between Isla Formentera and Ibiza. Fishing and extraction of any flora or fauna from these reserves is prohibited without prior approval of the General Office of Fishing.

4.14 Islote Vedra (38°52'N., 1°11'E.), lying 1 mile W of Cabo Jueu, is reddish in color, steep-to in most places, and almost inaccessible. A pronounced cone stands at the W end of this small island and two similar cones stand at its E end. A light is shown from a structure, 3m high, standing at the W extremity of the island.

An islet and several above-water rocks lie close off the NE side of the island. An above-water rock, over which the slightest sea breaks heavily, lies about 1 mile NNW of the W extremity of the island.



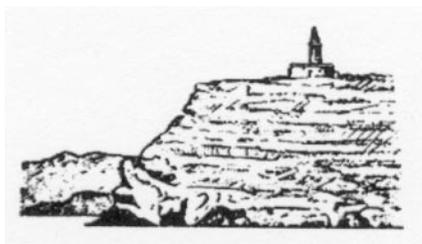
Islets off the SW extremity of Ibiza from S

Isla del Esparto (38°57'N., 1°11'E.), 69m high, lies 0.7 mile W of Punta Embarcado and is fronted by several small islets on its E and W sides.

Islas Bledas, consisting of a group of five islets, lies within 2 miles NW of Isla del Esparto and is marked by a light.

Islas Bosque, 67m high, lies about 0.2 mile offshore between Punta Embarcado and Punta Torre de Rovira. It is surrounded by cliffs and two high rocks stand at the N end. The passage lying between Ibiza and Islas Bosque is foul and unsuitable.

Isla Conejera, 69m high, lies 0.3 mile N of Isla Bosque and its coasts are mostly cliffy. A light is shown from a tower with a dwelling, 17m high, standing on Cabo Blanco, its N extremity. The passage lying between Isla Bosque and Isla Conejera has a depths of 3 to 4m and is recommended only for vessels with local knowledge.



Isla Conejera Light

Isla de Tagomago (39°02'N., 1°39'E.), 114m high, lies 1 mile E of Punta Valls. It is low and rocky on the N side, but

high and cliffy on the S side. A light is shown from a tower with a dwelling, 23m high, standing on the SE extremity of the island.

Islotes los Dados (38°53'N., 1°27'E.) are two islets which lie 0.7 mile S of Islote Botafoch. Islote Dado Grande, 13m high, is marked by a light and Islote Dado Pequeno, close SE, is 9m high. The passage lying between these islets should not be attempted.

Islote Malvin del Norte, 12m high, and Islote Malvin del Sud, 20m high, are two islets which lie 1.2 miles and 1.5 miles SSW, respectively, of Islote Botafoch. They are both fringed by several smaller islets and a rock, with a depth of 8m, lies about 0.3 mile W of Islote Malvin del Sud. Islote La Esponja, 10m high, lies 0.8 mile SSW of Islote Malvin del Sud and is fringed by foul ground and shoals.

Mallorca

4.15 Mallorca (39°30'N., 3°00'E.), the largest of Islas Baleares, lies 60 miles NE of Ibiza. The mountains rise to their highest peaks on the NW coast of the island, but elsewhere the coasts are lower and rocky.

Cabo Salinas (39°16'N., 3°03'E.), the S extremity of the island, is low and fringed by a shoal bank. It is backed by gently-sloping land on which stands a prominent tower. A light is shown from a prominent tower with a dwelling, 10m high, standing close N of the cape.

Punta Sa, surmounted by a tower, is located 4 miles NW of Cabo Salinas and fronted by several small islets. A small craft harbor is situated in the NW part of the bay, which lies between these two points. A light is shown from a structure standing on an islet close off Punta Sa.

Punta Plana (39°21'N., 2°55'E.), a low point, is located 4.5 miles NW of Punta Sa and is fronted by an above-water rock. A light is shown from a structure, 6m high, standing close N of the point. A yacht harbor, protected by moles, is situated 1.5 miles E of the point.

Puig de Randa, 549m high, stands 10 miles N of the point and is prominent.

4.16 Cabo Blanco (39°22'N., 2°47'E.) is located 5.8 miles WNW of Punta Plana. This cape is steep-to and easy to identify as it is faced with white precipices. A light is shown from a tower with a dwelling, 11m high, standing on the cape.

Bahia de Palma (39°30'N., 2°38'E.) is entered between Cabo Blanco and Cabo de Cala Figuera, 13.5 miles WNW.

Cabo Enderrocat, surmounted by a tower, is located 7.5 miles NW of Cabo Blanco. The shore between is moderately steep-to and consists of high, flat-topped, white cliffs. A conspicuous power station stands on the shore of a cove, 4.2 miles NNW of Cabo Enderrocat.

The shores of the bay are fronted by numerous islets, rocks, and small islands. Several small yacht harbors and numerous prominent hotel buildings and high-rises are situated along the shores of the bay.

Caution.—Due to the existence of submarine cables, anchoring and fishing prohibited areas, the limits of which are indicated on the chart, lie within the vicinity of the bay.

Numerous areas, within which obstructions are anchored to form artificial reefs, lie off the shores of the bay and may best be seen on the chart.

4.17 Puerto de Palma (39°34'N., 2°38'E.) (World Port Index No. 38630) lies at the head of Bahía de Palma, 6.5 miles NW of Cabo Enderrocat.

Winds—Weather.—The prevailing winds in the vicinity of the port are NE and SW during the summer and NE and NW in winter. Very heavy NW squalls are sometimes experienced. Strong winds from the S and SW are liable to raise a considerable sea in winter, though the ones from S are of shorter duration and less frequency. The swell is often felt before the wind that causes it.

Depths—Limitations.—The S side of the harbor is formed by Dique del Oeste, which extends E and NE from the SE end of Península de San Carlos. The N side of the harbor is formed by Dique de Levante, which extends SW from the head of the bay.

The main commercial facilities, which are situated in the SW part of the harbor, include Muelle de Pelaires, which has depths of 9 to 13.5m alongside, and Muelle de Poniente, which has depths of 11.2 to 12.7m alongside.

There are facilities for general cargo, ro-ro, container, and tanker vessels. Vessels up to 61,400 dwt, 250m in length, and 12.2m draft have been accommodated alongside. In addition, there are extensive facilities and marinas for yachts and pleasure craft.

Aspect.—A light is shown from a tower, 38m high, standing on Península de San Carlos. A racon is situated at the light.

A prominent fort is situated on Península de San Carlos, close S of the light structure. A conspicuous castle stands on a hill, 0.8 mile N of the fort.

A prominent cathedral stands in the S part of the city near the NE end of the harbor. It is built of reddish stone and has two short spires at the W end. It was reported (1990) that the cathedral is difficult to see at times and is not available as an aid to navigation until within 4 miles of the port.

Pilotage.—Pilotage is compulsory for all vessels over 50 grt. Pilots, who can be contracted on VHF channel 6, 14, or 16, generally board W of the hazardous cargo anchorage about 1.5 miles S of the harbor. Requests for pilots should be submitted at least 2 hours in advance. All such requests must be in writing. Requests made by telex or telephone must be confirmed in writing.

Anchorage.—Anchorage berths are generally assigned by the Port Captain. Vessels may obtain anchorage, in depths of 14 to 15m, close S of Dique de Levante or, in a depth of 20m, about 1.5 miles S of the breakwater.

Caution.—Submarine pipelines extend up to 1 mile S from the shore close E of the harbor entrance.

Numerous pleasure craft and yachts may be encountered in the approaches to the port.

4.18 Cap de Cala Figuera (39°28'N., 2°31'E.), 21m high, is steep-to and fringed by a small reef. A light is shown from a structure, 24m high, standing on the cape. A radiobeacon is situated at the light.

The ruins of a yellow tower stand close WNW of the light and are prominent.

Punta de Sas Barbinas, a very narrow projection, is located 2.3 miles WNW of Cap de Cala Figuera. Isla del Toro, 29m high, is the outermost of four small islets which lie close SW of this projection. A light is shown from a structure, 14m high, standing on Isla del Toro.

4.19 Cabo Malgrats (39°30'N., 2°27'E.), 48m high, is located 2.7 miles NNW of Isla del Toro. A yacht harbor, protected by a mole, fronts the shore, about 1.5 miles SE of the cape. Isla Malgrats, 60m high, lies close SW of the cape and is cliffy. A small islet lies between this island and the coast.

Ensenada de Santa Ponsa is entered between Cabo Malgrats and Cabo Andritxol, 2 miles NNW. Anchorage can be taken, in a depth of 10m, on the NW side of the bay. A yacht harbor, protected by a breakwater, lies in a cove at the SE side of the bay.

Cabo Llamp, 221m high, is located 1.5 miles W of Cabo Andritxol and is covered in pine trees.

Cabo de la Mola is located 1.3 miles NW of Cabo Llamp. It is 118m high and is formed by the SW extremity of a small peninsula. A light is shown from a structure, 10m high, standing on the cape.

Caution.—An abandoned submarine cable lies in the vicinity of Ensenada de Santa Ponsa and may best be seen on the chart.

Several areas, within which obstructions are anchored to form artificial reefs, lie in the vicinity of Ensenada de Santa Ponsa and Cabo Malgrats and may best be seen on the chart.

4.20 Puerto de Andraitx (39°33'N., 2°23'E.) (World Port Index No. 38640), a small harbor, is situated in a cove, 1.2 miles NE of Cabo de la Mola. It is protected by an outer and two inner breakwaters and is mainly used by yachts. A narrow channel, marked by buoys, leads to the entrance. The port may be contacted on VHF channel 9.

Punta Galinda is located 2 miles NW of Puerto de Andraitx. The coast between is rocky and indented.

Punta Galera is located 1.7 miles N of Punta Galinda. The coast between is indented by several coves which are only suitable for small craft with local knowledge. Isla de Pantaleu, 29m high, lies close inshore, 0.7 mile N of Punta Galinda. Isla Mitjana, 8m high, lies 0.2 mile offshore, 0.6 mile NNW of Isla de Pantaleu, and is marked by a lighted beacon.

Isla Dragonera (39°35'N., 2°19'E.) lies 1.5 miles NW of Punta Galinda. A light is shown from a tower, 15m high, standing on Cabo Llebeitx, its SW extremity. Another light is shown from a tower, with a dwelling, 13m high, standing near Punta Tramontana, its NE extremity. The island rises near the middle to a height of 357m.

Freu de la Dragonera, 0.4 mile wide, separates the island from the W end of Mallorca. The currents in this channel are reported to be irregular. Although there is a deep passage between the rocks lying NW of Isla Mitjana and those fringing the shore of Isla Dragonera, vessels are advised to use the narrow channel that leads between Isla Mitjana and the coast of Mallorca, because it is free from dangers.

Península de La Foradada, 83m high, is located 16.5 miles NE of Punta Galinda. The coast between is high, cliffy, and fronted by several islets. This projection extends 0.3 mile NW

from the coast and can be identified by a large hole which pierces it from side to side.

Cabo Gros, 126m high, is located 3.7 miles NE of Peninsula de La Foradada and is formed by a massive promontory. A light is shown from a structure, 21m high, standing on the cape.

Punta de Sa Creu is located 0.3 mile E of Cabo Gros and is the W extremity of a small peninsula. A light is shown from a structure, 13m high, standing on this cape.

4.21 Puerto de Soller (39°48'N., 2°41'E.) (World Port Index No. 38650), a small harbor, lies between Cabo Gros and Punta de Sa Creu, and is used principally as a naval station. The harbor is backed by mountainous country and an old castle stands near its E end.

It was reported that vessels up to 80m in length and 8m draft can be accommodated at the outer mole, and vessels up to 60m in length and 4.5m draft can be accommodated at the inner mole. Range lights, in line bearing 126.5°, lead into the port.

Heavy swell sometimes enters the harbor, which is reported to be subject to silting.

In summer, vessels can obtain temporary anchorage in good weather, in depths of 11 to 13m, close S of the head of the outer mole.

4.22 Ensenada Sa Costera (39°50'N., 2°45'E.) lies close E of Punta Cala Ratjada and 4 miles NE of Puerto de Soller. A conspicuous power station, which is brilliantly illuminated at night, stands on the shore of this bay.

Cabo de Formentor (39°58'N., 3°12'E.), the N extremity of Mallorca, is located 26 miles ENE of Puerto de Soller. The coast between is high and cliffy. A light is shown from a tower with a dwelling, 22m high, standing on the cape.

The peninsula, which terminates at Cabo de Formentor, is mountainous and from a distance to the N, appears as a chain of islets. On nearer approach, it may be mistaken for an island because of its low isthmus.

4.23 Bahía de Pollensa (39°54'N., 3°10'E.) is entered between Cabo de Formentor and Cabo del Pinar, 4.5 miles S. It is open to the E and completely exposed to the frequent gales which originate in the Golfe du Lion. Sudden squalls are also experienced within the bay, especially under the high land on the N side.

Punta de Manresa, located 3.5 miles SW of Cabo del Pinar, is dark, rocky, and surmounted by an old castle. A yacht harbor, protected by a breakwater, is situated close E of this point.

Punta de la Avanzada, located SW of Cabo de Formentor, has a battery on its S extremity and a small castle standing on its summit. A light is shown from a structure, 17m high, standing on the battery. A small harbor, protected by breakwaters, is situated 0.7 mile NW of Punta de la Avanzada.

An extensive yacht harbor, protected by moles, is situated 1.2 miles WNW of Punta de la Avanzada.

It has been reported that due to many new buildings along the shores of the bay, charted landmarks may be difficult to identify.

Anchorage may be obtained, in depths of 16 to 18m, about 0.4 mile ENE and 0.3 mile NNW of Punta Manresa. Anchor-

age may also be obtained, in good weather, by large vessels, in depths of 12 to 15m, S or SE of Punta de la Avanzada. Small vessels may obtain anchorage close W of this point.

4.24 Cabo Menorca (39°52'N., 3°12'E.), located 1.8 miles S of Cabo del Pinar, is dark, steep-to, and faced with steep cliffs. A rocky shoal, with a depth of 13m, lies about 2 miles ESE of this cape.

Bahía de Alcudia (39°49'N., 3°08'E.) is entered between Cabo Menorca and Cabo Farrutx, 8 miles SE. This bay when seen from seaward, appears to recede farther than it actually does on account of the low land at its head. At Cabo Farrutx, the land rises steeply and forms a rocky promontory, 432m high, which is surmounted by a tower.

Several small yacht harbors and piers are situated along the S shore of the bay.

Isla de Aucanada lies close off the N shore of the bay, 2 miles SW of Cabo Menorca. It is connected by a reef to the mainland. A light is shown from a structure, 15m high, standing on the summit of the island.

4.25 Puerto de Alcudia (39°50'N., 3°08'E.) (World Port Index No. 38670), a small port, lies at the NW end of Bahía de Alcudia, 1.2 miles W of Isla de Aucanada.

Depths—Limitations.—The commercial facilities include a berth, 150m long, at New Pier, which has a depth of 7m alongside; Ribera Quay, 226m long, with a depth of 6.5m alongside; and 246m of berthing space along the inner side of Muelle Commercial, which has depths of 6 to 6.5m alongside.

There are facilities for general cargo, ro-ro, container, bulk, tanker, and natural gas vessels. Vessels up to 120m in length and 6.5m draft have been accommodated.

An extensive yacht and pleasure craft harbor is situated in the NW part of the port.

Aspect.—Punta del Castillo, a rocky point, is located 1.2 miles W of Isla de Aucanada and an ancient and prominent tower stands close NE of it. Dique de Abrigo, a breakwater, extends 480m SW from this point and forms the S side of the harbor. Two prominent chimneys stand close NE of the root of this breakwater.

The city of Alcudia stands 1 mile NW of the harbor, but only part of its walls and a few high buildings, among which is a conspicuous church, are visible from the bay.

Pilotage.—Pilotage is compulsory. Pilots may be contacted on VHF channel 14 or 16 and should be requested at least 1 hour in advance. The pilot boards in position 39°49.6'N, 3°08.5'E.

Anchorage.—Anchorage is available, in a depth of 6m, about 0.3 mile SW of the breakwater head, and, in a depth of 12m, about 0.7 mile S of the breakwater head. Small vessels can anchor, in a depth of 4m, mud and sand, about 0.2 mile S of the head of the pier that is situated close NW of the breakwater.

Caution.—Though not expressly so reserved, the area lying NW of a line drawn SW from Punta del Castillo is, at times, used as an anchorage for seaplanes.

Submarines exercise frequently in Bahía de Alcudia and its approaches.

A drainage canal enters the SW shore of the bay, 3 miles SW of Isla de Aucanada.

Two submarine intake pipelines lie close N of the canal entrance and are marked by lighted buoys.

A prohibited area, within which lie foul ground and obstructions, is situated adjacent to the shore close SSE of the canal entrance and may best be seen on the chart.

4.26 Cabo del Freu (39°45'N., 3°28'E.), located 5.5 miles SE of Cabo Farrutx, is a narrow projection which extends NE from the coast. It is formed by a spur of Atalaya de Son Jau-mell, 271m high, which stands 0.7 mile SW of the cape and is surmounted by a tower.

Farrayo de Aubarca, 23m high, lies 0.3 mile offshore, 2.7 miles NE of the cape. The passage leading between this islet and the coast has a depth of 20m and is free of dangers.

Cabo Pera (39°43'N., 3°28'E.), the E extremity of Mallorca, is located 2 miles SSE of Cabo del Freu. It is 78m high, reddish in color, and rocky. A light is shown from a structure, 18m high, standing on the cape.

The coast between Cabo Farrutx and Cabo Pera is high and indented by several coves.

Capdepera, a small town, stands on a hill, 2 miles SW of Cabo Pera and is prominent from seaward.

Cabo Vermey is located 3.8 miles SSW of Cabo Pera and surmounted by two ruined towers. It is reddish, high, barren, and cliffy.

Punta de Amer, located 5 miles SW of Cabo Vermey, is low and surmounted by an old castle.

Bahia de Arta lies between Punta de Amer and Cabo del Pinar, 3.5 miles NNE. Vessels, with local knowledge, can anchor in this bay with winds from between the SW and NW. The best berth, in depths of 16 to 25m, sand and weed, lies in the N part of the bay. Vessels can also anchor, in depths of 10 to 15m, in the NW part of the bay.

Cabo del Pinar, dark in color, is formed by a spur of Sierra de Son Jordi, which extends NW. Port Cristo, a small harbor, is situated within a cove, 3.7 miles SW of Punta de Amer. It is mostly used by small craft and yachts.

Punta de la Bateria is located 8 miles SSW of Porto Cristo. Numerous houses and several prominent hotels stand on this point. A light is shown from a structure, 7m high, standing on the point.

Puerto Colom (39°25'N., 3°16'E.), a small craft harbor, lies between Punta de Bateria and Punta de la Farola, 0.2 mile W. No attempt should be made to enter this harbor without local knowledge. An extensive yacht marina is situated close N of this harbor.

4.27 Punta de la Farola (39°25'N., 3°16'E.), the W entrance point of Puerto Colom, is surmounted by a prominent tower. A light is shown from a structure, 25m high, standing close S of the tower.

Puig de San Salvador, 510m high, stands 4.7 miles NW of the entrance to Puerto Colom. This prominent hill is conical and considerably higher than those surrounding it. The summit is surmounted by a conspicuous hermitage and a chapel, with a monument and a cross, situated close by.

Cala Llonga lies 3.2 miles SSW of Punta de la Farola. Lights are shown from both the N and S entrance points of this cove, and an old fort is situated on the S entrance point. The cove affords anchorage, in depths of 7 to 8m, to small vessels with

local knowledge. A pier and an extensive yacht marina are situated within this cove.

4.28 Puerto Petro (39°21'N., 3°13'E.) (World Port Index No. 38680) lies 1 mile SW of Cala Llonga. This inlet forms a very small natural harbor. Its entrance is 260m wide and has a depth of 18m in the middle. There are depths of 5 to 10m within the harbor, which can accommodate only one or two small vessels at anchor at a time.

This harbor is reported to be dangerous to enter during bad weather because of the narrowness of the entrance.

An old and prominent tower stands close within the SW entrance point of the harbor. It is high and square and, because of its peculiar construction, cannot be mistaken for any of the others along the coast. A light is shown from a structure, 9m high, standing close E of the tower.

Cala Figuera, a cove, lies 2.5 miles SW of Puerto Petro and forms a small fishing harbor. A light is shown from a structure, 6m high, standing on the E entrance point of the cove and a tower is situated close SW of it. Santany, a small town, stands 2.5 miles NW of the cove. A prominent church, visible from seaward, is situated within this town.

The coast extends 7 miles SW from Cala Figuera to Cabo Salinas, which has been previously described in paragraph 4.15, and is rocky and indented by several small coves.

Mallorca—Off-lying Islands

4.29 Isla de Cabrera (39°09'N., 2°56'E.), a rugged and hilly island, lies 9 miles SW of Cabo Salinas and, together with the neighboring islands, lies within a National Park. Vessels can only enter the park with permission from the Instituto Nacional para de la Conservacion de la Naturaleza (ICONA) at Palma. A marine reserve has been established in an area surrounding the islands, and is best seen on the chart; navigation, fishing, diving, or gathering of flora and fauna are prohibited.

Punta Anciola, the SW extremity of the island, is formed by the extremity of a small peninsula, 120m high. A light is shown from a tower with a dwelling, 24m high, standing on this point.

Cabo Llebeig, the NW extremity of the island, rises to a detached hill, 60m high. A light is shown from structure, 7m high, standing on this cape.

Cabo Ventoso, the NE extremity of the island, is formed by a steep-to cliffy headland, 106m high.

Isla Imperial, 70m high, lies off the SE coast of the island. It is separated from the coast by a channel, 95m wide, with depths of 11m at the N end.

Islotes Estels, consisting of five rocky islets, lies within 0.5 mile of the middle of the S coast of Isla de Cabrera; the highest and central islet is 44m high.

Isla Redonda, 57m high, lies off the NE coast of Isla de Cabrera and is steep-to, except on its SW side. Isla Conejera, lying 0.5 mile NW of Isla Redonda, rises to a hill, 119m high, on its E side. Isla Esponja, 23m high, lies 0.3 mile N of the middle of the N side of Isla Conejera and is a steep-to and almost inaccessible islet.

Isla Plana, 39m high, lies 0.3 mile ENE of Isla Esponja and a shoal bank extends for a short distance from its S side. Isla Pobre, 24m high, lies close N of Isla Plana and there is a depth of 9m between them.

Isla Horadada, 27m high, lies 0.4 mile NNE of Isla Pobre and is almost inaccessible. A light is shown from a structure, 15m high, standing on its NW side. An islet lies close S of Isla Horadada and an above-water rock lies on foul ground between them. A stony bank, with a depth of 7.3m, extends up to about 100m S from the islet.

Puerto de Cabrera is entered between Cabo Llebeig and Punta Creueta, 0.6 mile SE. This inlet affords secure anchorage. The best berth, sheltered from N winds, is in a depth of 19m, sand and weed, in the E part.

Punta del Castillo, located 0.2 mile SSE of Punta Creueta, is surmounted by a prominent ruined castle. Punta Creueta, marked by a light, is surmounted by several prominent buildings.

Freu de Cabrera (39°15'N., 3°00'E.) is the channel lying between the S extremity of Mallorca and Isla Horadada. It is free from dangers, but strong E or W currents are experienced according to the direction of the wind.

Caution.—Extensive fishing is reported to be carried out in the waters between Mallorca and Isla de Cabrera. Unlighted fishing boats and buoys may be encountered.

Menorca

4.30 Menorca (40°00'N., 4°00'E.) is the NE island of Islas Baleares. It is mostly level and free from off-lying dangers, except for a few inshore islets. Monte Toro, 358m high, stands near the center of the island and is the highest summit.

Freu de Menorca, 20 miles wide, separates Menorca from Mallorca. Very heavy seas are raised in this channel by N winds.

Cabo Dartuch (39°55'N., 3°49'E.), the SW extremity of Menorca, is low, flat, and steep-to. In good weather, it frequently happens that the wind is blowing from different directions on either side of this cape. A light is shown from a structure, 35m high, standing almost on the shore at the cape.

4.31 Puerto de Ciudadela (40°00'N., 3°50'E.) (World Port Index No. 38700), lying 4.2 miles N of Cabo Dartuch, is a steep-sided creek, with three coves on its N side which forms a natural harbor. It provides very good shelter from E winds; however, SW gales cause the sea to break right across the entrance and send in a heavy swell.

A narrow channel, with a least depth of 4m, leads into the harbor; a light is shown from a structure, 10m high, standing on the W entrance point. The head has been banked and leveled to provide berths for small vessels in depths up to 4m. Vessels up to 150 tons can be handled. The town of Ciudadela stands at the head of the creek and is visible from seaward.

With offshore winds, anchorage can be obtained by vessels with local knowledge, in a depth of 16m, good holding ground, off the entrance of Puerto de Ciudadela.

4.32 Cabo Binicous (40°00'N., 3°48'E.), low and cliffy, is located 1.3 miles W of Puerto de Ciudadela. A conspicuous hotel is reported to stand on this cape.

Cabo Menorca, the W extremity of the island, is located 1 mile NNW of Cabo Binicous.

Punta Nati, the NW extremity of the island, is located 2.5 miles NE of Cabo Menorca and fronted by a small islet, 7m

high. A light is shown from a structure, 13m high, standing on this cape.

Cabo de Caballeria (40°05'N., 4°05'E.), the N extremity of the island, is located 12.5 miles E of Punta Nati. This cape, 80m high, is the N end of a peninsula which extends 1.7 miles N from the general line of the coast. It is steep-to and from a distance E or W, appears as an island.

A light is shown from a tower with a dwelling, 14m high, standing on the summit of the cape. A racon is situated at the light.

Islas Bledas, consisting of three islets, lies close N of the coast, 3 miles WSW of Cabo Caballeria.

Bahia de Tirant lies between Cabo de Caballeria and the N extremity of the peninsula, which forms the W side of Puerto de Fornells, 2 miles SE. This bay affords good anchorage, with offshore winds, to small vessels with local knowledge. The best berths are in depths of 5 to 6m close to the shore. Winds between N and E send a very heavy sea into this bay.

4.33 Puerto de Fornells (40°04'N., 4°08'E.) is a narrow and nearly landlocked inlet which forms a natural harbor. It is entered between the N extremity of a peninsula, on the W side, and the N extremity of a cliffy promontory, on the E side. A prominent tower stands on the end of the peninsula and an islet lies close N of it.

A fishing village is situated on the NW side of the harbor, close S of an old fort, and a small yacht marina lies on the SW side of the harbor.

Islote Sargantana, 12m high, lies 0.5 mile SSE of the village and is surmounted by a ruined castle.

The harbor affords good shelter. Vessels of deep draft usually anchor about midway between Islote Sargantana and the fishing village. The holding ground is good and the bottom is mostly mud and weed. However, caution is necessary for there is not room for a vessel of more than 100m in length to swing in depths greater than 8m. Vessels of moderate draft can anchor, in a depth of 9m, farther in. Small vessels can anchor, in a depth of 5m, about 200m from the village.

4.34 Cala de Addaya (40°01'N., 4°12'E.), a narrow creek, lies 4.5 miles SE of Puerto de Fornells. It extends for 1.5 miles and several islets and above-water rocks lie off the entrance. A conspicuous tower stands on the W side of the creek, 0.7 mile S of the entrance. A yacht harbor is situated on the W side of the creek, 1 mile S of the entrance.

Cabo Favaritx (40°00'N., 4°16'E.), located 3 miles ESE of the E entrance point of Cala de Addaya, is low and at a distance appears as three islets. A light is shown from a tower with a dwelling, 28m high, standing on the cape.

Isla Colom, 44m high, lies close to the coast, 3 miles SSE of Cabo Favaritx. Vessels, with local knowledge, can obtain anchorage, in depths of 10 to 12m, sand, on the NW side of this island with their sterns secure to the shore. This roadstead is sheltered from all winds except those from the NW. Anchorage is also available, in a depth of 10m, on the SW side of the island with the stern similarly secured. This roadstead is sheltered from all winds except those from the ENE and ESE.

La Mola, a peninsula, is located 5.5 miles SSE of Isla Colom. It is 80m high and the N and S coasts are faced with cliffs.

Punta del Espero (39°52'N., 4°20'E.), 55m high, is the E extremity of La Mola. A light is shown from a tower, 11m high, standing on this point. A signal station and a lookout tower are situated 0.2 mile W of the light.

Punta de Fuera, the S extremity of the peninsula, is located 0.9 mile SW of Punta del Espero. A lighted buoy is moored about 200m S of this point and marks the edge of a rocky bank.

Punta de San Carlos (39°52'N., 4°18'E.), located 0.3 mile SW of Punta de Fuera, lies on the N side of a small cove. A light is shown from a structure, 12m high, standing on the point. A radiobeacon is situated close WSW of the light. A prominent ruined castle and a prominent monument stand close W and close N, respectively, of the light.

A lighted buoy is moored about 0.1 mile E of the point and marks the edge of a rocky bank.

Puerto de Mahon (39°53'N., 4°16'E.)

World Port Index No. 38690

4.35 The port of Mahon, which is also a naval base, lies within an inlet which forms a natural and well-protected harbor. This harbor extends 3 miles NW and is entered between Punta de San Carlos and Punta de Fuera.

Winds—Weather.—Strong winds from the N, which prevail in winter and occur occasionally in summer, frequently cause a considerable swell off the entrance. During winds from the SE through S to SW, the visibility may decrease, sometimes completely obscuring the land.

Tides—Currents.—Winds from the N and NE give rise to strong SW currents off the entrance to the harbor. These currents are almost constant and only with SW winds do they set in the opposite direction.

Tides in the harbor are insignificant, but the level of the water is affected by the prevailing winds.

Depths—Limitations.—There are depths of 16 to 27m in the entrance channel. A naval base is situated on the N side of the harbor.

Muelle de Cos Nou, 180m long, lies close W of the naval base and has a depth of 6.5m alongside. Muelle Commercial, 218m long, lies at the S side of the harbor and has a depth of 8m alongside. There are facilities for general cargo, tanker, ro-ro, container, and passenger vessels. Vessels of unlimited length can be accommodated with drafts up to 7.6m.

Aspect.—Isla Lazareto lies on the N side of the harbor close inside the entrance. Several prominent buildings stand on this

island. The suburb of Villacarlos is situated on the S shore of the harbor, 1 mile NW of the entrance. A small island, on which stands a military hospital, lies 0.5 mile NW of Villacarlos.

Pilotage.—Pilotage is compulsory. Pilots may be contacted on VHF channel 12, 14, 16, 20, or 27 and board about 1 mile from the harbor entrance.

Anchorage.—In good weather, anchorage can be obtained, in depths of 24 to 37m, sand with good holding ground, off the entrance to the harbor. Vessels can also anchor, in depths of 10 to 26m, NNE of Villacarlos, but should avoid anchoring on the slope of the N shore of the harbor because strong N winds may cause dragging.

Caution.—Approaching from the S or SW, vessels should take care not to mistake the entrance to the cove lying close S of Punta de San Carlos for the harbor entrance. Approaching from the N, vessels should take care not to mistake the low isthmus connecting La Mola to the mainland for the entrance to the harbor.

The bay lying between the E side of Isla Lazareto and the W side of La Mola is for military use only. Entry is prohibited unless in an emergency.

A submarine pipeline extends 0.5 mile SE from the vicinity of Punta de San Carlos.

Depths in Puerto de Mahon are generally up to 2m shoaler than charted.

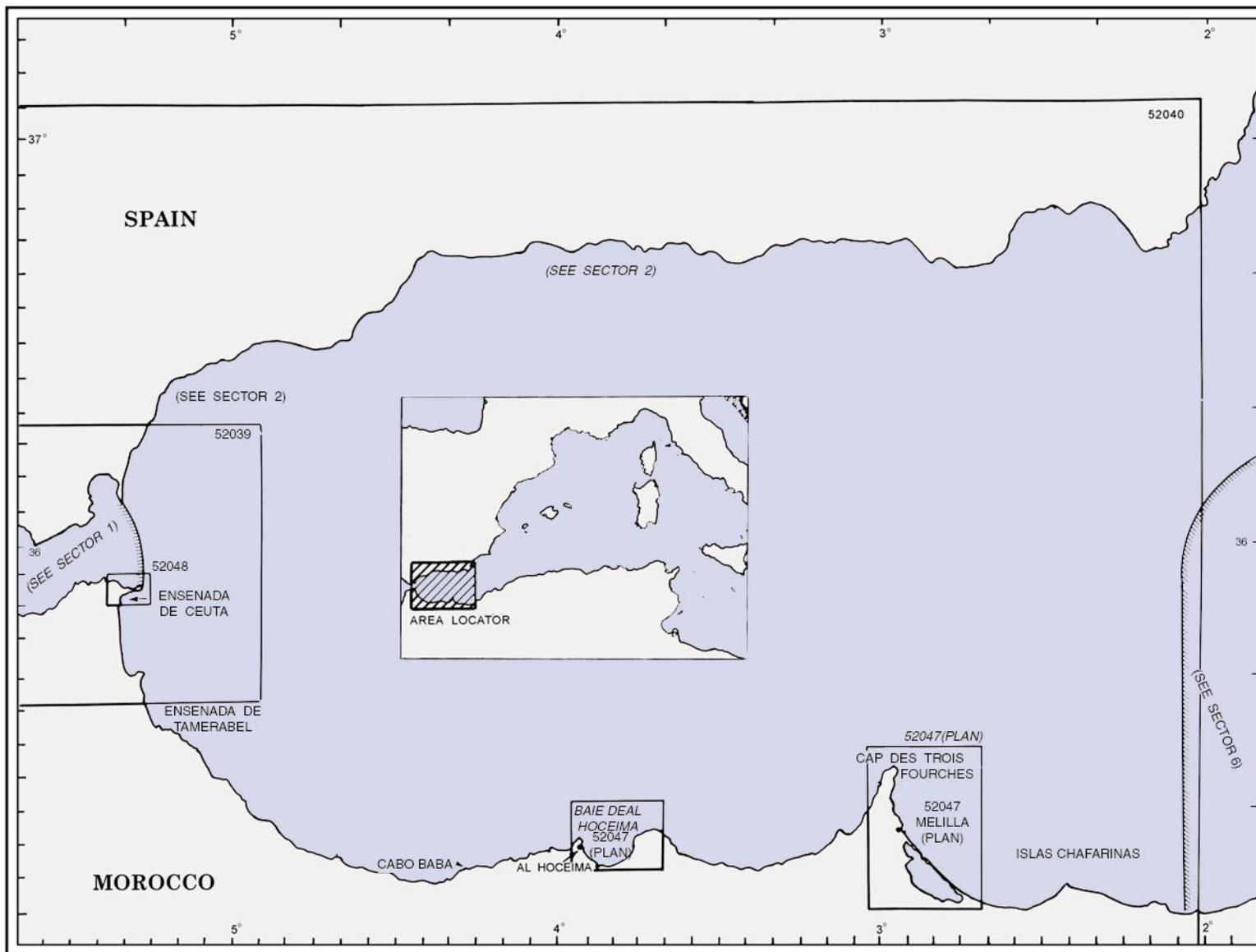
4.36 Punta Mabres (39°49'N., 4°17'E.), located 3.5 miles SSE of Puerto de Mahon, is the SE extremity of Menorca. A conspicuous radio mast and a conspicuous tower stand 1 mile NNW and close W, respectively, of the point.

A lighted wave recorder buoy is reported to be moored about 9 miles SE of Punta Mabres.

Isla del Aire (39°48'N., 4°18'E.) lies 0.5 mile SE of Punta Mabres. The NW side of the island is flat, but the SE side is steep-to and cliffy. A light is shown from a structure, 37m high, standing on the summit at the S side of the island.

The channel leading between the island and the mainland can be navigated by vessels with local knowledge and drafts up to 6.5m.

The S coast of Menorca is mostly free from off-lying dangers, but a few rocks and shoals lie close inshore. From Punta Mabres, the shore extends 15 miles NW and then 7 miles W to Cabo Dartuch, which has been previously described in paragraph 4.30.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 5 — CHART INFORMATION

SECTOR 5

MOROCCO—PUNTA ALMINA TO OUED KISS

Plan.—This sector describes the coast of Morocco from Punta Almina (35°54'N., 5°17'W.) to the frontier of Algeria at Oued Kiss (35°05'N., 2°12'W.). The descriptive sequence of the coast is from W to E.

General Remarks

5.1 Winds—Weather.—The prevailing winds along this part of the coast are from the NE quadrant from March to October, and from the SW and NW quadrants during the remainder of the year.

During summer, there are often E winds on the Moroccan coast when there are W winds on the Spanish coast. Winds from the E are often preceded by increased humidity, haze, and mist.

Calms are also frequent in summer along the E part of this coast.

Gales from the NW and NE quadrants are often severe, but are less frequent on this coast than in the N part of the Mediterranean Sea. Gales from the S are almost unknown.

Tides—Currents.—The offshore current generally sets SE from the Strait of Gibraltar. Off Cap des Trois Fourches, this current divides and part of it continues E. The other part is deflected by the cape and causes a counter current which sets W along the coast of Morocco at a rate of about 1 knot. These currents are also influenced by the prevailing winds.

A current sets W off Cabo Baba and sometimes attains a rate of 2 knots.

Caution.—With the exception of the stretches of coast lying between Punta Almina and Cabo Mazari, 21 miles S, and that between Cap des Trois Fourches (35°26'N., 2°58'W.) and the mouth of Oued Moulouya (Rio Muluya), 43 miles SE, the coast of Morocco is practically unsurveyed. Vessels are cautioned not to approach it without special precautions.

Tunny nets may be found extending up to 7 miles offshore along the coasts described in this sector.

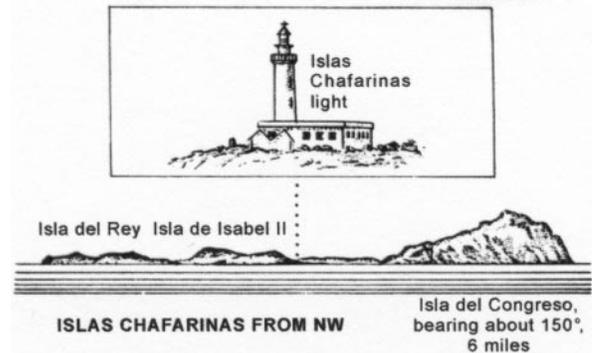
Submarines exercise frequently in the waters adjacent to the coasts.

Off-lying Islands

5.2 Islas Chafarinas (35°11'N., 2°26'W.), consisting of three islands, lie 2 miles N of Cap de l'Eau (Ras el Ma). They are of volcanic origin and consist of white decomposed rock. When seen from the E or W, these islands show up well, but from the N, they are difficult to distinguish from the land behind them.

Isla del Congreso, the largest and W island, is steep and rugged on its W side, which is 137m high, but has more of a gentle slope on its E side. A light is shown from a tower, 3m high, standing on Punta del Faro, the S extremity.

Isla de Isabel II, the middle island, lies close E of Isla Congreso. It is 40m high and Torre de la Conquista, which is



Islas Chafarinas from NW

fitted with a conspicuous clock, stands near the middle of the N side.

Numerous large buildings, including a hospital, are situated on the island. Islas Chafarinas Light is shown from a structure, 18m high, standing near the NW extremity of this island.

Isla del Rey, the E island of the group, is 31m high. It is connected to Isla de Isabel II by a partly-destroyed breakwater.

These islands afford the only natural anchorage roadstead off the coast of Morocco which is suitable for all classes of vessels. There are depths of 10 to 17m; good holding ground, muddy sand.

In winter, strong winds from the S sometimes blow. With strong E winds, a considerable swell often rolls into the anchorage. Strong winds from the NE also send a considerable sea into the anchorage through the channel lying between the two W islands, despite the shoal in its approach.

The best berth, sheltered from NE winds, is in a depth of 14m, about 230m SE of the head of the small mole, which extends near the S end of Isla de Isabel II.

Punta Almina to Baie d'al Hoceima

5.3 Punta Almina (35°54'N., 5°17'W.) is the E extremity of the peninsula which divides Bahía de Ceuta, to the N, from Ensenada de Ceuta, to the S. The point is low but the land rises steeply behind it. A light is shown from a structure, 16m high, standing on Cerro de Mosqueros, close SW of the point.

A shoal, Laja de la Sirena, with a depth of 4.1m, lies close NE of the point.

Ensenada de Ceuta (35°51'N., 5°19'W.) lies between Punta Almina and Rasel el Aswad, 13 miles S. A light is shown from the point. Open anchorage can be obtained, in depths of 20 to 26m, anywhere off the coast within this extensive bay, but care should be taken to ascertain the nature of the bottom as it is



View of the coast S of Peninsula de Almina

rocky in places. Tunny nets may be encountered in the bay from June to October.

Ensenada de la Almadraba, a small bay, lies 2 miles WSW of Punta Almina. It affords anchorage, sheltered from N and W winds, in depths of 15m or more. An obstruction lies 0.5 mile offshore in the E approach to this bay.

Punta del Canto (Pointe es Sensela), located 4.5 miles SW of Punta Almina, is a low, reddish, and rocky point. A factory, with several conspicuous chimneys, is situated on the S side of this point. With winds from the SW to NW, if not too strong, anchorage can be obtained, in depths of 16 to 20m, sand, about 1 mile SE of Punta del Canto.

La Condesa, 15m high, stands on the coast, 1 mile S of Punta del Canto. This hillock is surmounted by the white buildings of a military post. The conspicuous buildings of a large barracks, which are usually brilliantly illuminated at night, are situated on a hill, 0.5 mile S of La Condesa.

Piedra Blanca lies 0.3 mile offshore, about 2.3 miles S of Punta del Canto. It has a least depth of 2.1m and is easily distinguished in calm weather by the light green color of the water over it.

Punta Restinga, located 5.8 miles S of Punta del Canto, is a small projection, 15m high. A tourist resort, which includes several hotels and numerous single-story buildings, extends up to 1 mile S from the point and is conspicuous from seaward.

Jebel Zem-Zem (Monte Sem-Sem), 435m high, stands 2 miles SW of Punta Restinga. Fortin Negrón, a fort in ruins, is situated on its N foothills. Good anchorage can be obtained, in a depth of 31m, sand and gravel, about 2.3 miles NE of Fortin Negrón.

5.4 M'diq (Rincon El Medik) (35°41'N., 5°19'W.), a village, is dominated by a high, reddish, and prominent church. An Arab cemetery is situated on the slope of the hill, close S of the village. A small harbor, protected by moles, lies 0.5 mile E of the village and is used by small coastal vessels and yachts. There is a main quay, 240m long, with a depth of 5m alongside. Vessels up to 50m in length and 4.8m draft can be accommodated.

Anchorage, sheltered from S and SSE winds, but exposed to those from the N, can be obtained, in depths of 10 to 22m, sand, about 0.5 mile off the coast near M'diq.

Rasel el Aswad (Cabo Negro) (35°41'N., 5°16'W.), located 2.5 miles E of M'diq, is faced with cliffs. It is surmounted by a hill, 119m high, on which stands a conspicuous tower surrounded by shrubs. The cape is dominated by Monte Taifor, a dark-colored and conical hill, which stands 1.3 miles WSW of

it and rises to a height of 331m. A light is shown from a tower, 13m high, standing on the cape.

Off the cape, the tidal currents are sometimes strong and eddies are always formed within 1 mile of it.

Vessels can anchor, in a depth of 35m, sand and gravel, about 2.8 miles NW of the tower standing on Rasel el Aswad. Vessels can also anchor, in a depth of 22m, sand and shells, about 2.5 miles E of a conspicuous hill which stands 4 miles WNW of Rasel el Aswad. This hill is 130m high, reddish-colored, and surmounted by a grove of trees.

Ensenada de Tamerabel (Ensenada de Tetouan) lies between Rasel el Aswad and Cabo Timurusga, 9.5 miles SSE. It affords anchorage, sheltered from winds between the SE and NW, but care should be taken to select a sandy spot, as the bottom is rocky in places.

The Oued Martin flows into the sea 4 miles S of Rasel el Aswad, and the small town of Martil (Oued Martin) is situated close N of the mouth. A light is shown from a structure, 16m high, standing in the town. Vessels can anchor, in depths of 14 to 18m, sand, about 1 mile E the light. Vessels should exercise caution as submarine cables lie in this vicinity.

The port of Al Martil (Oued Martin) no longer exists due to silting.

Tetouan, a town, is situated 6 miles WSW of the mouth of Oued Martin. It stands at an elevation of 61m and the buildings and tall minarets are visible from seaward. An aeronautical light is reported to be occasionally shown from close ENE of the town.

5.5 Cap Mazari (35°33'N., 5°13'W.) is located 4.5 miles SSE of the mouth of Oued Martin. Ensenada de Mazari lies between this cape and Punta de la Caverna, 1.3 miles ESE. Anchorage can be obtained, in depths of 13 to 15m, sand, within this bay, but onshore winds raise a heavy sea.

Cap Menkal (Pointe Omara) (35°29'N., 5°06'W.), located 15 miles SE of Rasel el Aswad (Cabo Negro), is steep, fronted by an islet, and surmounted by a circular tower. A white marabout and several other white buildings, which show up well against the green background, are situated close S of the cape.

Oued Laou Light is shown from a tower standing near the cape.

In good weather, open anchorage can be obtained, by vessels with local knowledge, off the beach which extends S of the cape. Caution should be exercised in order to avoid several submarine cables which are landed in this vicinity.

This part of the coast is backed by mountains which stand SW of Cap Menkal and attain elevations of over 2,000m. Jebel

Kelti, 1,926m high, stands 11 miles SW of the cape. This mountain can easily be identified by its isolation and its flattened, dark-grey, barren, and rocky summit. During E winds, it is frequently obscured by clouds.

Punta Targa, located 6.2 miles SE of Cap Menkal, is surmounted by a prominent tower. Several rocks, one of which is conspicuous, lie close off this point.

Banco Cotelle, is reported to lie about 1.5 miles E of Punta Targa, and to have a depth of about 1.5m, with depths of from 6.4 to 8.2m between it and the coast. The sea does not appear to break on it, but tide rips have been reported in the vicinity. This danger has not been examined, and this part of the coast should be given a berth of at least 2 to 3 miles.

Punta Jagerschmidt, located 9.5 miles SE of Punta Targa, is dark, rounded, and is fronted by two conspicuous, rocky islets.

Ensenada de Tiguizas, a slight indentation in the coast, lies close NW of Punta Jagerschmidt. In good weather, open anchorage can be obtained by vessels with local knowledge within this indentation. The best berth is in a depth of 40m, sand, about 1 mile offshore.

Pointe de Pecheurs (Punta Pescadores) (35°13'N., 4°39'W.), located 11.5 miles SE of Punta Jagerschmidt, is rocky and has the appearance of an island when seen from the E or W. This point is one of the most conspicuous landmarks along the coast. It is salient and is faced with dark cliffs which are marked by reddish patches. A prominent rock, which resembles a tower, stands on its summit. A light is shown from a structure, 4m high, standing on this point.

Ensenada des Pecheurs lies on the W side of the point and in good weather, anchorage, sheltered from winds between the SE and WSW, can be obtained within this bay. Vessels with local knowledge can anchor, in a depth of 13m, mud, but fresh breezes send in a heavy swell.

Monte Scovasso, 1,190m high, stands 6 miles SW of Pointe de Pecheurs and has a prominent notch on its summit.

5.6 Isle Iris (35°10'N., 4°22'W.), located about 15 miles ESE of Pointe de Pecheurs, is 38m high and barren. White vertical cliffs stand on its NW side, but the island is not easily distinguished from the land behind it. The island is joined to the mainland by a reef which has depths of less than 1.8m.

Ensenada de Iris, a cove, lies close W of Isle Iris. In good and settled weather, small vessels with local knowledge can obtain anchorage, in depths of 6 to 11m, fine sand, in this cove. Small vessels with local knowledge can also obtain anchorage sheltered from W winds, close E of Isle Iris.

Penon de Velez de la Gomera (35°10'N., 4°18'W.), located 18 miles ESE of Pointe de Pecheurs, is a conical and rocky island. Its N end is 86m high and is surmounted by a conspicuous fortress. The island is connected by a rocky ridge to an islet, 21m high. It is easily identified from the W to N, but when approaching from the E, it is partially hidden by the land. A light is shown from a structure, 6m high, standing on the NW extremity of the island.

Cap Baba (35°12'N., 4°17'W.), located 0.8 mile ENE of Penon de Velez de la Gomera, is formed by a bold and dark headland. It is steep and surmounted by the ruins of a marabout tower. The cape descends from a spur of the mountains, in the crest of which is a break, which appears as a hole when seen from the E.

A current, which sets in a W direction and sometimes attains a rate of 2 knots, has been frequently experienced off this cape.

In good weather, temporary anchorage can be obtained by vessels of moderate size, between Penon de Velez de la Gomera and Cap Baba, but local knowledge is necessary. Caution should be exercised to avoid the submarine cables which are landed in the vicinity of Penon de Velez de la Gomera.

Pointe Khalou (Punta Jalu), located 5 miles ENE of Cap Baba, is high, rocky, and almost vertical. An islet lies close off this point.

Pointe Boussikour (Punta Busicur), located 8.5 miles ENE of Pointe Khalou, rises to a conical mountain which is surmounted by a conspicuous building.

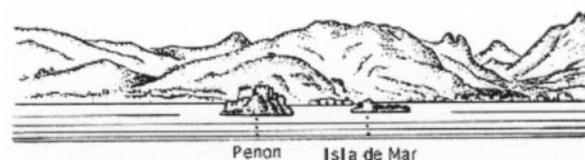
5.7 Punta de los Frailes (35°16'N., 3°56'W.), located 4.5 miles ENE of Pointe Boussikour, is fringed by a reef. Morro Nuevo Light is shown from a structure, 16m high, standing on this point.

Punta Morro Nuevo (Ras Tarf) (35°15'N., 3°55'W.), located 1 mile SE of Punta de los Frailes, is a high and prominent headland. It is formed of inaccessible white and yellow cliffs on which there are patches of iron rock, rusty in color.

Baie d'al Hoceima (35°14'N., 3°52'W.) lies between Punta Morro Nuevo and Ras Sidi Chaib, 8 miles ENE. This bay has mountainous land both E and W of it, but is low at its head.

Penon de Alhucemas lies about 0.3 mile offshore, 3 miles SSE of Punta Morro Nuevo. This islet is 27m high at its N end and is mostly covered with buildings and fortifications. Isote de Mar and Isote de Tierra, two low and rugged islets, lie 0.5 mile WNW of Penon de Alhucemas.

An aeronautical radiobeacon is reported (1993) to be situated inland, 0.9 mile S of the head of the bay.



Baie d'al Hoceima—Penon de Alhucemas bearing 228°

5.8 Al Hoceima (35°15'N., 3°55'W.) (World Port Index No. 45720), a small port, lies on the W side of Baie d'al Hoceima, 0.5 mile SW of Cabo Morro Nuevo (Ras Tarf). It was formerly known as Puerto de Villa Sanjurjo.

Winds—Weather.—Offshore winds are infrequent. Severe NE gales may be expected during the winter. In the past, such storms have caused much damage to the harbor and the shipping in it.

Tides—Currents.—Tides rise about 0.6m at springs and 0.5m at neaps.

The currents in the bay are irregular and are influenced by the prevailing wind. At times, they may attain a rate of 1 knot. Eddies and tide rips are reported to be experienced off both the entrance points of the bay.

Depths—Limitations.—The harbor is protected by two breakwaters and is subject to silting. There are depths of 13 to 20m in the entrance, but generally less than 6m within the harbor. The NW part of the harbor is mostly used by fishing vessels. A quay, situated at the root of the E breakwater, has depths of 5.8 to 8m alongside and is mostly used by naval vessels. Two wharves, each 75m long, are situated on the inner side of the E breakwater. Vessels up to 105m in length can be accommodated within the harbor, but those with drafts of more than 4.8m should exercise great care.

Aspect.—Monte de Malmusi, 330m high, stands 2 miles SW of Cabo Morro Nuevo. At its summit there is a prominent notch which is visible on most bearings, though to a lesser degree on S ones, when a similar notch in a lower hill in front of it may lead to error.

Lighted ranges indicate the approach and entrance channels and may best be seen on the chart. At times, they are reported to be difficult to distinguish.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 16 and board about 0.3 mile SE of the entrance at the junction of the approach and entrance leading lines.

Anchorage.—Baie d'al Hoceima, though open to the N, affords anchorage to vessels with local knowledge. In good weather, vessels can anchor, in a depth of 11m, good holding ground, about 0.2 mile E of Penon de Alhucemas. During NE winds, anchorage can be obtained, in a depth of 12m, in the SE corner of Baie d'al Hoceima. During E winds, anchorage can be obtained, in depths of 10 to 20m, on the E side of Baie d'al Hoceima.

Caution.—The bottom of Baie d'al Hoceima is mostly sand, with some gravel and mud, but as it is rocky in places, the nature of the ground should be determined before anchoring; generally, the greater the depths, the firmer the bottom.

Baie d'al Hoceima to Melilla

5.9 Cabo Quilates (Jebel Quilates) (35°17'N., 3°41'W.), located 3.5 miles ENE of Ras Sidi Chaib, is formed by the NW extremity of a low and rounded promontory. It descends in gentle slopes from a range, 443m high, which stands on the E side of Baie d'al Hoceima.

A light is shown from a three-storied tower, 32m high, standing on this cape.

Ras Tasemsalt, located 3.5 miles SE of Cabo Quilates, can be identified by its cliffs which rise steeply from the sea and are fronted by several black rocks. A yellow patch, which indicates the mouth of a deep cavern, is located at the foot of these cliffs.

Sidi Dris, a conspicuous and isolated white shrine, stands on the summit of a coastal hill, SE of Ras Tasemsalt.

Pointe Afraou (Punta Afrau) (35°12'N., 3°27'W.), located 12.3 miles ESE of Cabo Quilates, is moderately high and fringed by a shoal bank. It is formed by the cliffy termination of a spur of the mountains which extend to within a few miles of the coast.

A loading berth for ore, with several mooring buoys, lies on the W side of the point. A large house, the only one in this vicinity, stands 2 miles W of the berth. When a vessel is expected, a light is shown from this house until 2200. There is

reported to be a depth of 7m at the mooring berth; vessels exceeding 107m in length and 6.4m draft should not load here.

Vessels can anchor, in a depth of 16m, sand and gravel, about 1.8 mile NE of the house.

Monte Barcaiztegui (35°09'N., 3°26'W.), 924m high, stands 3.7 miles SSE of Pointe Afraou. It is the most conspicuous of all the mountains along this part of the coast.

Punta Betoia, located 11.7 miles E of Pointe Afraou, ends in low cliffs. A hill standing above the point is surmounted by a white shrine surrounded by dark-colored buildings.

Ensenada de Azanen lies between Punta Betoia and Punta Garet, 4.5 miles NE. This bay is open W through N to NE, but with offshore winds, it affords anchorage, in depths of 14 to 17m, mostly sand. Local knowledge is advised. Punta Garet is fronted by shoals which extend up to 2.5 miles NE.

Punta Negri, located 1 mile NNE of Punta Garet, is easily identified because it is higher than the land in its vicinity. This point is faced with black vertical cliffs, and because of its straight and uniform appearance, it seems artificial.

5.10 Cala Tramontana (35°24'N., 3°00'W.), a cove, lies 9.2 miles NE of Punta Negri. It has an entrance 0.3 mile wide and can be only entered by small vessels with local knowledge. Conspicuous conical hills stand on both entrance points of this cove and a conspicuous sandhill stands on its S side.

Islote Charranes, a conspicuous rock, lies 0.2 mile S of the S entrance point of Cala Tramontana. In good weather or with E winds, good anchorage can be obtained, in depths of 18 to 20m, SW of this rock. Local knowledge is advised.

Ras Baraket, marked by a light, is the N entrance point of Cala Tramontana.

Cap des Trois Fourches (Ras Tleta Madari) (35°26'N., 2°58'W.) is located 3.2 miles NE of Ras Baraket. It is formed by the N extremity of a very conspicuous and salient promontory which terminates in several points, four of which are more pronounced than the others.

All the points are dominated by high land and the N side of the promontory presents a volcanic appearance.

Off this promontory, a heavy sea is often raised by E winds and it should be given a wide berth.

Cabo Tacsafet is the westernmost and most salient of the principal points. It is fronted by a black conical rock and a shoal, with depths of less than 1.8m, lies about 0.3 mile ENE of it.

Punta del Tio Pinar is located 1 mile ENE of Cabo Tacsafet. A shoal, with a depth of 0.3m, lies about 0.3 mile NW of it.

Punta de Cabo Nuevo is located 0.7 mile E of Punta del Tio Pinar. A light is shown from a structure, 18m high, standing on this point.

Punta Calaveo is located 0.3 mile ESE of Punta de Cabo Neuvo and separated from it by a deep gorge. From the N, this point, which is the fourth principal one, appears conical.

Punta de los Farallones, located 0.8 mile SSE of Punta Calaveo, is fronted by a small islet which shows up well from the N or S.

Los Farallones, consisting of three low islets, lies 0.5 mile E of Punta de los Farallones. Farallon Grande is the N and largest of the islets. A light is shown from a structure, 5m high, standing on this islet. Laja Lipiana, which is awash and usually marked by breakers, lies close NNE of Farallon Grande.

The channel lying between this group and the coast has depths of 10 to 14m and is used by local vessels. It should not be attempted without local knowledge.

Melilla (35°18'N., 2°56'W.)

World Port Index No. 45710

5.11 The port of Melilla lies on the E side of the Cape des Trois Fourches promontory, 8 miles S of Los Farallones. The city is the largest in the E part of Morocco and is Spanish territory. Its importance is largely due to the very large deposits of iron ore which are located about 15 miles inland.

Winds—Weather.—The strongest winds experienced in the port of Melilla are from the NE and E. Gales from these directions occur most frequently in winter. Westerly winds are at times strong and of long duration, but they do not raise a heavy sea. When the W side of Monte Gurugu is covered with light misty clouds, a Levante, which will later reach the roadstead at Melilla, has already started to blow, if however, clouds hang over the E side of the mountain, W winds may be expected.

Tides—Currents.—Tides rise about 0.6m at springs and 0.4m at neaps.

The current off the harbor entrance is weak and usually sets to the S.

Depths—Limitations.—The harbor is protected from the N by Dique del Nordeste, a breakwater, which extends about 600m E and then 350m SSE. Dique Sur, another breakwater, protects the harbor from the S. It extends about 0.4 mile NE from a point on the coast, 1 mile SSW of the head of Dique del Nordeste.

There are quays on the inner side of the N breakwater, with depths of 7.1 to 11.5m alongside. Muelle de Ribera extends W of the breakwater and has depths of 5.0 to 7.6m alongside. Muelle Espignon has three berths with alongside depths of 6.1 to 10.2m. A basin, used by fishing boats, lies in the NW part of the harbor.

Vessels up to 12,200 tons, 200m in length, and 8.0m draft can be accommodated.

Aspect.—Melilla, a fortified town, is easily identified by its many prominent buildings. It partly stands on a small, rocky peninsula which is connected to the mainland by a narrow isthmus, 29m high. The greater part of the town stands on the mainland and extends S along the W side of the port.

Monte Gurugu, 885m high, stands 6 miles SSW of the city. It has several peaks and slopes gently to the sea. When seen from the NNE, two of these peaks form a conspicuous saddle. A hill stands at the foot of this mountain and is surmounted by a white marabout, with a small woodland lying on one side of it.

A mining center, situated S of Monte Gurugu, is marked by smoke during the day and by lights at night.

Sebkha Bou Arg, an extensive lagoon, extends 13 miles SE from the S part of the town. It is separated from the sea by a sandy beach which is backed by a narrow strip of land covered with low dunes.

Monte Atalayon, a conical and prominent hill, stands on the W side of Sebkha Bou Arg, 5 miles SSE of the port. It is joined to the W shore of the lagoon by a small sandy isthmus. An

aeronautical light is occasionally shown from a structure standing 3.7 miles S of this hill.

A light is shown from a structure, 12m high, standing close N of the root of the N breakwater.

Regulations.—Vessels should send their ETA 72 hours, 48 hours, and 24 hours prior to arrival, stating:

1. Vessel name, call sign, and nationality.
2. Vessel's grt, nrt, and loa.
3. Draft on arrival.
4. Last cargo and if any dangerous cargo on board.

Pilotage.—Pilotage is compulsory for vessels of more than 50 tons. The pilot requires 1 hour advance notice and boards near the harbor entrance.

Vessels should contact Port Control prior to arrival on VHF channel 11, 12, 14, or 16.

Anchorage.—Large vessels can anchor, in depths of 25 to 40m, mud and sand, good holding ground, in a rectangular area centered 0.8 mile E of the harbor entrance, but this roadstead is exposed to NE and E winds.

Vessels carrying dangerous goods may anchor in a circular area centered 1.2 miles NE of the head of the N breakwater.

Caution.—The harbor is subject to silting and requires continuous dredging.

Several submarine cables extend from a point on the shore close N of the harbor and may best be seen on the chart.

Vessels should not anchor within 0.5 mile of the head of Dique del Nordeste, due to debris from a cleared wreck.

Port Nador (Beni-Enzar) (35°17'N., 2°56'W.)

World Port Index No. 45762

5.12 Port Nador adjoins the port of Melilla and is Moroccan. The town of Nador is situated 13 miles SW of the port.

Depths—Limitations.—The harbor is protected from the N by Dique Sur, which forms the S part of the port of Melilla. The SE part of the harbor is formed by Dique Principale which extends about 0.7 mile NE and then 0.5 mile NNW. The port is approached through the same entrance, 625m wide, which is used for Melilla. The entrance channel has been dredged to a depth of 13.5m.

The main facilities include Quay No. 2, 303m long, with a depth of 6.3m alongside; Quay No. 3, 307m long, with a depth 8.3m alongside; Quay No. 4, 600m long, with a depth of 8.3m alongside; and Quay No. 5, 400m long, with a depth of 9.5m alongside.

There are facilities for fishing, tanker, ro-ro, reefer, and bulk vessels.

Vessels up to 60,000 dwt and 10.7m draft can be accommodated.

Pilotage.—Pilotage is compulsory for vessels over 50 tons. Pilots can be contacted on VHF channel 16 and board about 0.5 mile NE of Dique Principale. Vessels should send their ETA 72 hours, 48 hours, and 24 hours prior to arrival. The pilot should be contacted when within VHF range and at least 1 hour prior to arrival.

Caution.—A lighted wave recorder buoy is moored 3 miles ESE of the harbor entrance.

Melilla to Oued Kiss

5.13 Restinga de Tofino (35°09'N., 2°47'W.), a large and prominent black rock, is located 11 miles SE of Melilla. It lies on a beach and is surrounded by several smaller rocks.

Azrou Ourhioul (Punta Quiviana), located 15 miles SE of Melilla, is a rocky point and of no great elevation. It is fronted by several islets, one of which is high and conical.

Cap de l'Eau (Ras el Ma) (35°09'N., 2°25'W.), 40m high, is located 26 miles ESE of Melilla. It is formed by a flat headland and marked by several buildings and fortifications. A light is shown from a structure, 8m high, standing on the cape.

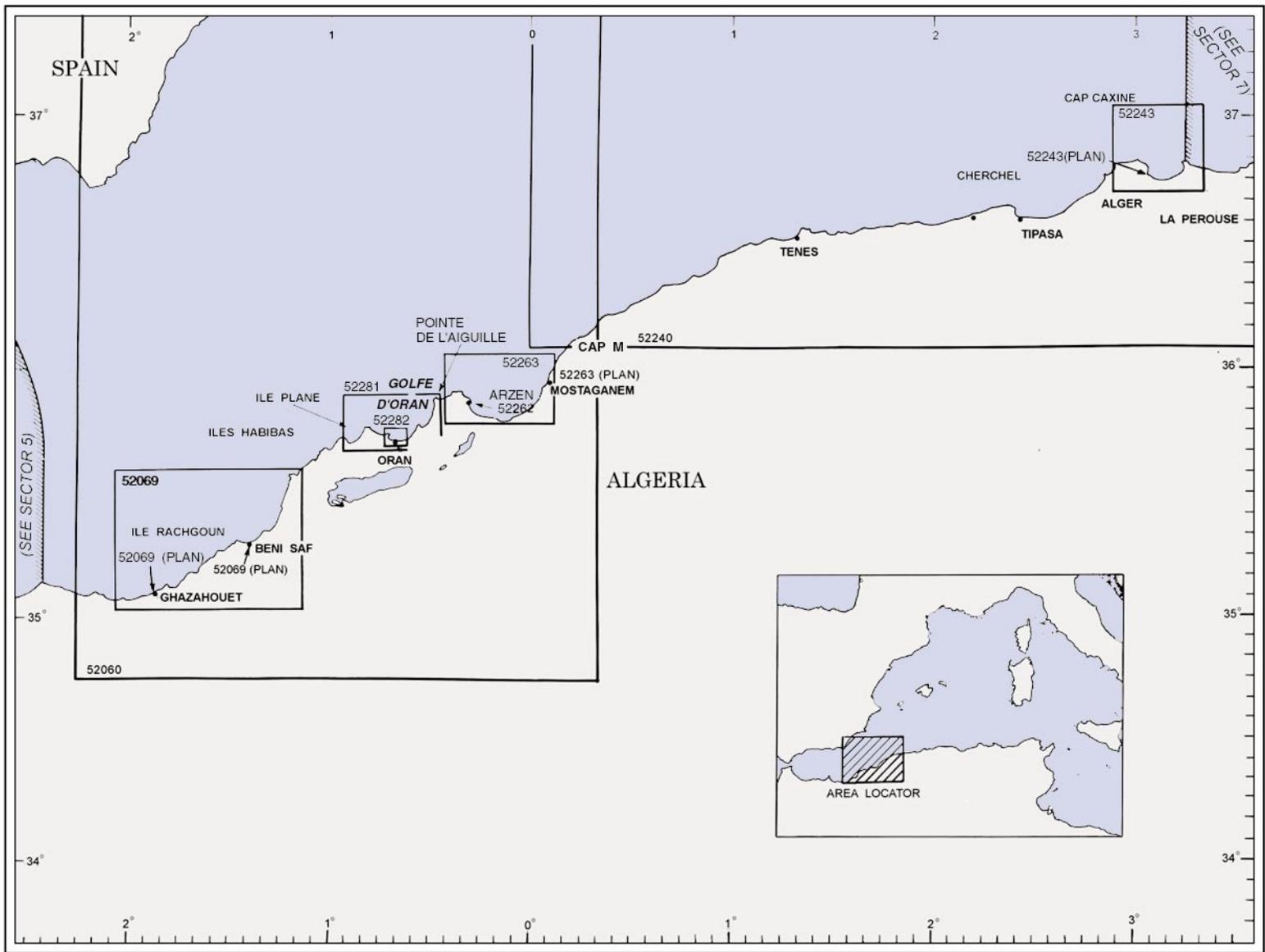
Ras Kebdana, a small harbor on the E side of the cape protected by breakwaters, is used by fishing vessels and yachts.

Islas Chafarinas, which have been previously described in paragraph 5.2, lie 2 miles N of the cape.

A prominent radar tower stands about 6.7 miles SE of the cape.

Oued Moulouya flows into the sea 4.5 miles ESE of the cape and is one of the largest rivers in Morocco.

Saidia (35°05'N., 2°13'W.), a village, is situated 10.5 miles ESE of Cap de l'Eau. It is marked by two conspicuous towers, one of which stands at a bathing resort, nearly 1 mile W of the mouth of Oued Kiss (Oued Skiss). This river forms the boundary between Morocco and Algeria.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 6 — CHART INFORMATION

SECTOR 6

ALGERIA—OUED KISS TO CAP MATIFOU

Plan.—This sector describes the coast of Algeria, between the outlet of the river Oued Kiss (35°05'N., 2°12'W.), which is the seaward end of the boundary between Morocco and Algeria, and Cap Matifou (Bourdj el Bairi) (36°49'N., 3°14'E.), which is the E entrance point of Baie d'Alger. The descriptive sequence is from W to E.

General Remarks

6.1 Tides—Currents.—A current usually sets along the stretch of coast between Ghazaouet and Beni Saf according to the direction of the wind.

A current usually sets in a NE direction along the coast between Cap Figalo and Cap Falcon.

A general current, which rarely attains a rate of more than 1 knot, sets NE and E along the coast between Cap Ivi (Ras Ouillis) and Cap Tenes.

Winds from the NW sometimes give rise to strong currents along the coast between the outlet of the Oued Mazafran and Cap Sidi Ferruch.

Caution.—Tunny nets may be found extending up to 7 miles offshore along this coast.

It is reported (1999) that commercial shipping within Algerian waters should exercise extreme caution and maintain adequate security measures.

Off-lying Islands and Islets

6.2 Ile Leila (Ile Rachgoun) (35°20'N., 1°29'W.), 70m high, lies 1.2 miles NNW of Cap d'Acra. The island is barren, flat-topped, and fringed by rocks. A customhouse stands on its S end. A light is shown from a tower, 15m high, standing near the N end of the island.

The navigable channel, lying between the island and the mainland, is over 0.5 mile wide and vessels using it should favor the island side. A current usually sets through this channel in an E direction.

Anchorage, protected against N and NW winds, can be obtained in the channel S of the island. Small vessels anchor as close under the lee of the island as possible. The bottom is formed of mud and sand, but there are numerous rocky patches that must be avoided.

Iles Habibas (35°43'N., 1°08'W.), consisting of two islands and numerous islets and rocks, lies 9.2 miles NNE of Cap Figalo. The NE and smallest island is 55m high, rounded, and flat-topped. The passage between the two islands is foul.

The larger and SW island is 105m high near its S extremity. A light is shown from a structure, 12m high, standing on the summit of this island.

Vessels proceeding through the channel between this group and the mainland should not approach within 1 mile of the islands. The currents in the vicinity of the group are strong and irregular.

Les Moules (35°42'N., 1°01'W.), two rocks, lie 2.5 miles N of Cap Sigale. They are 6m and 7m high and are steep-to except on their N sides. Shoals lies up to 0.2 mile NE and up to 0.5 mile E of these rocks. A stranded wreck lies 0.5 mile SSW of the rocks.

Ile Plane (35°46'N., 0°54'W.), a large rock, lies 3 miles NE of Cap Lindles. It has an irregular summit that appears level from a distance. This rock is 18m high and steep-to, except off its W side, which is fronted by several small rocks. A light is shown from a structure, 6m high, standing on this rock.

Vesta Rock lies about 0.6 mile NNW of Ile Plane. It has a depth of 3.7m and does not break with a moderate sea. The channel lying between Ile Plane and Cap Lindles is clear of dangers.

Ilot Tokikt Indich (36°36'N., 1°51'E.), 3m high, lies 3 miles NE of the village of Villebourg. This islet is flat-topped, rocky, and steep-to. It is marked by a light and should be given a wide berth in bad weather.

Oued Kiss to Ghazaouet

6.3 Le Kiss (35°05'N., 2°11'W.), a village, is situated 0.5 mile E of Oued Kiss (Oued Skiss). The mouth of this river forms an opening which is clearly visible when approaching from the W. A bluff promontory, surmounted by a conspicuous white minaret, stands near the village and is prominent.

Open anchorage can be obtained, in a depth of 12m, mud and sand, NNW of the village.

Cap Milonia (35°06'N., 2°09'W.), located 3 miles ENE of Oued Kiss, appears from the N as a rocky mass standing between two extensive beaches. It is fronted by foul ground and should not be closely approached.

Daklah, a hill, stands 0.7 mile S of the cape and is 212m high. It is surmounted by a signal station which operates only by day.

Cap El Kel'a (Pointe Bou Madane) is located 2 miles ESE of Cap Milonia. The E side of this point affords the only suitable anchorage during W winds on this coast. Kelah, a small loading port, lies at the E side of the point and has a transporter for loading ore. There is a quay, 111m long, with a depth of 7m alongside and several mooring buoys. Vessels up to 100m in length and 6.5m draft have been accommodated.

Ghazaouet (35°06'N., 1°52'W.)

World Port Index No. 45670

6.4 The port of Ghazaouet (Nemours) lies 17 miles E of the mouth of Oued Kiss close to the border with Morocco and is protected by a breakwater.

Tides—Currents.—There is no tidal rise. The water level increases with W winds and decreases with E winds. Usually, variations in the level are less than 0.3m.

Depths—Limitations.—The harbor is approached through an outer channel, 225m wide, with depths of 12 to 20m, and through an inner channel, 166m wide, with a depth of 10m.

The main facilities are situated within three basins. Bassin de Skikda (N part of East Basin) lies in the NE part of the harbor and contains seven berths. It has 677m of total berthing space, with depths of 6.8 to 7.2m alongside.

Bassin d'Oran lies in the SE part of the harbor (S part of East Basin) and contains six berths. It has 631m of total berthing space with depths of 7.0 to 7.3m alongside.

Bassin de Macherek (West Basin) lies in the S part of the harbor and contains four berths. It has 409m of total berthing space, with a depth of 8.5m alongside.

There are facilities for tanker, bulk, and ro-ro vessels. Vessels up to 180m in length and 8.5m draft can be accommodated.

Aspect.—Djebel Fillaoussene, 1,136m high, and Tadjera, 861m high, stand 10 miles SE and 9.5 miles ENE, respectively, of the harbor and are the most prominent distant landmarks.

Plateau de Touent, a tableland, stands at the E end of the port and dominates the town. It is surmounted by a watch tower which is a radar station.

The harbor is protected on the N side by a breakwater which extends 0.6 mile W from the W side of Plateau de Touent.

A light is shown from a structure, 12m high, standing 0.5 mile SSW of the breakwater head. When approaching from the E, this light is obscured by Plateau de Touent. A conspicuous chimney is reported to stand 0.5 mile SSE of the breakwater head.

Les Deux Freres, two columnar rocks, lie on the S side of the harbor entrance. The W and taller of these rocks is 24m high and is marked by a light. Two above-water rocks lie between these rocks and the coast.

Pilotage.—Pilotage is compulsory for vessels of more than 100 nrt. Pilots may be contacted on VHF channel 12 or 16 and generally board about 0.3 mile NW of the entrance. Vessels must receive permission by VHF from the port control office before entering the harbor. Vessels must remain W of the entrance while awaiting the pilot and maintain a listening watch on VHF channel 14 or 16 during the wait.

Anchorage.—Open anchorage can be obtained, in depths of 18 to 22m, N of the breakwater. The roadstead has a fairly good holding ground of fine sand, but it is not recommended in bad weather.

Caution.—During W winds, entry requires care because of the swell in the entrance and in the W part of the harbor.

The N breakwater should not be approached closer than 20m, because of its underwater slope.

A wreck, with a depth of 33m, lies about 1.2 miles NE of the harbor entrance.

Ghazaouet to Oran

6.5 Cap Tarsa (Tarca) (35°08'N., 1°48'W.), located 3.5 miles NE of Ghazaouet, is formed by a whitish, rocky, double headland. Baie Erkene, entered close E of the cape, affords temporary shelter from W winds.

Mers Arobat and Oued Kiouma are two conspicuous breaks in the line of rocky cliffs, 90m high, which extend from near Cap Tarsa to Cap Noe, 6.5 miles NE.

Mersa Honaine (Baie de Honain) is entered on the E side of Cap Noe and affords shelter. Small vessels, with local knowledge, can anchor, in a depth of 6m, muddy sand, good holding ground, close offshore; however, it is exposed to NW winds.

The ruins of a town, with a conspicuous tower standing close NE, are situated behind the beach at the head of the bay.

Ile de Mokrane (35°13'N., 1°38'W.), lying 3.5 miles NE of Cap Noe, is a conspicuous islet. Two pointed rocks, 40m high, stand at its W end. The passage inshore of the islet is obstructed by rocks.

Loubar Damah (Khizrane), located 2.5 miles NE of Ile de Mokrane, is a small peninsula which can be identified by three rocks lying close off it. Coves, used by small craft, lie on each side of this peninsula.

Ile Nigria (Ile Ronde) lies about 0.3 mile off the coast, 8.5 miles NE of Cap Noe. This islet is 28m high and has vertical sides.

Djebel Bou Keltoum, 364m high, stands 1.5 miles ESE of Ile Nigria and its summit is surmounted by a prominent watch tower.

Anse Sidi Medani, located 2.3 miles E of Ile Nigria, is bordered by conspicuous red and yellow cliffs. A white shrine stands on the summit of a hill, close S of this small bay.

Ile Leila (Ile Rachgoun) (35°19'N., 1°29'W.), lying 4.7 miles NE of Ile Nigria, is described in paragraph 6.2.

Dzira es Srhira (Ilot Siga) lies 0.2 mile N of the coast, 1.8 miles NE of Anse Sidi Medani. This islet is 18m high and several rocks lie between it and the mainland.

Cap d'Acra (35°19'N., 1°28'W.) is located 1 mile ENE of Dzira es Srhira. Le Pain de Sucre, a small islet, lies close offshore, 1 mile E of the cape.

6.6 Beni Saf (35°18'N., 1°23'W.) (World Port Index No. 45660), a small port, lies 3.5 miles E of Cap d'Acra and is mostly used for the export of iron mining products.

Tides—Current.—There is no apparent tidal rise. An E current is reported to exist off the harbor entrance.

Depths—Limitations.—An outer breakwater extends about 200m NNW and then 500m NE. The harbor entrance is 160m wide. The main facilities include West Quay, 200m long, with depths of 8.5 to 9m alongside, and East Quay, 70m long, with depths of 6 to 8m alongside. Vessels up to 170m in length and 8.5m draft can be accommodated.

Pilotage.—Pilotage is not compulsory, but is recommended. Pilots are available from Ghazaouet with advance notice. The port can be contacted on VHF channel 16.

Anchorage.—Vessels may anchor in the harbor and secure their sterns to one of the jetties. The holding ground is good, being of fine sand. Anchorage can also be taken, in depths of 20 to 28m, about 0.5 mile N of the harbor.

Caution.—A sand bank extends about 320m NE from the head of the breakwater.

The harbor is subject to silting.

In heavy weather, seas may break up to 1 mile offshore and entry is dangerous.

During fresh N or NW winds, local knowledge is required as entry is somewhat difficult.

6.7 Hafa Ta'chlouh, located 4 miles NE of Beni Saf, rises to Aouaria, a rounded and conical summit, 273m high.

Djebel Sidi Kassem, 353m high, and Dar Touila, 307m high, stand 7 miles and 11 miles, respectively, NE of Cap Oulassa. Both of these peaks are conspicuous from seaward.

6.8 Cap Figalo (Cap Fegalo) (35°34'N., 1°12'W.), located 15 miles NNE of Cap Oulassa, is easily recognized from all directions. It rises steeply to a rounded hill, 182m high, which is surmounted by a prominent signal station. Several conical rocks lie close off this cape and a small islet, with a pointed summit, lies 0.3 mile W of it.

Cap Sigale (Cap Blanc) is located 11 miles NE of Cap Figalo. The coast between is backed by hills up to 400m high. The cape is formed by a long, rounded projection, 305m high, and is faced with a conspicuous white cliff.

Les Moules (35°42'N., 1°01'W.) lie off Cap Sigale and are described in paragraph 6.2.

Cap Lindles, located 5 miles NE of Cap Signale, is faced with steep cliffs.

Baie des Andalouses is entered between Cap Lindles and Pointe Corales, 6 miles NE. This bay affords shelter from winds from the ENE through S to WSW. Vessels may anchor in its W part over a bottom of sand.

Pointe Corales is formed by the NW extremity of a promontory, 67m high, and is fronted by several above-water rocks. An airport is situated 2 miles SSE of the point.

Cap Falcon (35°46'N., 0°48'W.) is the rocky NE extremity of the promontory of which Pointe Corales is the NW extremity. From a distance, this cape appears as an island. Two large above-water rocks lie close NE of the cape and an islet, fringed with rocks, lies 0.2 mile N of the N side of the cape. A light is shown from a tower, 27m high, standing on the cape.

6.9 Golfe d'Oran (35°46'N., 0°43'W.) lies between Cap Falcon and Cap de l'Aiguille, 17 miles ENE. The ports of Mers el Kebir and Oran are situated at the head of this bight.

Cap Gros, located 4.7 miles ESE of Cap Falcon, is 70m high. Ain-el-Turk, a village, is situated 3.5 miles W of this cape. A prominent belfry stands in the village, and a conspicuous group of radio masts is situated 0.8 mile NW of it.

Caution.—A submarine cable area, the limits of which are indicated on the chart, extends seaward between Cap Falcon and Cap Gros.

A bank, with a least depth of 15m, lies about 2.7 miles NW of Cap Gros.

A submerged target lies 2.7 miles NNE of Cap Gros. An anchoring and trawling prohibited area, the limits of which are shown on the chart, is situated in the vicinity of this target.

6.10 Mers el Kebir (35°44'N., 0°42'W.) (World Port Index No. 45650) lies on the SW side of Golfe d'Oran, close S of Cap Gros. It mostly consists of naval installations and a military harbor.

Tides—Currents.—Due to W winds, the general current in Golfe d'Oran sets to the E and rebounds off Cap de l'Aiguille, creating a countercurrent. The latter passes along the coast and the jetties of the port. With E winds, the general current sets W without a countercurrent.

Depths—Limitations.—The harbor can accommodate vessels of moderate size. The commercial facilities include three

moles, with depths of 8.5 to 9m alongside, and a quay, situated in the S part of the harbor, with a depth of 12m along-side.

Aspect.—A small peninsula projects 0.5 mile E from close S of Cap Gros and is surmounted by a fort. The N breakwater extends 0.5 mile SE and then 0.6 mile ESE from the extremity of this peninsula.

Djebel Santon, 306m high, stands 0.7 mile WSW of the peninsula and a prominent fort is situated on its summit.

Djebel Murdjadjo, 509m high, stands between Mers el Kabir and Oran. From the NW to NE, this hill appears flat-topped with a vertical fall at the E end which joins an elevated but lower plain. The conspicuous fort of Santa Cruz stands at a height of 352m at its E end. A prominent chapel is situated close below and to the E of the fort.

The S breakwater extends 300m N and then 0.8 mile NW from a point on the shore, 0.2 mile N of the chapel.

A lighted range indicates the fairway between the two breakwater heads and may best be seen on the chart.

Pilotage.—Pilotage is compulsory. Pilots can be contacted by VHF and board close outside of the entrance.

Regulations.—Mers el Kebir is a military port. All merchant, fishing, and pleasure vessels are prohibited from navigating in the entrance and approaches. Entry is only possible with authorization secured from the naval authorities at Oran.

Caution.—Winds from the N may render several alongside berths untenable. Winds from the WSW sometimes produce heavy swells within the harbor. Winds from the SW and NW, which are more frequent, may cause waves to slam against some of the quays. Winds from the NE and ENE are rare but troublesome, and produce swells from 3 to 4m high in the harbor entrance. With W winds, violent squalls sometimes blow through a ravine in the high land and force vessels to leave the harbor.

Oran (35°42'N., 0°38'W.)

World Port Index No. 45640

6.11 The port of Oran lies at the head of Golfe d'Oran, close E of Mers el Kebir, and is protected by breakwaters.

Tides—Currents.—The tidal rise varies little throughout the year. Winds from the W raise the water level in the harbor and winds from the E lower it. The level may vary by up to 0.7m.

During W gales, a current sets S across the harbor entrance.

Depths—Limitations.—The harbor is divided into seven basins.

Bassin Ghazaovet, situated at the inner end of the harbor, is mostly used by small naval vessels. Vieux Port Basin, situated S of Bassin Ghazaovet, is mostly used by harbor service craft and pleasure craft.

The main facilities within the other five basins include about 4,000m of total berthing space, with depths of 6.1 to 12m alongside. In addition, there is 448m of total berthing space for tankers with depths of 9.8 to 11.6m alongside.

There are facilities for general cargo, tankers, ro-ro, container, and bulk vessels. Vessels up to 244m in length and 11.6m draft can be accommodated.

Aspect.—Pointe Mona is located 0.3 mile E of the root of the S breakwater at Mers el Kebir. This point is surmounted by Fort Lamoune and has a conspicuous cave at its W side.

Jetee Filauoussene, the N breakwater, extends 1.5 miles in an E direction from Pointe Mona.

A prominent cathedral stands in the city, which has a tier-like appearance from seaward, 0.9 mile SE of the root of the N breakwater. A very conspicuous high-rise apartment building stands 0.7 mile SE of the head of the N breakwater. The Aloudja Farm, situated 0.5 mile E of the apartment building, is surrounded by trees and stands isolated at the top of a cliff.

The harbor entrance lies between the extremity of a spur, which projects SSE from close inside the N breakwater, and Traverse du Large, a breakwater, which extends NNW from the coast. A light is shown from a prominent structure, 15m high, standing on the head of the N breakwater.

Pilotage.—Pilotage is compulsory. Pilots may be contacted on VHF channel 12, 14, or 16. Vessels should contact the pilot station 3 hours prior to arrival. Pilots board 0.5 mile N of the breakwater entrance.

Anchorage.—Anchorage is available in the roadstead and within the harbor. The best anchorage, in depths of 26 to 40m, is off the entrance, but clear of the prohibited area.

Caution.—An anchoring prohibited area lies adjacent to the harbor entrance and in the outer port and may best be seen on the chart.

Several wrecks lie in the vicinity of the harbor entrance and may best be seen on the chart.

A submarine cable lies within the harbor and may best be seen on the chart.

Oran to Golfe d'Arzew

6.12 Pointe Canastel (Kef el Menzah) (35°47'N., 0°33'W.), located 5 miles NE of the entrance to Oran, is fringed with rocks and rises to a steep-sided hill, 123m high. A conspicuous stranded wreck lies close to the shore, 0.5 mile SW of the point.

Djebel Khar, 620m high, stands 2.7 miles E of the point. It is isolated and is visible up to 50 miles seaward in clear weather.

Cap de l'Aiguille (35°53'N., 0°29'W.), located 5.7 miles NNE of Pointe Canastel, is formed by a rocky projection which is dominated by a hill, 225m high. A light is shown from a structure, 11m high, standing on the cape. A radiobeacon is situated close to the light.

Djebel Kristel, 510m high, stands 2 miles SE of the cape. A disused signal station tower stands on the summit. Djebel Orousse, 631m high, stands 1.5 miles ENE of Djebel Kristel.

Rocher de l'Aiguille, 48m high, lies 1 mile NE of Cap de l'Aiguille. This conical rock is joined to the coast by a reef.

Cap Ferrat (35°55'N., 0°23'W.), located 5.2 miles ENE of Cap de l'Aiguille, is rocky and 215m high. A prominent hill, 398m high, stands 1.3 miles S of the cape.

Cape Carbon (35°55'N., 0°20'W.), 141m high, rises to a rocky rounded hill, which from a distance NW, appears detached. This cape is the NW extremity of the promontory of which Cap Ferrat is the W extremity. It is fronted by rocks and shoals which extend up to 0.6 mile seaward.

Golfe d'Arzew

6.13 Golfe d'Arzew (35°52'N., 0°08'W.) is entered between Cap Carbon and Cap Ivi (Ras Ouilles) (36°07'N., 0°13'E.), 30 miles ENE. The port of Arzew is situated at the W side of the gulf. Port de Bethioua (Arzew El-Djedid), a natural gas terminal, is situated at the head. Mostaganem is situated at the E side of the gulf.

Ile d'Arzew is the SE of a group of islets which lie about 0.2 mile off the coast, 3 miles SE of Cap Carbon. A light is shown from a structure, 12m high, standing on this islet. The whole group is fringed with rocks and shoals.

Banc de Madrague, with a least depth of 9.3m, lies about 1 mile SSE of Ile d'Arzew and is marked by a lighted buoy.

Banc des Trois Doigts, with a least depth of 4.3m, extends up to about 0.2 mile offshore, 0.6 mile S of Ile d'Arzew.

The town of Arzew is not visible from seaward until close off it, but Arzew Hill, 216m high, stands 2.7 miles S of Cap Carbon and is prominent.

Numerous prominent structures, associated with the oil and gas industry, stand along the coast of the gulf which extends S and SE from the town of Arzew.

A prominent power station stands 2.5 miles E of Port de Bettioua (Arzew el Djedid) and a conspicuous white house is situated close E of it.

The town of Mostaganem is conspicuous from seaward because its white buildings show up well against the grey hills of the background.

Oued Cheliff flows into the sea through a conspicuous ravine, 6.5 miles SW of Cap Ivi. From the W, a prominent detached conical hill appears in the ravine about 1 mile inland. The river is spanned by an iron bridge, 0.5 mile from its mouth, and a conspicuous building stands on its N bank. A low point, formed by the alluvium of the river, extends seaward from the high land on either side of the ravine; this point is extending seaward and should be given a wide berth.

The red, muddy waters discharged by this river can generally be observed as far as 2 miles from the mouth. These waters have been carried as far as 15 miles to the N by strong W winds.

Winds—Weather.—It should be noted that at times the seas are high in the gulf. With strong NW or N winds, such seas are deflected SW by the E shore of the gulf between Mostaganem and Cap Ivi and reach the roadstead off Arzew.

Tides—Currents.—A W current, which is strong at times, usually sets along the shore of the gulf and flows E out of the gulf at Arzew.

Caution.—The shores of the gulf are, in most places, low and the background hills stand at some distance inland. Caution is necessary at night or in bad weather, because the land appears to be much farther off than it is in reality.

Several wrecks and obstructions lie within the gulf and may best be seen on the chart.

A submarine pipeline extends 2.5 miles SW from a point on the E shore of the gulf, 4.5 miles NNE of Mostaganem. Its seaward end is marked by a buoy.

Arzew (35°51'N., 0°18'W.)

World Port Index No. 45630

6.14 The port of Arzew lies on the W side of Golfe d'Arzew, 1.3 mile SSW of Ile d'Arzew. It consists of a harbor, protected by a breakwater and a jetty, and an offshore sea terminal.

Depths—Limitations.—The harbor is protected on its E side by Jetee du Large, a breakwater, which extends 0.3 mile SSE and then 0.4 mile SE from the shore close S of Fort de la Pointe. It is also protected on the S side by Jetee Secondaire, which extends 0.3 mile NE from the shore of the bay.

General cargo and bulk quays, which are situated in the N part of the harbor, have 900m of total berthing space with depths of 5 to 8m alongside. They can accommodate vessels with drafts up to 7.2m.

Jetee Methanier, which extends from the W side of the harbor, has two methane berths, each 400m long with a depth of 9.8m alongside. Vessels up to 40,000 cubic meters capacity and 9.4m draft can be accommodated.

Jetee Secondaire has two LPG and Ammonia berths with depths of 10 to 11m alongside. Vessels up to 25,000 cubic meters capacity and 9.8m draft can be accommodated.

Three tanker berths are situated at the inner side of Jetee du Large and have depths of 10 to 15.5m alongside. Vessels up to 120,000 dwt and 14.9m draft can be accommodated.

An offshore sea terminal lies 1.4 miles SE of the head of Jetee du Large, in a depth of 26m. A submarine pipeline extends SW from the terminal berth to the shore of the bay. This terminal can accommodate vessels up to 250,000 dwt.

A fishing jetty is situated in the NW section of the harbor.

Aspect.—Fort de la Pointe stands 0.9 mile SSW of Ile d'Arzew and Jetee Abri, a breakwater, extends 250m ESE from the shore adjacent to it.

The town of Arzew is not visible from the offing, but a number of prominent structures, associated with the oil and gas industry, extend along the coast for 2.5 miles S and SE of the town. One of these, a conspicuous flare, is situated at a natural gas plant, 1 mile WSW of the head of Jetee du Large. In addition, four other prominent flares are situated in the vicinity of Arzew El-Djedid.

Lighted buoys are moored 1.5 miles E and 0.9 mile SE of the harbor entrance and indicate the approach. Another lighted buoy is moored close ESE of the head of Jetee du Large.

For additional information, see Golfe d'Arzew in paragraph 6.13.

Pilotage.—Pilotage is compulsory for vessels intending to enter the harbor or anchor. Pilots can be contacted on VHF channel 13, 14, or 16 and generally board about 2.5 miles ESE of the entrance or at the anchorage. Vessels should send an ETA message 72 hours and 48 hours in advance, with a confirmation 12 hours before arrival, through Saint Lys (FFL).

Anchorage.—The roadstead is sheltered from winds from the N to NNE, but heavy seas are sometimes experienced, especially with NW winds. The bottom consists of mostly rocks, sand, and mud. Vessels waiting to berth should anchor, in a depth of 69m, in the vicinity of the pilot boarding place, about 2.3 miles E of the head of Jetee du Large. The holding ground is reported to be poor.

Caution.—Draft limitations should be confirmed with the port authority prior to entering the harbor.

Lighted buoys at the port are reported to be unreliable.

An anchoring and fishing prohibited area, the limits of which are shown on the chart, extends up to 0.8 mile E of the head of Jetee Abri.

A tanker prohibited anchorage area, the limits of which are shown on the chart, extends up to 4 miles NE of the port.

Tunny nets may be found, from July to December, within an area, the limits of which are shown on the chart, lying 0.3 mile SE of Ile d'Arzew.

Bettioua (35°48'N., 0°15'W.)

World Port Index No. 45635

6.15 Port de Bettioua (Arzew el Djedid) lies at the head of Golfe d'Arzew, 2 miles SE of Arzew. The harbor is used for the export of natural gas and fronts the town of Bettioua.

Depths—Limitations.—The harbor is protected by a detached breakwater, 1 mile long, which lies parallel to the shore and 0.7 mile from it. In addition, E and W breakwaters extend seaward from the coast.

There are six LNG berths, 430 to 480m long, each with a depth of 13.5m alongside. Vessels up to 200,000 cubic meters can be accommodated.

There is one LPG and Ammonia Berth, 360m long, with a depth of 13m alongside. Vessels up to 120,000 cubic meters can be accommodated.

There are three crude concentrate berths, 460 to 480m long, with depths of 23.5 to 26.5m alongside. Vessels up to 250,000 dwt and 26.4m draft can be accommodated.

Aspect.—See Arzew (paragraph 6.14) and Golfe d'Arzew (paragraph 6.13).

Lighted buoys are moored close off the ends of the detached breakwater.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 12 and generally board (two pilots) about 1 mile NE of the E entrance. Link calls by VHF can be established through Arzew (7TW) and Oran (7TO).

Anchorage.—Vessels generally anchor, in depths of 60 to 70m, between 1 and 1.5 miles N of the detached breakwater. The holding ground is reported to be poor.

Caution.—A dangerous wreck lies in the E approaches to the harbor, 2 miles ENE of the E end of the detached breakwater.

Mostaganem (35°56'N., 0°05'E.)

World Port Index No. 45620

6.16 The port of Mostaganem (Mestghanem) lies on the E side of Golfe d'Arzew, 7 miles SSW of the mouth of Oued Chelif.

Depths—Limitations.—The harbor is protected by Jetee du Large, a breakwater, which extends 0.7 mile SW from the N part of the town.

The main facilities consist of eight berths, 115 to 217m long, with depths of 4 to 8.2m alongside. There are facilities for

general cargo, bulk, ro-ro, and fishing vessels. Vessels up to 180m in length and 8.2m draft can be accommodated.

Aspect.—The buildings of the town are prominent. A spire, situated at the E side of the town, is conspicuous.

A light is shown from a structure, 10m high, standing at the head of Jetee du Large. A radiobeacon is situated at the light.

A lighted buoy is moored about 0.7 mile SW of the head of Jetee du Large and marks the coastal bank.

For additional landmarks, see Golfe d'Arzew (paragraph 6.13).

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 16 and generally board about 0.5 mile from the entrance. Except in the case of an emergency, entry does not take place at night.

Anchorage.—Anchorage can be obtained, in a depth of 25m, about 0.7 mile W of the harbor entrance; the bottom is clay covered with sand, but there are some rocky patches which should be avoided.

Caution.—The roadstead is completely exposed and winds from between the W and N render it dangerous.

During the strong N and W winds and high seas of winter and spring, the port is subject to frequent closings.

Golfe d'Arzew to Baie d'Alger

6.17 Cap Ivi (Ras Ouilles) (36°07'N., 0°14'E.) is not a conspicuous landmark, but is backed by mountains. From the SW and NE, this cape appears as a plateau, 20m high, falling steeply to the sea. A light is shown from a tower surmounting a building, 18m high, standing on the cape.

A patch of dark vegetation, 31m high, stands on a large white sandhill, close W of the cape.

Djebel Korima, 294m high, stands 1.5 miles SE of Cap Ivi. A prominent reddish watch tower is situated on its summit and a village stands on its NE slope.

Kef el Asfer, located 7 miles NE of Cap Ivi, is a low and dangerous point. In bad weather, vessels may be deceived by the loom of the hills behind it, which stand some distance inland.

Oued Kaddous, located 13.5 miles NE of Kef el Asfer, is easily identified from the N. A conical hill, 119m high, stands on its E side and is surmounted by a building.

Oued Khamis, located 3 miles NE of Oued Kaddous, is open to the W and easily identified from the W and NW by several large yellow sand hills which stand near it.

Cap Kramis (36°20'N., 0°40'E.), located 1 mile NE of Oued Khamis, is faced with steep cliffs which appear red when illuminated by the setting sun.

Djebel Srim, 778m high, Djebel Tachta, 787m high, and Djebel Hallouda, 821m high, stand between 6 and 9 miles SE of the cape and are conspicuous. When seen from between the WNW and NNW, these mountains appear as a saddle-shaped group.

Pointe Colombi (36°26'N., 0°56'E.) is located 15 miles NE of Cap Kramis. A light is shown from a structure, 29m high, standing on the point.

Ile Colombi (Ilot Nadji) lies about 0.3 mile offshore, 1 mile WSW of the point. It is 29m high and marked by a lighted beacon.

Pointe Rouge is located 8 miles ENE of Pointe Colombi. Small vessels, with local knowledge, can anchor in El Mersa, a bay, entered close E of the point.

Cap Kalah (36°20'N., 0°40'E.), located 4 miles ENE of Pointe Rouge, is fronted by a rock, 6m high. Small vessels, with local knowledge, can anchor in Baie de Mainis, which is entered 2 miles E of the cape.

Jebel Bou Mecaoud, 748m high, stands 3 miles SSW of the cape and is prominent.

6.18 Tenes (36°32'N., 1°19'E.) (World Port Index No. 45610), a small port, lies 6 miles ENE of Cap Kalah and is protected by a detached breakwater.

Depths—Limitations.—The harbor can be entered from either end. The W entrance is preferred, as the E entrance is suitable only for small craft. There is 420m of total berthing space with depth of 6 to 7m alongside. Vessels up to 120m in length and 6.4m draft can be accommodated.

The port is difficult for large vessels to maneuver in.

Aspect.—A conspicuous grain silo, 47m high, stands on the SW jetty of the harbor. The town is situated 1 mile SW of the harbor and is prominent.

Pilotage.—Pilotage is compulsory of more than 100 nrt. The port may be contacted on VHF channel 14 or 16 and a private pilot is reported to be available. Local knowledge is advised. Tugs are compulsory for vessels of more than 500 gt.

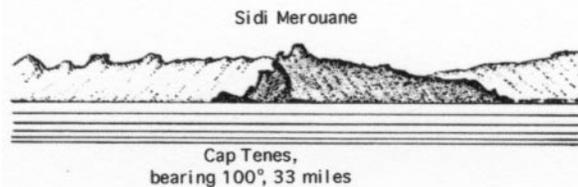
Anchorage.—During the summer, anchorage can be obtained, in depths of 14 to 16m, sand, good holding ground, about 0.6 mile N or NNW of the town. During the winter, it is advisable to anchor farther NW because of the W winds.

Caution.—The roadstead is exposed to winds from between the W and N, and the sea breaks at a considerable distance offshore.

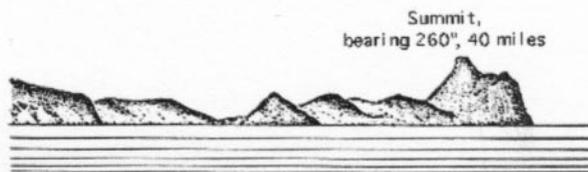
6.19 Cap Tenes (36°33'N., 1°22'E.), located 1.7 miles NE of Tenes, extends 2 miles E from its W extremity. It is rocky and dominated by Sidi Merouane, 642m high. From the W or E, the cape appears, at a distance, to be steep-sided with a rounded top surmounted by a sharp peak. From the N, it appears lower than in reality.

A light is shown from a tower, 26m high, standing on the W end of the cape. A radiobeacon is situated at the light.

Djebel Taznount, 786m high, stands 4 miles SE of the cape and is conspicuous.



Cap Tenes from W



Cap Tenes from E

Baie de Terarenia is entered 0.8 mile SSE of Kef Arend, the E extremity of the cape. It affords shelter from W winds. Vessels, with local knowledge, can anchor, in depths of 8 to 12m, 0.3 mile from the head of the bay.

Souhalia, a conical mountain, stands close to the shore, 3 miles E of Baie de Terarenia. It is 307m high and fairly conspicuous. Baie des Souhalias, entered 1.5 miles E of this mountain, affords anchorage in its E part in good weather.

Pointe Abd el Kaderar, located 10.5 miles E of Cap Tenes, rises to a hill, 274m high; the W slope of this hill forms a point, through which, from the NE to SW, runs a tunnel.

6.20 Baie des Beni Haoua (36°32'N., 1°35'E.) lies between Pointe Abd el Kader and Ilot Sidi Djilani, 1.2 miles E. It affords anchorage, sheltered from E winds, in the lee of Ilot Sidi Djilani to small vessels.

Djebel Bou Toul, 624m high, stands 3 miles ESE of Baie des Beni Haoua and is prominent.

Rocher Djilari, 8m high, stands in the middle of a sandy beach, 6.5 miles E of Pointe Abd el Kader. A rock, awash, lies about 0.2 mile N of Rocher Djilari.

Oued Damous enters the sea 0.7 mile E of Rocher Djilari. It flows through a conspicuous gap in the mountains which are 488 to 610m high.

Villebourg (36°33'N., 1°48'E.), a prominent village, is situated 5.5 miles E of the mouth of Oued Damous. Small vessels, with local knowledge, can obtain anchorage off this village in good weather.

Ilot Tokikt Indich (36°36'N., 1°51'E.) lies 3 miles NE of the village and is described in paragraph 6.2.

Gouraya, another village, is situated 5 miles E of Villebourg. It is easily identified by the white houses which show up against a green background.

Pointe Teska (36°35'N., 1°55'E.), located 0.8 mile E of Gouraya, ends in low cliffs. This point is surmounted by some ruins and fringed by a reef.

Ilot Taourira, a small islet, lies close offshore, 7 miles E of Pointe Teska. It is round-backed and 10m high.

Novi, a village, is situated 3.2 miles E of Ilot Taourira and is conspicuous from seaward.

6.21 Cherchel (36°37'N., 2°11'E.) (World Port Index No. 45590), a small port, lies 13.5 miles E of Pointe Teska. The harbor is situated between Ilot Joinville and the coast, close S of it.

Depths—Limitations.—The entrance fairway is 24m wide. There is 520m of total berthing space with depths of 3.5 to

4.2m alongside. Small vessels up to 3.6m draft can be accommodated. An open roadstead for large vessels which should only be used in fair weather.

Aspect.—The town, situated immediately S of the harbor area, stands out against a background of green hills.

A light is shown from a tower, 26m high, standing on the summit of Ilot Joinville. This light tower is conspicuous against the sky when approaching from the E or W, and against a background of vegetation when approaching from the N.

Anchorage.—The roadstead is entirely exposed and even moderate breezes raise a heavy sea. In good weather, anchorage can be obtained, in a depth of 14m, sand, off the harbor, but great care should be taken because the bottom is rocky in many places.

6.22 Cap Blanc (36°37'N., 2°14'E.), located 2.3 miles E of Cherchel, is faced with yellow cliffs.

Ecueil du Sphinx, a shoal, is located 2.5 miles ENE of Cap Blanc. It has a least depth of 1.8m and lies at the N end of a rocky spit.

Ilot Berinshel, 20m high, lies about 0.3 mile offshore, 5.2 miles ENE of Cap Blanc. This islet is surrounded by foul ground.

Ras el Amouch (36°38'N., 2°24'E.) is located 8 miles ENE of Cap Blanc. A prominent hill, 158m high, stands above this point and is surmounted by a disused signal station.

Djebel Chenoua, 904m high, stands 2.2 miles SW of the point and is very conspicuous.

Cap Chenoua, about 0.5 mile SSE of Ras el Amouch, is marked by a factory.

Anse des Carrieres is entered between Ras el Amouch and Cap Chenoua, 0.6 mile SSE. Small vessels, with local knowledge, can obtain shelter within this bay. Anchorage can be taken, in a depth of 9m, sand and rocky patches, about 0.2 mile offshore. A prominent factory is situated on Cap Chenoua.

Baie de Chenoua, a small and open bay, is entered S of Cap Chenoua. It affords shelter from W and NW winds to small vessels with local knowledge. Anchorage can be obtained, in depths of 12 to 13m, sand, about 0.2 mile offshore.

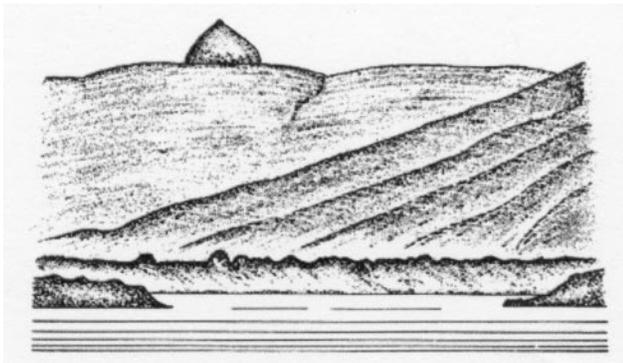
6.23 Ras el Kalia (36°36'N., 2°27'E.) is located 3 miles SE of Ras el Amouch. A light is shown from a structure, 11m high, standing on the point. A prominent radio mast is situated about 2 miles SE of the point.

Banc des Romains, with depths of 8 to 18m, lies about 0.4 mile NNE of the point. Ilots Sidi-Said, two small islets, lie on a shoal bank, about 0.5 mile E of the point.

Tipasa (36°36'N., 2°27'E.) (World Port Index No. 45580), a small town, is situated close SSE of Ras el Kalia and is fronted by a small craft harbor. Large vessels can obtain open anchorage, in depths of 20 to 30m, off the town, N of Banc des Romains. Small vessels can anchor, in depths of 12 to 14m, S of this bank.

Tombeau de la Chretienne, a conspicuous landmark, stands 5 miles ESE of Tipasa and surmounts the crest of a range of rocky hills which border the coast. It consists of a rugged cone, 33m high, which at a distance, appears as a large haystack.

Bou Aroun and Chiffalo, two small and shallow fishing boat harbors, front the coast 10.5 miles and 11.5 miles, respectively, ENE of Tipasa.



Tombeau de la Chretienne, bearing 125°, distant 3 miles

Oued Mazafran flows into the sea 8 miles NE of Bou Aroun. In good weather, anchorage can be obtained by small vessels, with local knowledge, off the stretch of coast between Tipasa and the mouth of this river.

Vessels can anchor, in a depth of 18m, SW of and about 0.5 mile from a large rock lying close off the W extremity of Cap Sidi Ferruch (36°46'N., 2°51'E.).

Small vessels, with local knowledge, can obtain anchorage off Ain Benian (Guyotville) (36°48'N., 2°56'E.).

6.24 Cap Sidi Ferruch (36°46'N., 2°51'E.), located 4.5 miles NE of the mouth of Oued Mazafran, is formed by a small peninsula and fronted by several islets. A light is shown from a structure, 24m high, standing on the NE part of the cape. A small craft harbor is situated on the NE side of the peninsula.

Ras Acrata, located 3.5 miles NE of Cap Sidi Ferruch, is the W extremity of a large promontory. This point is fronted by rocks; a small craft harbor is situated 0.5 mile SE of it.

Ain Benian (Guyotville), a small fishing harbor, is situated 1 mile E of Ras Acrata.

An aeronautical light is reported to be occasionally shown from the tower of an airfield, situated 22.5 miles S of Ras Acrata.

Cap Caxine (36°49'N., 2°57'E.) is located 2.7 miles E of Ras Acrata. A light shown from a tower with a dwelling, 33m high, standing on the cape. A radiobeacon is situated at the light.

A swell gauge buoy lies 0.5 mile NNW of the cape.

A wreck lies N of Cap Caxine in position 36°54'N 2°54'E.

Pointe Pescade, located 2.7 miles E of Cap Caxine, is the N extremity of the Cap Caxine promontory. It is formed by a double point. The W part ends in a flat islet which is almost joined to the shore. The E part is fronted by two islets and surmounted by the ruins of a fort and a water tower.

Small vessels, with local knowledge, can obtain anchorage, sheltered from W winds, in the lee of Pointe Pescade.

Baie d'Alger

6.25 Baie d'Alger is entered between Pointe Pescade and Cap Matifou, 10 miles E. Its shores consist mostly of sandy beaches.

The promontory of Cap Caxine is dominated by a range of hills, 407m high, standing 1.5 miles S of Pointe Pescade.

When approaching the bay from the N, the high land in the vicinity of Cap Caxine appears as if detached from the mainland, for it is separated from the mountains of the interior by a level plain. On nearer approach, Cap Matifou also may appear as an island.

Bou Zegzag, 1,032m high, stands 16 miles SE of Cap Matifou and can be identified from the N by its summit, which is in the form of a small cone rising from a level but irregular crest.

Cape Matifou (Bourdj el Bairi) (36°49'N., 3°14'E.), the E entrance point of the bay, is formed by the W extremity of a low headland. Banc de Matifou lies in the E approach to the bay, 2.3 miles N of this cape. Both are fully described in paragraph 7.3.

Alger (36°46'N., 3°04'E.)

World Port Index No. 45570

6.26 The port of Alger (Algiers) (El Djazair) lies on the W side of Baie d'Alger, 7.2 miles WSW of Cap Matifou. In addition to having extensive and important commercial facilities, the port is also a naval base.

Tides—Currents.—There are practically no tides; the maximum reported rise is about 0.7m.

Winds from the W may raise the level of the water in the harbor and winds from E may lower it; the difference in level may be as much as 0.9m.

Depths—Limitations.—The N approach channel is 176m wide and has a depth of 22m. The S approach is 240m wide and has a depth of 16m.

The N part of the harbor is protected from the NE by Jeteo Kheir Eddine, a breakwater which extends 0.7 mile SE from Ilot de la Marine. The S part of the harbor is protected from the E by Brise Lames de l'Est, a breakwater which extends 0.4 mile N from the shore. The central part of the harbor is protected by a detached breakwater, 1.4 miles long, which may best be seen on the chart.

The harbor is divided into three basins, as follows:

1. Bassin du Viuex Port, lying in the N part, has 3,000m of total berthing space, with depths of 6.4 to 18.2m alongside.

2. Bassin de Mustapha, lying in the S part, can be entered through an entrance, 200m wide. It has 2,700m of total berthing space, with depths of 7 to 11m alongside.

3. Arriere Port de l'Agha, lying in the central part, can only be entered from the other two basins. It has 2,700m of total berthing space, with depths of 6.4 to 9.8m alongside.

There are facilities for general cargo, ro-ro, bulk, container, cruise, tanker, LNG, and fishing vessels. Vessels up to 25,000 tons, unlimited length, and 11.6m draft can be accommodated.

It has been reported (2001) that vessels will not be taken pier-side if they have a draft greater than 10m.

Aspect.—Several forts surmount the heights overlooking Alger and a conspicuous television mast stands 1.5 miles S of Pointe Pescade.

Ilot de la Marine is located 3.3 miles SE of Pointe Pescade and is joined to the shore by a mole. A prominent disused light tower stands on this islet.

Roche M'Tahen lies about 0.3 mile offshore, 0.5 mile N of Ilot de la Marine. It is the outermost rock fronting the coast to the N of the port and is marked by a lighted beacon.

The church of Notre Dame d'Afrique stands about 0.3 mile inland, 1.5 miles NW of Ilot de la Marine; its prominent dome is surmounted by a cross which is sometimes illuminated at night.

Fort l'Empereur, a conspicuous building, stands 1.3 miles SW of Ilot de la Marine and is 216m high.

A conspicuous monument stands about 0.6 mile inland, 2.5 miles S of Ilot de la Marine. A prominent tower is situated 0.3 mile W of this monument.

A conspicuous military hospital is situated near the coast, 0.9 mile NW of Ilot de la Marine.

A light is shown from a structure, 16m high, standing near the head of the N breakwater. A radiobeacon is situated at the light.

It has been reported (2001) that aeronautical radiobeacon towers on both sides of the bay are visible well out to sea.

Pilotage.—Pilotage is compulsory for vessels over 1,500 tons and is usually only available during daylight hours. Pilots can be contacted on VHF channel 12 or 16 and generally board about 0.5 mile E of the S head of the detached breakwater. Vessels should send an ETA at least 24 hours in advance.

Merchant vessels can communicate through Bouzarea (Bouzareah) Naval Signal Station, which stands on the heights, 2 miles NW of Ilot de la Marine. A signal station is also situated on the N breakwater and is available for communication with vessels in the roadstead, when it is not otherwise engaged.

Regulations.—Vessels approaching or leaving the port must follow the channel, which is indicated on the chart. It is entered 5 miles E of Pointe Pescade and leads in a SSW direction towards the harbor. Vessels leaving the port have priority over those entering the port. Anchoring in this approach channel is prohibited.

Anchorage.—Four anchorage areas, the limits of which are shown on the chart, have been established (1982) within Baie d'Alger, as follows:

1. Area No. 1 lies N of the N breakwater and is used by vessels not carrying any dangerous substances.
2. Area No. 2 lies centered 2 miles E of the head of the N breakwater and is used by vessels carrying dangerous substances or gas.
3. Area No. 3 lies close E of the detached breakwater and is used by vessels of small tonnage with authorization of the Port Captain. The bottom has been reported (2001) to be hard clay vice mud.
4. Area No. 4 lies SSW of Cap Matifou and is used by vessels waiting, sheltering, or carrying out repairs.

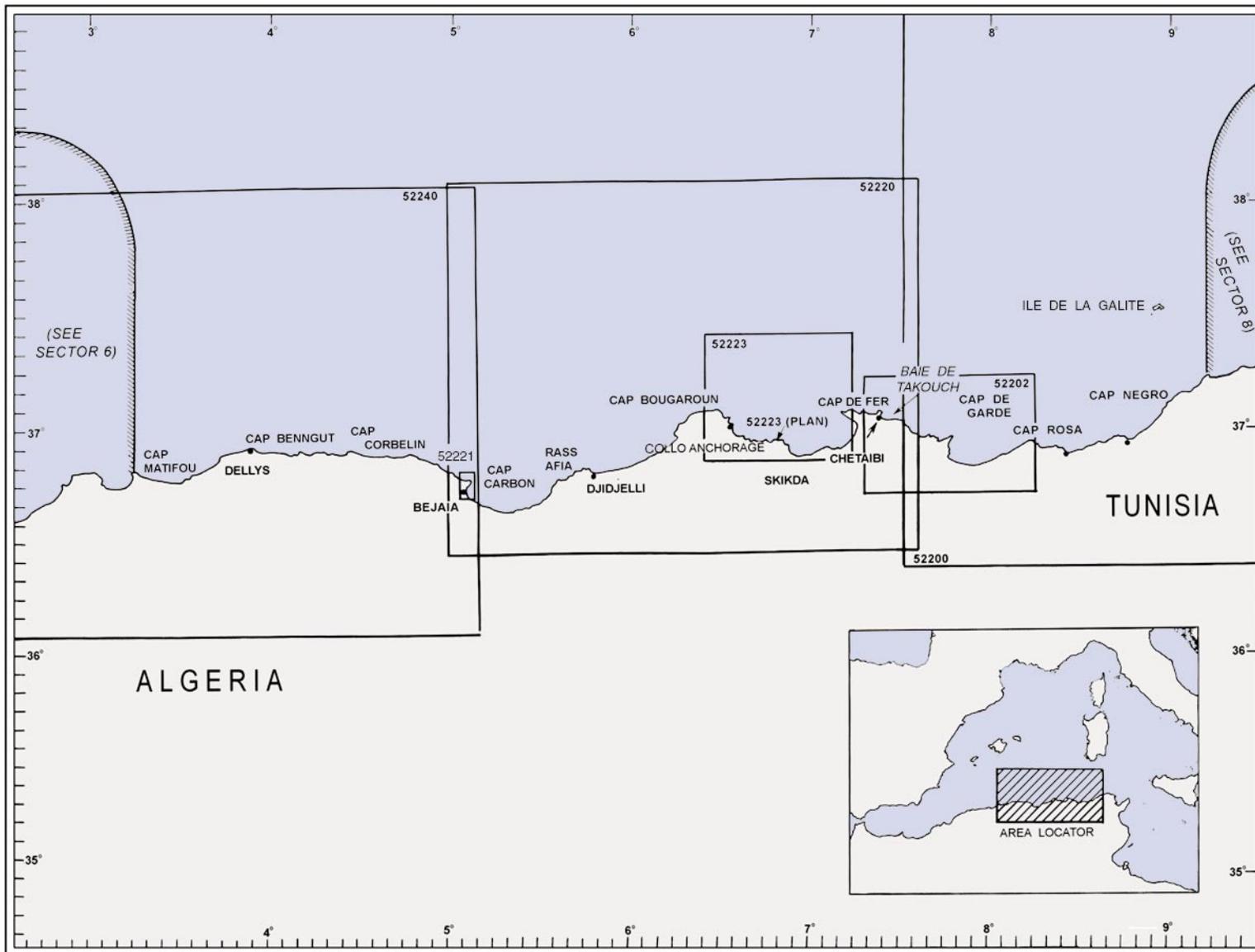
Caution.—Due to construction being carried out, vessels should stay well clear of the heads of the breakwaters.

A dangerous wreck is reported to lie about 1.2 miles NE of Ilot de la Marine.

Due to the existence of submarine cables, a prohibited anchorage area, the limits of which are shown on the chart, extends N from the vicinity of the head of Baie d'Alger.

It is reported (1993) that all buoys marking the approach channel and anchorage areas have been removed.

It is reported (1990) that the designated anchorage areas, which are described above, are not in use and vessels anchor anywhere in the roadstead, regardless of size.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 7 — CHART INFORMATION

SECTOR 7

ALGERIA AND TUNISIA—CAP MATIFOU TO CAP SERRAT

Plan.—This sector describes the Mediterranean coasts of Algeria and Tunisia, between Cap Matifou (Bourdj el Bairi) (36°49'N., 3°14'E.) and Cap Serrat (37°14'N., 9°13'E.). The descriptive sequence is from W to E.

General Remarks

7.1 Tides—Currents.—Strong currents are experienced in the vicinity of Banc de Matifou.

Currents in the N approach to Golfe de Bejaia are strong at times and generally set towards the gulf.

A strong current sets N along the coast to the W of Cap Bougaroun (Cap Bougaroni) (37°05'N., 6°28'E.), and gives rise to a confused sea when the wind is from the N. At the cape, winds from the W strongly predominate in winter (October to May) throughout the day. From June to September, winds from the E predominate.

In winter, strong currents are experienced in the vicinity of Cap de Fer (37°05'N., 7°10'E.). With WNW winds, a heavy swell is in evidence.

Along the N coast of Tunisia, the currents are very variable and are mainly due to the winds. Offshore, the prevailing W and E winds give rise to fairly strong currents. A W current, with a rate of 2 to 3 knots, has been experienced in the vicinity of Ecueils des Sorelles and Jazirat Jalitah.

Caution.—The People's Democratic Republic of Algeria has temporarily suspended permission to navigate within Algerian territorial waters up to 10 miles offshore, between meridians 3°15'E and 4°10'E.

Vessels wishing to enter or depart the following ports should adhere to the designated channels, as follows:

1. Port de Zemmouri—Vessels should keep to the channel oriented N-S between 3°33.5'E and 3°34.6'E.

2. Port de Dellys—Vessels should keep to the channel centered on the port's green harbor light and oriented N-S between 3°54.8'E. and 3°55.8'E.

3. Pointe Tizirt—Vessels should keep to the channel oriented N-S between 4°07.8'E and 4°08.6'E.

Tunny nets may be found offshore along the coast described in this sector.

Off-lying Islands and Dangers

7.2 Jazirat Jalitah (Ile de la Galite) (37°32'N., 8°56'E.) lies 21 miles NNW of Cap Serrat (37°14'N., 9°13'E.) and is the largest island of a group which rises from Banc de Jalitah (Banc de la Galite). The group is separated from the coast of Tunisia by Canal de la Galite (Canal Jalitah).

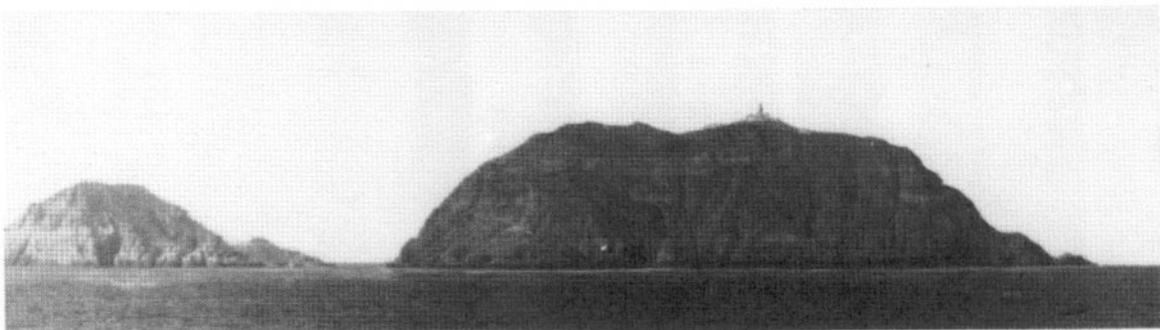
Jazirat Jalitah has steep shores and its W part rises to Bout de Somme (Grand Sommet), 391m high, which is surmounted by a yellow lookout tower. Piton de l'Est, a conspicuous conical peak, is 360m high and stands near the SE extremity of the island. Two radio masts stand close S of the middle of the island and are very conspicuous when approaching from the S.

A small fishing harbor lies on the S side of the island. In good weather, temporary anchorage can be obtained by small vessels, with local knowledge, within small bays on the N and S sides of Jazirat Jalitah.

Galitons de l'Ouest consists of two islets lying 1.5 miles SW of Jazirat Jalitah. Galiton, 158m high, is the larger of the two. A light is shown from a structure, 14m high, standing on its summit.

La Fauchelle, close SE of Galiton, is 137m high and dominated by L'Aiguille, a conspicuous cone at its SE end.

Galitons de l'Est consists of three rocks named, from N to S, Gallo, Pollastro, and Gallina. Gallo, 119m high, is the largest and lies 1 mile NNE of the N extremity of Jazirat Jalitah. Shoals, with a least depth of 6m, lie within 1 mile of Gallo.



Jazirat Jalitah—Galiton de l'Ouest from N

Ecueil des Sorelles (37°24'N., 8°36'E.), consisting of two shallow rocky patches, lies 14 miles WSW of Galitons de l'Ouest. A lighted buoy, fitted with a racon, is moored close W of the W patch and a buoy is moored close E of the E patch. A concrete block, 2m high, stands on the W patch. A depth of 14.6m was reported (1970) to lie about 3 miles N of this block.

Banc des Mazzarilles, which is rocky and has depths of 21 to 49m, lies about 8 miles N of Jazirat Jalitah.

A depth of 6.1m was reported (1994) to lie in the vicinity of Banc des Spiss, 15 miles N of Jazirat Jalitah.

Caution.—The buoys marking Ecueils des Sorelles should not be relied upon because of their exposed positions.

Vessels have experienced strong currents in the vicinity of Ecueils des Sorelles.

Cap Matifou to Golfe de Bejaia

7.3 Cap Matifou (Bourdj el Bairi) (36°49'N., 3°14'E.), the E entrance point of Baie d'Alger, is the W extremity of a low headland. The N side of the headland is cliffy and extends E for 1.7 miles. The E part rises to a flat-topped hill, which from a distance appears as an island.

A light is shown from a structure, 11m high, standing 1 mile E of the cape. A radiobeacon is situated at the light. A signal station and two pylons stand close NNW and 0.5 mile W, respectively, of the light.

A spit extends about 0.5 mile W from the cape and is marked by a lighted buoy.

Banc de Matifou (36°51'N., 3°14'E.), with a least depth of 9m, lies about 2.2 miles N of the cape. Strong currents are experienced in the vicinity of this shoal bank and vessels should avoid passing over it.

Iles Sandja, a group of rocks, lies about 0.8 mile NE of Cap Matifou Light, with the largest being 13m high. Vessels should not attempt to pass between this group and the coast. Bordelaise, a shallow rock, lies about 1.5 miles offshore, 2.5 miles E of Cap Matifou Light. Several rocks and shoals lie between this rock and the coast.

Ain Taya, a village, is situated 2.5 miles SE of Cap Matifou Light. Small vessels, with local knowledge, can obtain anchorage, sheltered from W winds, off this village.

Ilots Agueli, a group of small islets, lies about 0.7 mile offshore, 5 miles ESE of Cap Matifou Light. The largest islet is 25m high and is marked by a beacon. Anchorage can be obtained, by small vessels with local knowledge, close E of the middle of the largest islet. The berth is in depths of 12 to 14m, rocky bottom, off a conspicuous cave. A sandy bottom can be found farther offshore, but the position is less sheltered.

Draa Ed Dar, a hill, stands 2 miles SE of Ilots Agueli. It is 71m high and prominent. A conspicuous group of buildings stands on a wooded hillock near the coast, 2 miles E of this hill.

7.4 Cap el Achaichi (36°47'N., 3°31'E.), a headland, is located 14.2 miles ESE of Cap Matifou, at the N extremity of a chain of mountains. The most conspicuous summits of the chain are Djebel Bou Arous, 444m high, and Mont Sidi Feredj, 452m high, which stand about 4 miles SE of the headland. From the NW, these summits appear like a saddle, while from the NE, they appear as two sharp peaks.

A small craft harbor, protected by two moles, lies on the SW side of a point, 2.3 miles ENE of Cap el Achaichi.

Cap Djenet, located 11.5 miles NE of Cap el Achaichi, is high. A prominent hill, 438m high, stands 1.5 miles SE of the cape.

Baie Mersat Djenet is entered close SW of Cap Djenet and affords temporary anchorage, sheltered from E winds, to small vessels with local knowledge.

Djebel Bou Berak, a conspicuous mountain, stands 5.5 miles E of Cap Djenet. It is conical in shape and 593m high.

Cap Bengut (36°55'N., 3°54'E.), located 8.7 miles ENE of Cap Djenet, is easy to identify from seaward. It lies at the E extremity of the above-mentioned mountain chain and, on certain bearings, appears saddle-shaped. A reef extends 0.1 mile NNW from this cape. A light is shown from a tower, 29m high, standing on the cape.

Pointe de Dellys, located 1.2 miles ENE of Cap Bengut, is high, narrow, and fringed by a spit. A light is shown from a structure, 8m high, standing on the point.

Caution.—Vessels should not approach the coast within depths of less than 37m between the small port of Dellys and Cap Sigli (36°54'N., 4°46'E.).

7.5 Dellys (36°55'N., 3°55'E.) (World Port Index No. 45560), a small port, lies in the W part of a bay which is entered close E of Pointe de Dellys.

Depths—Limitations.—The main commercial facilities include Berth No. 1, situated on North Quay, which is 107m long and has a depth of 6m alongside, and Berth No. 4, situated on South Quay, which is 129m long and has a depth of 5.5m alongside. Generally, vessels up to 100m in length and 5.5m draft can be accommodated. In addition, ro-ro vessels up to 105m in length can be handled.

Aspect.—The port is protected from the E by a breakwater which extends SSE from a point lying 0.5 mile SW of Pointe de Dellys.

A mosque, which stands close W of the harbor, is clearly visible when approaching from the E. The town is situated along the S part of the bay.

Pilotage.—Pilotage is compulsory and available during daylight only. The port can be contacted on VHF channel 10, 11, 12, 13, 14, or 16. Vessels should send an ETA 24 hours in advance of arrival. Messages may be sent through Alger Radio (7TA). Pilots board within the anchorage area.

Anchorage.—The roadstead off the harbor is sheltered from W and NW winds and the holding ground is good. Anchorage should be obtained, in depths of 13 to 24m, about 0.2 mile SSE of Pointe de Dellys.

7.6 Arbane Millia (36°54'N., 4°03'E.), a rock, lies close inshore, 6.7 miles E of Dellys. It is large, white, and over 30m high.

Tala Aicha, 890m high, stands 3.5 miles S of the rock. This mountain is conspicuous and has a crater-like summit.

Pointe Tizirt, located 3.2 miles E of Arbane Millia, is fronted by an islet and a reef which lie within 0.5 mile of it. The point can easily be identified by the red roofs of the houses in a village which is situated in the vicinity. Small vessels, with local knowledge, can obtain anchorage, sheltered from E winds, under the lee of this point.

Cap Tedles (36°55'N., 4°10'E.), located 1.7 miles ENE of Pointe Tiggzirt, is 250m high and rounded. A mountain, 843m high, stands 3.7 miles S of the cape; its summit is surmounted by a remarkable clump of trees.

Sidi Khaled, a point of land, is located 1 mile E of Cap Tedles and surmounted by a mosque. Roches Sidi Khaled, formed by several rocks and shoals, extends up to 0.7 mile NE from the point. Small vessels, with local knowledge, can obtain anchorage, sheltered from W winds, under the lee of these shoals, but the holding ground is poor.

Pointe de Timliline, located 5 miles E of Cap Tedles, is dominated by two prominent hills, 281m and 283m high.

Pointe de Mers el Farm is located 8.5 miles E of Cap Tedles, and several rocks, awash, and shoals lie up to 1 mile offshore.

Azefoun, fronted by a small jetty, lies in the SE part of the bay, which is entered between Pointe de Mers el Farm and Cap Corbelin, 4.5 miles ESE. Anchorage, sheltered from E winds, can be obtained by vessels, with local knowledge, in depths of 7 to 10m, W of the jetty.

Cap Corbelin (36°55'N., 4°26'E.), reddish-yellow in color and prominent, is the NW extremity of a mountainous projection. From seaward, there appears to be a deep bay lying to the E of the cape because the land on that side is very low. A light is shown from a tower, 13m high, standing on the cape.

Tamgout, a mountain, stands 5.5 miles S of the cape. It is 1,278m high and very conspicuous from seaward.

7.7 Cap Sigli (36°54'N., 4°46'E.) is located 16 miles E of Cap Corbelin and is fringed by rocks. This cape is only prominent from close inshore either to the E or W of it. A light is shown from a structure, 26m high, standing on the cape.

Between Cap Sigli and Cap Carbon, 18 miles ESE, the coast is fronted by rocks. Temporary anchorage can be obtained, in a depth of 12m, by vessels, with local knowledge, within a bay which is entered 3 miles ESE of the cape.

Djebel Mindjou, 672m high, is located 1.8 miles S of Cap Sigli; some prominent rocky outcrops, which resemble ruins, stand on its summit.

Djebel Arbalou, 1,317m high, stands 10 miles SSE of Cap Sigli and dominates this stretch of the coast. From the NW, its summit appears conical, but from other directions it appears rounded.

El Euch, a rocky islet, lies close inshore, 1.5 miles ESE of Cap Sigli. It is reddish-yellow, 33m high, and has a small rock at its N end.

Pointe Boulima (36°49'N., 4°59'E.), reddish in color, is located 12 miles ESE of Cap Sigli. This point lies at the E end of a sandy beach and has a small, natural boat harbor on its W side. Ile Pisan, 31m high, lies 0.6 mile NE of Pointe Boulima and is fringed by rocks. Rochers des Moules, 1m high, lies 0.7 mile offshore, 1.5 miles NW of Pointe Boulima.

Pointe Mezaia, located 1.5 miles SE of Pointe Boulima, is surmounted by a conical hill and is joined to the mainland by a ridge of sand. From certain directions, it appears as an islet.

Cap Carbon (36°47'N., 5°07'E.), located 4.5 miles ESE of Pointe Mezaia, is dominated by a small conical hill, 220m high. A light is shown from a structure, 10m high, standing on the summit of the conical hill. Another light is shown from a structure, 8m high, standing at the foot of the cliffs on the N side of the cape.

Djebel Gouraya, 660m high, stands 1 mile WSW of the cape and is surmounted by a prominent fort and a signal station.

Golfe de Bejaia (Golfe de Bougie)

7.8 Golfe de Bejaia is entered between Cap Carbon and Ras Afia, 28 miles E.

The S shore of the gulf is dominated by a mountain chain. Djebel Ta Babor, 1,969m high, is the highest and stands 7 miles inland, 23 miles SE of Cap Carbon. This mountain appears flat-topped and isolated when seen from NW or NE, but from the N, it can only be distinguished from the others by its height and by a small spur on its W side.

Dar Mohand stands close to the coast, 4.7 miles S of Cap Carbon. It is detached and 305m high.

Pointe Aokas, located 8 miles ESE of Dar Mohand, is dominated by a hill, 467m high, which has sides falling steeply to the sea.

Ile Mansouria is the outermost of a group of rocks which lie about 0.5 mile offshore, 12 miles ENE of Pointe Aokas. A light is shown from a structure, 6m high, standing on its N side.

Cap Cavallo (Ras Talou), located 23 miles E of Cap Carbon, is the extremity of a chain of high conical hills which are separated by deep valleys. Grand Cavallo, an islet, lies 0.5 mile offshore, 0.7 mile NE of the cape. It is 52m high and is covered with brushwood. Petit Cavallo, another islet, lies 0.2 mile offshore, 2.6 miles NE of Grand Cavallo. It is flat and surrounded by reefs.

Ilot Hadjret Tafalkout, 17m high, lies 1.1 miles WSW of Cap Cavallo and is the outermost of several dangers in this vicinity. A light is shown from a structure, 5m high, standing on this islet.

Ras Afia (36°49'N., 5°42'E.) is located 5 miles NE of Cap Cavallo. A light is shown from a tower with a dwelling, 14m high, standing on this point.

Banc des Kabyles, with a least depth of 7m, lies 3.2 miles NW of Ras Afia and the sea breaks on it in bad weather. Ecueil de la Salamandre, with a least depth of 4m, lies 2 miles NNW of Ras Afia. Both of these dangers are frequently marked by tide-rips.

Golfe de Bejaia contains no safe anchorage for large vessels except at Bejaia.

Bejaia (36°45'N., 5°05'E.)

World Port Index No. 45550

7.9 The port of Bejaia, formerly known as Bougie, lies on the W side of Golfe de Bejaia and is principally a crude oil loading terminal.

Tides—Currents.—Tides are negligible. The water level may rise with S winds and decrease with N and E winds; the difference to the level does not exceed 0.5m.

A rather strong countercurrent is usually found setting N through the roadstead. However, after heavy gales the current flows along the shore of the gulf in a direction contrary to that of the gale, although at the onset of the gale the current flows with it.

Depths—Limitations.—The harbor is protected by two breakwaters and is divided into three basins. The E breakwater

extends S and is 0.4 mile long. The W breakwater extends ENE, NNE, and NE and is 1.3 miles long. The entrance fairway is 320m wide and has been dredged to a depth of 13.5m.

The two inner basins are entered from the SW side of the outer basin through a passage, 80m wide. These basins have 2,700m of total commercial quayside with depths of 5.5 to 13m alongside. There are facilities for general cargo, ro-ro, and bulk vessels. Vessels up to 10,000 dwt and 9m draft can be accommodated.

The outer basin has three oil berths with depths of 11.5m, 12.5m and 13.5m alongside. Tankers up to 260m in length and 13m draft can be accommodated.

Aspect.—The city appears as an amphitheater amid green vegetation and contrasts with the high land mass close N.

Marabout of Sidi Yahia, a conspicuous building with a chimney at its W end, stands near the shore, 0.3 mile W of the root of the E breakwater.

A conspicuous chimney stands 2 miles SW of Marabout of Sidi Yahia.

A light is shown from a structure, 15m high, standing at the head of the E breakwater. A radiobeacon is situated at the light.

A lighted buoy is moored about 0.5 mile SSW of the head of the E breakwater and marks the SW end of the dredged entrance channel.

Pilotage.—Pilotage is compulsory. Tanker vessels should send an ETA at least 48 hours and 24 hours in advance to SONATRA, Bejaia through Alger (7TA). A corrected ETA should be sent if more than 1 hour different from previous estimates. Other vessels should send an ETA 6 hours in advance, but 12 hours if arriving at night. Pilots can be contacted on VHF channel 10, 12, 14, or 16 and generally board about 1 mile NE of the E breakwater.

Pilots for the small port of Jijel are also available.

Anchorage.—Anchorage, sheltered from all winds except those from between the NE and E, can be obtained as convenient, in depths of 10 to 20m, off the breakwaters. The bottom consists of mud and sand and the holding ground is good where the mud is hard, but poor where it is soft.

Caution.—A danger area, the limits of which are shown on the chart, lies centered 0.5 mile ESE of the root of the W breakwater. The danger area is marked by a buoy.

Several wrecks, some dangerous, lie in the approaches to the harbor and may best be seen on the chart.

Between December and March, a heavy swell sometimes enters the harbor, usually during and after prolonged NW winds. This causes violent surging and may require vessels to put to sea.

Vessels should not pass close to the breakwater heads.

A wave recorder buoy is moored about 0.8 mile E of the head of the E breakwater.

Golfe de Bejaia to Skikda

7.10 Jijel (Djidjelli) (36°50'N., 5°47'E.) (World Port Index No. 45530), a small port, lies 4 miles E of Ras Afia and is protected by breakwaters.

Depths—Limitations.—The N breakwater extends E from the E extremity of a small peninsula, which is located close N

of the town, to an islet and then SSE. The S breakwater extends NE from a mole. The approach channel has a width of 120m and depths of 10 to 11m.

The harbor has 670m of total commercial quayside with depths of 4.3 to 7.3m alongside. There are facilities for general cargo, ro-ro, and fishing vessels. Vessels up to 153m in length and 7m draft can be accommodated.

Aspect.—Mezritane, 388m high, stands 1.2 miles SE of Ras Afia. This hill is prominent and its summit is surmounted by a tower.

The most conspicuous landmarks include the square tower of the town hall; the large white hospital building which overlooks the town; the belfry of a church and a water tower standing in the S part of the town; and a factory building situated 2 miles WSW of the harbor.

A light is shown from a structure, 12m high, standing on the islet at the E end of the N breakwater.

Pilotage.—Pilotage is not compulsory and pilots are available as required from Bejaia. Vessels should send an ETA and request for pilot directly to the pilot station at Bejaia at least 24 hours in advance. The port can be contacted by VHF. Pilots generally board in the vicinity of the harbor entrance.

Anchorage.—Anchorage is available, in depths of 21 to 36m, between 0.5 and 1 mile from the N breakwater.

Caution.—The water level within the harbor sometimes varies up to 0.5m, especially during March and April.

The N sides of the peninsula and the N breakwater are fringed with rocks and shoals and should be given a wide berth.

Winds from the NW may raise surf within the harbor. Berthing becomes difficult and cargo handling is frequently interrupted.

7.11 Jenndjene (Jen Jen) (36°49'N., 5°53'E.) lies about 5 miles E of Jijel. The facilities include a general cargo quay, 760m long; a mixed cargo quay, 250m long; and a ro-ro quay, 76m long. There are depths of 11m alongside. In addition, there is a steel product quay, 1,060m long, with depths of 10.5 to 18m alongside.

This port accommodates cargo vessels up to 30,000 dwt and ore vessels up to 120,000 dwt.

Ilot Tazerout (El Hadjra) (36°52'N., 6°04'E.), 13m high, lies close off a point, 14.2 miles ENE of Jijel. Several reddish and prominent sandhills, 88m high, stand close inland within 3 miles W of this islet.

Conspicuous hills along this part of the coast include Djebel Bou Kertzoum, 148m high, standing 3 miles SE of Jijel; El Koudiat, 112m high, standing 6 miles ESE of Jijel; and Djebel Seddets, 956m high, standing 5 miles SSW of Ilot Tazerout.

Haut-Fond de Jijelar, a bank with a depth of 25m, lies about 6.5 miles NE of Jijel.

Ilot Lamein, 10m high, lies close off a point, 11 miles NE of Ilot Tazerout. Casabianca is situated 1.5 miles SE of Ilot Lamein. Anchorage, sheltered from N and E winds, can be obtained by vessels with local knowledge, in depths of 14 to 26m, about 0.3 mile off the beach at Casabianca.

7.12 Ras Atia (Moghreb) (37°01'N., 6°16'E.) is located 2.5 miles NNE of Ilot Lamein. A light is shown from a structure, 15m high, standing on the point.

Mersa Damous, a cove, lies 2.3 miles ENE of Ras Atia and is marked by some houses, with red roofs, standing on a cliff on its W side. A conspicuous ravine is located at the head of this cove.

Cap Bougaroun (Cap Bougaroni) (Ras Seba Rous) (37°05'N., 6°28'E.) is located 10.5 miles ENE of Ras Atia and is the N extremity of a mountainous promontory which lies between Ilot Lamein and Collo. A light is shown from a structure, 10m high, standing on the cape. A signal station is situated close E of the light.

Ras el Kbiba, a small peninsula, lies 4.5 miles SE of the cape. Baie de Tamanert and Baie des Beni Said, two small bays, are entered NW and SE, respectively, of this peninsula. Bar en Nsa, a cove, is entered between the S entrance point of Baie des Beni Said and Cap Collo, 1 mile SE.

Good anchorage, with W winds, can be obtained by vessels, with local knowledge, in a depth of 14m within Baie de Tamanert. Anchorage can also be obtained by vessels, with local knowledge, within Baie des Beni Said, but care should be taken to avoid a shallow reef which lies about 600m from the head of the bay.

Temporary anchorage can be obtained, in a depth of 20m, in the central part of Bar en Nsa.

Pointe Djerda (Cap Collo) (37°01'N., 6°35'E.) is the NE extremity of Presqu'île Djerda, a small peninsula. A light is shown from a structure, 11m high, standing on the cape. A shoal, with a depth of 22m, lies about 0.5 mile NE of the cape.

7.13 Collo (37°00'N., 6°35'E.) (World Port Index No. 45520), a small port, lies on the NW side of Baie de Collo, which is entered between Cap Collo and Ras Frao (Kharras), 3.2 miles SE.

Depths—Limitations.—The harbor is protected by a jetty, 145m long, which extends S from a point close S of the town. There is 238m of total quayage, with depths of 4.2 to 5m along-side.

Aspect.—The town is situated at the root of the peninsula. Koudiat Djezair, 99m high, stands close S of the town and is surmounted by a small but conspicuous fort.

Sidi Achour, a prominent shrine, surmounts the summit of a hill, 536m high, standing 2 miles W of Cap Collo.

Pilotage.—Pilotage is not compulsory, but is advised for vessels without local knowledge. Private pilots are available.

Anchorage.—Baie de Collo is one of the best open roadsteads on the coast of Algeria. It affords excellent shelter from W and N winds. Large vessels should anchor, in a depth of 27m, about 0.4 mile SE of the town. The holding ground is mostly excellent. Small vessels can obtain anchorage, in depths of 6 to 10m, about 100m from the shore.

7.14 Kharras (Ras Frao) (36°58'N., 6°38'E.), the SE entrance point of Baie de Collo, is dominated by Morne Telezza, an isolated and conical hill, 125m high.

Ras Rdeb (Ras Erded) is located 2.5 miles ESE of Ras Frao. Ile Mta, an islet, lies about 0.5 mile offshore, 1 mile E of the point. It is 62m high, but is not easy to distinguish from the coast.

Ras el Kal'a (Ras Bibi) is located 3 miles E of Ras Rdeb. Ilot Bibi (Kal'a Rdjel el Klou), an islet 46m high, lies 0.5 mile WNW of this point.

Pointe des Sept Freres is located 1.7 miles ESE of Ras Bibi; a chain of small islets extends up to 0.3 mile NNW of it.

Point Esrah (Pointe Asra), located 4.5 miles E of Ras Bibi, is fringed by islets. A spit, with a depth of 4.7m, extends up to about 0.3 mile N of the point. Baie d'Esrah is entered between Point Esrah and Cap Akmes, 2 miles SE. A prominent building, with a red roof, stands at the head of this bay.

Ile Sridgina (Ile Srijina) (36°53'N., 6°53'E.), lying 0.3 mile NE of Cap d'Akmes, is 48m high and surrounded by rocks and shoals. A light is shown from a structure, 12m high, standing near the middle of this islet.

Cap Est is located 0.9 mile SSE of Cap d'Akmes. Ile du Lion, with a small islet lying close ENE of it, lies close NE of the cape. It is 31m high and is marked by a light.

Rocher du Lazaret, a small island less than 1m high, lies about 0.1 mile offshore, 0.5 mile S of Cap Est.

Ilot des Singes is located on the NW side of Baie de Stora, 0.8 mile S of Cap Est. This islet lies close inshore and is connected to the mainland by a bridge. A light is shown from a structure, 9m high, standing on the islet.

Stora, a village, is situated at the head of the bay, 0.3 mile SSW of Ilot des Singes. A small harbor lies E of the village and is protected by breakwaters.

Caution.—A prohibited anchorage area, the limits of which are shown on the chart, extends NE from the vicinity of Ilot des Singes.

Skikda (Philippeville) (36°53'N., 6°55'E.)

World Port Index No. 45510

7.15 The port of Skikda lies at the head of Golfe de Stora (Golfe de Philippeville), 3 miles SSE of Ile Sridgina (Ile Srijina).

Port Methanier, an oil and LNG terminal, has been constructed 1.7 miles E of Skikda.

Winds—Weather.—During bad weather, heavy seas frequently roll into the gulf. With NW winds, heavy seas set onto the shore between Stora and Skikda. Strong NW winds have been reported to cause an undertow.

Tides—Currents.—Winds from the W raise the level of the water in the harbor and winds from E lower it. The difference may be as much as 0.3m.

Depths—Limitations.—The harbor at Skikda is protected by a breakwater which extends 0.8 mile WNW from the vicinity of Cap Skikda. Two commercial basins have berths with depths of 6 to 10m alongside and facilities for bulk, general cargo, ro-ro, and fishing vessels. Three tanker berths are situated on the S side of the breakwater and have depths of 11 to 13m alongside. Tankers up to 230m in length and 13m draft can be accommodated.

At Port Methanier, the harbor is protected by two breakwaters. The W and outer breakwater extends 1 mile N and NE from the shore. The E breakwater extends 0.3 mile NW from a point on the shore lying 0.6 mile E of the root of the W breakwater. The entrance fairway is dredged to a depth of 18m.

There are two LNG berths which can handle vessels up to 90,000 cu.m. and 11.5m draft. An LPG berth can handle vessels up to 40,000 cu.m. and 10.5m draft. There are three oil

berths with depths of 14 to 16m. Tank vessels up to 265m in length and 14.8m draft can be accommodated.

Aspect.—Cap Skikda is located 2 miles SE of Ilot des Singes. It is surmounted by a white prominent villa with a staircase descending to the sea.

The breakwater at Skikda, situated close W of Cap Skikda, is 9m high and conspicuous.

A bridge, with several arches, crosses the mouth of Oued Safsaf, close E of Cap Skikda.

Port Methanier, the new port, is situated close E of Cap Skikda. A conspicuous flare is situated close S of the harbor and several prominent tanks and chimneys stand along the shore in the vicinity of the port.

Lights are shown from structures standing at the heads of the breakwaters at Skikda and Port Methanier.

The entrance fairway is indicated by a lighted range.

Pilotage.—Pilotage is compulsory for vessels of 500 grt and over. Pilots can be contacted on VHF channel 12, 14, or 16 and board vessels bound for Skikda at the anchorage or about 1 mile N of the entrance. Vessels bound for Port Methanier are generally boarded about 1 mile N of the head of the W breakwater.

Regulations.—Vessels should send an ETA 72 hours and 48 hours in advance, with a confirmation 24 hours prior to arrival.

Anchorage.—The roadstead anchorage for the port of Skikda affords good protection from W winds, but not from NW winds. In good weather, large vessels can obtain anchorage, in depths of 16 to 18m, sand, about 0.5 mile SE of Ilot des Singes. In winter, large vessels should anchor, in depths of 20 to 25m, farther offshore.

An anchorage designated for tankers lies, in depths of 30 to 40m, about 1 mile NW of the W breakwater at Port Methanier. The holding ground is good.

Vessels should not obstruct the approaches and entrances to the harbors.

Caution.—Large vessels should not pass close to the heads of the breakwaters at Skikda or Port Methanier, as they are not steep-to.

When the swell in the roads reaches a height of 2m, an undertow, which makes remaining alongside very difficult, develops at the berths within Port Methanier.

A wave recorder buoy is moored about 0.6 mile WNW of the head of the W breakwater at Port Methanier.

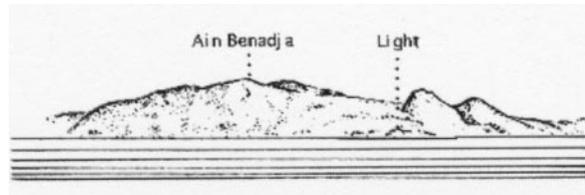
Skikda to Golfe d'Annaba

7.16 Ras Filfila (Felfelah) ($36^{\circ}55'N.$, $7^{\circ}06'E.$), located 8 miles ENE of Port Methanier, is formed by rocky cliffs and has a conical rock, 35m high, standing on its NE side. Small vessels, with local knowledge, can obtain anchorage in a creek on the E side of this point.

Oued el Kebir flows into the sea 9 miles NE of Ras Filfila, and its mouth is conspicuous when approaching from the W.

Pointe de Sidi Bou Merouane, located 1.5 miles N of the Oued el Kebir, is fringed with foul ground. El Mersa Light is shown from a structure, 5m high, standing close S of the point. Anchorage, somewhat sheltered by the point, can be obtained by vessels with local knowledge in this roadstead, but the NW part is encumbered with rocks.

7.17 Cap de Fer ($37^{\circ}05'N.$, $7^{\circ}10'E.$), located 17 miles NE of Skikda, is one of the most salient capes on the coast of Algeria; the high land SE of it is very conspicuous. A light is shown from a tower, 17m high, standing on the cape. A signal station is situated near the light.



Cap de Fer Light bearing 120° , distant 7 miles



Cap de Fer from ENE

A rocky islet, with some rocks close W of it, lies about 0.2 mile W of the cape.

In winter, strong currents are experienced off the cape and with WNW winds, there is frequently a heavy swell.

Large vessels can obtain good shelter from E winds in positions S of the cape and about 0.7 mile offshore. Depths of 30m are available for anchorage. The bottom is mostly formed of mud, shells, and coral, with rocks and gravel in places.

The coast between Cap de Fer and Cap Takouch, 10.5 miles E, is fringed with rocks and shoals extending about 0.5 mile offshore in places.

Baie de Sidi Akkacha, entered 5 miles E of Cap de Fer, affords anchorage, sheltered from E winds, to vessels with local knowledge. Several above-water rocks lie within 0.5 mile of its E entrance point, which is surmounted by Sidi Akkacha, a conspicuous white shrine.



Shrine of Sidi Akkacha

7.18 Cap Takouch ($37^{\circ}05'N.$, $7^{\circ}24'E.$) is the NE extremity of a small multi-headed peninsula. A light is shown from a

tower, 10m high, standing on the summit of a hill, 0.4 mile SSE of the cape. Sidi Merkeb, a conspicuous white shrine, stands 0.2 mile SSW of the light.

Ile Djezira, the outermost and largest of two islets almost joined to the coast, lies close NE of the light.

Ile Takouch, 33m high, lies 1 mile offshore, about 2.7 miles W of the cape.

Seiche du Cap Takouch, a rocky shoal plateau, lies about 2 miles N of the cape. It has a least depth of 13m and is dangerous for deep-draft vessels.

A current, with a rate up to 2 knots, has been experienced on the bank lying between Seiche du Cap Takouch and the coast. In bad weather, the sea over this bank is especially heavy and vessels should avoid passing over it.

Sidi Yahia, 545m high, stands 2 miles SSW of Cap Takouch. This conical mountain is prominent and surmounted by a marabout tower.

Sidi Benout, 538m high, stands 0.7 mile inland, 4 miles SE of Cap Takouch. This conical mountain is flat-topped and surmounted by a white marabout tower.

Baie de Takouch lies between Ile Djezira and La Pointe Percee, 2 miles SSE. **Mersa Takouch** (Chetaibi) (37°04'N., 7°23'E.) (World Port Index No. 45500), a village, stands at the head of the bay and is fronted by a small harbor formed by two jetties extending S from the shore. A quay, 125m long, is situated between these jetties and has depths of 5 to 6m alongside. Excellent shelter from W winds can be obtained in this bay, but NE and E winds send in a heavy sea and swell. Anchorage can be obtained, in depths of 10 to 20m, W of the village church.

Cap Matfouch (Cap Akeine), located 6 miles SE of Cap Takouch, is reddish and dominated by a hill, 571m high. Roche Akeine, marked by a light, lies 0.5 mile N of the cape. It has several rocky heads, one of which is awash.

Sidi Bou Zeid, a shrine, surmounts a coastal hill, 4 miles SSE of Cap Matfouch. It is conspicuous when not hidden by the trees. A prominent chimney stands in a village at the bottom of the hill.

Cap du Pain de Sucre, located 4.5 miles E of Sidi Bou Zeid, is a conspicuous feature. It has a rocky crest, 521m high, and terminates in a pyramidal hill, 152m high.

Voile Noire, a rock, lies close inshore, 1 mile SE of the cape. It is conical and 65m high.



Voile Noire, bearing 140°, 8 miles

Voile Noire from NW

Golfe d'Annaba

7.19 Ras el Hamra (36°58'N., 7°48'E.), located 6 miles E of Cap du Pain de Sucre, is the W entrance point of Golfe d'Annaba. When seen from a distance from E or W, this cape

appears as an island. It is fringed with rocks and two hills stand near the seaward extremity.

A light is shown from a structure, 14m high, standing 0.5 mile W of the cape. A signal station stands on the summit of a hill, 0.2 mile SW of the light.

Golfe d'Annaba lies between Ras el Hamra and Cap Rosa, 22 miles E. It is easily identified from seaward, and at a distance, appears larger than it really is. The heights descending towards each entrance point are separated, at the head of the gulf, by a low plain, which at some distance inland is backed by detached mountains. A mountainous ridge extends 8.5 miles SW from Ras el Hamra and terminates in a mountain, 1,008m high.

Oued Seybouse flows into the sea on the S side of the port of Annaba, 6 miles S of Ras el Hamra. The depths off the mouth of this river are shoal and liable to change with each rainy season.

Oued Mafragh flows into the sea 10.2 miles SE of Ras el Hamra. Its entrance is the combined mouths of several rivers. A signal station is situated close E of the river entrance.

Djebel Bou Abed, 739m high, stands 10.5 miles SSE of the river entrance and is prominent.

Rocks, with a least depth of 20m, lie 5.5 miles NE and 7.5 miles ENE of the river entrance.

An aeronautical light is reported to be occasionally shown from a position 4.7 miles SSW of the river entrance.

Between the entrance of Oued Mafragh and Cap Rosa, 15 miles ENE, the coast consists of a succession of cliffs, 49 to 101m high.

Annaba (Bone) (36°55'N., 7°46'E.)

World Port Index No. 45490

7.20 The port of Annaba lies on the W side of Golfe d'Annaba, 4 miles S of Ras el Hamra.

Tides—Currents.—There is a variation in the water level that sometimes amounts to 0.4m above and below mean sea level.

Depths—Limitations.—The harbor consists of three basins and is protected by two breakwaters, Jetee du Lion and Jetee Sud (Quai Sud).

There is 3,985m of total commercial quayside, with depths of 4 to 13m alongside, and facilities for general cargo, bulk, and ro-ro vessels. In addition, there are three tanker berths, with depths of 7 to 13m alongside. Vessels up to 250m in length and 11.5m draft can be accommodated. Tankers up to 11.9m draft can be handled.

Aspect.—Fort Genois stands on a rounded point, 1 mile SSW of Ras el Hamra Light. A light is shown from a structure, 8m high, standing close WSW of the fort.

Baie du Lazaret and Baie des Caroubiers lie close SSW and 1.5 miles SSW, respectively, of the fort.

A group of four conspicuous buildings stand 1.2 miles NW of the harbor entrance. The prominent Basilica of Saint Augustin stands 2 miles SW of the harbor entrance.

A stranded wreck, conspicuous visually and on radar, lies about 0.4 mile offshore, 5 miles SE of the harbor entrance.

Pilotage.—Pilotage is compulsory. Pilots may be contacted on VHF channel 14 and generally board about 0.5 mile E of the harbor entrance. During strong E winds, embarkation of the pilot

may be difficult. Vessels should send an ETA through Annaba (7TB).

Anchorage.—Anchorage can be obtained, in depths of 20 to 22m, within Baie du Lazaret and S or SSW of Fort Genois. Anchorage can also be taken in Baie des Caroubiers, but it is not as safe.

Caution.—Rocks, with a depth of 13m, lie about 1.5 miles E and 3.5 miles ESE of the harbor entrance.

A rock, with a depth of 8m, lies about 2.7 miles SE of the harbor entrance.

A dangerous wreck lies about 1.5 miles S of the harbor entrance.

With NW gales, heavy seas are experienced off the harbor entrance.

Sections of submarine cable may still exist within a former prohibited anchorage area in the S part of Baie des Caroubiers.

Annaba to Cap Serrat

7.21 Cap Rosa (36°57'N., 8°14'E.) is rocky, covered with brushwood, and dominated by Djebel Karoussa, 247m high. Its W side is faced with reddish cliffs. A light is shown from a tower with a dwelling, 13m high, standing on the cape.

Rocher du Schiavone lies close off a point, 1.5 miles SE of Cap Rosa. It is conical in shape and 35m high.

Baie du Grande Canier and Baie du Petit Canier lie NW and SE, respectively, of Rocher du Schiavone. These bays afford fairly good shelter to vessels with local knowledge from winds between the W and WNW, but both are open to the NE.

Cap Gros is located 8 miles ESE of Cap Rosa. This cape is easily identified as it rises to Kef el Alem, 235m high. Kef Trebiche, 256m high, stands 0.9 mile SSW of the cape.

7.22 El Kala (La Calle) (36°54'N., 8°27'E.) (World Port Index No. 45480), a small port, lies 1.8 miles SE of Cap Gros and is used by coasters.

Depths—Limitations.—The harbor is divided into two basins. The outer basin has a depth of 4.6m and the inner basin has a depth of 3m. Vessels up to 61m in length and 4.5m draft can enter in good weather.

A small jetty is situated 0.6 mile E of the harbor.

Aspect.—The harbor lies between Point Noire, located 1.7 miles SE of Cap Gross, and Ilot de France, 0.3 mile E. Ilot de France has numerous buildings on it and is connected at its SE end to the mainland by the quays at the head of the harbor. A light is shown from a structure, 8m high, standing on the W end of Ilot de France. Point Noire is 13m high and fronted on its W side by a rock, 11m high. The town of La Calle stands on the S side of the harbor.

Pilotage.—Pilotage is not compulsory. Local knowledge is recommended. The services of a local resident are reported to be available.

Anchorage.—Vessels with local knowledge can anchor within a bay entered NW of Pointe Noire. It affords good shelter from W winds, but with NW winds, a heavy swell rolls in.

Open anchorage can be obtained, in depths of 20 to 26m, sand and gravel, about 0.4 mile N of Ilot de France Light, but the holding ground is poor.

Both of the above anchorages generally become untenable during winds from the NW or NE.

Caution.—The depths in the harbor cannot be relied upon due to silting.

7.23 Monte Rotondo (36°54'N., 8°32'E.), 178m high, stands 4 miles E of El Kala. The ruins of a factory with tall chimneys are situated at the foot of this hill.

Cap Roux (36°57'N., 8°37'E.), located 8.5 miles ENE of El Kala, can be identified by the reddish cliffs on its W side.

The border between Algeria and Tunisia lies about 1.5 miles E of this cape.

Ras Tabarqah (Cap Tabarka) (36°58'N., 8°45'E.), located 6 miles ENE of Cap Roux, consists of rugged grey cliffs and is fronted by rocks. A prominent white house stands on a coastal hill, close W of the cape.

Jazirat Tabarqah (Ile de Tabarka) lies 0.2 mile offshore, 0.7 mile ESE of Ras Tabarqah. This island is crowned by a ruined castle and is 95m high. Its N side is faced with steep cliffs and it slopes gently to the S end, where there are some ruins. A light is shown from a structure, 8m high, standing on the ruins of the castle.

The island is connected at its S end to the mainland by a rubble causeway.

A small harbor, situated on the SW side of Jazirat Tabarqah, has silted up.

7.24 Tabarqah (Tabarka) (36°58'N., 8°46'E.) (World Port Index No. 45460), a small harbor, is situated on the SE side of the island and protected by breakwaters. It has depths of 2.5 to 4.2m and is mostly used by fishing vessels and yachts.

Anchorage can be obtained E or W of Jazirat Tabarqah, but neither affords good protection, and the holding ground is bad. The W roadstead is somewhat sheltered by the island, but is dangerous in bad weather. In the E roadstead, also known as the summer anchorage, vessels with local knowledge may anchor as convenient.

Djebel Adissa, 889m high, and Djebel Bir, 1,019m high, are both prominent and stand 13 miles S and 11.5 miles SSE, respectively, of Cap Roux.

Djebel Moruna, a rocky hill, stands 3 miles E of Tabarqah. Two conspicuous monuments, 0.2 mile apart, stand on its NE slope.

Djebel Zouara stands 11.7 miles NE of Tabarqah. Its prominent black peak is 218m high. Kef es Sid, 825m high, stands 9 miles SE of Djebel Zouara. Its summit is rocky and resembles a group of ruins.

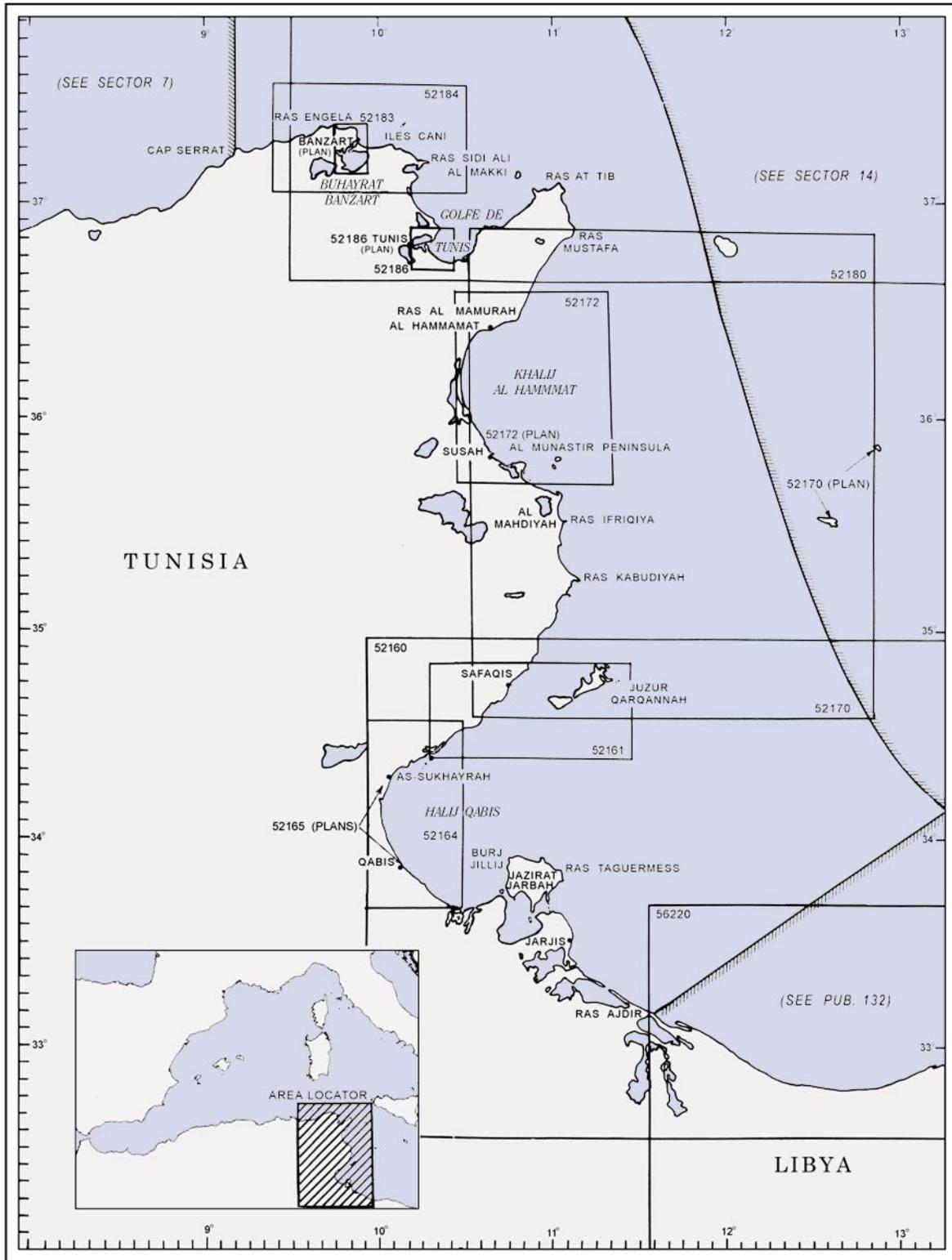
Cap Negro, located 13.5 miles NE of Tabarqah, is not easy to identify; however, Kef Budmah (Jebel Sidi Mohammed), 474m high, stands 1 mile SE of it and is a good landmark. Anse Budmah lies on the S side of the cape and is sheltered from winds from the NNW through E to S. However, the bottom is mostly rock, the holding ground is only moderately good, and the N side of this bay is fringed with rocks.

7.25 Cap Kavansur (37°08'N., 9°02'E.) is located 3 miles NE of Cap Negro. Kef En Nsoor stands 0.5 mile inland, 1 mile E of the cape. It is 330m high and has a conspicuous conical summit. Djebel Zitana (Djebel ech Chitane), 464m high, stands 2 miles E of Kef En Nsoor and is prominent.

Anse de Sidi Mechrigh lies 5 miles ENE of the cape and can be identified by a small, rocky point surmounted by a ruin. A conspicuous monument stands on a hill, close SSE of the point.

Another hill stands 0.5 mile SE of the monument and is surmounted by a marabout tower.

Cap Serrat (37°14'N., 9°13'E.), located 11 miles NE of Cap Kavansur, is fully described in paragraph 8.2.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.
SECTOR 8 — CHART INFORMATION

SECTOR 8

TUNISIA—CAP SERRAT TO RAS AJDIR

Plan.—This sector describes the N and E coasts of Tunisia. The descriptive sequence is from W to E and then N to S.

General Remarks

8.1 Tides—Currents.—In the vicinity of Cap Serrat, the currents are irregular and generally set with the prevailing wind.

In Baie de Banzart and at other places along the N coast of Tunisia, the tides are small and are often masked by the effects of the wind and atmospheric pressure which may cause the water level to vary by up to 1m.

Caution.—The winds in the vicinity of Cap Serrat are often accompanied by haze, which makes it difficult to distinguish the land.

Cap Serrat to Banzart

8.2 Cap Serrat (37°14'N., 9°13'E.), high and steep, is formed by a ridge which projects NE. Three summits, each about 186m high, stand on the ridge. A light is shown from a tower with a dwelling, 13m high, standing on the cape. A signal station is situated close S of the light.

Djebel el Hamar stands 4 miles S of the cape. This large and round mountain is 365m high.

Djebel Zeizia stands 1 mile W of Djebel Hamar. It is 271m high and has a jagged summit.

Djebel Blida stands 0.7 mile inland, 3.5 miles SE of the cape. It is 245m high and has three cone-shaped summits.

Djebel Loko stands 0.6 mile inland, 5 miles ENE of Djebel Blida. It is 126m high and shaped like a sugar loaf.

Ragoubet el Goulea (Ras el Golea), a rocky point, is located 8.2 miles E of Cap Serrat. The coast between this point and Ras el Dukara, 8.5 miles ENE, is formed by rocky cliffs broken by dry ravines. Ras el Dukara may be identified by its ridge of serrated cliffs which rise in steps from the sea.

A depth of 20m was reported (1994) to lie about 4 miles NNW of Ras el Dukara.

The coast between Ras al Dukara and Ras el Korane (Ras el Kuran), 5.5 miles ENE, is formed by mostly small cliffs and rocks. These cliffs are broken by sandy beaches through which flow several small streams.

Ras el Korane is formed by rocks and gray sandstone and is rather flat. Between this point and Ras Ennghela, 4 miles E, the coast first consists of cliffs and then by a low plateau bordered by sand hills.

A conspicuous red tower stands close to the coast, 1 mile ESE of Ras el Korane.

Rashadat al Akhawat (Rchadet el Krouat) (Les Fratelli) (37°18'N., 9°25'E.), a group of rocky islets and foul ground, lies about 2.5 miles NNE of Ragoubet al Goulea and is the outermost coastal danger.

Caution.—A danger area, the limits of which are shown on the chart, lies in the vicinity of this group of rocks.

8.3 Ras Ennghela (37°21'N., 9°45'E.), the N point of Africa, consists of a low plateau and is fronted by rocks and shoals which extend up to 0.7 mile seaward. A light is shown from a structure, 15m high, standing on the point. The ruins of a tower are situated close to the light.

The coast between this point and Ar Ras al Abayd (Cap Blanc), 4.5 miles E, consists of a sandy beach followed by dunes and then cliffs.

Ar Ras al Abayd (Cap Blanc) (37°20'N., 9°50'E.) is formed by a narrow projection. Its seaward sides consist of vertical white cliffs. A conspicuous signal station stands 0.6 mile S of the cape, and two prominent radio masts stand close WNW of it. A radiobeacon is situated at this signal station.

8.4 Ras Banzart (Cap Bizerte) (37°20'N., 9°52'E.), located 1.2 miles E of Ar Ras al Abayd, is neither as high nor as steep, but is more salient. Three small, but prominent hills stand on this cape. A radar surveillance station, equipped with VHF, is situated on the cape.

A stranded wreck lies about 0.5 mile E of the cape.

Baie de Banzart (Baie de Bizerte) (37°18'N., 9°56'E.) is entered between Ras Banzart and Ras al Zabib (Cap Zebib), 11 miles ESE. The city and port of Banzart (Bizerte) lie at the SW side of this bay.

Caution.—An IMO-adopted Traffic Separation Scheme (TSS) lies 17 miles NE of Ras Banzart (Cap Bizerte) and may best be seen on the chart.

Banzart (Bizerte) and Menzel Bourguiba (Sidi Abdallah) (37°17'N., 9°53'E.)

World Port Index No. 45440

8.5 The port of Banzart lies at the SW side of Baie de Banzart, 3.5 miles S of Ras Banzart. It consists mainly of Avant Port, Le Canal, Goulet du Lac, Lac de Bizerte, and Sidi Abdallah. The city of Banzart stands principally on the NW side of Le Canal. The town of Menzel Bourguiba stands close W of Sidi Abdallah.

Tides—Currents.—Tides rise about 0.4m at springs and 0.3m at neaps.

The current in the canal has been reported (1997) to reach rates of 1 to 2 knots.

Depths—Limitations.—Avant Port is protected by three breakwaters. Jetee Nord, 1,025m long, extends E from the coast and Jetee Est, 940m long, extends NNE from the coast. Dique Exterior, a detached breakwater, 610m long, lies off the entrance and may best be seen on the chart. The main entrance to the harbor lies between Jetee Est and Dique Exterior. The entrance between Dique Exterior and Jetee Nord is considered to be dangerous for large and/or single-screw vessels due to strong tidal currents.

A fishing harbor, protected by breakwaters, is situated close SE of Jetee Est.

The entrance to Avant Port is dredged to a depth of 12m. The N part of this basin is used by barges and small craft. Two oil berths are situated on the inner side of Jetee Est and have depths of 8.2 and 11m alongside. Tanker vessels up to 50,000 grt, 225m in length, and 11m draft can be accommodated.

Le Canal (Canal de Bizerte), quayed on both sides, is entered in the SW part of Avant Port and leads to Baie de Sebra. The fairway channel through Le Canal has been dredged to a depth of 11m. Quai de Commerce, on the N side, has 500m of total berthing space with a depth of 9m alongside. Quai de Cere-alier, at the junction of Le Canal and Baie de Sebra, is used by bulk grain vessels. It is 220m long and has a depth of 9m alongside.

Quai de Tunisacier, 130m long, is situated on the N side of Baie de Sebra and has a depth of 9m alongside. Quai de Cimentier, 180m long, is situated on the SW side of the bay and has a depth of 9.8m alongside. A channel dredged to a depth of 10m and marked by lighted buoys leads to these facilities. Vessels up to 200m in length and 9.8m draft can be accommodated.

A lift bridge spans Le Canal 0.5 mile SW of the entrance. The lift span is 74m long.

Goulet du Lac extends SW for 3 miles from the SW end of Le Canal and then turns S into Lac de Bizerte (Buhayrat Banzart). A channel, marked by buoys, leads through Goulet du Lac and is dredged to a depth of 12m in the N part and 10m in the S part.

Baie Ponty and Baie de Seti Meriem, on the N side of Goulet du Lac, are the site of a naval station which has several finger piers with depths of 6m alongside.

Lac de Bizerte (Buhayrat Banzart) has general depths of 5.5 to 10m. A channel, marked by buoys, leads through the lake and connects Goulet du Lac with Sidi Abdallah (Menzel Bourquiba). It has a dredged depth of 10m.

Sidi Abdallah (Menzel Bourquiba) is an artificial harbor basin which is formed by breakwaters on three sides. The main entrance, 95m wide, is at the NE corner of the harbor and is approached by the dredged channel which leads through the lake. The town of Menzel Bourguiba (Manzil Bu Ruqaybah) stands close W of the harbor.

The N part of the harbor has a depth of 10m and the S part has depths of 5 to 10m. There is 460m of total berthing space with depths of 6.3 to 8.5m alongside. In addition, there are four drydocks, the largest being 247m long and 40m wide.

Aspect.—Djebel Kebir, 277m high, stands 2.7 miles SW of Ras Banzart and overlooks the city. It is the dominating landmark in the N approach.

A conspicuous hotel stands 0.4 mile inland, 2 miles S of Ras Banzart.

Fort Sidi Salem stands 3 miles S of Ras Banzart. The belfry in the barracks, situated 1 mile SSW of the fort, is prominent. A conspicuous building stands on the W side of Avant Port, 0.6 mile SSE of Fort Sidi Salem. Zarzuna Minaret stands on the S side of the harbor and is conspicuous.

A number of prominent flares are situated about 1.2 miles SSW of the harbor entrance.

A light is shown from a prominent structure, 17m high, standing on the head of Jetee Est.

Pilotage.—Pilotage is compulsory. Vessels should send an ETA 72 hours, 48 hours, and 24 hours in advance. Pilots may



Banzart (Bizerte)—Zarzuna Minaret

be contacted by VHF channel 10, 12, or 16 and generally board about 1 mile ENE of the outer detached breakwater.

Regulations.—Vessels must not exceed the minimum speed for safety and steerageway as far as Baie de Sebra, at the SW end of Le Canal.

Large vessels must enter and depart by the S entrance.

Submarines are prohibited from diving in an area lying S of the parallel of the SE head of the detached breakwater, and bound to the W by the meridian of the same head and to the E by the meridian of 9°58.5'E.

The speed of vessels in Goulet du Lac must not exceed 6 knots.

Anchorage.—Large vessels can obtain anchorage, in a depth of 30m, about 1 mile E of the SE end of the detached breakwater.

Caution.—Banc du Boberak, with depths of less than 1.6m, extends up to about 0.5 mile from the coast, 2.3 miles SSE of Ras Banzart.

Submarine cables and pipelines cross Le Canal and may best be seen on the chart.

Due to submarine cables, prohibited anchorage areas, the limits of which are shown on the chart, lie within Goulet du Lac and extend seaward from close N of the harbor entrance.

The detached breakwater should be given a wide berth as it slopes underwater.

The head of Jetee Est should be given a wide berth due to masonry debris lying off it.

Several obstructions and wrecks lie in the approaches to the port and may best be seen on the chart.

It was reported (1989) that the breakwaters are not radar prominent until vessels are close to the harbor.

Banzart to Golfe de Tunis

8.6 Ras al Zabib (Cab Zebib) (37°16'N., 10°04'E.), located 8.5 miles E of Banzart, can be easily identified by two conical hills, 90m high, standing on it. The extremity of this cape is low and fronted by foul ground.

Iles Cani (37°21'N., 10°07'E.) lies 6 miles NNE of Ras al Zabib. It consists of two islets, 18 and 20m high, standing on a rocky bank which extends 1.2 miles NE and SSW of them. A light is shown from a structure, 21m high, standing on the summit of the NE and higher of the two islets. A buoy, moored

about 1.3 miles SW of the light, marks the SSW extension of the bank.

A depth of 9.5m was reported (1977) to lie about 5 miles NNE of Iles Cani. A wreck, with a depth of 18m, lies about 6 miles NE of Iles Cani. An isolated bank, with a depth of 17m, lies about 3.5 miles W of Iles Cani.

Caution.—An area dangerous for trawling, the limits of which are shown on the chart, lies 4.5 miles ENE of Iles Cani.

8.7 Ras Sidi ali el Mekki (Cap Farina), located 11.5 miles ESE of Ras al Zabib, is the E extremity of a narrow promontory and easy to identify. Between Ras al Zabib and this cape, the coast is rugged and backed by high mountains. A conspicuous shrine stands on a large sand hill close to the coast, 2.5 miles SE of Ras al Zabib.

Ile Pilau lies 1 mile offshore, 2.3 miles NW of Ras Sidi ali el Mekki. This islet is conical and 116m high.

Ile Plane, 9m high, lies 2 miles E of Ras Sidi ali el Mekki. A light is shown from a structure, 12m high, standing on the islet. A stranded wreck, which is radar conspicuous, lies on the NW side of the islet.

A bank, with a least depth of 12m, extends 2.8 miles NE from the islet.

Several rocky shoal patches lie within 1.5 miles of Ras Sidi ali el Mekki. The shallowest of these patches has a depth of 4.6m and lies about 1 mile NNE of the cape.

An isolated bank, with a least depth of 15m, lies about 12 miles NE of Ras Sidi ali el Mekki.

Golfe de Tunis

8.8 Golfe de Tunis is entered between Ras Sidi ali el Mekki (Cap Farina) and Ras at Tib (Cap Bon), 36 miles ESE.

Oued Medjerda flows into the gulf through a delta, 4.5 miles SSW of Ras Sidi ali el Mekki. Its mouth is fringed by a shoal bank which is constantly extending to the E.

The entrance to Lac de Porto Farina, a shallow lagoon, lies in a bay close NW of the river delta. A yacht harbor is situated close NE of the entrance.

Ras Quamart (Cap Gammarth), located 16 miles SSE of Ras Sidi ali el Mekki, is formed by a reddish cliff, 20m high. A rock, with a depth of 5.4m, lies about 0.4 mile NE of the point. A wreck, with a depth of 14m, lies about 4 miles ESE of the point.

8.9 Cap Carthage (Ras Qartajannah) (36°52'N., 10°22'E.) is located 3 miles SSE of Ras Quamart. Sidi Bou Said Light is shown from a structure, 12m high, standing on the cape. It was reported (1994) that this light structure was not easy to distinguish during the day from the other buildings in the vicinity. A stranded wreck, marked by a buoy, lies 0.3 mile NE of the cape.

A small harbor, protected by breakwaters, lies on the S side of the cape and is used by fishing craft and yachts. A conspicuous hotel stands on the beach close SW of this harbor.

The ruins of the ancient city of Carthage stand on the coast, 1.5 miles SW of the cape. A small white fort is situated close NE of them.

The presidential palace stands 1.1 miles SW of the cape and is conspicuous.

Caution.—A navigation prohibited area, the limits of which are shown on the chart, is situated close offshore adjacent to the presidential palace. It is marked by orange floats and extends up to about 0.2 mile seaward.

Anchoring and fishing are prohibited in an area approximately 0.3 mile in radius, centered about 320m S of the presidential palace.

La Goulette (36°48'N., 10°18'E.)

World Port Index No. 45420

8.10 The harbor of La Goulette (Hala al Wadi) is situated 4.5 miles SW of Cap Carthage and serves as an outpost for Tunis. It forms the entrance to Canal de Tunis, a dredged channel, which leads to the port of Tunis.

Depths—Limitations.—An approach channel, about 3 miles long, leads to the harbor entrance. It is 100m wide and dredged to a depth of 12.8m (1998).

The harbor is protected by two breakwaters and consists of an outer basin, a main basin, and Bassin de Rhades, which is a new inner basin situated on the S side of the canal.

The outer basin lies on the inner side of the W breakwater. It has depths of 3m and is mostly used by yachts and fishing craft.

The main basin, bordered on each side by quays, lies at the entrance to Canal de Tunis and has general depths of 10.5 to 12m. A turning circle, 300m wide and dredged to a depth of 12m, is situated within this basin.

North Quay, on the N side of the basin, has 1,097m of total berthing space, with a depth of 9m alongside. Facilities on the S side of the basin include a phosphate berth, 120m long, with a depth of 7.6m alongside; an ore berth, 80m long, with a depth of 9.8m alongside; a grain berth, 80m long, with a depth of 9.6m alongside; and a tanker berth, 150m long, with a depth of 8.1m alongside.

Bassin de Rhades has 1,200m of total berthing space, with a depth of 7.2 to 8.8m alongside. There are facilities for ro-ro and container vessels.

Vessels up to 185m in length and 8.8m draft can be accommodated. Tankers up to 180m in length and 8m draft can be accommodated.

Aspect.—The approach channel is marked by lighted buoys and an outer approach lighted buoy is moored about 3.5 miles ESE of the harbor entrance.

A light is shown from a structure, 11m high, standing at the head of the harbor, on the N bank. It is intensified between the bearings which lead through the harbor entrance.

The conspicuous cupola of St. Louis Chapel is situated on the N side of the harbor. A prominent clock tower stands 0.7 mile NW of the head of the N breakwater.

A monument and a steeple, both conspicuous, are situated 2 miles SW and 4.7 miles SSE, respectively, of the head of the N breakwater.

Fort de Sidi Ben Hassen stands in the S part of the city of Tunis and is conspicuous.

Prominent chimneys stand 1 mile WNW and 1.5 miles WSW, respectively, of the head of the N breakwater.

A control tower and several silos stand on the S side of the harbor and are conspicuous from seaward.

Djebel Resass, 795m high, stands 13 miles S of the harbor and is prominent.

Pilotage.—Pilotage is compulsory for all vessels over 100 grt. Pilots can be contacted on VHF channel 9, 10, or 16 and generally board within 0.3 mile of the outer approach lighted buoy. Pilotage is available 24 hours, except for tankers and ore carriers, when it is available during daylight hours only. Vessels should forward an ETA at least 12 hours in advance. Vessels in the canal should keep a listening watch on VHF channel 10.

Regulations.—Submarines are prohibited from diving in the area lying SW of the prolongation of a line joining Ras Quamart (Cap Gammarth) and Cap Carthage.

Vessels proceeding from the roadstead to the harbor must follow the approach channel for its entire length.

The maximum speed in the harbor is 5 knots.

Tankers and ore carriers are not allowed to enter or leave the harbor during the hours of darkness.

Anchorage.—Vessels can anchor in the roadstead sheltered only from winds between S and W. The best berth, in depths of 12 to 14m, lies between 0.5 and 1 mile N of the outer approach lighted buoy. Small vessels may anchor N or S of the approach channel, in depths of 7 to 9m, provided that they do not obstruct navigation. The bottom consists mostly of fine sand and affords good holding ground under normal conditions of wind and sea.

Caution.—A ferry crosses the harbor at La Goulette.

Several submarine cables cross the harbor, 1 mile WNW of the head of the N breakwater. Anchoring and fishing are prohibited in this area.

An overhead power cable, with a vertical clearance of 42m, spans the harbor close E of Bassin de Rhades.

Tunis (36°48'N., 10°12'E.)

World Port Index No. 45430

8.11 The port of Tunis lies 5 miles W of La Goulette (Hala al Wadi) and is approached through Canal de Tunis, which leads between masonry embankments across Lac de Tunis.

Winds—Weather.—Formation of a low pressure area in the mountains to the S of Tunis will usually result in rough weather in the roadstead with very little warning.

Depths—Limitations.—Canal de Tunis is dredged (1997) to a depth of 7m over a width of 45m. It is marked by lighted beacons and leads across Lac de Tunis to the port, which consists of three basins.

The harbor has 1,135m of total berthing space, with depths of 5 to 7.5m alongside, and facilities for ro-ro, container, and bulk vessels. Vessels up to 130m in length and 6.2m draft can be accommodated.

Aspect.—A conspicuous hotel stands 3 miles NW of the harbor.

A light is shown from a structure, 11m high, standing on the W side of the harbor. The light is intensified over a narrow sector covering the alignment of the canal.

Pilotage.—Pilotage for Canal de Tunis and the harbor is compulsory. Vessels should maintain a listening watch on VHF channel 10 while in the canal. See Pilotage for La Goulette in paragraph 8.10.

Caution.—A mid-channel course should be maintained as the cross section of the canal is V-shaped.

The speed of vessels in the canal is limited according to tonnage.

Tunis to Sousse

8.12 Pointe Er Reis (36°48'N., 10°33'E.) is located on the E side of Golfe de Tunis, 12 miles E of the harbor entrance at La Goulette (Halq al Wadi).

A bank, on which lies numerous rocks and wrecks, extends up to about 1.5 miles NW from a point on the coast, 2 miles SSW of Pointe Er Reis.

Ras Dourdass is located 4.5 miles NNE of Pointe Er Reis. The coast between is backed by a range of mountains.

Rass el Fartass, located 1.7 miles NE of Ras Dourdass, is steep and rocky. Its summit is 100m high and is surmounted by some ruins.

Rass el Ahmar (37°03'N., 10°54'E.), a low and rocky point, is located 18 miles NE of Rass el Fartass. A prominent hill, 97m high, stands 1.2 miles SSE of the point and from certain directions appears as an islet.

Sidi Daoud, a small harbor, lies 3 miles SSW of the point. It is protected by breakwaters and mostly used by fishing craft and yachts.

8.13 Ile Zembra (Djamour el Kebir) (37°08'N., 10°48'E.) lies 7 miles NW of Rass el Ahmar. This island is 435m high and an above-water rock lies about 0.5 mile W of its N extremity. A yacht harbor, protected by breakwaters, is situated on the S side of the island. A light is shown from the SW extremity of the island.

Ile Zembretta (Djamour es Srir), 49m high, lies 3.7 miles NNW of Ras el Ahmar. A light is shown from a structure, 8m high, standing on this islet.

Caution.—A dangerous wreck, marked by several buoys, lies about 1 mile SSE of the harbor entrance at Ile Zembra.

Vessels are advised to avoid navigating within an area which extends up to 1 mile from the S coast of Ile Zembra, due to yacht moorings.

Fishing is prohibited within 1.5 miles of Ile Zembra.

Ile Zembra has been declared a military island and landing is prohibited.

8.14 Ras at Tib (Cap Bon) (37°05'N., 11°03'E.), located 6.5 miles ENE of Rass el Ahmar, is the NE extremity of Tunisia and also of the mountainous promontory which separates Golfe de Tunis from the Gulf of Hammamet. A signal station surmounts the summit of the hill, which dominates the cape, and two prominent radio masts stand close W of it.

A light is shown from a structure, 20m high, standing 0.5 mile SE of the cape. A radiobeacon is situated 0.5 mile S of the light.

A shoal, with a least depth of 2m, lies close N of the cape.

Sidi Mohamed Ech Cherif, a marabout, stands on a hill 5 miles S of Ras at Tib (Cap Bon). It is large, prominent, and surrounded by trees.

Banc El Haouaria (37°20'N., 11°02'E.) lies about 14.5 miles N of Ras at Tib (Cap Bon). This bank has a least depth of 22m and a dangerous wreck lies on it.

Caution.—An IMO-adopted Traffic Separation Scheme (TSS) lies 6 miles NNE of Ras at Tib (Cap Bon) and can best be seen on the chart.

8.15 Ras ed Drek (37°03'N., 11°04'E.) is the S of three points which lie close together, 3.5 miles SE of Ras at Tib (Cap Bon). These points are fronted by rocks and shoals. The ruins of a fort surmount a ridge immediately above Ras ed Drek.

Caution.—Several lights and lighted buoys, one of which is equipped with a racon, lie close S of Ras ed Drek. These aids mark the landing area of two submarine gas pipelines which extend NE to the coast of Sicily.

Anchoring and fishing are prohibited in this vicinity. Vessels damaging these pipelines may incur serious risk of fire or explosion and loss of buoyancy.

8.16 Ras el Melah (36°52'N., 11°08'E.), marked by a light, is located 11 miles SSE of Ras ed Drek. The point is low but rises to a large whitish sandhill. A shoal bank extends up to 0.5 mile from the point and an obstruction, with a depth of 16m, lies about 1.5 miles NNE of it.

Ras Mostefa (Ras Mustafa) (36°50'N., 11°07'E.), located 2.5 miles SSW of Ras el Melah, is dominated by a conspicuous hill on which stands a large fortress. The cape consists of two sharp points, on the W of which stand the ruins of a battery and a marabout. A customhouse is situated close N of the marabout. Kelibia Light is shown from a structure, 18m high, standing on the E end of the fortress.

Caution.—Several submarine cables extend seaward from a point on the shore, 1 mile N of the cape. Anchorage is prohibited in the vicinity of these cables.

A dangerous wreck lies about 1.3 miles SSW of the cape.

8.17 Burj Qualaybiyah (Kelibia Bay) (36°50'N., 11°07'E.) (World Port Index No. 45415), a very small harbor, lies in a bay on the W side of Ras Mostefa. It is protected by breakwaters and the entrance is 55m wide. There are depths of 5 to 7m in the SW part of the harbor, but the NE part is shoal. The harbor is mostly used by small craft and yachts with local knowledge. Qualaybiyah, a small town, stands at the head of the bay. It was reported (1988) that this harbor is used as a base for offshore oil and gas operations.

Anchorage can be taken off the harbor, about 0.5 mile SW of Ras Mostefa. The roadstead has depths of 11 to 15m and is sheltered from W and N winds. The bottom is mostly sand and the holding ground is good.

Tazerka Oil Terminal (36°36'N., 11°41'E.) (World Port Index No. 45435), lies 31 miles SE of Ras el Melah. It consists of a floating production storage unit (FPSU) and the storage tanker Tazerka.

Pilotage.—Pilotage, docking, and getting underway are accomplished by a Berthing Master who remains onboard for the entire stay. Vessels should send an ETA upon departure from the previous port and update it 72 hours, 48 hours, and 24 hours prior to arrival. Any change of ETA of 3 hours should also be reported. The Berthing Master boards 2 miles off the FPSU.

8.18 Rass Maamoura (Ras al Mamurah) (36°27'N., 10°48'E.), located 27 miles SW of Ras Mostefa, is low and has

a village standing on it. A conspicuous tomb stands on the shoulder of the SE foothill, 1.5 miles N of the point. A dangerous wreck lies close S of Rass Maamoura.

A small fishing harbor, protected by breakwaters, is situated on the S side of the point. A minaret stands 1 mile N of the harbor and is prominent from seaward.

Isolated banks, with depths of 26 to 28m, lie 15 miles ENE (Banc de Kourba), 5 miles S (Banc Nabeul), and 11 miles S (Banc Maamoura) of Rass Maamoura. These banks should be avoided in bad weather, especially during NE gales.

8.19 Golfe de Hammamet (Khalij al Hammamat) (36°10'N., 10°40'E.) is entered between Rass Maamoura and the Presqu'île de Monastir, a peninsula 41 miles S.

Al Hammamet (36°24'N., 10°37'E.), a small fortified town, stands 10 miles WSW of Rass Maamoura. It is built on a low, sandy promontory, the S extremity of which is known as Ras Hammamet. The coast in this vicinity is built up with large hotels.

A tower, from which a light is shown, stands at the W angle of the fortifications of the town. A conspicuous church and a marabout are situated 0.7 mile and 1.2 miles WNW, respectively, of the tower. A conspicuous house stands on the coast, 0.8 mile NW of Ras Hammamet.

A dangerous wreck, marked on its W side by a buoy, lies about 0.3 mile WNW of Ras Hammamet.

Anchorage, sheltered from N and NW winds, can be obtained, in a depth of 14m, off the town. The holding ground is fair and the bottom is mostly sand and grass; however, at times NW squalls blow down from the mountains.

Caution.—A submarine cable extends seaward from a point on the shore, 5 miles SW of Ras Hammamet.

8.20 Hergla (36°02'N., 10°31'E.), a small town, is situated 22 miles SSW of Al Hammamet. It is fronted by a small harbor which is protected by breakwaters marked by lights and used by fishing craft and yachts. The town can be identified by a prominent minaret, the dome of a mosque, and a prominent water tower.

In the vicinity of this town, the shore is rocky and numerous rocks, awash, lie close inshore. Farther to the S, the coast again becomes sandy.

El Kantaoui, an extensive yacht harbor, is situated 9.2 miles SE of Hergla near Rass Marsa and is protected by two jetties. A conspicuous hotel stands on the S side of the harbor.

Caution.—A stranded wreck lies midway between Rass Marsa and Sousse.

Sousse (Susah) (35°50'N., 10°39'E.)

World Port Index No. 45410

8.21 The port of Sousse lies in the SW part of Golfe de Hammamet, 38 miles SSW of Rass Maamoura.

Winds—Weather.—At times, heavy NW squalls descend from the mountains. The winds in winter are mainly between the NW and SW; in summer, they are mainly between the N and NE.

It is reported that strong N winds generate a current which make entry to the harbor very difficult.

Depths—Limitations.—The harbor is protected by a breakwater, 670m long, and is entered between two piers, 65m apart. The entrance channel is dredged (1986) to a depth of 8.5m.

A small basin, with a depth of 4.8m, lies in the SW part of the harbor and is used by fishing vessels. Another small basin, with depths of 1.8 to 3.9m, lies in the NW part of the harbor and is used by yachts.

The main commercial basin has 1,200m of total berthing space, with depths of 7.8 to 8.7m alongside. There are facilities for ro-ro, container, bulk, and tanker vessels. Vessels up to 165m in length and 8.7m draft have been accommodated.

Aspect.—A light is shown from a structure, 22m high, standing 0.8 mile WSW of the head of the breakwater. The approach to the entrance channel is marked by lighted buoys. An outer approach lighted buoy is moored about 0.6 mile E of the breakwater head.

Several prominent landmarks, including a church belfry in the NW part and the tower of a cathedral in the SW part, are situated in the town. However, it is reported that all landmarks are difficult to distinguish because of the multiplicity of them and because of haze.

Pilotage.—Pilotage is compulsory for vessels over 100 grt. Pilots may be contacted on VHF channel 10, 12, 16, or 67 and generally board off the entrance channel.

Anchorage.—Anchorage can be taken, in a depth of 11m, within the roadstead, but it is exposed to winds from the N to SE. The holding ground is poor, except during the summer when it may be considered good due to the deadening of the waves by seaweed. Vessels should anchor about 0.7 mile ESE of the head of the breakwater and S of the outer approach lighted buoy.

Caution.—It is reported (1991) that the lighted buoys marking the approach should not be relied upon.

A submarine pipeline, marked by a buoy, extends 0.5 mile E from a point on the shore, 0.8 mile NW of the head of the breakwater. Anchoring and fishing are prohibited in the vicinity of this pipeline.

Sousse to Sfax

8.22 Monastir (35°46'N., 10°50'E.), a town, is situated 10 miles ESE of Sousse. It is surrounded by battlement walls and stands at the NE end of Presqu'île de Monastir, the peninsula which forms the S entrance point of Golfe de Hammamet. This peninsula is faced with rugged cliffs on its N side on which stand, at the W end, a large hotel, a stadium, a palace, and a large white house in ruins. A prominent marabout stands at the E end. The E side of the peninsula slopes gently to the sea.

Ile Egdemsi (Ile Sidi el Rhedamsi), 14m high, lies 0.2 mile off the NE side of the peninsula and is joined to it by a spit. A chimney and the buildings of a tunny fishery are situated on this islet.

An extensive yacht harbor is situated between the mainland and Ile Egdemsi, and an old fishing harbor lies close SE.

A fort standing 1 mile SSE of Monastir is prominent from seaward.

A conspicuous thermal power station stands 7 miles WNW of Monastir and is fronted by a small harbor, protected by breakwaters.

Caution.—A prohibited area, the limits of which are shown on the chart, extends up to 2 miles from the shore in the vicinity of the power station.

A dangerous wreck lies approximately 4 miles ESE of the light in the town of Monastir.

8.23 Ile Kuriate (35°48'N., 11°02'E.), a low island, lies 10 miles ENE of Monastir. A light is shown from a structure, 26m high, standing on the summit of the island.

Ile Conigliera, a small and low island, lies 1.5 miles SSW of Ile Kuriate.

Tunny nets, up to 3.5 miles long, are laid out NW and NNW of these islands between the months of April and August.

A bank, with depths of less than 11m, extends up to 3 miles E of Ile Kuriate. In bad weather, heavy seas are encountered on this bank.

Several dangerous wrecks lie within 6 miles E and SE of Ile Kuriate and may best be seen on the chart.

Baie de Monastir (Baie dal Munastir) (35°43'N., 10°54'E.) lies between Presqu'île de Monastir and a shallow spit extending NE, 8 miles SE. Several wrecks lie in the vicinity of this bay and the spit and may best be seen on the chart.

This bay offers very good anchorage, but it is exposed to N and NE winds. The masses of seaweed, which fringe the shore and surround the islands, deaden the sea and render anchorage in depths of less than 10m secure. Vessels can anchor at the E side of the spit.

Rass Dimasse (Ras Daymas) (35°38'N., 11°03'E.), located 13 miles SE of Monastir, is low, fronted by a shoal bank, and hard to identify. A conspicuous mosque surmounts a hill, 1.2 miles SSW of the point. A prominent windmill stands 3 miles SSW of the point and a pier, with a flagstaff at its head, is situated 0.5 mile SE of it.

Cap Afrique (Ras Ifriqiya) (35°31'N., 11°05'E.), is located 7 miles S of Rass Dimasse. It is also the extremity of a narrow peninsula.

8.24 Al Mahdiyah (Mahdia) (35°30'N., 11°04'E.) (World Port Index No. 45400), a town, stands on the peninsula close W of the cape. A conspicuous tomb is situated near the extremity of the cape. A light is shown from a structure, 15m high, standing near the tomb. A conspicuous school building is situated 1.2 miles W of the light. A prominent castle and a prominent minaret stand 0.2 mile and 0.5 mile WSW, respectively, of the light.

A small harbor, protected by an outer breakwater and two inner breakwaters, lies on the S side of the narrow peninsula. It has depths of 2.3 to 4.5m and is reported to be used by small coasters. Anchorage can be taken S of the town in convenient depths. The bottom is rocky, but shelter is afforded from winds from the N to NE.

Rass Salakta, located 7 miles S of Cap Afrique, is fringed with rocks. In the vicinity of this point, the hills, which are 100m high, approach the coast and the beach gives way to vertical cliffs. A town, situated 3 miles WNW of the point, is visible from seaward. A small fishing harbor, protected by breakwaters, lies on the S side of the point.

8.25 Rass Kaboudia (Ras Kabudiyah) (35°14'N., 11°09'E.), located 11 miles SSE of Rass Salakta, is the SE ex-

tremity of a rocky plateau which ends in a small peninsula. This peninsula is fringed with islets and a chimney, and the buildings of a tunny fishery are situated on it. A light is shown from a tower, 18m high, on the NE extremity of the point.

A small fishing harbor is situated close SSE of the point.

A dangerous wreck, marked by a buoy, lies about 10 miles SSE of Rass Kaboudia.

Kerkennah Banks (Bancs Qarqannah) (35°00'N., 11°30'E.) extend up to about 45 miles seaward from the coast between Rass Kaboudia and Ras Bou Rmada (Ras bu Ramadah), 52 miles SW. They are mostly formed of sand, mud, and weeds.

The seaward sides of the bank are fringed with shoals and are marked by lighted buoys. The outermost lighted buoy, which is moored about 40 miles SE of Rass Kaboudia is equipped with a racon.

Numerous wrecks lie in the vicinity of this bank and may best be seen on the chart.

Canal des Kerkennah (Majaz Qarqannah), a buoyed channel, leads SW across the inner part of the bank and is available to vessels with drafts up to 3m.

Iles Kerkennah (34°40'N., 11°10'E.), consisting of Ile Chergui and Ile Gharbi, lie on the S part of the banks. These islands are low and difficult to identify from seaward.

Ile Chergui (Jazirat Ash Sharki) is the larger and NE island. A light is shown from a structure, 9m high, standing on the NW extremity of the island. A small fishing harbor is situated close SE of the light.

Another small fishing harbor is situated at El Attaia, 6 miles SSE of the light. A radiobeacon is situated in the vicinity of this harbor. A channel, marked by buoys, leads to the harbor. Its seaward entrance lies 4 miles SSE of El Attaia, but local knowledge is required.

Ile Gharbi (Jazirat al Gharbi) is the SW island. A small harbor is situated at Rass Sidi Youssef, its W extremity. A ferry boat runs from here to Sfax several times a day.

A lighted buoy, which marks the S edge of Kerkennah Banks, is moored about 12 miles SSW of Ras Sidi Youssef and is equipped with a racon.

Caution.—An anchoring and fishing prohibited area, the limits of which are shown on the chart, extends NW across Canal des Kerkennah from the W end of Ile Gharbi to the mainland.

Several dangerous wrecks lie in the S approaches to Canal des Kerkennah and may best be seen on the chart.

8.26 Ashtart Oil Terminal (34°17'N., 11°23'E.) (World Port Index No. 45377) lies S of the banks, 26 miles SE of the S extremity of Ile Gharbi. It consists of a lighted offshore platform with flares; a large storage barge, moored 1 mile SSW of the platform; and an SBM situated 1.5 miles W of the platform. Submarine cables and pipelines connect these three facilities.

A radiobeacon is situated at the platform and transmits in low visibility when a tanker vessel is expected. The berths lie in a depth of 66m. Vessels up to 150,000 dwt can be accommodated at the SBM; in good weather, vessels up to 100,000 dwt can be accommodated alongside the storage barge.

Pilotage.—Pilotage is compulsory. Pilots generally board about 3 miles S of the platform. Berthing is only permitted by day and one tug is available to assist. The terminal can be

contacted on VHF channel 6, 9, or 16. Unauthorized approach is prohibited. Vessels should send an ETA at least 24 hours in advance to SEREPT Sfax.

Anchorage.—Vessels may anchor, in a depth of 66m, about 6 miles S of the storage barge. Unauthorized anchoring within 3 miles of the terminal is prohibited.

Sfax (34°44'N., 10°46'E.)

World Port Index No. 45390

8.27 The port of Sfax lies W of Iles Kerkennah and 36 miles SW of Rass Kaboudia.

Tides—Currents.—The tides rise about 1.7m at springs and 1.1m at neaps.

In the roadstead, the flood current sets NE and the ebb sets SW. They attain rates up to 1.7 knots at springs.

Depths—Limitations.—An approach channel, 2.5 miles long, leads NW to the harbor entrance. It is 40m wide and is dredged to a depth of 11m.

A fishing harbor, protected by breakwaters, lies close S of the main harbor and is entered by a narrow channel dredged to a depth of 5m; it has been reported (1996) that there is less water in the dredged channel.

The main commercial basins have 1,970m of total quayage, with depths of 10.3 to 10.5m alongside. There are facilities for general cargo, phosphate, salt, sulphur, container, ro-ro, and tanker vessels. Vessels up to 185m in length and 10.5m draft can be accommodated.

Aspect.—Towers, 18m and 207m high, stand close SW and 1.7 miles NW, respectively, of Ras Sidi Mansour, a point located 7 miles NE of the port.

The white buildings of the town are dominated by a tall minaret, the green-roofed tower of the town hall, and a domed tower standing near the waterfront.

Prominent marks include the cement factory and associated chimney situated 0.2 mile NW of the N basin; a tower standing at the SE entrance point of the outer basin; several storage tanks situated in the vicinity of the N basin; and the phosphate loaders and overhead transporter cranes standing on the quays.

A conspicuous house stands 2.3 miles W of the harbor entrance and three tall chimneys stand 0.5 mile E of it. A conspicuous building, with a water tower close NE of it, is situated near a reservoir, 1.5 miles S of the above conspicuous house.

A light is shown from a structure, 17m high, standing on the quay at the NW side of the harbor. The light is intensified between the bearings which cover the entrance. The approach channel is marked by lighted buoys and beacons.

Pilotage.—Pilotage is compulsory for vessels over 100 grt. Pilots can be contacted on VHF channel 16 and generally board about 1 mile SE of the entrance to the approach channel. Vessels should send an ETA 12 hours in advance. Vessels intending to enter at night should send a confirmation at least 1 hour before sunset. Pilots are available 24 hours, but entry at night is inadvisable. Entry and departure by night is not permitted for tankers of any size.

Anchorage.—Sheltered anchorage, in convenient depths, can be taken in the roadstead. The holding ground is good and the bottom is mostly mud or sand and weeds. It is advisable to anchor NE of the entrance of the approach channel.

Caution.—A dangerous wreck lies adjacent to the N side of the approach channel, about 0.7 mile SE of the harbor entrance.

A wreck, with a depth of 3.9m, lies about 1.2 miles ESE of the harbor entrance.

An isolated patch, with a depth of 3m, was reported (1962) to lie about 2.3 miles S of the harbor entrance.

A submarine cable extends SE from a point close SW of the harbor entrance.

Sfax to Gabes

8.28 Ras Tina (34°38'N., 10°43'E.) is located 5.5 miles SW of Sfax. A small jetty is situated on the N side of this point. A light is shown from a prominent structure, 44m high, standing 1.5 miles WNW of the point.

The prominent village of Nakta, with a water tower, is situated 7.5 miles SW of Ras Tina.

Rass Bou Rmada (Ras Burmada) (34°31'N., 10°33'E.) is located 11 miles SW of Ras Tina. A wreck, with a depth of 10m, lies about 2.5 miles SSE of the point.

The small town of Mahares is situated 2.5 miles W of Rass Bou Rmada and is dominated by a prominent minaret and several shrines. Vessels with local knowledge can anchor, in depths of 6 to 12m, good holding ground, S of the minaret.

Rass Yonga (34°25'N., 10°22'E.), located 9 miles SW of Mahares, is low and hard to identify. A conspicuous mosque stands 1.5 miles WNW of the point.

Gulf de Gabes (Khalij Qabis) (33°54'N., 10°07'E.) lies between Rass Yonga and the NW extremity of Ile de Djerba, about 37 miles SE. The oil terminal of La Skhirra is situated in the NW part of the gulf and the port of Rhennouch (Ghannouche), with the town of Gabes, is situated in the SW part. The shores of the gulf are mostly fringed by sand banks.

Caution.—Drilling operations are being carried out in the gulf. The sites are usually marked by black and yellow buoys.

An anchorage prohibited area, with a radius of 1.5 miles, lies 12 miles SSW of Rass Yonga.

A gas pipeline runs N of the Ashtart Terminal to the Miskar gas field. The pipeline originates at the coast SE of the town of Nakta and is best seen on the chart.

8.29 Skhira el Kedima (34°20'N., 10°10'E.), a small projection, is located 11.5 miles SW of Rass Yonga. A small pier, with a depth of 1.2m at its head, extends 300m S from this projection.

Between Rass Yonga and Skhira el Kedima, the marshy coast is fronted by a bank of mud and weed which dries and extends up to 8 miles offshore. Several small rocky islets lie on this bank.

Ilot Kneiss lies on the bank, 4.5 miles SW of Rass Yonga. This islet is 7m high and a prominent geodetic pillar stands on it.

The seaward edge of the bank is marked by beacons. The W edge of the bank forms the E side of Baie des Sur-Kenis, which lies between the bank and the NW coast of the gulf. The W side of this bay is marked by rugged, red cliffs.

Oued ben Ghafef flows into the bay, 0.7 mile E of Skhira el Kedima. It is fronted by a bar across which a narrow channel, with a depth of 3m, leads. Small craft with local knowledge can enter the river.

8.30 La Skhira (As Sukhayrah) (34°17'N., 10°06'E.) (World Port Index No. 45380), an oil terminal, lies within the Baie des Sur Kenis, 1.2 miles SW of Skhira el Kedima.

Tides—Currents.—The tide rises about 2.1m at springs and 1.4m at neaps.

Depths—Limitations.—The terminal consists of a jetty which extends 1.2 miles SE from the shore. The berths consist of a pier, which extends SSW from the head of the jetty, and several mooring dolphins. The berths have depths of 14.5 to 15.3m alongside and tanker vessels up to 164,500 dwt, with a maximum length of 300m and a maximum draft of 15.5m at high water springs, can be accommodated.

Aspect.—A radio mast, 80m high, stands near the root of the terminal jetty and a prominent water tower is situated 1 mile ENE of it.

A light is shown from a structure standing 0.5 mile NW of the root of the jetty.

Several prominent storage tanks are situated close NW of the light. The village of Skhira, fronted by a breakwater and a disused light structure, is situated 3 miles SW of the terminal jetty. A ruined tower stands 3.7 miles SSW of the village.

Djebel Beida, 275m high, stands 16 miles SW of Skhira and is conspicuous.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 11, 12, 14, or 16 and generally board between 1 and 2 miles S of the berths. Vessels should send an ETA 48 hours and 24 hours in advance. Messages should be sent to RAPETROL, La Skhira through La Skhira (3VP).

The approach to the terminal is marked by lighted buoys, which may best be seen on the chart.

Anchorage.—Vessels may anchor, in a depth of 18m, about 1 mile SSE of the head of the jetty or, in a depth of 23m, about 2.5 miles SSE of the head of the jetty. The anchorage is dangerous in W gales.

Caution.—An anchorage prohibited area lies E of Lighted Buoy No. 1 and may best be seen on the chart.

Several wrecks and obstructions lie in the outer approaches to the port and may best be seen on the chart.

Gabes (Ghannouche) (33°54'N., 10°07'E.)

World Port Index No. 45375

8.31 Gabes lies on the W side of Gulf de Gabes, 24 miles S of La Skhira. The port includes the commercial harbor of Ghannouche (Port de Rhennouch), which is entered through a dredged channel, and the fishing harbor of Gabes, situated 2 miles S.

Tides—Currents.—The tide rises about 2.1m at springs and 1.3m at neaps.

The tidal currents set across the entrance channel, particularly near the breakwaters.

Depths—Limitations.—The commercial port is protected by two breakwaters. The approach channel is dredged to a depth of 12.5m. The main facilities include 975m of total quayage, with a depth of 10.5m alongside, and 785m of total quayage, with a depth of 12.5m alongside. There are facilities for general cargo, passenger, ro-ro, tanker, natural gas, ore, and bulk vessels. Vessels up to 11.8m draft can be accommodated.

The fishing harbor is protected by a curved breakwater and has depths of 3 to 4m within it.

Aspect.—The coast in the area of the port is generally low-lying with sand dunes fronting the beach. A range of hills, paralleling the coast, stands 4 miles inland and rises to heights of between 100m and 140m.

A cluster of industrial installations, situated to the W of the commercial harbor, can be seen from seaward. A prominent chimney, 44m high, stands at a power station, to the N of the commercial harbor. The dredged approach channel leading to the commercial harbor is marked by lighted buoys. An outer approach lighted buoy is moored about 2.6 miles NE of the heads of the breakwaters.

A light is shown from a structure, 11m high, standing close W of the fishing harbor. A conspicuous hotel is situated 0.5 mile SW of the light and a prominent mast, 106m high, stands close SW of the hotel.

It was reported that an aeronautical radiobeacon is situated in the vicinity of the airfield S of the town of Gabes.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 12, 15, 16, or 17 and generally board in the vicinity of the outer approach lighted buoy.

It is reported that the VHF range is limited to under 12 miles.

Anchorage.—Vessels can anchor, in depths of 12 to 24m, very poor holding ground, S of the dredged approach channel.

Gabes to Ras Ajdir

8.32 Rass el Djorf (33°42'N., 10°43'E.) is located 32 miles ESE of Gabes and formed by red cliffs, 15 to 18m high. The coast between is fronted by shoals which extend up to 2.5 miles offshore in places, especially in the approaches to Canal d'Adjim.

Guettaiet el Baharia, a low islet, lies in the W entrance to Canal d'Adjim, 1.5 miles N of Ras el Djorf.

Ile de Djerba (Jazirat Jerbah) (33°50'N., 10°50'E.), a large island, lies NE of Ras el Djorf and is flat and covered with palm trees. Khalij bu Ghirarah (Bahiret el Bou Grara), a landlocked bay, is formed by the indented S coast of the island and the indented coast of the mainland. Entry into this bay is from the W by Canal d'Adjim. Entry from the E is obstructed. The village of Adjim stands at the SW extremity of the island.

The entrance to Canal d'Adjim, the W channel, is marked by a lighted beacon situated 5.5 miles W of Rass el Djorf. Several narrow channels, marked by beacons and buoys, lead E and then SSE into Khalij bu Ghirarah from the vicinity of the lighted beacon.

Caution.—Although the bay has depths of 11 to 14m in its center, vessels are limited to a draft of about 3m because of shoaling at both ends of the channels. An overhead cable, with a vertical clearance of 30m, spans the channel, 1.2 miles SE of Rass el Djorf. A submarine cable crosses the channel close S of the overhead cable.

8.33 Bordj Djellidj (Burj Jillij) (33°53'N., 10°45'E.) is the S entrance point of the Golfe de Gabes and the NW extremity of Ile de Djerba. A small fort stands on the point. A light is shown from a structure, 12m high, standing on the NW corner of the fort. A prominent control tower stands 1.7 miles ESE of the fort and an aeronautical light is shown close SE of it.

The N coast of Ile de Djerba is fronted by a bank of mud and weed, which has depths of less than 5.5m and extends up to 3 miles offshore in places. Heavy seas are raised off the N edge of this bank by the slightest winds.

Dangerous wrecks lie about 8 miles NW and 13.5 miles NNW of Bordj Djellidj.

Caution.—A fish haven area, the limits of which are shown on the chart, lies 3.7 miles SW of Bordj Djellidj.

8.34 Houmt Souk (33°53'N., 10°51'E.) (World Port Index No. 45370), a small harbor, lies 5.5 miles E of Bordj Djellidj and is used by small coasters. A light is shown from a structure, 8m high, standing close SW of the harbor.

The harbor basin has depths of 1.5 to 4.5m and is protected by breakwaters which extend 0.2 mile N on each side of the entrance and cover at HW.

A buoy, marking the edge of the coastal bank, is moored about 4.2 miles NE of the light. Small vessels, with local knowledge, may enter the harbor by day through a secondary channel leading SSW across the flats from close S of the buoy. This channel, only 15m wide, is dredged to a depth of 4m.

A lighted approach buoy is moored about 4 miles N of the light and a main channel, marked by lighted beacons, leads S from it to the harbor basin. Vessels may anchor, although exposed to all but S winds, in the vicinity of this lighted approach buoy where there is good holding ground.

8.35 Rass Taguermess (33°49'N., 11°04'E.) is located 10.5 miles ESE of Houmt Souk. A light is shown from a structure, 49m high, standing on a hill, 0.5 mile W of the point. A conspicuous hotel stands near the coast, 3.5 miles NW of the light. A conspicuous mosque stands 2.5 miles S of the white hills which back the point.

Vessels should give Rass Taguermess a wide berth as it is fringed with shoals and foul ground. Several dangerous wrecks lie offshore in this vicinity and may best be seen on the chart.

Aghir is located 4.7 miles SSW of Rass Taguermess. A prominent fort stands at this town and a light is shown from a structure, 6m high, standing on it.

Bordj Kastil (Bordj Castille), a prominent castle, stands on the extremity of a peninsula, 5 miles SSW of Aghir. Several mosques, situated inland, are also visible from seaward.

A series of low islets extends S from the peninsula and enclose a shallow bay. A causeway, lying 3 miles SW of Bordj Kastil, extends SSE from Ile de Djerba to the mainland and blocks the E entrance to Bahiret el Bou Grara.

Rass Marmour (33°37'N., 11°03'E.), located 5.5 miles SE of Bordj Kastil, stands at the N extremity of a chain of hills faced with cliffs, which back this part of the coast.

8.36 Zarzis (33°30'N., 11°07'E.) (World Port Index No. 45365), a small harbor, lies 8 miles SSE of Rass Marmour. It is protected by a breakwater which extends 1 mile seaward, and is approached through a channel, 5 miles long, which is marked by buoys and is dredged to a depth of 13m. An outer approach lighted buoy is moored about 8.5 miles E of the harbor entrance.

A small fort is situated at Zarzis and two prominent marabouts, which are visible from seaward, stand 0.8 mile N and 2 miles S of the town.

The harbor basin has been dredged to a depth of 12m. Petroleum Quay, 640m long, has a depth of 12m alongside. Tanker vessels up to 185m in length and 10.5m draft can be accommodated. In addition, there are facilities for fishing vessels.

8.37 Ras Ajdir (33°10'N., 11°33'E.) is located 30 miles SE of Zarzis. The coast between is low and backed by lagoons. The shore is fronted by a bank of sand and weed, which has depths of less than 20m and extends up to 12 miles offshore. Numerous shoals lie on this bank. The border between Tunisia and Libya lies in the vicinity of Ras Ajdir.

Burj al Biban, a conspicuous fort, stands on an islet near the entrance to a lagoon, 17 miles SE of Zarzis. Vessels, with local knowledge, can anchor, in a depth of 7m, good holding ground, about 8 miles NNE of the fort.

A tower beacon, 5.5m high, stands 10 miles NNE of the fort. A lighted buoy is moored near the edge of the coastal bank, about 2.5 miles NE of the tower beacon.

Caution.—Oil drilling operations are frequently carried out in the waters off the edge of the coastal bank.

SECTOR 9

FRANCE—CAP CERBERE TO RUISSEAU SAINT-LOUIS

Plan.—This sector describes the S coast of France from Cap Cerbere (42°26'N., 3°11'E.), at the Spanish-French boundary, to Ruisseau Saint-Louis (Fiume San Luigi) (43°47'N., 7°32'E.), at the French-Italian boundary. The descriptive sequence is from W to E.

General Remarks

9.1 Winds—Weather.—The prevailing winds in this area are from the N and NW, especially in winter during the stormy season. Gales are rare in summer.

Golfe de Lion is notorious for bad weather and sudden changes. Strong NW winds, known as the Mistral, may frequently blow for a week and may even persist for a month in winter.

Fog is frequent, particularly during E winds, off the coast between Port-Vendres and Cap Leucate.

Tides—Currents.—The prevailing currents along this coast set W and SW, but they are generally weak and overridden by local surface currents caused by the winds.

After strong SE winds, a current usually sets W between Pointe du Sablon and the Golfe de Fos and may attain a rate of 3 knots.

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

Mandatory Access Channels and Waiting Areas, which are navigation controlled, lie in the approaches to several ports and are indicated on the charts. Tankers laden with hydrocarbons and vessels carrying dangerous cargoes, over 1,600 grt, are required to use these approach access channels and associated waiting areas. Special regulations apply to these vessels navigating in the Mandatory Access Channels. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

All vessels carrying hydrocarbons, including oil or other dangerous cargo, navigating within French territorial waters should maintain a continuous listening watch on VHF. A frequency or channel will be designated for this purpose by the local area traffic surveillance authority.

Caution.—Numerous fish havens and marine nature reserves extend from the coast within this sector.

French naval vessels are based at Toulon and are reported to carry out exercises along the coasts described in this sector. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Cap Cerbere to Port-Vendres

9.2 Cap Cerbere (42°26'N., 3°11'E.) is formed by steep cliffs which rise abruptly to a plateau. It is the E termination of Chaîne des Alberes, a rugged and prominent mountain range. From seaward, the cape has a triangular shape and its summit is surmounted by a small white building. A light is shown from a structure standing on the extremity of the cape. A radio tower is situated close W of the light.

Approaching the coast from the S or E of Cap Cerbere, vessels can readily identify the dark mass of Cabo Creus (42°19'N., 3°18'E.). In addition, the two peaks of Dedos de Cadaques, standing 1.7 miles W of Cabo Creus, may be distinguished.

San Pedro de Roda, 689m high, stands 7 miles W of Cabo Creus and its summit is surmounted by some ruins. Mont de Cadaques, 610m high, stands 4 miles SW of Cabo de Creus. Both of these peaks are very prominent.

Le Canigou, 2,785m high, stands 30 miles NW of Cabo de Creus. It is snow-capped and prominent.

Anse Cerbere, a small cove, is entered between Cap Cerbere and Cap Canadell, 0.5 mile NW. It offers sheltered anchorage to small vessels from winds from the S through W to N. The holding ground is good, but local knowledge is advised. Two rocks, 2m high, lies close off Cap Canadell with no safe passage in the narrow channel between them and the cape. A village is situated at the head of the cove.

Anse de Terrambou, an open bay, is entered between Cap Canadell and Cap Peyrefite, 0.5 mile N, but is unsuitable for anchorage.

Cap l'Abeille is located 1.2 miles NNW of Cap Peyrefite. The coast between is high, rugged, and fronted by rocks. Tour de la Massane and Tour Madeloc, two prominent old towers, stand on peaks 5.7 miles and 3.5 miles WNW, respectively, of Cap l'Abeille.

9.3 Cap Dosne (42°29'N., 3°08'E.) is located 1 mile WNW of Cap l'Abeille and is surmounted by a prominent yellow building.

Baie de Banyuls lies between Cap Dosne and Ile Grosse, a rock, 0.2 mile ESE. Ile Grosse, 7m high, is joined to the mainland by moles and breakwaters. The bay is divided into two parts by Ile Petite, 3m high. Anse de la Ville, the W part, fronts the town of Banyuls-sur-Mer. Anse de Fontaule, the E part, contains a yacht marina which is protected by breakwaters.

During N or NW winds, anchorage is available, in depths of 5 to 6m, weed, in Anse de la Ville, E of the town. Strong E winds raise a heavy sea. During offshore winds, moderate-size vessels can obtain good anchorage, in a depth of 12m, about 0.3 mile NE of Cap Dosne.

Caution.—A marine nature reserve, marked by yellow buoys, extends up to 0.8 mile seaward between Cap Peyrefite and Banyuls-sur-Mer. Fishing and dumping are prohibited

within this reserve. Vessels are limited to a speed of 5 knots when within 300m of the shore, and to a speed of 8 knots elsewhere within the reserve.

9.4 Cap Castell (42°30'N., 3°08'E.) is located 0.5 mile N of Cap Dosne and fronted by a detached perpendicular rock. Cap Oullestreil, a rugged and prominent headland, is located 0.5 mile N of Cap Castell. Anchoring is prohibited within 500m of the NE extremity of this cape.

Anse de Paulilles, a small bay, lies between Cap Oullestreil and Cap Bear, 1 mile NNE. A dynamite factory stands on a sandy beach at the head of this bay. An iron pier, with a depth of 5.5m at the outer end, fronts the factory. The bay offers shelter from N winds, but is exposed to heavy swell. The holding ground is mostly sand, except for Roche La Lioze, a rock, with a depth of 4.7m, which lies in the middle of the bay.

Cap Bear (42°31'N., 3°08'E.), located 5 miles NNW of Cap Cerbere, is the E extremity of a rocky promontory which terminates in a vertical black cliff, 9m high. The rugged terrain rises from this cliff to a height of 56m, about 0.3 mile inland. Fort Bear, an old fortress, stands on the summit of the promontory.

A light is shown from a tower, 23m high, standing 0.2 mile W of the extremity of the cape. A signal station, consisting of a prominent white building, is situated close W of the light. A radiobeacon is located at the light.

Caution.—Numerous wrecks lie within 6 miles of Cap Bear.

Due to the existence of submarine cables, an anchoring and trawling prohibited area, the limits of which are shown on the chart, lies in the vicinity of Cap Bear. The area is 1.5 miles wide and extends up to about 5.5 miles ESE of the cape, and up to 11 miles N of the cape.

Port-Vendres (42°31'N., 3°07'E.)

World Port Index No. 38720

9.5 Port-Vendres, a small port, lies 1.3 miles WNW of Cap Bear and provides good shelter from sea and swell.

Winds—Weather.—The strongest winds in this vicinity are those from the NW, E, and SE. Storms often accompany strong E and SE winds. The high hills, which rise abruptly near the harbor, generally shield the area, but strong NW winds sometimes sweep through the gap in these hills and hinder navigation.

Tides—Currents.—Tides are nearly negligible and rise about 0.4m at springs and 0.3m at neaps. They may be affected by the wind.

Off the port, the general set of the current is SE and it may attain a velocity of 5 knots after a long period of strong N winds. Even with strong winds against it, a velocity of 2 knots may still be maintained. However, the effect of the current is not felt more than 1 or 2 miles seaward of the harbor.

Depths—Limitations.—Mole Abri, a breakwater, extends 250m NW from the shore. The harbor is entered between the head of Mole Abri and Pointe du Fanal, 300m SW. A yacht basin is situated in the S part of the harbor.

There is 798m of total commercial quayside, with depths of 6 to 8m alongside, and facilities for ro-ro vessels. Vessels up to 155m in length and 8m draft can be accommodated.

Aspect.—The harbor lies at the foot of the E ranges of the Pyrenees, and vessels approaching from seaward in fine weather can distinguish these mountains from a great distance. The coast to the N of the harbor is low and flat.

Prominent landmarks include Fort Saint-Elme, which stands on a hill 0.5 mile W of the harbor, and Redoute du Fanal Light, which stands on the W side of the harbor entrance.

A lighted range indicates the entrance channel.

Pilotage.—Pilotage is compulsory for vessels over 45m in length. Pilots can be contacted on VHF channel 12 or 16 and generally board about 1 mile N of Mole Abri Light on the lighted range. Vessels should send an ETA 18 hours in advance through Marseille (FFM), and then contact the pilot 1 hour before arrival on VHF channel 12.

Anchorage.—Anchorage may be obtained within a designated area, the limits of which are shown on the chart, lying N of the breakwater. The area has good holding ground, in a depth of 40m.

Caution.—During N winds, the current sets SE and vessels should keep slightly W of the range line.

The seaward end of the breakwater should be given a wide berth.

Foul anchorage areas and anchoring and dredging prohibited areas, the limits of which are shown on the chart, lie in the approaches to the harbor.

Port-Vendres to Port La-Nouvelle

9.6 Cap Gross (42°32'N., 3°06'E.), located 0.5 mile WNW of Port-Vendres harbor entrance, is high and rugged.

Baie de Collioure lies between Pointe del Mich, located 0.7 mile W of Cap Gross, and Presqu'île Saint Vincent, a small islet lying 1.8 miles NW. A breakwater projects from the SE extremity of this islet and connects it to the shore. A prominent chapel stands on the summit of the islet, and a conspicuous citadel is situated at the head of the bay.

During SW to N winds, the bay offers temporary anchorage, in a depth of 6m, to small vessels with local knowledge, but it is dangerously exposed to strong winds from the NE to ESE.

From Presqu'île Saint-Vincent to Cap Leucate, 24 miles N, the bottom is generally formed of sand, or sand and mud.

Fog is frequent along this stretch of coast, particularly during E winds. In bad weather it is advisable for vessels to navigate in depths of more than 25m.

Fishing and yacht harbors are situated at Massane, Saint Cyprien, Canet-Plage, Barcares de Saint Laurent, Grau Saint Ange, and Port Leucate, which lie 1.8 miles, 6 miles, 11 miles, 16 miles, 16.5 miles, and 23 miles N, respectively, of Presqu'île Saint-Vincent.

Landmarks along this stretch of coast, which can be easily identified, include a square steeple standing at Argeles, 3 miles N of Presqu'île Saint Vincent; a church, with two towers, situated 4 miles farther NW; a conspicuous watch tower standing close NW of Canet-Plage; a tower standing 1 mile SE of Canet-Plage; the resort buildings situated at Canet-Plage and Saint Cyprien; and a high tower, surmounted by belfries, standing at Perpignan, 5 miles W of Canet-Plage.

A light is shown from a structure, 24m high, standing 0.3 mile N of Canet-Plage harbor. An aeronautical light is situated 7 miles WNW of the light.

Cap Leucate (42°55'N., 3°04'E.) is prominent, whitish, and flat-topped. It rises steeply from the sea to a height of 52m. A light is shown from a structure, 17m high, standing 0.5 mile S of the cape. Fort des Mattes, a small disused building, stands close S of the light.

Caution.—A rectangular area of underwater obstructions lies about 2 miles NE of Canet-Plage harbor entrance.

A conspicuous stranded wreck, painted white and illuminated at night, lies about 100m offshore, 2.5 miles N of Barcares de Saint Laurent. This wreck is situated on a S heading and should not be mistaken for a vessel at sea or at anchor.

Port-La-Nouvelle (43°01'N., 3°04'E.)

World Port Index No. 38730

9.7 Port-La-Nouvelle, a small port, lies 6 miles N of Cap Leucate. It is formed by a canal, with several open basins, which connects Etang de Sigean to the sea. An offshore oil terminal is situated close ENE of the harbor entrance.

Tides—Currents.—With NW winds, the water level can decrease by up to 0.4m. With winds from the SE, the water level can increase by up to 0.5m. An increase of 1.5m was recorded with sustained strong SE winds.

Depths—Limitations.—The entrance channel is dredged to a depth of 8.7m. The canal leading to Etang de Sigean is 1.2 miles long. It has a surface width of 61m and a bottom width of 30.5m. The dredged depth is generally maintained at 6.3m from June to September, but onshore winds cause silting and the depth is variable. A fishing harbor and a yacht marina lie at the W end of the canal.

The open basins at the E end of the canal have 740m of total berthing space, with a depth of 8.7m alongside. Vessels up to 145m in length, 22m beam, and 8m draft can be accommodated.

An oil berth, consisting of several mooring buoys, lies 1 mile seaward of the harbor. A submarine pipeline extends from the berth to a point on the shore, close N of the harbor entrance. A lighted buoy is moored close W of the berth. It is reported that vessels up to 40,000 dwt, 200m in length, and 12m draft can be handled.

Aspect.—The buildings of the town situated on the S side of the canal are conspicuous. The sanitarium standing close inside the entrance on the N side is prominent. In addition, numerous oil tanks are situated on either side of the harbor entrance.

A light is shown from a structure, 17m high, standing on the S jetty head of the harbor entrance.

Pilotage.—Pilotage is compulsory for vessels over 45m in length. Pilots can be contacted on VHF channel 12 or 16 and generally board about 0.5 mile off the harbor entrance. Vessels should send an ETA 18 hours in advance through Marseille (FFM) and contact the pilot 1 hour before arrival. Vessels over 1,600 grt, carrying hydrocarbons or dangerous cargoes should notify the Port Captain by telex, 24 hours in advance.

Regulations.—A Mandatory Access Channel, the limits of which are shown on the chart, lies in the approaches and is entered 6 miles ESE of the harbor entrance. All vessels over 1,600 grt, carrying hydrocarbons or dangerous substances, must report their entry into this channel and maintain a listening watch on VHF. For further information, see paragraph 9.1.

Anchorage.—There is temporary anchorage, in a depth of 8m, sand, about 0.5 mile ENE of the harbor entrance, remaining well clear of the submarine pipeline. If the wind shifts to E or SE, vessels should leave this roadstead at once.

Caution.—During strong SE winds from the NE through SE, the sea sometimes breaks a short distance off the entrance and makes entry difficult.

A prohibited anchorage area is situated adjacent to the S side of the access channel and centered 1.5 miles SSE of the harbor entrance.

Port-La-Nouvelle to Sete

9.8 **Grau de la Vieille Nouvelle** (43°04'N., 3°05'E.), marked by an old tower and several houses, is situated 2.7 miles NNE of Port La-Nouvelle.

An area of obstructions, covered by a depth of 8m, lies about 0.6 mile SE of Grau de la Vieille Nouvelle.

Gruissan-Plage, an extensive yacht harbor, is situated 3.5 miles NNE of Grau de la Vieille Nouvelle and is protected by two moles, A prohibited area, the limits of which are marked by buoys, lies centered 1.5 miles SE of the harbor entrance.

A submarine pipeline extends 2 miles ESE from a point on the shore, 1.2 miles NNE of Gruissan-Plage.

Le Pech Rouge, a shoal patch, lies nearly 1 mile NE of the root of this pipeline and is marked by a lighted beacon.

Port de Narbonne-Plage, an extensive yacht harbor, is situated 4 miles NE of Gruissan-Plage and is protected by two breakwaters. A rectangular prohibited area lies 3 miles E of the harbor entrance.

Rocher St. Pierre (43°11'N., 3°11'E.), located close NE of Port de Narbonne-Plage, is 5m high and surmounted by the sand-covered ruins of a battery. It is the most distinctive mark in this vicinity.

A prohibited area, marked by lighted buoys, lies E of Rocher St. Pierre.

A conspicuous radar tower, 25m high, stands 3.2 miles W of Rocher St. Pierre and is surmounted by a dark green dome. A water tower stands 0.5 mile WSW of Rocher St. Pierre and also is conspicuous.

Valras-Plage, a resort, is situated at the mouth of the River Orb, 6.5 miles NE of Rocher St. Pierre. A yacht and fishing craft harbor is situated within the river mouth. A casino and a large water tower stand in this vicinity and are excellent landmarks from seaward.

Vias, a town, is situated 1.5 miles inland, 6.2 miles NE of Valras-Plage. A black pointed steeple, with a water tower close N, and a large white mansion stand in the town and are conspicuous from seaward.

9.9 **Cap d'Agde** (43°16'N., 3°31'E.), low and rocky, is located 9.5 miles ENE of Valras-Plage. Montagne du Gros Frere, 848m high, stands 29 miles N of the cape and may be sighted on a clear day from a considerable distance to the S. Mont d'Agde, 115m high, stands 1.5 miles NNW of the cape. It is isolated and conical and can easily be identified at a distance of 12 miles.

Between the cape and the mouth of the River Herault, 3 miles W, the coast is fronted by rocks and rocky points. Pointe de Roche Longue, located midway along this stretch, is sur-

mounted by an old battery. Two radio masts stand 1 mile N of the battery and are prominent.

The town of Agde is situated 2 miles above the entrance to the River Herault and is fronted by depths of 3 to 6m. Small craft with local knowledge use the river.

An outfall pipeline extends 2 miles S from a point on the shore, 0.5 mile E of the river entrance.

Port Cap d'Agde, a small harbor, is situated close W of Cap d'Agde. It is protected by two breakwaters and used by yachts and fishing craft.

Ilot Brescou, formed by a flat rock, lies 1 mile SW of Cap d'Agde and is surmounted by the grey structure of Fort Brescou. A light is shown from a structure, 11m high, standing at the S corner of the fort. This islet is surrounded by dangers and foul ground.

Port Amboune, a small yacht harbor, is situated 1.2 miles NNE of Cap d'Agde and is protected by two breakwaters.

Port Marseillan Plage, a small harbor, lies 2 miles NNE of Port Amboune and is protected by two jetties. A canal, with a depth of 2m, connects the harbor with Etang de Thau, a lagoon.

Quilles, a small yacht harbor, is situated 6.5 miles NE of Port Marseillan Plage. It lies on the SW side of Mont Saint Clair and is protected by breakwaters. The coast between consists of a low and narrow beach which separates Etang de Thau from the sea. A range of hills stands on the N side of the lagoon.

During W and NW winds, vessels can anchor, in 5 to 6m, sand and rock, poor holding ground, ENE of Cap d'Agde.

Caution.—Several prohibited areas (fish havens), the limits of which may be seen on the chart, lie NE of Cap d'Agde and are marked by lighted buoys.

A prohibited anchorage area, marked by lighted buoys, lies about 1.2 miles SE of the harbor entrance.

Sete (43°24'N., 3°42'E.)

World Port Index No. 38750

9.10 The port of Sete lies 11 miles NE of Cap d'Agde and consists of three sections. An outer harbor and a series of connecting basins and canals in the N part, an industrial zone within Etang de Thau, and an offshore terminal berth.

Winds—Weather.—The prevailing winds are NW, but SE winds, often accompanied by violent storms in the open sea, are frequent. Calms are rare in Golfe du Lion.

Tides—Current.—The sea level in the harbor normally does not vary more than 0.2m, but variations of 1m have been observed.

The current generally sets SW off the harbor entrance and can attain rates of 1 to 3 knots.

Within the harbor, currents attaining rates of 3 to 4 knots may occur due to the movement of the waters of Etang de Thau. Fresh NW winds increase the flow of these currents out of the lagoon; winds from seaward usually act in the opposite direction.

Depths—Limitations.—The port is enclosed by breakwaters, including a detached one which protects the harbor from the S.

Pass de l'Ouest, the W entrance channel, is shallow and partly obstructed. It can only be used by small craft with local knowledge. Passe de l'Est, the E and main entrance channel,

lies between the detached breakwater and the new E breakwater which extends 1 mile S from the shore. The outer part of this entrance channel was dredged to a depth of 14.5m.

A channel leads N from the port of Sete to the industrial zone on the E shore of Etang de Thau. It is dredged to a depth of 7.5m and is marked by buoys and range beacons. Nearly the whole of this E shore of the lagoon is lined with quays, behind which are several factories.

The main commercial basins in the port include Canal Maritime, with 1,953m of total quayage; Nouveau Bassin, with 380m of total quayage; Avant-Orsetti Bassin, with 920m of total quayage; Bassin aux Petroles, with 400m of total berthing space; Colbert Dock, with 777m of total quayage; and Darse 2 Dock, with 700m of total berthing space, including dolphins.

There are facilities for ro-ro, bulk, general cargo, passenger, cruise, tanker, car ferries, ore carriers, chemical tankers, live-stock carriers, forest product carriers and fishing vessels within the port.

Vessels up to 145m in length, 20m beam, and 6.8m draft can be accommodated alongside the berths in Canal Maritime. The channel is reduced to a width of 26m by a bridge.

The outer basins have depths of 9 to 14.5m alongside. Tankers up to 35,000 dwt, 225m in length, and 11m draft can be accommodated. Other vessels up to 60,000 dwt, 260m in length, and 13.1m draft can be accommodated.

The Northern Unloading Station, an offshore oil terminal consisting of a multiple buoy mooring, lies 0.6 mile NE of the E head of the detached breakwater. A submarine pipeline extends NNE from the berth to the shore. This terminal can handle tanker vessels up to 100,000 dwt, with lightened drafts up to 13.1m.

Aspect.—The harbor lies at the foot of the E slope of Mont de Sete (Mont Saint-Clair). This hill, 180m high, dominates the area and is covered by houses. A television mast, a cross, and a statue stand near its summit.

A light is shown from a structure, 19m high, standing on the SE slope of the hill. Citadelle Richelieu, with a signal station at its S end, is situated close NE of the light.

Montagne de la Gardiole, 180 to 240m high, extends between 4 miles and 10 miles NE of the town and terminates in a distinctive peak surmounted by a prominent chapel. The chimneys of an industrial zone, standing at the foot of this range, can be seen to the NNE of the port. A flare, a large square steeple, and numerous oil tanks are situated at Frontignan, 3.5 miles NE of the port. A noticeable quarry lies 1 mile N of Frontignan. A conspicuous steeple, surmounted by a golden figure of the Virgin, stands in Sete, near the harbor.

A lighted approach buoy is moored about 12 miles SE of the harbor entrance.

A sector light is shown from a structure standing in the SW part of the harbor and aids in the approach to the entrance.

Pilotage.—Pilotage is compulsory for vessels over 50m in length beyond the Victoire Bridge and for vessels over 55m in length up to the Victoire Bridge. Pilots can be contacted on VHF channel 12 or 16. The pilotage area is bounded by a circle, with a radius of 6 miles, centered on the light at the E end of Epi Dellon. Pilots will also board tanker vessels within the compulsory access channel, about 4 miles SE of the old pipeline lighted buoy. Vessels should send ETA messages 24 hours

in advance. Any change in ETA of more than 1 hour should be reported.

Regulations.—A Mandatory Access Channel, with compulsory approach and departure routes for all tanker vessels, extends between the port and the outer approach lighted buoy and may best be seen on the chart.

Inbound vessels should keep NE of the centerline; outbound vessels should keep SW of it.

Tankers navigating within this compulsory approach and departure access channel are considered to be restricted in their ability to maneuver and must show the prescribed lights and shapes accordingly. Vessels other than tankers are prohibited from entering or anchoring within the area without permission of the authorities.

All vessels over 1,600 grt, carrying hydrocarbons or dangerous substances, must report their entry into the access channel and maintain a listening watch on VHF channel 16. For further information, see paragraph 9.1.

Anchorage.—An anchorage area, the limits of which are shown on the chart, extends 3 miles S from the S side of the detached breakwater.

Caution.—A dangerous wreck was reported (1994) to lie about 0.5 mile NE of the E head of the detached breakwater.

Several restricted areas, the limits of which are shown on the chart, are situated in the approaches to the port.

Sete to Golfe de Fos

9.11 Port de Peche de Frontignan-Le Peyrade (43°25'N., 3°45'E.), a small harbor, lies 1.5 miles NE of the main entrance to Sete harbor. It is protected by breakwaters and forms the entrance to Canal du Rhone a Sete.

Frontignan, an extensive yacht harbor, lies 3 miles NE of the harbor entrance at Sete and is protected by breakwaters. A prohibited area (fish haven) is centered 4 miles ENE of the harbor and is marked by lighted buoys.

The ruins of a church are situated at Maguelonne, 6.7 miles NE of Frontignan. They are surrounded by a pine forest and are conspicuous from seaward. Mont Bouzille, 197m high, stands 3.5 miles WNW of the ruins and is surmounted by a conspicuous ruined chapel.



Maguelonne Church and the summit of Mont Bouzille,
bearing 294°

Palavas Les Flots (Grau de Palavas) (43°32'N., 3°56'E.), a small harbor, lies 2.3 miles NE of Maguelonne and is protected

by a breakwater. It is mostly used by small craft and yachts. The entrance is surrounded by a prominent group of buildings and a conspicuous water tower stands close NE of it.

An aeronautical light is shown from a control tower standing 3.5 miles NNE of the harbor.

An area of floating and submerged objects, the limits of which is shown on the chart, lies 2 miles SE of the harbor entrance.

Golfe d'Aigues-Mortes (43°30'N., 4°05'E.) lies between Palavas Les Flots and Pointe de L'Espiguette, 9 miles ESE.

Grau de Perols, a small harbor, lies 2 miles ENE of Palavas Les Flots and a continuous line of buildings is situated between them. This harbor is protected by breakwaters and bordered by several high prominent buildings.

A prominent church tower standing at Mauguio, 6 miles NE of the harbor, is visible from seaward.

La Grande Motte, a yacht harbor, lies 5 miles ENE of Grau de Perols. It is protected by two breakwaters and can be identified by the pyramid-shaped buildings standing in its vicinity.

Le Grau du Roi, a small harbor, lies 2.5 miles SE of La Grande Motte and close within the seaward end of the canal which leads to Aigues-Mortes. The harbor is entered between two jetties and is mostly used by fishing craft and yachts. A conspicuous water tower stands 1 mile NNW of the entrance.

A dangerous wreck has been reported to lie 1.5 miles WSW of the harbor.

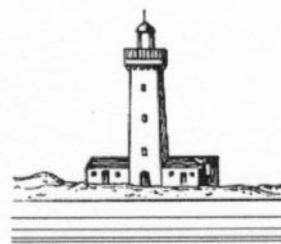
Port Camargue, an extensive yacht harbor, lies 1 mile SSW of Le Grau du Roi and is protected by two breakwaters. Two jetties, situated 0.7 mile S of the entrance to the harbor, extend seaward and form the entrance to a shallow canal.

Rocky banks and ledges, which are dangerous for anchoring, lie parallel to the N shore of the gulf and extend up to 1.5 miles offshore into depths of 14 to 20m.

During calms or NW winds, anchorage can be obtained in greater depths outside of these rocky banks; however, anchorage within this gulf is not considered safe.

9.12 Pointe de l'Espiguette (43°29'N., 4°08'E.) is reported to be extending to the W by about 15m a year. Depths of 5m have been reported to lie up to about 1 mile offshore in this vicinity, and this part of the coast should be given a wide berth.

Les Baronnets, 10m high, is a chain of prominent sand dunes which extends along the coast near Pointe de l'Espiguette



Pointe de l'Espiguette Light

A light is shown from a prominent structure, 25m high, standing on the point. An old signal station tower is situated close NW of the light.

Lighted buoys, which mark the edge of the coastal shoal bank, are moored about 1.5 miles W and 1.5 miles S of the light.

Caution.—Between Pointe de L'Espiguette and the Golfe de Fos, 33 miles E, the shore is very low. It is bordered by lagoons and has very few landmarks. It is reported that the radar images of Cap Couronne (43°20'N., 5°03'E.) is the E entrance point of the gulf. A light is shown from a structure, 29m high, standing on the cape. A prominent signal station stands on a hill, 0.5 mile N of the cape. The breakwaters and many canals are more distinct than the outline of the shore itself.

Numerous dangerous wrecks lie off this stretch of the coast and may best be seen on the chart.

9.13 Saintes-Marie-de-la-Mer (43°27'N., 4°26'E.), a small town, is situated 13.5 miles E of Pointe de l'Espiguette. The coast between is low, flat, and not easily distinguished. In very clear weather, this town, which is dominated by its church, is visible from a distance of about 7 or 8 miles and appears as an isolated hillock.

The mouth of the Petit Rhone forms a break in the coastline, 12 miles E of Pointe de L'Espiguette. Depths of 1.6m lie in the river mouth, but it is liable to silt.

Port Gardian, a small yacht harbor, lies 1 mile E of the river mouth and is protected by two breakwaters.

Golfe des Saintes-Maries (Golfe de Beauduc) (43°24'N., 4°34'E.) has low and sandy shores which are backed by sand dunes, 6 to 7m high. It is entered between Saintes-Maries-de-la-Mer and Pointe de Beauduc (Pointe du Sablon), 8 miles ESE.

A light is shown from a structure, 18m high, standing 6 miles E of Saintes-Maries-de-la-Mer.

Pointe de Beauduc (Pointe du Sablon) (43°22'N., 4°34'E.) is reported to be extending NW at about 15m a year and should be given a wide berth. A light is shown from a structure, 25m high, standing 1.5 miles SE of the point. Lighted buoys, marking the coastal bank, are moored about 1.5 miles SW and 4 miles SE of the light.

Vessels can take anchorage in Golfe des Saintes-Maries to the N of Pointe de Beauduc. The roadstead is sheltered from E winds and has depths of 10 to 12m, muddy sand, good holding ground. Local knowledge is advised.

Caution.—An anchoring and dredging prohibited area, the limits of which are shown on the chart, extends NW of Pointe de Beauduc.

Several wrecks, some dangerous to navigation, lie up to 2.5 miles offshore between Pointe de Beauduc and the mouth of the River Rhone.

9.14 Faraman (43°22'N., 4°40'E.) is located 5.5 miles E of Pointe de Beauduc. The coast between is reported to be receding slowly. A light is shown from a structure, 43m high, standing at Faraman. Piemanson Lighted Buoy, marking the coastal bank, is moored about 3.7 miles SE of the light.

Along this coast the current generally sets W and parallel to the shore. After strong E or SE winds, it sometimes attains a rate of over 3 knots.

Grau de Roustan (43°20'N., 4°50'E.), through which the main branch of the River Rhone discharges, lies 7 miles E of Faraman. The river carries a whitish sediment which discolors the sea up to 6 miles off its mouth.

A beacon, equipped with a racon, stands on the E bank of the river near the mouth. A lighted buoy, with a spar buoy close W of it, is moored about 1.5 miles S of the beacon and indicates the river bar.

The banks formed around the mouth of the river are reported to be advancing seaward at a rate of about 50m per year.

Golfe de Fos

9.15 Golfe de Fos (43°23'N., 4°57'E.) lies between the mouth of the River Rhone and Cap Couronne, 9 miles E.

The E shore of the gulf is dominated by Collines de Martigues. These hills, when viewed from seaward, appear to descend from Chain des Alpilles, a mountain range standing 20 miles inland.

Cap Couronne (43°20'N., 5°03'E.) is the E entrance point of the gulf. A light is shown from a structure, 29m high, standing on the cape. A prominent signal station stands on a hill, 0.5 mile N of the cape.

The W and N shores of the gulf are low, difficult to distinguish, and liable to change; the coast then rises progressively towards the E shore, where it becomes rocky and steep.

Port-Saint-Louis-du-Rhone, Fos, Port-de-Bouc, and Lavera are situated within the gulf. It also provides access to the Rhone, via Canal Saint-Louis, and to Etang de Berre, via Canal de Caronte. Because of the bar at the mouth of the River Rhone, vessels bound for Port-Saint-Louis-du-Rhone or farther up the river generally proceed from the gulf through Canal Saint-Louis, which is connected to the River Rhone by a lock.

Marseille-Fos is the name given to the group of ports which are controlled by the Marseille Port Authority. This port complex extends from the mouth of the River Rhone to Marseille, 23 miles E, and consists of the above-named ports, Marseille, and their associated industrial areas.

Tides—Currents.—The gulf is open to the S and strong SW and SE winds usually result in a heavy sea. Moderate shelter from W and SW winds can be found in the W part of the Golfe de Fos. The current is generally weak and its velocity and direction is determined largely by the wind.

Aspect.—They de la Gracieuse is the low bank on the E side of the River Rhone, which extends 4.5 miles NE of the river mouth. Several stranded wrecks lie close to the shore of this bank. The bar at the mouth of the River Rhone advances about 50m seaward each year.

The coastal shoal off They de la Gracieuse is marked by lighted buoys moored about 0.5 mile N, 1.2 miles SSE, and 2.5 miles S of the NE extremity of the bank. In addition, Lighted Buoy GE, equipped with a racon, is moored about 0.5 mile E of the NE extremity of the bank.

Landmarks on the W side of the gulf include several prominent chimneys situated in an industrial area on the S side of the Canal St. Louis, and several container gantry cranes, standing at the Fos basin terminal.

Landmarks on the N side of the gulf include the refinery situated 1 mile NW of Fos-sur-Mer, and a cement factory, with two conspicuous chimneys, situated 1 mile E of Fos-sur-Mer.

At the E side of the entrance to the gulf, the coastal shoal is marked by lighted buoys moored about 1 mile W and 1.2 miles WNW of Cap Couronne.

Landmarks on the E side of the gulf are numerous and the following can be easily identified:

1. A conspicuous white viaduct, with six arches, standing W of the village of La Couronne.
2. Four conspicuous chimneys standing near the shore, 2.5 miles NW of Cap Couronne.
3. A large tower standing on Fort de Bouc, at the S entrance to Port de Bouc.
4. The prominent chapel at Misericorde, which stands on the summit of a hill, 5.5 miles N of Cap Couronne.
5. A prominent chimney standing 1 mile WSW of the chapel.
6. Two pylons, 95m high, standing 0.7 mile S of the chapel.
7. Several flares situated in the vicinity of a refinery close SE of Lavera.
8. The loom of Port de Bouc, which can be seen for up to 40 miles seaward.

Port de Carteau, a small harbor, lies on the SW side of the gulf, 0.5 mile S of the entrance to Canal de Saint Louis. It is mostly used by fishing craft and the entrance is indicated by a lighted range.

Anse de Lauron is entered 2.5 miles SSE of Port de Bouc. An angled jetty extends 0.2 mile SW and SE from the N entrance point of this bay.

Port de Carro, a small harbor, lies 2 miles SSE of Anse de Lauron and 0.5 mile WNW of Cap Couronne. It is used by small craft with local knowledge.

A light is shown from a tower standing at St. Gervais, at the head of the gulf.

Omega Outer Approach Lighted Buoy, equipped with a racon, is moored about 7.5 miles S of Cap Couronne.

Pilotage.—The pilotage zone for the Golfe de Fos is bounded by latitude 43°19'N and the meridians of Cap Couronne and Faraman Light. Pilotage is compulsory for vessels over 50m in length within this zone. Vessels should send an ETA through Marseille (FFM) 24 hours in advance. Pilots can be contacted on VHF channel 14 or 16 and generally board deep-draft vessels W of Cap Couronne. Other vessels may be boarded closer in. Vessels bound for Port-de-Bouc-Lavera, L'Etang de Berre, and Port Saint-Louis-du-Rhone are boarded 2.5 to 4 miles S of Lavera Lighted Buoy. Vessels, other than deep draft, bound for Fos are boarded 2.5 miles S of Lavera Lighted Buoy.

Regulations.—An approach zone (regulated area), the limits of which are shown on the chart, has been established off the Golfe de Fos. Within this zone, the movement of all vessels is regulated by the Port Authority at Port de Bouc.

A Mandatory Access Channel, the limits of which are shown on the chart, lies in the approaches and is entered 7.5 miles S of Cap Couronne, in the vicinity of Omega Outer Approach Lighted Buoy.

Inbound vessels should keep to the E of the centerline and outbound vessels should keep W of it.

All vessels over 1,600 grt, carrying hydrocarbons or dangerous substances, must report their entry into this channel and

maintain a listening watch on VHF. For further information, see paragraph 9.1.

A Vessel Traffic Management System (VTMS) has been established in the approaches to the Golfe de Fos and is coordinated by the Centre de Regulation Integre (CRI) at Port de Bouc (call sign Fos Port Control). It is mandatory for all commercial vessels navigating within the approach zone, the gulf, and the ports.

Inbound vessels must send the following to the VTMS Center:

1. An ETA 48 hours in advance through the agent. The message should also include the name, call sign, length, beam, grt, draft, destination, type of vessel, cargo, nature, and tonnage of any dangerous cargo.

2. An ETA 24 hours in advance or upon departure from their previous port of call. This message provides ETA, draft, nature and tonnage of any dangerous substances, and length overall.

Vessels carrying hydrocarbons or dangerous cargo must report their entry into French territorial waters 6 hours in advance using the SURNAV message system. See Pub. 140, Sailing Directions (Planning Guide), North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea for details.

Vessels over 50m in length must report on VHF channel 12 to the VTMS Center upon entering the approach zone (regulated zone). Vessels must state their position, course, speed, name, call sign, and ETA, to obtain permission before passing N of the latitude of Cap Couronne. Vessels, which have not received appropriate instructions, may not proceed N of this position.

Prior to entering the Mandatory Access Channel, vessels must establish a VHF listening watch and confirm with the VTMS Center that deep-draft vessels are not intending to transit the channel.

Vessels must obtain permission from the VTMS Center before maneuvering or anchoring within the gulf and must maintain a VHF listening watch.

During reduced visibility, warnings of priority movements by deep-draft vessels using the Mandatory Access Channel are broadcast on VHF channel 16 on the hour, and at 15, 30, and 45 minutes past the hour.

Signals.—Vessels which, due to their draft, can navigate only within the Mandatory Access Channel, have priority and shall indicate same by showing the following signals:

1. By day and at night—Three red lights displayed vertically and three white lights arranged in the same manner and at the same level.

2. By day, in addition to the above lights—A black ball displayed in a vertical line above a black cylinder.

Deep-draft vessels are accorded priority for right of way by the VTMS Center. All other vessels must keep out of the way of vessels showing the above deep-draft laden signals.

Anchorage.—Anchorage can be taken almost anywhere within the Golfe de Fos at a distance of more than 0.5 mile offshore, except in the prohibited areas or on Plateau du Grande Forte. The latter is an area where the bottom is formed of rock covered with mud lying nearly in the middle of the gulf between the entrances to Canal Saint-Louis and Port-de-Bouc.

The holding ground in the gulf is generally good, but with fresh NW winds, vessels should be ready to get underway. With strong SE winds, the sea is very heavy at the entrance of

the gulf, especially in the vicinity of Cap Couronne. At the head of the gulf, the bottom is strewn with rocks and weeds which extend up to 0.5 mile offshore.

It is recommended that vessels follow the instructions of the pilot and VTMS Center before anchoring within the gulf.

Designated anchorage areas, the limits of which are shown on the chart, are situated, as follows:

1. Golfe de Fos East lies E of the access channel and N of the parallel of Cap Couronne.
2. Golfe de Fos West lies W of the access channel and N of the parallel of Cap Couronne.
3. Golfe de Fos North lies N of the dredged entrance channel and NW of the entrance to Port de Bouc.

Caution.—Lines of submerged stakes, used in establishing fish havens, lie up to about 2 miles offshore between Cap Couronne and Cap Mejean, 7.5 miles E.

Less water than charted was reported (1987) to lie off the N extremity of They de la Gracieuse.

A prohibited anchorage area, the limits of which are shown on the chart, extends up to 26 miles seaward from Cap Couronne.

Port-Saint-Louis-du-Rhone (43°23'N., 4°49'E.)

World Port Index No. 38770

9.16 Port-Saint-Louis-du-Rhone is situated on the W side of the Golfe de Fos.

Tides—Currents.—There is no appreciable tidal rise in the harbor or canal. Winds from the N and NW sometimes lower the water level in the canal by up to 0.5m; winds from SE tend to raise the level.

Depths—Limitations.—The port is approached via the main entrance channel, which is dredged to a depth of 24m and extends WNW across the gulf. A fairway, 180m wide, leads W from the SW side of this entrance channel to the E entrance of Canal de Saint Louis. A jetty extends 1 mile E from the S side of the entrance to the canal. The canal is 90m wide at the surface, 32m wide at the bottom, and is dredged, along with the entrance fairway, to a depth of 8.5m. It leads 2 miles W to Bassin des Tellines and Bassin de Saint Louis.

The W end of the canal is connected to the Rhone by a lock. It is 135m long, 22m wide, and has a depth of 5.5m at the sides and 7m in the center.

The port includes 2,840m of total quayage, which is situated in the basins and along the sides of the canal. The berths are 90 to 180m long and have depths of 4.5 to 8m alongside. There are facilities for ro-ro, LNG, tanker, and bulk vessels. Vessels up to 190m in length and 7.9m draft can be accommodated.

Aspect.—The main dredged entrance channel is marked by lighted buoys and indicated by a lighted range. The entrance fairway leading to the canal is marked by lighted buoys and beacons. A prominent light structure, 12m high, stands on the E extremity of the jetty which extends from the canal entrance.

Pilotage.—Pilotage is compulsory. Pilots can be contacted by VHF and board near the N end of the access channel. See Pilotage for the Golfe de Fos in paragraph 9.15.

Anchorage.—Vessels may obtain anchorage, in depths of 7 to 10m, about 1 mile SE of the jetty head.

Caution.—A depth of 23.7m was reported (1981) to lie in the dredged entrance channel S of Saint Gervais Light.

Vessels entering the canal should keep about 20m clear of the jetty.

Several shellfish breeding areas lie in the vicinity of the entrance fairway and may best be seen on the chart.

Fos (43°25'N., 4°53'E.)

World Port Index No. 38775

9.17 Fos, a large port, is situated on the NW side of the Golfe de Fos and serves an extensive industrial area.

Depths—Limitations.—The port is approached via the main entrance channel, which is dredged to a depth of 24m and extends WNW across the gulf. The main facilities consist of five basins and two petroleum jetties, which can handle virtually all types of cargo including ro-ro, bulk, petroleum products, LNG, LPG, and containers.

Basin No. 1 extends 2.7 miles NNW and is connected by a lock to the Arles Canal. The lock is 120m long, 12m wide, and has a depth of 4m. The upper part of this basin is dredged to a depth of 10.5m and the lower part is dredged to depths of 18 to 20m. An LNG terminal at the head of the basin has a berth, 180m long, which can accommodate vessels up to 9.7m draft.

An ore berth, 640m long, is situated on the E side of the basin and has a depth of 20m alongside. It can accommodate bulk vessels up to 18.6m draft.

An ore berth, 850m long, is situated on the lower W side of the basin and has depths of 16 to 17.5m alongside. It can accommodate vessels up to 140,000 dwt, 300m in length, and 16.8m draft.

Basin No. 2 extends 2 miles NW. The lower part of the basin is dredged to a depth of 14m; the upper part is dredged to a depth of 12m.

Graveleau Quay, a container terminal, is situated on the SW side of the basin and has a depth of 14m alongside. It is 1,150m long and can accommodate vessels up to 13m draft.

Basin No. 3 (Bassin de Gloria) extends 0.7 mile W and is dredged to a depth of 12m. Brule Tabac Quay, 665m long, is situated on the N side of the basin and has facilities for ro-ro and containers. It has a depth of 12m alongside and can accommodate vessels up to 11.5m draft. Gloria Quay, 250m long, is situated on the S side of the basin. It has a depth of 12m alongside and can accommodate ro-ro vessels up to 11.5m draft.

Basin South extends NNE from the NE side of Basin No. 1. It is dredged to a depth of 13m in the upper part and 13.5m in the lower part. Two petroleum berths, each 250m long, are situated on the S side of the basin and can accommodate tankers up to 12.8m draft.

An iron berth, 360m long, is situated on the N side of the basin and can accommodate vessels up to 11.9m draft.

A petroleum jetty extends 0.5 mile SSE from the S entrance point of Basin South. It has three berths, 350 to 414m long, with depths of 21.5 to 23.5m alongside. Tankers up to 400,000 dwt and 22.2m draft can be accommodated alongside this jetty.

Basin No. 4 lies close E of the above petroleum jetty and is dredged to a depth of 15m. Another petroleum jetty, situated at the E side of this basin, has a tankwashing berth, 420m long. It

can accommodate tankers, in ballast, up to 550,000 dwt and 14m draft.

An extensive yacht harbor, protected by a breakwater, lies on the E side of Pointe de Saint Gervais, 2 miles ENE of Basin No. 4.

Aspect.—The main entrance channel is marked by lighted buoys and indicated by a lighted range.

Pilotage.—See Pilotage for Golfe de Fos in paragraph 9.15.

Caution.—An area in the W part of Basin No. 3 (Bassin de Gloria) is under construction.

Port-de-Bouc (43°24'N., 4°59'E.)

World Port Index No. 38780

9.18 Port-de-Bouc is situated on the E side of the Golfe de Fos, 5.5 miles NW of Cap Couronne. It is connected by Canal de Caronte to Etang de Berre.

Tides—Currents.—Currents in the canal are mostly tidal and set E or W, in conjunction with the tide, at a rate of 2 to 3 knots. However, after strong winds, these currents are very variable.

With NE winds and after heavy rains, an outgoing current, fed by Etang de Berre, can reach a rate of 4 knots in the canal and the harbor entrance.

Depths—Limitations.—The harbor is approached via an entrance channel dredged to a depth of 14.6m. A fishing basin and a yacht marina are situated on the N side of the harbor.

A commercial quay, situated on the N side of the harbor, can accommodate vessels up to 180m in length and 9.1m draft.

A liquid gas and petroleum terminal is situated at Lavera, on the S side of the harbor. It has 2,800m of total berthing space and can accommodate vessels up to 80,000 dwt, 275m in length, and 12.8m draft.

Pilotage.—Pilotage is compulsory. See Pilotage for Golfe de Fos in paragraph 9.15.

Regulations.—Passing or crossing in the entrance channel is prohibited. The outbound vessel has priority over the inbound one.

Anchorage.—Anchorage may be obtained off the harbor entrance. A good berth, in a depth of 14m, lies about 0.7 mile W of the N entrance point. See Anchorage for Golfe de Fos in paragraph 9.15.

Caution.—A submarine pipeline, formerly an offshore oil terminal, extends 0.5 mile SW from a point on the shore, 0.6 mile SE of the harbor entrance. An anchorage and fishing prohibited area, the limits of which are shown on the chart, lies in the vicinity of this pipeline.

Winds from the SW usually cause a heavy sea at the harbor entrance and may make entry difficult.

A prohibited anchorage area, the limits of which are shown on the chart, extends about 1.3 miles SW from the vicinity of the harbor entrance.

Canal de Caronte

9.19 Canal de Caronte is used by ocean-going vessels en route from Golfe de Fos to Etang de Berre. A small harbor, used by yachts and fishing craft, is situated at Martigues, on the N side of the canal near the E entrance.

Depths—Limitations.—The canal is 2.5 miles long. It has a bottom width of 50m and a depth of 7.9m. Vessels up to 180m in length, 24m beam, and 7.3m draft can transit the canal with a masthead height of 44.2m or less.

Vessels of over 5,000 grt must transit by day only.

A viaduct railway bridge crosses the canal, 1.2 miles E of the W entrance. The N section of the viaduct has a swing bridge which may be opened upon request. The unopened section of the viaduct has a vertical clearance of 23m, but vessels with a masthead height of more than 21m should not pass under it.

A fixed road bridge, with a vertical clearance of 44.6m, crosses the canal, 0.7 mile W of the E entrance.

An overhead power cable spans the canal 1 mile W of the E entrance.

A bascule bridge crosses the canal at the E entrance. This bridge may be opened upon request. It has, when closed, only a vertical clearance of 5.8m in the center.

Pilotage.—Pilotage is compulsory. See Pilotage for Golfe de Fos in paragraph 9.15.

Signals.—The following signals are displayed on the viaduct and bascule bridges:

1. Green flashing light—Bridge open, passage clear.
2. Fixed yellow light—Bridge in operation, passage prohibited, including vessels which do not require opening.
3. Fixed or flashing red light—Passage prohibited. Fixed red means vessels from the E must wait for vessels from the W to pass.
4. Flashing yellow and fixed red lights—Passage clear for vessels which do not require opening.
5. Flashing yellow light extinguished, fixed red or green light remaining—Passage prohibited for vessels which do not require opening.

Bridge authorities can be contacted by VHF. Vessels requiring passage should sound one long and one short blast. Delay in passage must be signaled by sounding two long and two short blasts.

Anchorage.—Anchorage in the canal should be at the pilot's direction to avoid the numerous prohibited areas.

Caution.—High winds may prevent the opening of the bridge spans.

Etang de Berre

9.20 Etang de Berre, which extends between Fos and Marseille, is an important center for refining and the storage of petroleum products. Oil refineries are situated at Berre and La Mede. The lagoon is entered from Martigues (43°24'N., 5°03'E.) via a channel, 2 miles long, which has a bottom width of 50m and is dredged to a depth of 9m. Vessels are limited in size by the restrictions of the Canal de Caronte.

Etang de Berre has depths of 5.5 to 9m, but vessels navigating in depths of less than 8m run the risk of fouling their propellers with weed.

Port Petrolier de la Mede (43°24'N., 5°06'E.), a marine terminal, can handle vessels up to 70m in length and 5.1m draft. **Port Petrolier de la Pointe de Berre** (43°28'N., 5°09'E.), another marine terminal, can handle vessels up to 160m in length and 7.3m draft.

Winds—Weather.—The winds over the lagoon Berre are peculiar to this locality. In summer, the prevailing winds are S

or SW, the latter being accompanied by rain. In winter, NW gales on the neighboring coasts turn to N or NE over the lagoon and raise a short, steep sea. In spring, W or NW winds, accompanied by squalls, prevail over the lagoon.

Tides—Currents.—Winds from the S generally cause a current to set E along the coast and winds from the N cause a current that sets W. These currents are especially noticeable at the entrance of Canal de Caronte.

Tidal currents in the lagoon are apparent only in the vicinity of the canal and may be affected by discharges of water from the St. Chamas power plant. Generally, the flood current sets S in the lagoon.

The water level in the lagoon rises 0.2 to 0.4m above the mean level during October, November, and December, and falls by about the same amount in February.

Pilotage.—Pilotage is compulsory. See Pilotage for Golfe de Fos in paragraph 9.15.

Anchorage.—Anchorage can be taken in the lagoon, with good holding ground of mud and thick weed.

Caution.—Several submarine oil and gas pipelines extend across the lagoon and may best be seen on the chart. Their landing places are marked by beacons.

Numerous prohibited areas, an anchoring prohibited area, and regulated areas lie within the lagoon and may best be seen on the chart.

The Marseille-Marignane Airport is situated in the SE part of the lagoon and the runway projects 0.3 mile NW from the shore.

Golfe de Marseille

9.21 Golfe de Marseille (43°16'N., 5°20'E.) is entered between Cap Couronne and Ile Tiboulén, 14 miles ESE. The port of Marseille fronts the E shore of the gulf and lies between 4.5 miles and 9 miles N of Ile Tiboulén.

Approaching Golfe de Marseille from seaward, in clear weather, vessels can usually first distinguish Pilon du Roi (43°24'N., 5°28'E.), which stands 12 miles NE of Ile Tiboulén. This mountain is 710m high and resembles a truncated cone with a rounded top. Chaîne de la Sainte-Baume, flat-topped, stands 15 miles E of Marseille and is conspicuous. This range has a vertical W side and dominates the whole stretch of coast between Marseille and Toulon. Mont Coudon (43°10'N., 6°01'E.) stands 5 miles NE of Toulon. It has a vertical E side and is very prominent from seaward.

In addition, the loom of the port and city of Marseille has been reported visible for up to 40 miles.

Upon making a closer approach, the low and bare coast on the N side of the gulf can be seen rising gradually in a series of bold, irregular cliffs from Cap Couronne to Cap Mejean, 7.6 miles E. The reddish-colored and rounded double summit of Cap Mejean is one of the best landmarks in this vicinity.

On the SE side of the gulf, Montagne de Marseilleveyre (43°13'N., 5°22'E.) stands close E of Ile Tiboulén. It is 432m high, barren, and very conspicuous.

9.22 North side.—**Ilot Aragnon** (43°19'N., 5°05'E.), low and dark, lies 1.2 miles E of Cap Couronne and is fringed with foul ground. There is no safe passage between this islet and the coast.

Port Sausset-les-Pins lies within in a cove, 2.3 miles E of Cap Couronne. This small harbor is used by fishing craft. A castle, with a prominent tower, stands close W of it.

Port Carry-le-Roulet, another small harbor, lies within a cove, 2 miles E of Port Sausset-les-Pins. A prominent building, with a red roof, stands close inland at the head of the cove. Small craft up to 30m in length and 3m draft may enter this harbor with local knowledge. A prohibited area, the limits of which are shown on the chart, is situated close E of the cove and extends up to 0.7 mile offshore.

Cap Mejean (43°20'N., 5°14'E.) is located 3 miles E of Port Carry-le-Roulet. Its rounded, reddish-colored summit is very conspicuous.

Port de Mejean lies within a bay which is entered close W of Cap Mejean. The bay has a large and prominent viaduct situated at its head and a group of buildings stand on its W entrance point. This small harbor is used by fishing craft with local knowledge.

Ile de l'Elevine, 23m high, lies close offshore, 0.7 mile E of Port Mejean. A light is shown from a structure, 4m high, standing on this small island.

A prominent old battery stands on a high promontory, 0.7 mile NE of the island. A conspicuous and large viaduct, which spans a deep valley, is situated 1.2 miles NE of the island.

Pointe Esquallidou (43°21'N., 5°17'E.) is located 2.3 miles NE of Ile de l'Elevine. A light is shown from a structure, 4m high standing on the point.

An aeronautical light is shown from a structure standing 2.3 miles N of the point and an aeronautical radiobeacon is situated 0.5 mile E of it.

A conspicuous radio mast, 60m high, stands 3 miles NE of Point Esquallidou.

Port de la Corbiere, Port de la Lave, Port Abri and Port Saumaty lie in the N part of the gulf. These harbors mainly provide facilities for barges and small craft.

Anchorage may be obtained, in depths of 15 to 20m, good holding ground, within the N part of the gulf in the area as best seen on the chart.

9.23 East side.—**Ile Tiboulén** (43°13'N., 5°20'E.), 50m high, is steep-to. A light is shown from a structure, 7m high, standing on this island.

Cap Croisette, located 0.5 mile E of Ile Tiboulén, is the extremity of a peninsula which extends W from Montagne de Marseilleveyre. Ile Maire, 133m high, lies close S between the cape and Ile Tiboulén. Two rocks, 4m high, lie close off the S extremity of Ile Maire.

Ile de Planier (43°12'N., 5°13'E.) lies 5.5 miles SSW of Ile Tiboulén and is fringed with rocks and foul ground. It is low, flat, and inconspicuous from a distance. A light is shown from a structure, 62m high, standing on the island. A rock, with a least depth of 1.3m, lies about 0.2 mile E of the E end of the island.

A bank, with a least depth of 13.2m, lies about 1.1 miles ENE of the island. The sea breaks heavily over this bank and vessels should give it a wide berth.

Anse des Goudes, a sheltered cove, lies 0.5 mile E of Cap Croisette. A small quay, situated within this cove, is used by yachts and small craft.

Mont Rose, 83m high, is located 1.2 miles NNE of Cap Croisette. This point is distinctive and is surmounted by a radio mast. Port de la Madrague, a small fishing and yacht harbor, lies on the N side of this point.

Port de Pointe Rouge lies 2 miles NNE of Cap Croisette. This extensive yacht harbor is protected by a breakwater and a pier.

Port du Prado (Port du Roucas-Blanc) lies 1.2 miles N of Port de Pointe Rouge and is a private harbor. It is the headquarters of several sailing clubs and consists of several extensive yacht basins.

Pointe d'Endoume (43°17'N., 5°21'E.) is located 4 miles N of Cap Croisette. Iles d'Endoume, two small islets, lie on a bank with depths of less than 10m, which extends up to 0.4 mile SSW of the point. A fort stands on the S islet. Rocky patches, with a least depth of 8.5m, lie up to 0.5 mile WSW of Pointe d'Endoume.

Banc du Sourdaras, a small rocky shoal, lies about 0.3 mile WNW of Pointe d'Endoume and has a least depth of 1.6m. Its NE extremity is marked by a beacon and its SW extremity is marked by a lighted beacon, 14m high.

Several rocks lie on a bank which extends up to about 300m N of Pointe d'Endoume. The largest and N rock is marked by a beacon.

A conspicuous monument stands near the shore, 0.3 mile NE of Pointe d'Endoume.

The Church of Notre Dame de la Garde, with a gilded statue of the Virgin, stands on the summit of a hill, 143m high, 1 mile E of Pointe d'Endoume. This church is a good landmark and is sometimes illuminated at night.

Ile et Chateau d'If (43°17'N., 5°20'E.), a high and steep rock, lies 1 mile W of Pointe d'Endoume and is surmounted by the walled fortifications of Chateau d'If. A light is shown from a structure, 15m high, standing on the NE end of this island.

9.24 Ile Pomegues (43°16'N., 5°18'E.) is centered 2.3 miles WSW of Pointe d'Endoume. This island is high, barren, and steep-to. A causeway extends from the N part of the island and connects it to Ile Ratonneau. A light is shown from a structure, 2m high, standing at Cap Caveaux, the S extremity of the island. A prominent television mast stands 0.2 mile SW of the NE extremity of the island.

Port de Pomegues, a small bay, lies 0.8 mile NE of Cap Caveaux, within a prohibited area. The limits of this area are marked by a line of special buoys which stretch between the two sides of the bay.

Ile Ratonneau (43°17'N., 5°19'E.) lies close N of Ile Pomegues. The shores of this island are steep and indented with bays and coves. Several small islets lie close to the coast in places and may best be seen on the chart.

Ilot Tiboulou, 30m high, lies 0.2 mile W of the W extremity of Ile Ratonneau. A light is shown from a structure, 4m high, standing near the center of this bare and rocky islet.

Port du Frioul is formed by the N side of Ile Pomegues, the S side of Ile Ratonneau, and the E side of the causeway which joins the two islands. This harbor, which is protected by a breakwater, is used mainly by yachts. A shoal, with a least depth of 2.5m, lies about 0.2 mile E of the root of the breakwater and is marked by a lighted buoy.

Caution.—Due to the existence of submarine cables and pipelines, a prohibited anchorage area, the limits of which are

shown on the chart, extends between the offshore islands and Pointe d'Endoume.

Due to the existence of submarine cables, a prohibited anchorage area, the limits of which are shown on the chart, lies between Ile de Planier and Ile Tiboulou.

Marseille (43°19'N., 5°22'E.)

World Port Index No. 38810

9.25 The port of Marseille consists of an extensive harbor which is situated behind a long and detached breakwater system.

Port of Marseille Home Page

<http://www.marseille-port.fr>

Winds—Weather.—The Mistral, a violent NW wind, is the most prevalent wind in this area, and at times, adversely affects port operations. The cloudless skies of this area must be attributed to this wind which is usually accompanied by a marked drop in temperature. It is most severe between October and April.

Visibility is very good with NW winds, but it is only mediocre with E winds, which are frequently accompanied by rain. Morning fog sometimes extends up to 2 miles seaward in summer and in dead calm. It generally dissipates by the end of the morning.

Tides—Currents.—Tides are almost negligible. Strong onshore winds with a high sea cause the greatest change in the water level, which may be as much as 0.2m.

Depths—Limitations.—The seaward approaches to the port from the SW, passing N of Ile Ratonneau, are deep and clear. Vessels from the S may also use the passage which leads between Ile de Chateau d'If and the dangers lying W of Pointe d'Endoume.

The harbor extends for 3.7 miles along the shore and consists of a series of basins connected to one another. It may be entered at either the N or S end. The S entrance has a depth of 11m and the N entrance has a depth of 20m.

The basins are sheltered by Digue du Large, an extensive detached breakwater, and by Digue des Catalans, a small detached breakwater situated 0.5 mile N of Pointe d'Endoume. Digue du Large is 3.5 miles long, 9m high, and is quayed on its inner side.

Vieux Port, an old basin, lies close E of the S entrance and is mainly used by small craft and fishing vessels.

The main commercial facilities are situated within seven basins and have 14,199m of total berthing space with depths of 6 to 14.5m alongside. There are extensive facilities for general cargo, bulk, tanker, reefer, ro-ro, container, automobile ferry, cruise, and passenger vessels. Vessels of unlimited length and up to 14m draft can be accommodated.

In addition, there are 4,383m of total repair berthing space and ten drydocks. The largest drydock can handle vessels up to 800,000 dwt.

A cleaning station, situated at the N end of the harbor, can accommodate tanker and LNG vessels up to 550,000 dwt with lightened drafts up to 9.5m.

Aspect.—The most conspicuous landmark in the city and port of Marseilles is Notre Dame de la Garde, the church situated atop a 143m high summit.



Port of Marseille

Pilotage.—Pilotage is compulsory in the approaches to the port for vessels over 50m in length carrying hydrocarbons or dangerous substances, and for all other vessels over 70m in length.

Pilots generally board, for the N entrance, about 2 miles SW of the N head of Digue du Large, and for the S entrance, about 1 mile S of Ile de Chateau d'If.

Vessels should send an ETA 48 hours and 24 hours in advance or on leaving the previous port. (See Vessel Traffic Service System below.)

Vessels should contact the pilot 1 hour before arrival on VHF channel 12

Regulations.—A Mandatory Access Channel, the limits of which are shown on the chart, lies in Golfe de Marseille. This channel, the limits of which are shown on the chart, is entered 3 miles W of Ile de Planier and extends N and NE to the N end of the port.

All vessels over 1,600 grt, carrying hydrocarbons or dangerous substances, must report their entry into this channel and maintain a listening watch on VHF. For further information, see paragraph 9.1.

A Vessel Traffic Service System (VTS) has been established in the approaches to the port and is coordinated by The Traffic Management Centre (Call: Marseille Port Control) situated 1.3 miles NNE of the S entrance. It is mandatory for all commercial vessels navigating within the approaches.

Inbound vessels must send the following to the VTS Center:

1. An ETA 48 hours in advance. The message should also include the name, call sign, length, beam, grt, draft, destination, last port of call, and type of vessel.

2. An ETA at least 24 hours in advance. The message should also include length, draft, cargo, and nature and tonnage of any dangerous cargo.

Vessels carrying hydrocarbons or dangerous cargo must report their entry into French territorial waters 6 hours in advance using the SURNAV message system.

All vessels must contact the VTS Center when in VHF range in order to receive mooring and berthing instructions.

All vessels must maintain listening watch on VHF channel 12 when within the approaches of the port.

Vessels within the area, which are not proceeding to the port and intending to cross the access channel, must contact the VTS center.

Anchorage.—Anchorage within Rade de Marseille, lying W of the center of Digue du Large, is not recommended. This roadstead is open to W winds and is not safe with E winds in winter, when gusts of wind are strong and frequent.

A designated anchorage area, the limits of which are shown on the chart, lies W of Digue du Large and close N of the S entrance.

Rade d'Endoume anchorage area, the limits of which are shown on the chart, lies centered 0.5 mile S of Pointe d'Endoume. It is situated between two prohibited anchorage areas and provides good anchorage in fair weather. Large vessels can anchor, in depths of 21 to 26m; small vessels can anchor, in depths of 11 to 13m.

The above anchorage areas have bottoms of mostly sand and weed, but several rocky patches have been reported to lie within them.

Baie du Grande-Soufre, lying W of the causeway connecting Ile Ratonneau and Ile Pomegues, offers temporary shelter during N winds. Vessels can anchor here, in a depth of 20m.

Caution.—An obstruction lies close NW of the N end of Digue du Large and is marked by a lighted buoy.

Several wrecks lie in the approaches to the port and may best be seen on the chart.

Due to the existence of submarine cables, several prohibited anchoring areas lie in the approaches to the port and may best be seen on the chart.

Basins within Digue du Large may no longer be maintained by dredging and may have lesser depths than charted. Vessels intending to berth within Digue du Large should contact the port authorities for current information.

Seaplane activity may occur in Rade de Marseille.

Golfe de Marseille to Toulon

9.26 Ile Jarros (Jaire) (43°12'N., 5°22'E.) lies 1.5 miles SE of Cap Croisette. This island is 58m high and bare, and an islet, 33m high, lies close off its NW end. A rocky shoal, with a depth of 2.5m, lies about 0.2 mile SE of the SE end of the island.

Montagnes de la Saint Baume, 1,147m high, stands 16 miles ENE of Cap Croisette. It is flat-topped with a vertical W side and dominates this stretch of the coast.

Ile Caleseragne, lying 0.5 mile S of Ile Jarros, is 22m high and flat. A shoal, with a depth of 3.3m, lies about 0.3 mile S of the S extremity of the island and is marked by a beacon.

Ile Riou (43°10'N., 5°23'E.), lying 3 miles SE of Cap Croisette, is bare and rises to a sharp peak, 190m high. This island is very prominent, especially when viewed from the E, and is surrounded by several islets and above-water rocks. A light is shown from a structure standing on an islet lying 0.3 mile SW of the E extremity of the island.

Caution.—Anchoring, fishing, and dredging are prohibited within an area, the limits of which are shown on the chart, lying close NE of Ile Riou and extending to Ile Caleseragne.

Due to unlighted floating objects and a submerged wellhead, navigation within this area should be carried out with care.

9.27 Plateau des Chevres (43°12'N., 5°22'E.), a shallow area of weed and rocks, fronts the coast 1.5 miles ESE of Cap Croisette. It has a least depth of 6.7m and extends 0.5 mile offshore towards Ile Jarros.

Mouillage de Four-a-Chaux, entered close E of Plateau de Chevres, provides anchorage, in depths of 10 to 13m, weed. This bight affords good shelter from N and NW winds, but is open to the E.

Bec Sormiou, located 4 miles E of Cap Croisette, is a low, bare, and light-colored point.

Cap Morgiou, located 1 mile E of Bec Sormiou, is formed by a cliff and surmounted by two old batteries. La Grande Chandelle, a remarkable square mass of rock, stands 0.7 mile NE of the cape. It is 420m high and very prominent when seen from the E or W.

Mont Puget stands 5 miles E of Cap Croisette. It is 556m high and has prominent vertical escarpments.

Cassis (43°13'N., 5°32'E.) (World Port Index No. 38820), a small harbor, lies at the head of Baie de Cassis, 7 miles ENE of Ile Riou. It is sheltered by a mole and has extensive facilities for yachts and small craft. A prominent castle stands 0.3 mile E of the harbor entrance and dominates the town. Anchorage can be obtained, in depths of 10 to 12m, sand and weed, in the bay. The holding ground is good, but the roadstead is open to S winds, which if strong, send in a heavy sea. Local knowledge is advised.

Port Miou, a narrow cove on the W side of the bay, offers shelter in depths 6 to 7m in all weather to vessels with local knowledge. A reef, awash at its N end and with a depth of 3.7m at its S end, lies about 4 miles SSE of Port Miou. It is marked by a lighted beacon, 23m high.

Caution.—A submarine pipeline extends 4 miles SSW from Port Miou and an anchorage prohibited area lies in its vicinity.

9.28 Bec de L'Aigle (43°10'N., 5°36'E.), located 4.5 miles SE of Cassis, is 155m high and is formed by bare yellowish cliffs which are perpendicular in their upper part. The stretch of coast, which extends up to 3 miles NW of this point, is high and composed of reddish cliffs. A signal station stands 1.8 miles NW of Bec de L'Aigle and surmounts the summit of these cliffs.

Ile Verte, 47m high, lies 0.5 mile E of Bec de L'Aigle. A rocky shoal, with a depth of 0.9m, lies close W of this island and is marked by a beacon.

Baie de la Ciotat is entered between Bec de L'Aigle and Pointe du Deffend, 4 miles ESE. La Ciotat lies in the W part of this bay and Port des Lecques lies in the NE part.

Port des Lecques, consisting of two basins, is protected by a breakwater. It has extensive facilities for small craft and yachts. Vessels with local knowledge can anchor, in a depth of 9m, close SE of the harbor.

Pointe du Deffend (43°09'N., 5°42'E.) can be identified by its white cliffs, 29m high, which appear to be cut off from the higher land to the E.

Caution.—A cable, 2,000m in length, with positive buoyancy, is situated about 60 miles S of Bec de L'Aigle at a depth of 600m and is a danger to subsurface navigation.

Baie de la Moutte, bordered by prominent reddish cliffs, is entered between Pointe du Deffend and Pointe des Engraviers, 1.2 miles SE. Ile Rousse, 18m high, lies 0.2 mile SE of Pointe des Engraviers.

A prohibited area, the limits of which are marked by bouys and shown on the chart, lies close SW of Port des Lecques.

A submarine pipeline extends about 0.8 mile seaward from a point on the shore, 1 mile NNW of Pointe du Deffend.

9.29 La Ciotat (43°10'N., 5°37'E.) (World Port Index No. 38830), a small port, mainly consists of a large shipyard which is used for the construction of tankers. The port is closed to commercial operations.

Winds—Weather.—The climate is comparatively mild, but the area is subject to the cold NW winds of the Mistral which blow down suddenly and violently from the mountains.

Depths—Limitations.—In addition to the drydock and shipbuilding installation, the port has extensive facilities for fishing craft and yachts.

The large harbor basin has 1,610m of total quayage with depths of 1.3 to 7.6m alongside. Vessels up to 380m in length, 60m beam, and 7.5m draft can be accommodated.

The port no longer handles commercial cargo vessels.

Aspect.—The harbor can be identified by the prominent cranes and workshops of the shipyard situated on its S side.

The Chapelle de Notre Dame de la Garde stands 0.7 mile NW of Bec de L'Aigle and is prominent from seaward.

Pilotage.—Pilotage is compulsory. Private pilots are provided by the shipyard. The port may be contacted on VHF channel 12 or 16.

Anchorage.—The bay affords poor holding ground on a bottom of mud and weed, and vessels are liable to drag during strong winds. Anchorage should be taken within 0.3 mile of the shore in order to get as much shelter as possible from the land and to avoid the steep slope of the bottom which occurs farther offshore. A good berth lies about 0.3 mile NE of the harbor entrance. Good anchorage is also available, in a depth of 14m, in Rade de Ceyreste, about 0.7 mile NE of the harbor entrance.

9.30 Baie de Bandol (43°08'N., 5°46'E.) lies 3 miles SE of Pointe du Deffend and is entered between Ile de Bandol and Pointe de la Cride, 1 mile SSE.

Ile de Bandol can be identified by its prominent reddish-colored rocks. It is connected to a peninsula close N by a bank which has depths of 0.2 to 2m. Chateau de Bandol stands on the outer end of the peninsula, which is 25m high and is conspicuous.

La Fourmigue, a rock, lies on a shoal about 0.2 mile E of the E extremity of Ile de Bandol. It is 1m high and marked by a beacon. Vessels should not attempt to pass between the beacon and the island.

A small yacht harbor, protected by two jetties, lies on the N side of Ile de Bandol at its E end.

Pointe de la Cride, the S entrance point of the bay, is low and pointed. An old battery stands on its extremity. A reef extends SW from the point and is marked at its seaward end by a beacon.

9.31 Bandol (43°08'N., 5°45'E.) (World Port Index No. 38840), a small harbor, lies on the W side of Baie de Bandol

and is protected by a breakwater. It has extensive facilities for small craft and yachts. The harbor can accommodate small vessels, with drafts up to 4m, but is liable to silt up.

A nine-arch viaduct stands 0.7 mile ENE of the harbor and is very prominent from seaward.

Several outfall pipelines extend from the shore in the approaches to the harbor and a patch of foul ground, consisting of sunken moorings, lies about 230m E of the entrance.

Port Sanary Sur Mer, a small harbor, lies on the N side of Baie de Sanary, 1.5 miles E of Pointe de la Cride. It is protected by two moles and mainly used by small craft and yachts.

Baie de Sanary affords good shelter against winds from the NW through NE to SE, but W or SW winds, if strong, send in a heavy sea. An outfall pipeline extends 0.7 mile SW from a point close W of the harbor. Its seaward end is marked by a buoy. Vessels can anchor, in depths of 10 to 12m, sand and weed, good holding ground, SSW of the harbor entrance.

Port de la Couduriere, a small harbor, lies 1.2 miles SSE of Port Sanary Sur Mer and is protected by two moles. An obstruction is reported to lie about 0.2 mile WNW of the entrance which is 64m wide. The harbor is used by small craft and yachts.

Caution.—Due to the presence of mines, an anchoring, diving, and fishing prohibited area, the limits of which are shown on the chart, lies centered 1 mile SSW of Pointe de la Cride.

9.32 Port du Brusac (43°05'N., 5°48'E.), a small harbor, lies 1.3 miles SSW of Port de la Couduriere and is protected by a jetty and a small detached breakwater. It has an entrance 46m wide and is used by small craft and yachts.

Ile du Grand Gaou and Ile du Petit Gaou, two small islands, lie close to the mainland, 0.7 mile SW of Port du Brusac.

From the vicinity of these two islands, a bank, on which lie several islands and dangers, extends about 2 miles WNW.

Ile du Grand Rouveau (43°05'N., 5°46'E.) lies 1.5 miles W of Port du Brusac. It is surrounded by rocks and is the outermost island on the bank. A light is shown from a structure, 14m high, standing on the summit of this island.

Rochers des Magnons, a group of small islets and above-water rocks, lies 0.3 mile W of Ile du Grand Rouveau. Seches des Magnons, a chain of reefs, extends up to about 0.2 mile SW of Rocher des Magnons and is marked by a beacon.

Vessels should give these dangers a wide berth.

Ile des Embiez lies 1 mile W of Port le Brusac. The channel between this island and Ile du Grand Rouveau is obstructed by numerous rocks. Pointe de Cougousset, the S extremity of the island, is also the highest point of the island. It is 61m high and surmounted by a prominent tower. An old castle, with a prominent tower, stands in the center of the island. Pointe Saint Pierre, the N extremity of the island, is surmounted by an old battery.

Ile du Petit Rouveau, 14m high, lies close NW of Pointe Saint Pierre. A detached rocky patch, with a depth of 2.1m, lies about 0.3 mile N of this island and is marked by a beacon.

Ilot de la Tour Fondue, 40m high, lies close E of Ile des Embiez to which it is connected. A light is shown from a structure standing on the N point of this islet.

Port Saint Pierre (Port des Embiez), a small harbor, lies on the N side of Ile des Embiez and is entered via a channel

marked by buoys and beacons. It has extensive facilities for yachts and small craft.

Rade de Brusac lies between Ile des Embiez and the bank fronting the coast between Port de la Couduriere and Port du Brusac. This roadstead offers anchorage which is sheltered from winds from E through S to WSW. However, the holding ground is not good, especially in the N part where the bottom is formed by fine sand. A good anchorage berth lies in depths of 11 to 13m, with the N extremity of Ile du Grand Rouveau in line with Pointe Sainte-Pierre, N extremity of Ile des Embiez.

Caution.—Due to the existence of submarine cables, an anchoring, fishing, and diving prohibited area, the limits of which are shown on the chart, lies between the S end of Ile des Embiez and the mainland and extends 1.5 miles S. This area is used frequently by warships proceeding at high speed.

An islet, 9m high, lies close to the coast, 0.5 mile ESE of Ile du Grand Gaou. A light is shown from a structure standing on this islet when vessels are exercising in the vicinity. It has been reported that when this light is shown, navigation is prohibited N of 43°00'N, between the meridians of Ile du Grand Rouveau and Cap Sicie, due to naval gunnery practice.

9.33 Cap Sicie (43°03'N., 5°52'E.), located 3.5 miles ESE of Ile des Embiez, is a dark headland which rises to two small peaks with a saddle between them. The prominent ruins of an old signal station stand on the E peak. The conspicuous chapel of Notre-Dame-de-la-Garde, with a pylon close W, stands on the W peak. A light is shown from a structure, 3m high, standing at the foot of the cape.

A rocky patch, with a depth of 4.5m, lies about 0.2 mile SE of the cape. Deux Freres, two dark and rugged rocks, lie 0.5 mile ENE of the cape. The N rock is 20m high and the S rock is 15m high; both are very conspicuous.

Caution.—A submerged ordnance area, the limits of which are shown on the chart, lies 8 miles S of Cape Sicie.

Approaches to Toulon

9.34 Presqu'île de Saint Mandrier (43°05'N., 5°56'E.), located 3 miles NE of Cap Sicie, is a peninsula which extends 2.5 miles E from the coast. It is joined to the mainland by a low neck of land on which stands a large and prominent hotel. The buildings of the city of Toulon can be seen across this low neck from seaward.

Port de Sainte Elme, a small and shallow harbor, lies on the SE side of this low neck of land. It is protected by two moles and used by small craft.

Cap Cepet (43°04'N., 5°57'E.) is the SE extremity of the Presqu'île de Saint Mandrier. A light is shown from a structure, 15m high, standing on the cape. A prominent pylon, 22m high, stands close W of the light.

A signal station is situated at the fort, which stands 0.7 mile NNW of Cap Cepet.

Two lighted buoys are moored 0.7 mile S and SSE, respectively, from the light structure.

Pointe de Carqueirane (43°05'N., 6°01'E.) is located on the E side of the approach to the port, 3.5 miles ENE of Cap Cepet. This point lies on the N side of the outer roadstead and can easily be recognized by its prominent red cliffs.

Golfe de Giens (43°04'N., 6°06'E.) is entered between Pointe de Carqueiranne and Pointe Escampobariou, 4.7 miles SE. Pointe Escampobariou is the SW extremity of Presqu'île de Giens, a peninsula, the W side of which is 118m high and surmounted by a tower.

The E side of this gulf is bordered by a low and flat isthmus which connects Presqu'île de Giens to the mainland. The shore of the isthmus is fronted by shoal water which extends up to 0.5 mile seaward.

The N side of this gulf is moderately high. La Colle Noire, 294m high, Mont Paradis, 299m high, and Mont des Oiseaux, 306m high, stand 1.5 miles ENE, 2.7 miles NE, and 3.7 miles ENE, respectively, of Pointe de Carqueirane.

Port les Salettes, a small harbor, lies on the N shore of the gulf, 2.7 miles E of Pointe de Carqueirane. It is formed by two jetties and is used by yachts and small craft. Hospital San Salvador, a large and prominent building, stands 1.5 miles E of the harbor.

Les Fourmiguies, consisting of two rocks, lies 1.5 miles NW of Pointe Escampobariou. The highest rock is 14m high and prominent.

Several small islets lie on a rocky bank which extends 0.5 mile W from the NW extremity of Presqu'île de Giens and fronts the S shore of the gulf.

9.35 Grande Rade (43°06'N., 5°57'E.), the outer roadstead of the port, is entered between Cap Cepet and Pointe de Carqueirane. The SW side of this roadstead is formed by the NE side of Presqu'île de Saint Mandrier.

The N shore of Presqu'île de Saint Mandrier is fronted by naval installations. These include several small craft basins and areas which have been dredged to depths of 4.5 to 7.5m.

Pointe Sainte Marguerite, located 1.7 miles NW of Pointe de Carqueirane, is formed by a steep, grey cliff which rises to a height of 65m.

Cap Brun, located 1 mile W of Pointe Sainte Marguerite, is surmounted by a prominent fort.

Port de Saint Louis du Mourillon, a small harbor, lies 1.5 miles W of Cap Brun. It is protected by a breakwater and used by yachts and fishing craft.

Presqu'île du Mourillon extends 0.5 mile W from Port de Saint Louis du Mourillon to its SW extremity, which is surmounted by Fort de la Grosse Tour. A prominent seven-story tower building stands 0.6 mile NE of the fort.

Grande Jetee, a main breakwater, extends 0.7 mile S from the SW extremity of Presqu'île du Mourillon and forms the W side of Grande Rade. There is a gap in this breakwater, 45m wide, situated 135m S of the root.

Grande Pass, the principal entrance to the port, leads between the S end of Grande Jetee and the N side of Presqu'île de Saint Mandrier.

Anchorage.—Golfe de Giens offers shelter during winds from the N through E to S. It is open to W winds, but the bottom consists of mud and weed and is a good holding ground. Vessels may anchor in the NE part of this gulf, clear of most of the obstructions and prohibited areas.

Caution.—Due to the existence of submarine cables, an anchoring and fishing prohibited area, the limits of which are shown on the chart, extends S from the vicinity of Port de Sainte Elme.

An outfall pipeline extends 0.5 mile SSE from a point lying close NE of the Cape Cepet.

A prohibited area, the limits of which are shown on the chart, fronts the shore of the NE side of Presqu'île de Saint Mandrier and extends up to 250m seaward in places.

A prohibited area, the limits of which are shown on the chart, lies centered 0.6 mile NE of Cap Cepet. Several mooring buoys and obstructions lie within this area.

An obstruction, with a depth of 6m, lies about 0.2 mile ENE of Cap Cepet and several mooring buoys are situated in this vicinity.

Anchoring, fishing, and diving are prohibited within several areas, the limits of which are shown on the chart, lying within Golfe de Giens. Navigation is prohibited within a circular area, 400m in diameter, lying 0.3 mile N of the S shore of the gulf. An outfall pipeline extends 0.7 mile WSW from the NE shore of the gulf.

An outfall pipeline extends 1 mile SSW from a point on the shore, 0.2 mile E of Point Sainte Marguerite. A prohibited area, the limits of which are shown on the chart, is centered at the seaward end of this pipeline and is marked by a lighted buoy.

Several sonar target obstructions lie close S of Pointe de Carqueirane and may best be seen on the chart.

Toulon (43°06'N., 5°55'E.)

World Port Index No. 38870

9.36 Toulon has the largest and best natural harbor on this coast. It is the largest French military port on the Mediterranean coast of France. The port consists of a large outer roadstead and a spacious inner harbor, protected by an extensive breakwater. The principal facilities of the naval base and the commercial port occupy the entire N side of the inner harbor. Minor naval and commercial installations are scattered elsewhere about the port area.

Winds—Weather.—The prevailing winds are from the NW (Mistral) and W. These winds may reach a velocity of Force 11. Winds from the E and SE, which are less frequent, are generally accompanied by rain squalls, but do not exceed a velocity of Force 9. Winds from other directions are even less frequent and less strong. The presence of clouds over Mont Coudon and Cap Sicie is a sign of rain.

Tides—Currents.—The tides are almost negligible, having a range of 0.2m at springs.

Strong winds blowing from one direction for a prolonged period may affect the depths in the harbor, but not to any substantial degree.

The currents are weak and irregular and generally follow the direction of the wind.

Depths—Limitations.—Grande Rade, the outer roadstead, is deep, clear, and imposes no limitation on the size of vessel which can enter.

Petite Rade, the inner roadstead, is sheltered by Grande Jetee. Its N shore is occupied by the naval port which has berths with depths up to 10m alongside and includes extensive repair facilities and drydocks. It has been reported (2001) that the water depth in this basin is 2 to 3m deeper than charted.

The main commercial facilities at the NE side of the harbor include Fournel Quay, 345m long, with a depth of 9.5m along-

side; Quay Est, 170m long, with a depth of 8.2m alongside; and Minerve Quay, 128m long, with a depth of 8.0m alongside. Minerve Quay can accommodate vessels up to 170m long, with a draft of 8m.

Additional commercial facilities are situated at La Seyne-Bregailion, at the NW side of the harbor. These include two cargo berths, each 215m long, with a depth of 9.5m alongside.

There are facilities for general cargo, container, bulk, and ro-ro vessels. Generally, vessels up to 250m in length and 8.8m draft can be accommodated. It was reported that vessels up to 340m in length have entered the harbor.

An oil terminal, consisting of a jetty extending for 520m parallel with the shore, is situated in the S part of the harbor. The berths can accommodate vessels up to 198m in length and have dredged depths of 10m alongside. This jetty is mainly used by naval vessels, but commercial tanker vessels can be accommodated with permission.

A yacht marina is situated on the W side of this inner harbor and a fishing craft basin is situated in the NE part.

Aspect.—Pointe de Balaguier, marked by an old fort with a round tower and a flagstaff, lies in the roadstead to Toulon.



Pointe de Balaguier

On approaching the coast, prominent landmarks include Six Fours, 210m high and conical, standing 4 miles WSW of Toulon; Mont Faron, 585m high and almost entirely wooded, standing 2 miles NNE of Toulon; Mont Coudon, 700m high with a vertical E side, standing 4 miles NE of Toulon; and Mont Caume, 801m high with a rounded peak, standing 3.5 miles N of Toulon.

For additional landmarks, see Approaches to Toulon beginning in paragraph 9.34.

Lighted buoys are moored about 1.5 miles NNE, 1.1 miles NNE, and 0.8 mile NE of Cap Cepet. A buoy is moored about 0.8 mile ENE of the head of Grande Jete.

Pilotage.—Pilotage is compulsory for all vessels of 45m in length and over.

Inbound vessels should send a request for pilotage to the harbormaster or to the Cap Cepet signal station at least 1 hour before their ETA in the outer roadstead stating vessel name, call sign, vessel type, length, and draft. Vessels should also

send an amendment if their ETA is changed by over 30 minutes.

Pilots may be contacted on VHF channel 10, 12, or 16 and generally board about 1 mile E of Grand Pass, the main entrance to the inner roadstead.

When vessels are proceeding to a military installation or are using a French naval tug, it is reported that a French Navy pilot will take the place of the civilian pilot at the harbor entrance.

Regulations.—A Mandatory Access Channel, the limits of which are shown on the chart, lies in the approaches to the port. This channel, which is entered 13 miles SSE of Cap Cepet, leads NNW until E of Presqu'île de Saint Mandrier, and then WNW to the vicinity of the harbor entrance. Inbound vessels should keep to the starboard side of this access channel and pass N of the lighted buoy, which is moored about 1.1 miles NNE of Cap Cepet.

All vessels over 1,600 grt, carrying hydrocarbons or dangerous substances, must report their entry into this channel and maintain a listening watch on VHF. For further information, see paragraph 9.1.

All vessels over 1,600 grt, carrying hydrocarbons or dangerous substances, must send an ETA 48 hours in advance. The message should also include name, call sign, nationality, length, beam, draft, and type and quantity of cargo.

All other vessels must send an ETA 24 hours in advance. The message should also include name, call sign, nationality, length, beam, and draft.

All vessels over 30m in length should contact the signal station by VHF before entering Grande Rade, the outer roadstead, and should keep a continuous listening watch.

A speed limit of 12 knots is in force within Petite Rade, the inner roadstead.

A number of mooring buoys are situated within the several arms of the inner harbor, but they are primarily for use by French naval vessels, and merchant vessels are not permitted to secure to any of them without first having obtained permission from the port authorities.

Vessels are prohibited from anchoring within 250m of any mooring buoy and within 50m of any military establishment, pier, quay, or jetty.

Anchorage.—Grande Rade offers good natural shelter from all winds except those from the S and SE. Anchorage may be obtained in Grande Rade, except in the prohibited areas which are indicated on the chart.

Anchorage is prohibited in the inner harbor, except within a triangular-shaped anchorage area shown on the chart and situated in the N part.

Caution.—The head of Grande Jete should be given a berth of at least 25m.

Banc de l'Ane, with depths of less than 11m, fronts the S part of the E side of Petite Rade and is marked by lighted buoys.

Several submarine cables and submarine pipelines cross the entrance to Petite Rade and may be best seen on the chart.

Several prohibited anchoring and fishing areas, the limits of which are shown on the chart, lie within the inner part of the harbor.

Toulon to Golfe de Saint-Tropez

9.37 Giens (43°02'N., 6°08'E.) stands at the center of Presqu'île de Giens, 1.5 miles ENE of Pointe Escampobariou. This village is very prominent from seaward.

Port du Niel, a small harbor, lies on the NW side of a small bay, close S of the village. It is protected by a jetty and used by small craft. Anchorage can be obtained by small vessels, in depths of 10 to 13m, within the bay.

Ponte de l'Esterel, the E extremity of Presqu'île de Giens, is formed by a low, rocky, and tree covered promontory. A rock, 8m high, lies close off this cape.

Pointe de la Tour Fondue, located 0.7 mile WSW of Cap de l'Esterel, is a projecting point surmounted by an old fort. Port de la Tour Fondue, a small harbor, lies close NNE of the point and is used mainly by ferry boats serving Iles d'Hyerès.

Ile du Grand Ribaud (43°01'N., 6°09'E.), 51m high, lies 0.7 mile SW of Pointe de la Tour Fondue. Its summit is surmounted by a prominent chateau. A light is shown from a structure, 14m high, standing on the S extremity of the island.

An islet, 18m high, lies midway between the island and the mainland coast. A rock, 6m high, lies close N of this islet.

Caution.—Due to the existence of submarine cables, an anchoring and fishing prohibited area, the limits of which are shown on the chart, lies E of Ile du Grand Ribaud and extends SE to Ile de Porquerolles.

9.38 Iles d'Hyerès (43°00'N., 6°23'E.), a chain of four islands, extends up to 16 miles E of Ponte de l'Esterel. It consists of Ile de Porquerolles, Ile de Bagaud, Ile de Port Cros, and Ile du Levant.

Ile de Porquerolles (43°00'N., 6°12'E.) lies centered 3 miles SE of Ponte de l'Esterel. The summit of the island, located 1 mile from its E end, is 142m high and surmounted by a signal station.

Cap d'Armes, the S extremity of the island, is located in the middle of the cliffy S coast. A light is shown from a structure, 16m high, standing on this cape. A radiobeacon is located at the light. A prominent mast stands 1 mile NE of the light.

An islet lies close N of the NW extremity of Ile de Porquerolles and a fort is situated on its N part. A shoal extends up to 0.3 mile N of this islet and is marked by a lighted beacon. A dangerous wreck lies about 0.2 mile NE of the beacon.

Anchorage can be obtained by vessels, with local knowledge, in a depth of 7m, weed, good holding ground, within a bay bounded on its W side by the islet and by the shoal extending to the N.

Port de Porquerolles, a small harbor, lies centered on the N coast of the island. It is protected from the N by a jetty and used by small craft. Small vessels, with local knowledge, may anchor, in a depth of 10m, about 0.3 mile NNE of the harbor jetty.

Several above-water rocks lie up to about 0.3 mile N of the NE extremity of the island, and two rocky islets lie close ESE and 0.3 mile ESE, respectively, of the SE extremity of the island.

9.39 Ile de Bagaud (43°01'N., 6°22'E.) lies 5 miles E of the E extremity of Ile de Porquerolles. This island is 59m high, rocky, and is topped with thick trees.

Ile de Port Cros (43°00'N., 6°24'E.), lies close E of Ile de Bagaud, is mainly wooded and is the highest island of the chain. Its summit, 207m high, is surmounted by a building, with two white cupolas, which are visible from a considerable distance.

An islet, 63m high, lie 0.2 mile S of the S extremity of the island.

Ile du Levant (43°02'N., 6°28'E.), 130m high, lies centered 2.5 miles NE of the E end of Ile de Port Cros and is tree covered. A light is shown from a structure, 7m high, standing on Pointe du Titan, the SE extremity of the island. A peak, 99m high, stands 0.3 mile WNW of the light and is surmounted by a disused signal station.

A small above-water rock lies close ENE of Pointe du Titan. A rock, with a depth of 1.4m, lies about 1 mile ENE of the point and is marked by a beacon.

Caution.—Ile de Bagaud and Ile de Port Cros form a national park. Navigation, anchoring, and fishing are prohibited within 600m of the coastlines. Landing on Ile de Bagaud is prohibited. A prominent tower stands in the center and the prominent ruins of a fort are situated at the W end of the island.

Several mooring buoys and targets are moored close offshore around Ile du Levant.

Prohibited areas, the limits of which are shown on the chart, lie SW of Pointe du Titan (Ile du Levant) and extend up to 2 miles from the coast. These areas, which are used by French naval vessels, are not in force between July 1 and August 31. Vessels are prohibited from approaching within 200m of the coast of the island, except at the W end.

Anchoring and fishing prohibited areas, the limits of which are shown on the chart, extend up to 11 miles seaward from the S side of Ile du Levant and up to 2 miles seaward from the N side of the island.

Several gunnery and bombing ranges are situated in the vicinity of Ile du Levant. For further information, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

9.40 Rade d'Hyerès (43°05'N., 6°14'E.) is entered between Cap de l'Esterel and Cap Benat, 9 miles ENE. This bay is sheltered by Iles d'Hyerès. Its NW shore is dominated by a range of hills, the S of which is surmounted by the conspicuous chapel of Notre Dame d'Hyerès.

Port d'Hyerès-Plage, a small harbor, lies 3 miles NNW of Ponte de l'Esterel. It is protected by breakwaters and is used by yachts, small naval craft, and ferries plying to Iles d'Hyerès. Anchorage may be taken, in a depth of 15m, about 0.7 mile from the harbor.

The town of Hyerès stands 2.5 miles NW of the harbor and is built in the form of an amphitheater at the foot of a black mountain. Le Fenouillet, 291m high, stands 1.5 miles NW of the town and has a conspicuous rock on its summit.

Port d'Ayguarde-Ceinturon, a small yacht harbor, lies 1.2 miles NE of Port d'Hyerès-Plage and is subject to silting.

Berrian-Plage, another small yacht harbor, lies 0.7 mile NE of Port d'Ayguarde-Ceinturon and a conspicuous building stands close E of it.

Caution.—Anchorage is prohibited within an area, the limits of which are shown on the chart, which extends 2 miles SE from a point on the shore, close N of Port d'Hyeres-Plage.

9.41 Port Pothuau (43°07'N., 6°12'E.) (World Port Index No. 38890) fronts the town of Les Salins d'Hyeres and is protected by two jetties. This small harbor has an entrance, 60m wide, and can accommodate small vessels with drafts up to 4m. A quay, situated along the E jetty, and a slip, in the NE angle of the harbor, are reserved for the use of the French naval craft. The W side of the harbor is used by fishing and pleasure craft.

Port de Miramar, a small and shallow yacht harbor, lies 2 miles E of Port Pothuau.

Several mooring buoys are situated along the coast and within the roadsteads lying between Berrian-Plage and Port de Miramar.

A factory stands at Bormettes on the N shore of the bay, 6.5 miles NE of Ponte de l'Esterel. It is conspicuous and lighted at night. During the day, it may be identified by two tanks which are situated in the vicinity. A range of hills approaches the coast just E of this factory.

Pointe de Leoubé, located 1 mile ESE of Bormettes, is faced with a small but prominent white cliff and is fronted by an islet.

Batterie des Maures, an artificial islet, lies 0.2 mile NW of Pointe de Leoubé. It is prominent and surmounted by a discontinued light structure.

Cap de Bregancon (43°06'N., 6°19'E.), 52m high, is located 1.7 miles ESE of Pointe de Leoubé. This cape is the SW extremity of a rocky islet which is surmounted by a fort and connected to the mainland by a bridge. Chateau de Bregancon, a conspicuous building with turrets, is situated 1.5 miles NNW of the cape.

A small craft harbor, enclosed by two jetties, lies on the W side of a point, 0.5 mile E of the cape.

9.42 Cap Benat (43°05'N., 6°22'E.), 185m high, is formed by the SE extremity of a large, rounded, and rugged hill. It is surmounted by an old signal station and a prominent television tower. A rock, 6m high, lies close E of the cape and is marked by a beacon. A small yacht basin is situated on the N side of the cape.

Pointe de Gouron (Cap Blanc), so called from the color of its rocks, which can be identified from some distance seaward, is located 0.3 mile SW of Cap Benat.

Cap Benat Light is shown from a structure, 16m high, standing near the extremity of Pointe de Gouron.

An obstruction, in the form of a submerged buoy with a depth of 20m, lies about 2.3 miles S of Cap Benat.

Pointe de l'Esquillette, located 0.7 mile N of Cap Benat, is fronted by a rocky spit which extends up to 0.3 mile E.

Bormes les Mimosas (La Faviere), a yacht harbor protected by a breakwater, lies 1.2 miles N of Pointe de l'Esquillette.

La Fourmigue, a rock, lies 2 miles NE of Cap Benat. It is 6m high, surrounded by submerged rocks, and is marked by a lighted beacon.

Caution.—Due to the existence of submarine cables, an anchorage prohibited area extends SE from the shore close N of Bormes les Mimosas harbor.

A measured distance is situated between Cap Benat and Cap Negre and is indicated by beacons.

9.43 Le Lavandou (43°08'N., 6°22'E.), a small harbor, is protected by a jetty and a mole, and has depths of 1 to 4m. The original basin is used by small craft. Anchoring is prohibited within this basin on account of mooring chains lying on the bottom.

Quays at the W ends of the mole and the breakwater are reserved for the use of local ferries. An extensive yacht basin, protected by a curved breakwater, lies close SE of the original basin. Anchorage may be obtained, in depths of 15 to 20m, muddy sand, good holding ground, about 0.2 mile SE of the harbor.

Cap Negre (43°09'N., 6°27'E.), a dark promontory, is located 4.2 miles NE of Cap Benat. This cape terminates in steep cliffs and is surmounted by a prominent house with two towers, which when seen from E, resembles a signal station. A beacon, which is used in connection with a measured distance, stands near the extremity of the cape. Another beacon, having the same use, is situated 0.8 mile NNW of the cape. Anchorage can be obtained, in a depth of 11m, within a small bay lying 1 mile W of the cape.

Pointe du Dattier is located 3 miles ENE of Cap Negre. A prominent white house stands 0.2 mile NNW of the point, and beacons are situated close N and 1 mile NNW of the point.

Cap de Cavalaire, located 4.2 miles ENE of Cap Negre, is the S extremity of a promontory which rises to a height of 70m, close N of the cape. A prominent television mast stands on the cape.

Pointe de Cavalaire, 30m high, is located 0.5 mile NE of Cap de Cavalaire and surmounted by a prominent white wall, 3m high.

9.44 Baie de Cavalaire (43°10'N., 6°34'E.) is surrounded by hills which slope gradually to its shores. It is entered between Cap de Cavalaire and Cap Lardier, 3.7 miles E. Numerous villas are scattered along the head of the bay, and a conspicuous hotel is reported to stand close to the shore, 1 mile N of Pointe de Cavalaire.

Port de Cavalaire lies on the N side of Pointe de Cavalaire. It is formed by two jetties and has depths of 4 to 8m. This small harbor is used by small craft and has extensive facilities for yachts. The town, which is prominent, stands close NW of the harbor.

Cap Lardier may be identified by the grey color of its barren rocks. A wall, 4m high, stands on the cape and is prominent. A rock, with a depth of 7.1m, lies about 0.5 mile ESE of the cape.

Baie de Cavalaire offers shelter from the Mistral, but is untenable during winds from the E through S to SW. The bottom, consisting of mud and weed, is a good holding ground provided vessels do not anchor in too great a depth where the steep slope may cause dragging. Local knowledge is advisable.

Baie de Briande is entered between Cap Lardier and Cap Taillat, 1.2 miles NE. It offers shelter from the Mistral, but is exposed to all winds from seaward.

Cap Taillat, fronted by rocks, is the SE extremity of a peninsula which is 65m high and joined to the mainland by a low isthmus. A beacon stands on this cape.

Caution.—An outfall and associated prohibited area extend SE 0.7 mile from the coast from a point 1.0 mile NE of the breakwater at Port de Cavalaire.

9.45 Cap Camarat (43°12'N., 6°41'E.), located 2.5 miles NE of Cap Taillat, terminates in a red point from which rocks, above-water and submerged, extend up to 0.7 mile E. A light is shown from a structure, 25m high, standing 0.2 mile W of the extremity of the cape. A signal station is situated close SE of the light.

Mont Paillas, 322m high, stands 3.5 miles WNW of the cape and is prominent. The village of Ramatuelle is situated 0.5 mile ESE of the summit of this hill and is conspicuous from seaward.

Anse de Pampelonne is entered between Cap Camarat and Cap du Pinet, 2.8 miles N. This bay is bordered by a low sandy beach on its W side. Several submerged rocks lie in places within 0.2 mile of the beach. An outfall pipeline extends 0.8 mile seaward in the S part of the bay.

The bay offers shelter from NW winds, but can not be used with E winds. The bottom consists of fine sand with patches of weed in places, which improves the holding ground. Anchorage can be obtained, in a depth of 14m, fine sand and weed, about midway between the entrance points.

La Nioulargo, a bank, lies 5 miles ENE of Cap Camarat and has a least depth of 52m.

Caution.—Diving is prohibited in an area, the limits of which are shown on the chart, lying in the vicinity of a historic wreck, 0.7 mile S of Cap Camarat.

9.46 Cap de Saint-Tropez (43°16'N., 6°42'E.), the E extremity of a peninsula, is bordered E and NE by foul ground.

Basse du Verhugue lies about 2 miles ESE of the cape and has a depth of 13.7m. This shoal is dangerous in bad weather when the sea breaks violently over it.

Teste-de-Can, a group of three above-water rocks, lies 0.5 mile SE of the cape and is prominent. A rocky ledge extends up to about 1 mile NE of the cape and its seaward edge is marked by a lighted beacon. Basse du Nord-Est, a detached rocky patch, lies close ENE of the lighted beacon and has a least depth of 4m.

Le Saint Julien, a bank, lies 4 miles E of the cape and has depths of 53 to 70m.

Pointe de la Rabiou is located 1.2 miles NW of Cap de Saint-Tropez. The coast between is 30 to 60m high and prominent. A rocky ledge extends about 0.3 mile N from a point on the coast, 0.5 mile SE of Pointe de la Rabiou. It has depths of less than 5m, is awash at the seaward extremity, and is marked by a beacon.

A rocky shoal, with a least depth of 6.2m, lies about 0.5 mile N of Point de Rabiou and is marked by a beacon.

Golfe de Saint-Tropez

9.47 Golfe de Saint-Tropez (43°17'N., 6°39'E.) is entered between Pointe de la Rabiou and Cap Sardinaux, 2 miles N, and extends for about 4 miles WSW.

Aspect.—On approaching the gulf, the following conspicuous landmarks can easily be identified:

1. Chateau Borelly, which consists of a group of buildings surrounding a tower, standing 0.5 mile S of Pointe de la Rabiou.
2. Saint-Tropez, standing on the S shore, which with its citadel and church tower, appears as a white mass.
3. A water tower, 46m high, standing 0.7 mile SW of Saint-Tropez.
4. Saint Maxime, standing on the N bank and containing several large hotels and a casino building.
5. A distinctive tabular mountain standing in the background at the head of the gulf with a higher and conical peak close N of it.

Anchorage.—Anchorage can be obtained within the gulf in the following areas:

1. Anse des Canebiers, a bay, lying 1 mile E of Saint-Tropez. It affords anchorage sheltered from S and SE winds. A good berth, in depths of 12 to 15m, lies about 0.3 mile N of the head of the bay.
2. Off Sainte-Tropez, good anchorage can be found, in a depth of 15m, soft mud and good holding ground, about 0.2 mile WSW of harbor entrance.
3. Off Pointe de la Pinede, good anchorage can be found, in depths of 12 to 15m, about 0.2 mile W of the point.
4. Off Port Grimaud, anchorage may be taken close N of the harbor entrance, where the bottom is hard mud, but it is exposed to E winds.
5. Off Sainte Maxime, anchorage can be taken off the harbor and sheltered from the Mistral, but it is exposed to E and SE winds. The bottom forms a good holding ground, but rocky banks extending SE of the harbor should be avoided.

Caution.—Several anchoring and fishing prohibited areas, the limits of which are shown on the chart, lie within the gulf.

Several shellfish farm areas lie close to the shore of the gulf and may best be seen on the chart.

9.48 Pointe de la Pinede (43°16'N., 6°38'E.), located 0.5 mile WSW of Saint-Tropez, is low; a conspicuous large hotel stands 0.2 mile E of it.

Pointe de Bertaud, located 1.5 miles WSW of Saint-Tropez, lies at the SW corner of the gulf and a naval torpedo factory stands on it. Chateau Bertaud is situated close SW of the factory and a jetty extends NW from the shore adjacent to it. A light is shown from a structure standing at the head of this jetty.

The River La Giscle enters the gulf at the head, 0.5 mile NW of Pointe de Bertaud. Marines de Cogolin (Port de Cogolin) and Port Grimaud are located S and N, respectively, of the river mouth.

Marines de Cogolin is entered between two jetties. This small harbor can accommodate small craft, with drafts up to 4m, and has extensive facilities for yachts.

Port Grimaud is also entered between two jetties. This small harbor consists of a complex of waterways which form an extensive yacht basin. Small craft, with drafts up to 3.5m, can be accommodated. An outfall pipeline extends 0.2 mile E from a point, 0.2 mile N of the harbor entrance.

Sainte Maxime lies on the N side of the gulf, 3 miles NE of Port Grimaud. This small harbor lies on the E side of a bay and is protected by two breakwaters. Small craft up to 3.4m draft

can be accommodated alongside and there are extensive facilities for yachts. Numerous prominent hotels stand close N of the harbor.

A rocky bank, with a least depth of 6m, extends about 0.2 mile SSE from the root of the S breakwater and should be avoided. A wreck, with a depth of 13m, lies close E of this rocky bank.

A rock lies about 0.3 mile from the shore, 0.5 mile E of the harbor. It dries 0.6m and lies near the edge of the coastal bank.

Cap Sardinaux (43°19'N., 6°40'E.), the N entrance point of the gulf, is low but rises to a hill, 124m high, 1 mile W, which is surmounted by a conspicuous disused signal station.

An outfall pipeline extends 0.3 mile SSE from the S side of the point.

A rocky bank extends up to 0.7 mile E from the point and several above-water and shallow rocks lie on it. Les Sardinaux, a group of rocks, lies at the NE extremity of this bank and is marked by a beacon. Seche al'Huile, a shoal, lies at the SE extremity of this bank. It has a least depth of 3m and is marked by a prominent lighted beacon.

9.49 Saint-Tropez (43°16'N., 6°38'E.) (World Port Index No. 38920), a small harbor, lies on the S side of the gulf and is used by small craft and yachts. The entrance, which is formed between a breakwater and an L-shaped mole, is 55m wide. A large flat mole fronts the W part of the harbor and divides it into two basins. The outer basin has extensive berths for yachts. The inner basin has depths of 6m in the center and 2.4 to 4m alongside the quays. Generally, the harbor is accessible to small vessels up to 70m in length and 4.9m draft.

The port may be contacted by VHF. Official pilots are not available, but can be obtained from Toulon with 12 hours advance notice.

A hovercraft terminal is situated close SW of the harbor.

Caution.—Anchoring, dredging, and fishing prohibited areas, the limits of which are shown on the chart, extend up to 0.1 mile from the shore, close W of the harbor, and to the center of the gulf from close E of the harbor.

A wreck, with a least depth of 3m, lies 0.2 mile WSW of the harbor entrance.

Golfe de Saint-Tropez to Golfe de la Napoule

9.50 Baie de Bougnon (43°20'N., 6°41'E.) is entered between Cap Sardinaux and Pointe des Issambres, 3 miles NE. This bay is bordered by numerous villas, and a large white building, which is very prominent from seaward, stands on its N shore.

A yacht marina, protected by two jetties, is situated at the head of the bay. The bay offers shelter from NW winds, but the anchorage is untenable with winds from seaward.

Golfe de Frejus (43°25'N., 6°46'E.) is entered between Pointe des Issambres, which is low and wooded, and Cap du Dramont, 7 miles NE. Baie de Saint Raphael forms the NW corner of this gulf.

Between Pointe des Issambres and Pointe de Saint Aygulf, 2.7 miles NNE, the coast is slightly elevated and backed by hills which gradually rise to the W. The shore is fronted by a rocky bank which extends up to 0.1 mile seaward. A rock, with a least depth of 1.2m, lies near the edge of this bank, about 0.5

mile S of Point de Saint Aygulf. A dangerous wreck lies about 0.2 mile NE of this rock.

A small boat harbor is situated 0.7 mile N of Pointe des Issambres. An outfall pipeline extends up to 0.3 mile seaward from a point, 0.5 mile N of this boat harbor.

Bank du Mourenegre, with depths of 68 to 84m, lies 2 miles ENE of Pointe des Issambres.

Between Pointe de Saint Aygulf and Saint Raphael, 2.5 miles NNE, the coast consists of a sandy beach backed by a low plain.

An outfall pipeline extends up to 0.5 mile seaward from a point, 0.5 mile N of Pointe de Saint Aygulf.

The River l'Argens flows into the gulf, 1 mile N of Pointe de Saint Aygulf.

A French naval air station is situated on the W side of Baie de Saint Raphael. The officers mess, a cream-colored prominent building, stands on the N side of the mouth of the River l'Argens. Hangars and other buildings are situated 0.5 mile NE of the mess. An aeronautical light is occasionally shown from a tower standing 0.5 mile NE of the river mouth.

A large hotel and a block of apartments stand along the shore between the naval air station and Saint Raphael and are very conspicuous.

The town of Frejus is situated 0.7 mile inland, 1.3 miles N of the river mouth. It can be recognized by the pointed belfry of the cathedral, which from seaward, stands out clearly against the background of mountains. Port Frejus, an extensive yacht marina, lies close NE of the N end of the air station.

Port de Santa Lucia lies 0.7 mile SE of Saint Raphael and consists of two extensive yacht basins, each protected by a breakwater. Craft up to 23m in length can be accommodated.

Anchorage.—Baie de Saint-Raphael, open S, is sheltered by the islets and rocks lying off Pointe des Lions. The bottom consists of thick, muddy clay and forms a good holding ground. Naval vessels generally anchor, in depths of 15 to 20m. Merchant vessels anchor, in depths of 12 to 16m, closer in.

Caution.—Several dangerous wrecks lie within Baie de Saint Raphael and may be seen on the chart.

An obstruction area, the limits of which are shown on the chart, lies off the mouth of the River l'Argens. A prohibited area, the limits of which are shown on the chart, lies adjacent to the shore, close N of the this obstruction area.

Due to the existence of submarine cables, an anchorage prohibited area, the limits of which are shown on the chart, extends up to 1.2 miles S from the vicinity of the S basin of Port de Santa Lucia.

9.51 Saint Raphael (43°25'N., 6°46'E.) (World Port Index No. 38940), a small harbor, is protected by two broad jetties and is mostly used by small craft and yachts. The entrance, 60m wide, is subject to silting on its N side. Small vessels up to 91m in length and 4.5m draft can be accommodated. The harbor may be contacted on VHF channel 12 and unofficial pilots, or persons with local knowledge, are available. Vessels planning a visit should contact the port authorities by letter or telephone 8 days in advance, stating the vessel's length, beam, draft, and ETA. The ETA should be confirmed 24 hours in advance. The harbor master should be contacted by VHF 2 hours prior to arrival.

A church, with a large prominent dome, stands in the town, close to the harbor. Another church, with a prominent square clock tower, stands 0.2 mile NNE of the dome.

Caution.—Outfall pipelines extend up to 0.2 mile S from a point close E of the harbor, and up to 0.6 mile S from a point close W of the harbor.

The harbor is sometimes inaccessible in bad weather. Winds from the NW cause a choppy sea in the harbor and winds from the S send in much surf.

9.52 Pointe des Lions (43°25'N., 6°48'E.) is located 0.3 mile E of the S basin at Port de Santa Lucia. It is low, red, rocky, and is surmounted by a prominent palace.

Le Lion de Mer lies 0.5 mile WSW of Pointe des Lions. This islet is 15m high, fringed with rocks, and is a reddish color. A light is shown from a structure, 10m high, standing on the SW part of the islet.

Le Lion de Terre, a reddish-colored islet, lies close W of Pointe des Lions and is connected to the mainland by a chain of rocks. The S and E sides of this islet are fringed with rocks.

Banc de Frejus and Banc Nouveau, with depths of 45 to 81m, are extensions of the coastal shore bank and lie 2 miles SE of Point des Lions.

Port de Boulouris, a small craft harbor, lies 1 mile ENE of Pointe des Lions. The prominent large buildings of a school stand on the coast, 0.7 mile ENE of this harbor.

Cap du Dramont (43°25'N., 6°51'E.), the E entrance point of Golfe de Frejus, is formed by a steep and reddish cliff, 128m high, which is surmounted by a disused signal station. A large greyish quarry is situated 0.5 mile NW of the cape and is prominent.

A group of islets and rocks front the SE side of the cape. A small islet lies close SW of the cape, and a rock, with a depth of 1.8m, lies close SSW of it.

A small and shallow fishing boat harbor is situated 0.3 mile NW of the cape.

Ile d'Or lies 0.3 mile W of Cap du Dramont and is surmounted by a distinctive square tower. A spit, on which lies a rock awash, extends about 0.2 mile SW of this island.

Rade d'Agay (43°26'N., 6°52'E.) is entered between Cap de Dramont and Pointe de la Baumette, 1 mile NE, and has a sandy beach at its head. Mornes Rouges d'Agay, 213 to 288m high, is a range of reddish hills which stand 0.5 mile inland at the head of the bay.

Caution.—An outfall pipeline extends 0.7 mile SE from a point on the shore, 0.8 mile N of Cap du Dramont.

9.53 Pointe de la Baumette is low and fronted by a bank with depths of less than 5m. A light is shown from a structure, 15m high, standing on the point. A conspicuous hotel stands close NE of the light and dominates the light structure. Chateau d'Agay and a white hotel, with a square tower, are situated on the E side of the bay. A large hotel, with a red roof, stands near the head of the bay.

Anchorage, sheltered from the Mistral, can be taken in the bay, but it is exposed to SE winds and a swell sometimes sets in from seaward. A good berth, in depths of 15 to 16m, lies about 0.2 mile W of the light on Pointe de la Baumette. Small vessels can anchor, in depths of 7 to 8m, at the head of the bay. The bottom consists of mud and weed, good holding ground.

Several buoys, used by pleasure craft, are moored in the inner part of the bay.

Pointe des Vieilles (43°26'N., 6°53'E.) is located 1 mile ENE of Pointe de la Baumette. Numerous villas are scattered along the coast between these two points and a prominent hotel stands on Pointe des Vieilles. A conspicuous viaduct, clearly visible from seaward, is situated 0.5 mile N of the point.

A small and flat island, 8m high, lies on a rocky bank which extends up to 0.3 mile SSE of Pointe des Vieilles, and is surrounded by a group of rocks. A rock, 2m high, lies close S of the island; another rock, with a depth of 1.6m, lies about 0.5 mile S of Pointe des Vieilles and is marked by a lighted beacon. A wreck, with a depth of 22m, lies about 0.3 mile E of the beacon.

Caution.—A submerged target obstruction, with a depth of 100m, lies about 3 miles S of Pointe des Vieilles.

9.54 Cap Roux (43°27'N., 6°55'E.) is located 2 miles NE of Pointe des Vieilles. It has a red summit, saddle-shaped with a rocky peak standing in the center of the dip. The cape terminates in a low point and the coast in the vicinity is fronted by rocks. Mont du Cap Roux, 457m high, stands 1 mile WNW of the cape and has a prominent bare summit. A prominent television mast, 58m high, stands on a summit, 1.8 miles NNW of the cape.

A conspicuous viaduct is situated at Trayas, a village, 0.7 mile N of the cape. A remarkable square rock stands in the center of another saddle, close above this village.

Cap de l'Esquillon (43°29'N., 6°57'E.), 109m high, is located 2.3 miles NNE of Cap Roux. This point can be identified by its cliffs, its well-wooded slopes, and by a viaduct which engirdles it about halfway up.

A rock, 1m high, lies about 0.3 mile SE of the point and is marked by a lighted buoy.

Port de la Figueirette, a small craft harbor, lies 0.7 mile W of Pointe de l'Esquillon and is protected by a breakwater.

Pointe de la Galere is located 0.8 mile NNE of Pointe de l'Esquillon. A small craft harbor, protected by a breakwater, lies close N of the point. A lighted buoy, marking the approach to this harbor, is moored about 0.2 mile NE of the entrance.

Caution.—An outfall pipeline extends up to 0.5 mile SSE from a point on the shore, close W of Pointe de la Galere.

Pointe de l'Aiguille (43°30'N., 6°57'E.), located 0.5 mile N of Pointe de la Galere, terminates in a pyramidal rock. A rocky patch, with a least depth of 1.8m, lies about 0.2 mile SE of the point.

The stretch of coast between Pointe de l'Esquillon and Pointe de l'Aiguille consists of cliffs which form the foot of a range of reddish hills.

Golfe de la Napoule

9.55 Golfe de la Napoule is entered between Pointe de l'Aiguille and Cap de la Croisette, 4 miles ENE, from which a group of islands extends up to 2 miles S.

The W side of the gulf is bordered by the foothills of a range of mountains which terminate in Piton San Peyre. This hill, 131m high, stands 1.2 miles NW of Pointe de l'Aiguille and is surmounted by the ruins of a convent and a water tower.

The E side of the gulf is occupied by the town and port of Cannes, where the houses form a semicircle along the shore.

Theoule-Sur-Mer, lying 0.5 mile W of Pointe de l'Aiguille, is a small craft harbor which is protected by two jetties.

Port de la Rague, lying 1 mile N of Theoule-Sur-Mer, is a small craft harbor which is protected by a breakwater. It has extensive facilities for yachts.

Port de Mandelieu-La Napoule lies 0.5 mile N of Port de la Rague and is protected by a breakwater. This small craft harbor, with extensive facilities for yachts, has depths of 2 to 10m and can accommodate vessels up to 50m in length.

Several prominent blocks of apartments stand between Port de Mandelieu-La Napoule and the mouth of the River Siagne, close N.

An extensive yacht marina is situated 0.5 mile within the river mouth. The river is spanned by several bridges with vertical clearances of 2.8m.

An outfall pipeline extends up to 0.8 mile SE from a point on the shore, 0.5 mile NE of the river mouth. A small boat harbor lies close SW of this point.

The conspicuous town of La Bocca fronts the coast, 1.7 miles NE of the river mouth. An airport and a conspicuous gas works are situated 1 mile W of the town. Several piers, one of which has a depth of 6m at the head, extend from the shore adjacent to the town.

A large and conspicuous villa is situated on the top of La Croix des Gardes, 160m high, which stands close N of La Bocca.

The coast between La Bocca and Cannes, 1.5 miles E, is covered with villas, gardens, and prominent hotels.

A rock, with a depth of 6.7m, lies about 0.3 mile offshore, 0.5 mile ESE of La Bocca.

Cannes (43°33'N., 7°01'E.)

World Port Index No. 38960

9.56 Rade de Cannes is entered between a rounded point, located 1.1 miles E of La Bocca, and Cap de la Croisette, 1.2 miles SE.

This bay is almost exclusively used by pleasure craft and consists of the harbor of Cannes, locally called Cannes I, lying at the W side and the harbor of Cannes II, locally called Port Pierre Canto, lying at the E side.

A shallow yacht basin and a shallow fishing craft harbor lie close NNW of Cap de la Croisette.

Winds—Weather.—The prevailing winds are generally from between the W and N in winter. The NW Mistral is strong at times. In summer, winds from the E and W prevail, with occasional strong S winds.

A vessel anchored about 1.1 miles WNW of Pointe Bataigner reported (1998) a W current with a rate of 2 knots.

Tides—Currents.—The tides are negligible, the spring range being less than 0.3m.

Depths—Limitations.—The harbor of Cannes is protected by a breakwater, which extends SE from the rounded N entrance point of the bay, and by a jetty which extends S and SW from the shore. Rocks and shoals extend from the shore on the SE side of the jetty and are marked on their W side by a

lighted beacon. Vessels entering the harbor must pass SW of this lighted beacon.

A berth alongside the W quay in the harbor is dredged to a depth of 6.7m. Small vessels up to 70m in length and 6.1m draft can be accommodated; however, it is reported (1989) that the berthing space is utilized by numerous yachts with permanent Med-moorings.

The harbor of Port Pierre Canto is protected by two jetties having quays on their inner sides. It has depths of 3 to 8m and extensive facilities for yachts.

Aspect.—The shore of the bay between the two harbors is fronted by numerous prominent buildings and hotels. The town of Cannes stands at the foot of the hills, which rise from the N shore of the Golfe de la Napoule.

A prominent casino stands on Cap de la Croisette. A hill, 245m high, stands 1.7 miles NNE of Cap de la Croisette and is surmounted by a prominent water tower; a large hotel stands halfway up this hill and is conspicuous. The conspicuous Observatoire du Grand Pin surmounts the summit of a hill, 270m high, standing 2 miles N of Cap de la Croisette and a prominent sanatorium is situated 0.5 mile N of it.

A prominent hotel stands on the rounded N entrance point of Rade de Cannes. A tower stands, with the prominent belfry of the cathedral a short distance N of it, close N of the hotel and W of the harbor.

A new light structure, 22m high, stands on the extremity of the breakwater at Cannes and is conspicuous.

Pilotage.—The port can be contacted on VHF channel 12 or 16 and persons with local knowledge are available. Due to the large number of yachts entering the harbors, permission to moor and enter should be obtained in advance from the port captain.

Regulations.—Sailing vessels do not have the right of way over power-driven vessels within Rade de Cannes and Cannes harbor.

The speed of vessels within the harbor is restricted to 3 knots.

A regulated area, the limits of which are shown on the chart, lies between Cannes and the island lying S of Cap de la Croisette. The speed of vessels in this area is restricted to 10 knots and 5 knots when within 300m of the shore.

Anchorage.—Anchorage may be taken, in depths of 12 to 35m, mud and weed, within a designated area, the limits of which are shown on the chart, lying 0.5 mile S of Cannes.

Caution.—A submarine pipeline and several submarine cables extends SSE between Cap de la Croisette and the N shore of an island lying 0.7 mile S.

An outfall pipeline extends up to 0.5 mile S from the root of the outer breakwater at Cannes harbor; the seaward end is marked by a buoy.

Several rocky patches, with depths of 4 to 15m, lie in the W approach to Rade de Cannes and may best be seen on the chart.

Rade de Cannes is generally very crowded with small craft and yachts.

9.57 Iles de Lerins (43°31'N., 7°03'E.) lie on a rocky bank, with depths of less than 5m, which extends up to 2.5 miles S from Cap de la Croisette. They consist principally of Ile Sainte-Marguerite and Ile Saint-Honorat.

Ile Saint-Marquerite lies centered 1 mile SSE of Cap de la Croisette and is very wooded. A conspicuous citadel, in which there is a disused signal station, stands near the middle of the N coast of the island. A small shipyard is situated close W of this citadel.

The NW extremity of the island is surmounted by a ruined tower. It is fronted by a shoal, with depths of less than 2m, which extends up to 0.3 mile N and is marked by a lighted beacon. A shoal, with a depth of 8.6m, lies about 0.3 mile NW of the beacon and the sea breaks on it during S winds.

The E extremity of the island has the ruins of a battery standing close WSW of it. A low islet lies close E of this point and is connected to it by a ridge of rocks.

Ile Saint-Honorat lies centered 1.8 miles SSE of Cap de la Croisette. A conspicuous chateau stands on a projection on the S coast of the island. The belfry of an abbey, which emerges from the surrounding trees close N of the chateau, is prominent.

The E extremity of the island is surrounded by small islets and rocks which extend up to 0.3 mile from it. This point is surmounted by a prominent ruined chapel.

The rocky bank, on which these islands lie, extends 0.5 mile S of Ile Saint-Honorat and is marked at its S end by a lighted beacon.

Anchorage, sheltered from N and S winds, can be taken on a bottom of muddy sand and weed, good holding ground, between Ile Sainte-Marguerite and Ile Saint-Honorat. Vessels should anchor E or W of the rocky bank lying between these islands. There is also good anchorage for small vessels to the N of Ile Sainte-Marguerite and to the E of the citadel. With Mistral winds, a sheltered anchorage is available to the E of Cap de la Croisette, but care must be taken to avoid the dangers in this vicinity.

Caution.—Several submarine cables lie on the rocky bank and extend between the islands.

A speed limit of 5 knots is in force within the channel lying between the islands.

Golfe Juan

9.58 Golfe Juan (43°33'N., 7°06'E.) is entered between Cap de la Croisette and Point de l'Ilette, 3.8 miles ENE. This gulf is sheltered from the SW by Iles de Lerins and from the S by shoals and is one of the best roadsteads along this part of the coast. In the approaches to the gulf, the currents are weak and are usually influenced by the wind.

From seaward, the gulf appears to be bounded to the N by a range of low hills. These hills form a buttress ending at Cap de la Croisette, on their W side, and separate Golfe Juan from Golfe de la Napoule.

A hovercraft terminal is situated on the SE side of Cap de la Croisette. The approach channel is marked by buoys and the arrival and departure of the hovercraft are indicated by a siren which sounds one long blast every ten seconds.

Port du Moure-Rouge, lying 0.5 mile NNE of Cap de la Croisette, is a small craft harbor which is protected by two jetties. A prominent seminary, formerly a hotel, stands halfway up a hill, 0.7 mile NE of the harbor.

The N side of the gulf is formed by a beach behind which stands numerous conspicuous houses, villas, and hotels.

Port de Golfe Juan, lying 2.5 miles NE of Cap de la Croisette, is a small craft harbor which is protected by two breakwaters and has extensive facilities for yachts. A light is shown from a structure, 16m high, standing 0.7 mile WNW of the harbor entrance. A high building situated close to the E breakwater is conspicuous.

Port Gallice lies on the E side of the gulf, 1.7 miles E of Port de Golfe Juan. This small craft harbor is protected by two breakwaters and has extensive facilities for yachts. The approach channel lies close SE of shoals, with a depth of 2m, and is marked by lighted buoys, buoys, and beacons. A small boat basin lies on the SE side of the harbor.

The village of Juan-les-Pins is situated close NNE of Port Gallice and has numerous high buildings lining the waterfront. A large white building standing close to the church, at the E side of the village, is very prominent. Also prominent is a moorish-type villa, with a white minaret, standing close to the beach, at the W end of the village.

La Garoupe (43°34'N., 7°08'E.), located 0.7 mile E of Port Gallice, is the highest point of the Cap d'Antibes peninsula. It dominates the E shore of the gulf. A light is shown from a structure, 95m high, standing on this point.

A signal station and a prominent chapel are situated close NE and close SW, respectively, of the light.

Pointe de l'Ilette (43°33'N., 7°07'E.) is the E entrance point of the gulf and the SW extremity of the Cap d'Antibes peninsula. A light is shown from a structure, 11m high, standing on the point.

Tour Graillon, a 20m high tower, stands 0.3 mile N of the light, with a prominent hotel situated close SE of it.

A rocky bank, with a least depth of 3.5m, lies about 0.3 mile S of Pointe de l'Ilette.

9.59 La Fourmigue (43°32'N., 7°06'E.), a group of low and dark rocks, lies 1.7 miles WSW of Pointe de l'Ilette and is marked by a lighted beacon which stands on the highest rock.

Basses de la Fourmigue consists of several rocky patches with depths of 5 to 9m. These patches lie on a bank which extends up to 1 mile ENE of La Fourmigue. Le Secanion, with a least depth of 5m, is the farthest E of these patches. It lies 0.8 mile E of La Fourmigue and is marked by a buoy.

The main access to Golfe Juan is made through Passe de l'Ouest, which lies between Ile Sainte-Marguerite and La Fourmigue. Access can be made through Passe de l'Este, which lies between Le Secanion and the Cap d'Antibes peninsula.

The roadstead in the gulf is sheltered from NW winds. A considerable sea is raised by SSE winds, but it is not dangerous for well-moored vessels. Large vessels can anchor, in depths of 13 to 15m, about 0.8 mile NE of La Fourmigue. Small vessels can anchor farther N, in depths of 10 to 12m. Vessels can also obtain anchorage in Mouillage du Piton, sheltered from the E, but exposed to S winds. This roadstead, lying 0.5 mile NW of the Tour Graillon, has depths of 14 to 16m and a bottom of mostly soft mud and weed.

Caution.—Several submarine cables, which may best be seen on the chart, extend seaward from a point on the shore, 0.7 mile NNE of Cap de la Croisette.

Anchoring and fishing are prohibited in a nature reserve area lying 1.5 miles NE of Cap de la Croisette. This area is marked by buoys and may best be seen on the chart.

An outfall pipeline extends 1 mile SSE from the harbor entrance at Port de Golfe Juan and is marked by a buoy at its seaward end. Anchoring is prohibited in the vicinity of this pipeline.

Golfe Juan to Nice

9.60 Cap Gros (43°33'N., 7°09'E.) is located on the E side of the Cap d'Antibes peninsula, 1.2 miles NE of Pointe de l'Ilette. A shoal, with a least depth of 4.6m, lies close E of this cape.

Anchorage can be taken, in depths of 18 to 20m, sand and weed, good holding ground, within Anse de La Garoupe, which is entered between Cap Gros and Pointe Bacon, 1 mile N.

Between the peninsula of Cap d'Antibes and the peninsula of Cap Ferrat, 11 miles NE, the Alpes Maritimes recede from the coast, which appears low from seaward.

Pointe Bacon is fronted by a rocky bank, with depths of less than 5m, which extends up to 0.3 mile NNE of it. A reef, partly above-water, lies on this bank. Rocks, with depths of 12m and 13m, lie about 0.2 mile ESE and 0.4 mile ENE, respectively, of the point.

Port de la Salis lies in the S corner of a bay, 0.5 mile W of Pointe Bacon. This small craft harbor is protected by two breakwaters. Numerous rocky patches and above-water rocks lie in the approaches to the harbor and may best be seen on the chart.

Caution.—An explosives dumping ground area, the limits of which are shown on the chart, lies centered 0.6 mile NE of Pointe Bacon.

An outfall pipeline extends up to 0.5 mile E from Pointe Bacon.

Submarine cables extends seaward from a point on the shore, close NW of Port de la Salis and can best be seen on the chart.

Antibes (43°35'N., 7°08'E.)

World Port Index No. 38980

9.61 Antibes (Port Vauban) is an ancient town standing on a promontory which separates the harbor from the small bay to the S. The harbor has extensive facilities for pleasure craft, yachts, and fishing boats.

Tides—Currents.—Tides are negligible in the area, but winds and other conditions may vary the level in the harbor somewhat.

Depths—Limitations.—The harbor is protected by an outer breakwater which extends NE and N from the NE corner of the town. It consists of an inner yacht basin, in the W part, a fishing boat basin, in the S part, and a small craft and pleasure craft basin, in the center. In addition, a commercial tanker berth, with a depth of 8m alongside, is situated on the inner side of the breakwater at the outer end. This berth is 40m long and can accommodate small vessels up to 3,000 tons.

Generally, yachts and pleasure craft up to 50m in length and 3.5m draft can be accommodated within the basins.

Aspect.—The town is surrounded by fortifications and flanked by two large square towers. Fort Carre surmounts the point on the N side of the harbor and is prominent.

A light is shown from a structure, 10m high, standing on the head of the outer breakwater.



Antibes

Pilotage.—The harbor may be contacted on VHF channel 9 or 16. Pilotage is not compulsory, but is available for the larger vessels.

Anchorage.—Vessels can anchor E or NE of the harbor entrance, but the bottom of fine sand is a poor holding ground and they are advised to anchor in Golfe Juan. Vessels can also anchor, in depths of 10 to 20m, E of the town.

9.62 Port Marina Baie des Anges (43°38'N., 7°08'E.), a small craft harbor, lies 3 miles NNE of Antibes. It is protected by two breakwaters and has extensive facilities for yachts. The harbor is backed by large pyramidal blocks of apartments which are very conspicuous from seaward.

The shore between the harbor and Antibes is low and backed by a range of low hills which stand a short distance inland. Villeneuve-Loubert and Cagnes are villages standing on the slopes of these hills, 1.5 miles NNW and 2 miles NNE, respectively, of the harbor. Both villages are prominent from seaward and a high conspicuous tower is situated at Ville-neuve-Loubert.

Caution.—An outfall pipeline extends 0.5 mile SE from a point on the shore, 1.5 miles NE of Port Marina Baie des Anges.

A submarine cable extends SE from a point on the shore, 1 mile NNE of Port Marina Baie des Anges.

9.63 Port de Saint Laurent du Var (43°39'N., 7°11'E.), a small craft harbor, lies 2.3 miles NE of Port Marina Baie des Anges. It is protected by breakwaters and has extensive facilities for yachts. A boat basin lies 0.5 mile W of the harbor and is reported to be subject to silting.

The River Var flows into the NE part of Baie des Anges, 0.7 mile E of Port de Saint Laurent du Var. Its mouth may be identified by a large bridge, which crosses the river 0.5 mile within the entrance, and by three prominent chimneys which stand at a factory farther inland.

The coast projects on either side of the river mouth and the entrance is dangerous to approach at night.

Nice-Cote d'Azur Airport is situated close E of the river mouth and is conspicuous at night because of its numerous lights. The S part of the airport is built on reclaimed land. The control tower and some prominent suburban houses situated behind the runways may be seen from seaward.

The coast to the NE of the airport consists of a beach, backed by houses. A prominent belfry stands near the shore, 2.3 miles NE of the mouth of the River Var.

Caution.—A prohibited area, the limits of which are shown on the chart, surrounds the seaward sides of the airport. Areas, in which vessels with superstructure heights of 4m or more above sea level are prohibited, lie at the NE and SW sides of the airport and may best be seen on the chart.

Nice (43°42'N., 7°17'E.)

World Port Index No. 38990

9.64 The city of Nice, standing 4 miles NE of the mouth of the River Var, is a world famous tourist and health resort.

Winds—Weather.—Winds from the S and SW are rare, but they sometimes blow in gusts with rain squalls and create a strong swell in the entrance channel.

Tides—Currents.—Tides are almost negligible, being within a range of about 0.3m.

The water level may vary as much as 0.3 to 0.6m with the wind. Rises of up to 1m have been observed with strong gusts from the E.

Depths—Limitations.—The harbor is divided into four basins. Bassin de Tour Rouge, the outer NE basin, has berths for small craft and yachts.

Bassin Lympia, the inner basin, has a depth of 6.5m and extensive facilities for small craft and yachts are situated at its E side. Quai Papacino, 140m long, lies at the W side of this basin and has a depth of 5.5m alongside.

Bassin Admirals, the central basin, has a depth of 7m. Quai Infernet, 215m long, lies at the SW side of this basin and has a depth of 7m alongside. Quai Ribotti, 90m long; Quai d'Entrecasteaux, 95m long; and Quai des Caboteurs, 95m long, also lie within this basin and have depths of 5.5m alongside.

Bassin du Commerce, the main outer basin, has a depth of 7m. Quai de Commerce, 245m long, with a depth of 7m alongside, and Quai Traverse du Commerce, 125m long, with a depth of 6.5m alongside, lie within this basin.

The harbor has facilities for automobile ferries and ro-ro vessels.

Vessels up to 170m long, with a draft of 7m, can be accommodated.

Aspect.—The promontory of Mont Boron overlooks the city from close E and rises to a summit, 220m high, 1 mile N of its seaward end. Fort de Mont Alban stands on the summit and is very prominent.

From the summit of Mont Boron, a range of high mountains backs the coast to the E as far as the Italian border.

An observatory, with a prominent cupola, stands on the summit of Mont Gros, which is 375m high and stands 1.5 miles N of Fort de Mont Alban.

The entrance to the harbor lies between Cap de Nice, the SW extremity of the Mont Boron promontory, and Le Chateau, a

distinctive wooded hill, standing at the SE end of the city, 0.7 mile NW. The harbor is protected by a breakwater which extends SE from Le Chateau. A prominent light structure, 20m high, stands on the head of the breakwater.

Several high-rise buildings back the NE shore of the harbor and are very conspicuous from seaward.

Pilotage.—The pilotage area includes the port of Nice and Rade de Villefranche and extends up to 3 miles seaward of the harbor. Pilotage is compulsory within this area for vessels of 50m or more in length.

Pilots can be contacted on VHF channel 8 or 16 and generally board about 1 mile from the harbor entrance.

Vessels should send an ETA 24 hours in advance through Grasse (TKM) and confirm it when within VHF range.

Pilots are also available here for other harbors along the coast as far as the Italian border.

Anchorage.—Vessels are advised to anchor in Rade de Villefranche.

Caution.—A restricted area, the limits of which are shown on the chart, lies S of the harbor entrance and extends up to 1 mile seaward. Within the zone, vessels under sail and vessels under power of less than 20m in length can only transit to enter or depart the port or obtain or leave an anchorage. In addition, they must avoid the route taken by warships and power vessels of 50m or more in length.

The harbor entrance is reported to be very hard to distinguish from seaward, and vessels are advised to steer for the observatory on Mont Gros until the entrance can be identified.

Rade de Villefranche

9.65 Rade de Villefranche (43°42'N., 7°19'E.) is entered between Pointe des Sans Culottes, the SE extremity of the Mont Boron promontory, and Pointe Malalongue, the SW extremity of Cap Ferrat, 1 mile SE.

The bay extends N for 1.5 miles and offers sheltered anchorage to vessels of any size. It is used by vessels that cannot enter Nice.

The W coast of the bay is dominated by the promontory of Mont Boron. The E coast is formed by the rugged and moderately-elevated promontory of Cap Ferrat.

Cap Ferrat Light is shown from a structure, 32m high, standing close N of Pointe Malalongue. A large hotel, very prominent from seaward, stands 0.2 mile E of the light. A prominent signal station surmounts the summit of Cap Ferrat, which is 138m high and stands 0.5 mile N of Point Malalongue.

Anse de l'Espalmador, at the E side of the bay, offers shelter from E winds.

Caution.—Within the bay, sailing vessels do not have the right of way over vessels under power.

Speed is limited to 5 knots within an area which extends 1 mile S from the head of the bay.

Anchoring, fishing, and diving prohibited areas, the limits of which are shown on the chart, lie in the vicinity of Pointe des Sans Culottes; in the vicinity of the shore, close NNW of Pointe Malalongue; and SW of Cap Ferrat. They extend up to 1.5 miles seaward.

This bay may sometimes be used by sea planes fighting forest fires.

9.66 Villefranche (43°42'N., 7°19'E.) (World Port Index No. 39000), consisting of two small harbors, lies at the NW side of the bay.

Depths—Limitations.—The N harbor is protected by a breakwater and is used by yachts. It is small and has depths of only 1m.

The S harbor is protected by a breakwater and has facilities for small craft. Vessels up to 60m in length and 4m draft can be accommodated.

Aspect.—The prominent town is built in the form of an amphitheater. The Citadel, a large structure with four bastions, is very conspicuous. It stands close S of the town between the two harbors.

Pilotage.—For further information, see Nice in paragraph 9.64.

Anchorage.—Vessels generally anchor on the W side of the bay from abreast the S harbor breakwater to abreast the N end of the town; the bottom is soft mud and weed.

Caution.—Several mooring buoys are situated in the bay and may be used by vessels up to 35,000 tons.

A prohibited anchorage area, the limits of which are shown on the chart, lies in the center of the bay, 0.3 mile E of the S harbor.

Rade de Villefranche to Monaco

9.67 Presqu'île de Saint Hospice (43°41'N., 7°21'E.), 40m high, is a peninsula which extends E from the center of the E side of the Cap Ferrat promontory. It is surmounted by a chapel and a conspicuous tower

Pointe Saint Hospice, located 1.2 miles NE of the Cap Ferrat Light, is the E extremity of the peninsula.

Vessels, with local knowledge, can anchor off Anse de Scaletta, a small bay, lying 0.2 mile WNW of Pointe Saint Hospice. There are depths of 6 to 13m with a bottom of muddy sand and weed, good holding ground.

Port de Saint Jean Cap Ferrat, a small harbor, lies on the N side of the root of Presqu'île de Saint Hospice. It is protected by a breakwater, which extends NNW, and can accommodate small craft and yachts with drafts up to 4m.

Beaulieu-sur-Mer is situated on the coast, 1.2 miles NNW of Pointe Saint Hospice. This town may be identified by several prominent buildings. Two harbors are situated in this vicinity. Port des Fourmis lies close S of the town and Port de Beaulieu lies close N of it.

Port des Fourmis is very small and shallow. It is formed by two breakwaters and is used by small fishing craft and yachts. A prominent white house stands on a point located close E of the harbor.

Port de Beaulieu is enclosed by a breakwater and its entrance is protected by a detached breakwater. This harbor has extensive facilities for small craft and yachts.

Caution.—An anchoring and fishing prohibited area, the limits of which are shown on the chart, lies 0.6 mile SE of Beaulieu and is marked by buoys.

The waters off Beaulieu may sometimes be used by sea planes fighting forest fires.

9.68 Cap Roux (43°43'N., 7°21'E.) is located 0.7 mile NE of Beaulieu. Port de Silva Maris, a very small boat harbor, lies on the NE side of this cape.

Between Cap Roux and Cap d'Ail, 2.5 miles E, the coast is very high. Eze, a village with a prominent viaduct nearby, surmounts a hill which stands 0.8 mile NE of Cap Roux and is very conspicuous.

Cap d'Ail (43°43'N., 7°25'E.) is formed by a low and bare plateau and is surmounted by the ruins of a battery. A rocky bank, with depths of less than 9m, extends up to 0.2 mile S from the cape.

Port de Cap d'Ail, a small harbor basin, lies on the SW side of the area of reclaimed land, 0.7 mile SW of the main harbor. It is protected by breakwaters and used by yachts.

La Tete de Chien, 550m high, is a distinctive rock standing 0.8 mile N of the cape.

Mont Agel, a flat and level mountain, stands 3.2 miles NNE of the cape. It is 1,148m high and surmounted by several radio masts and a prominent radar scanner. Another radio mast stands 0.5 mile NE of its summit.

Monaco (43°44'N., 7°25'E.)

World Port Index No. 39025

9.69 The Principality of Monaco consists of three towns and three harbor basins. Monaco, the capital, is built on a promontory which stands on the S side of the main harbor, 1 mile NE of Cap d'Ail. La Condamine, the commercial town, is situated close W of the main harbor and Monte Carlo, the residential town, is situated close N of it.

The International Hydrographic Organization has its offices in Monte Carlo.

Winds—Weather.—Strong E to SE winds cause a heavy sea in the harbor.

Depths—Limitations.—Port de Fontvieille, another harbor basin, lies on the N side of the area of reclaimed land and is bordered on the N side by the town of Monaco. It is protected by two breakwaters and is used by small craft and yachts. Craft up to 35m in length can be handled.

Port de la Condamine, the main harbor basin, lies N of the town of Monaco. It is entered between two breakwaters which form an entrance 100m wide at the surface and 80m wide at the bottom. Depths up to 22m lie in the outer part of this basin and the quays have depths of 4 to 8.5m alongside. Vessels up to 135m in length, 20m beam, and 7m draft can be accommodated. The harbor is mainly used by pleasure craft and there is very little commercial activity.

Aspect.—The Principality of Monaco can be easily identified from seaward by its numerous buildings. These buildings give it the appearance of a whitish patch on the coast, and enable vessels, approaching from the S, to identify this part of the coast although the nearby peaks may be covered by fog.

Conspicuous landmarks include the Sports Complex standing on the reclaimed land, close NE of Port Cap d'Ail; the Oceanographic Museum, a large white building, standing on the SE side of Monaco; and the Casino of Monte Carlo, with its green cupolas and two bell towers, standing close N of the main harbor.

An aeronautical light is occasionally shown from the heliport.

Pilotage.—Pilotage is compulsory for commercial vessels entering the port. Pilots should be requested 24 hours in advance through Monaco CRS or Grasse CRS. The pilot can be contacted on VHF channel 12 and boards 0.3 mile E of the port entrance.

Regulations.—Vessels should send their ETA to the harbor-master 48 hours in advance, stating the vessel's name, dimensions, draft, flag, and duration of stay. The ETA should be confirmed 24 hours before arrival.

Anchorage.—Anchorage may be obtained E of the main harbor entrance, in a depth of 70m, or NE of the entrance, in a depth of 50m, outside the anchorage prohibited areas.

Caution.—Oceanographic data equipment lies moored 28 miles SE of Monaco along the seaward alignment of the French-Italian border. A restricted area, marked by two ODAS buoys, one of which is lighted, marks the instrumentation.

A prohibited zone, the limits of which are shown on the chart, lies adjacent to the shore between the outer breakwaters of Port Cap d'Ail and Port de Fontvielle. This zone is due to the establishment of a heliport on the reclaimed land lying between the two harbors.

A prohibited anchorage area, the limits of which are shown on the chart, extends E and S of Port de Fontvielle.

An outfall pipeline extends 0.4 mile SE from a point on the shore, 0.2 mile NE of Port Cap d'Ail.

The navigation of power boats is prohibited within a marine reserve area, the limits of which are shown on the chart, lying adjacent to the shore, 0.7 mile NE of the main harbor. Anchoring and fishing are also prohibited within this area.

An outfall pipeline extends 0.2 mile from the shore near the S end of this marine reserve area and anchoring in its vicinity is prohibited.

Entry prohibited areas, best seen on the chart, extend seaward from the breakwaters at Port de la Condamine. These areas mark works in progress (2002). The works are intended to extend the harbor E with two new breakwaters. This will create a new basin E of the existing entrance.

An anchorage prohibited area, shown on the chart, extends E from the entry prohibited areas. Two lighted mooring buoys are located at the SE limit of the area.

Monaco to Ruisseau Saint-Louis (French-Italian Border)

9.70 Pointe de la Vieille (43°45'N., 7°27'E.) is located 1.2 miles NE of Monaco and is fronted by rocks.

Baie de Roquebrune is entered between Pointe de la Vieille and Cap Martin, 1.8 miles E, and the town of Roquebrune stands close N of its head. An old prominent fort stands in the town and a large rock, surmounted by a tower, overlooks the town.

Cap Martin terminates in a low point on which stands a large hotel. A disused signal station and a water tower are situated 0.2 mile NW of the hotel and rise above the olive and pine trees which cover the cape.

During good weather, vessels can anchor, in depths of 10 to 20m, rock and weed, in the middle of the bay.

Caution.—An outfall pipeline extends 0.5 mile S from Cap Martin.

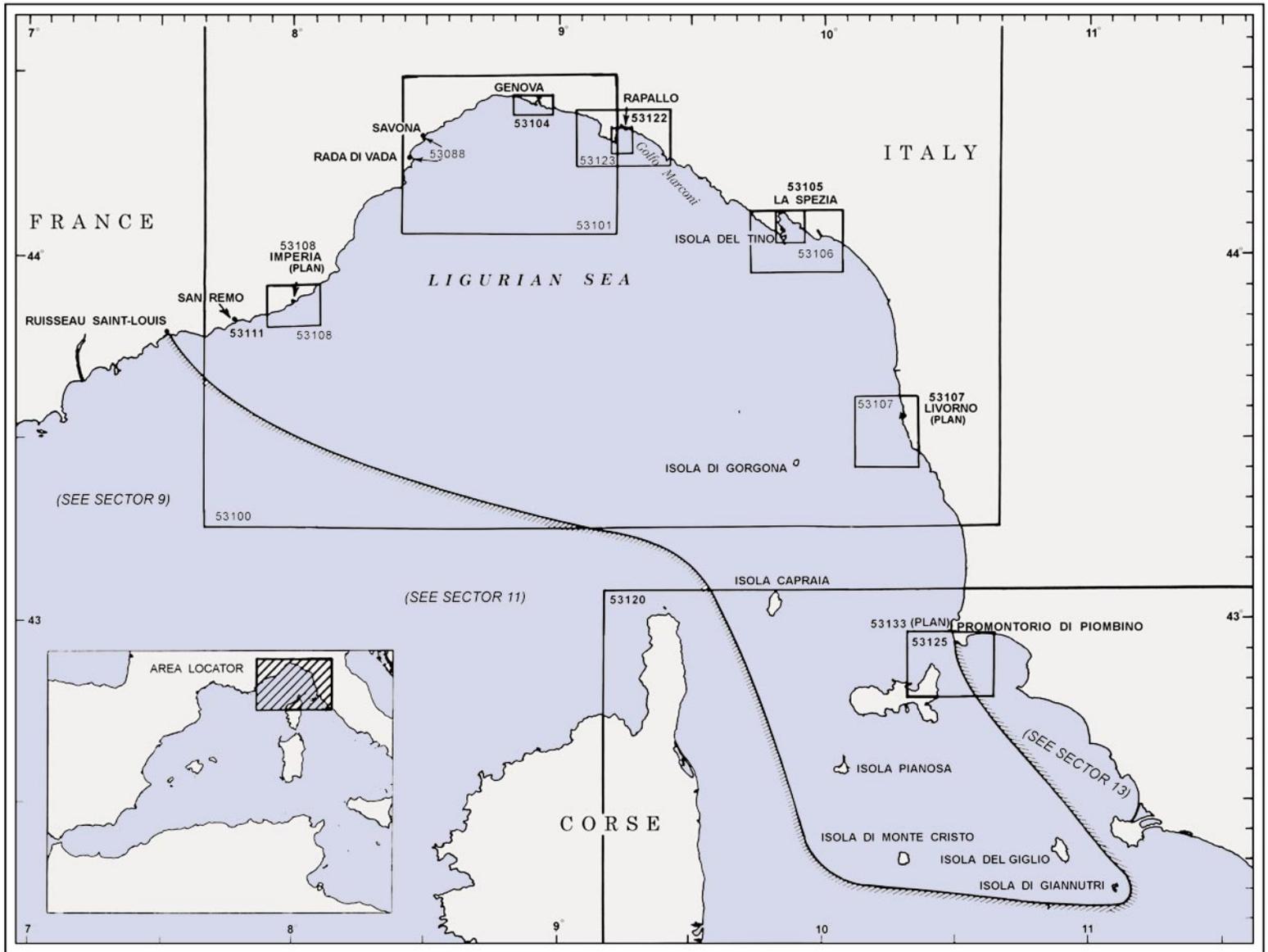
An anchoring and dredging prohibited area, the limits of which are shown on the chart, lies centered 0.3 mile E of Pointe de la Vieille and is marked by a buoy.

9.71 Menton (43°47'N., 7°31'E.) (World Port Index No. 39035), a small harbor, lies 2 miles NE of Cap Martin. It is protected by two jetties and is used by fishing boats and yachts. The town stands in an amphitheater which is situated on a small promontory at the NE end of a beach. A square tower stands on the extremity of the promontory, and the spire of a church, which is situated in the town, is prominent from seaward.

An outfall pipeline extends 0.5 mile SSE from the root of the S jetty. During good weather, vessels can anchor, in depths of 10 to 15m, fine sand and weed, about 0.2 mile E or SE of the harbor entrance. Large vessels can anchor farther out, in depths of 20 to 25m, but must leave if the winds shift to the E or S.

Port de Menton-Garavan, a small craft harbor, lies 0.5 mile NE of Port Menton. It is protected by an outer breakwater and has extensive facilities for yachts.

The border between France and Italy lies about 1 mile E of Port de Menton-Garavan in the vicinity of Ruisseau Saint-Louis, described in paragraph 10.2. It is indicated to seaward by the alignment of two beacons. The front beacon stands on the beach and the rear beacon stands close W of a bridge which spans the river.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 10 — CHART INFORMATION

SECTOR 10

ITALY—WEST COAST—RUISSEAU SAINT-LOUIS TO PROMONTORIO DI PIOMBINO (INCLUDING OFF-LYING ISLANDS)

Plan.—The coast described in this sector comprises of the N and E shores of the Ligurian Sea and Arcipelago Toscano, which lies mainly in the N part of the Tyrrhenian Sea. The descriptive sequence is NE from Ruisseau Saint-Louis (Italian-French border) to Genova, then SE and S to Promontorio di Piombino and Arcipelago Toscano.

General Remarks

10.1 Winds—Weather.—In the Ligurian Sea and Golfe di Genova, the prevailing wind is from the NW practically all year. However, locally along the coast, there is some variation due to the land configuration. In the N part of the Tyrrhenian Sea, the most prevalent winds are from the SE, W, and NW.

Fog is not common and the little that does set in usually occurs during the early morning and lifts shortly after sunrise.

Tides—Currents.—Tides, tidal currents, and surface currents within this area are generally negligible. The greatest fluctuation of water level is caused by wind action and atmospheric pressure gradients.

Regulations.—Tanker vessels of 1,600 grt and over entering or leaving Italian ports and carrying, or with uncleaned tanks which last carried, petroleum, gas, or chemical products should report to a shore station before entering Italian territorial waters off Italian ports. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Caution.—Submarines are reported to exercise frequently in the E part of the Golfe di Genova.

Ruisseau Saint-Louis (Italian-French Border) to San Remo

10.2 Ruisseau Saint-Louis (Fiume San Luigi) (43°47'N., 7°32'E.) marks the border between France and Italy. Punta Garavano, located 0.5 mile ESE of the mouth, is high, rocky, and pointed. The prominent village of Grimaldi is situated close N of the point and is surrounded by olive trees.

Capo Mortola (43°47'N., 7°33'E.), located 1.2 miles ESE of the river mouth, can be recognized by Villa Hambury, a reddish building surmounted by a prominent tower, standing 0.2 mile N of it.

A fresh water spring lies in a depth of 14m, about 300m SSW of the cape. With a calm sea, the boiling action of this spring can be seen on the surface. The spring is marked by a lighted buoy.

A rocky spit extends about 0.3 mile S from the cape and is marked by a buoy.

The cape offers moderate shelter from SW winds and vessels can anchor, in depths of 7 to 10m, sand, good holding ground, E of Villa Hambury.

Ventimiglia, a town, is situated at the mouth of the Fiume Roja, 2.7 miles E of Capo Mortola. In its W part, the belfry of

the cathedral and San Spirito Hospital, a long building, are prominent from seaward. Two prominent bridges stand within 0.4 mile of the river mouth.

During E and NE winds, good anchorage is available, in a depth of 17m, good holding ground, about 0.5 mile S of the mouth of the Fiume Roja. However, this roadstead is untenable during S winds.

Along this stretch of coast between Capo Mortola and San Remo, 9 miles ENE, the onset of winds from seaward is generally indicated by clouds along the mountains, a dark horizon, and a swell.

Capo Saint Ampeglio, located 3 miles ESE of the mouth of Fiume Roja, appears low and rises gradually to a summit which is covered with vegetation.

Bordighera, a resort, is situated in the vicinity of the cape. The old part of the town, with a prominent belfry, stands close N of the cape. The modern part of the town extends along the beach to the W of the cape. A conspicuous casino building, with a church close W of it, stands on an embankment, close within the cape. A small craft harbor, formed by two moles, lies close NE of the cape. It has a depth of 3.5m, but is subject to silting. The port monitors VHF channels 16 and 25.

Ospedaletti, a small village, is situated 2.5 miles NE Capo Saint Ampeglio. It can easily be identified by its casino, a conspicuous yellow building, which is surmounted by three cupolas.

10.3 Capo Nero (43°48'N., 7°44'E.), located 3 miles ENE of Capo Saint Ampeglio, is rounded and yellowish. Villa Anfossi, a red two-story building, stands on its summit. Numerous buildings stand close to the shore in this vicinity.

A hovercraft terminal is situated 1 mile NE of the cape. The arrival or departure of a hovercraft is indicated by a red flag displayed at the terminal and by the sounding of a siren.

Caution.—Less water than charted has been reported off the small harbor at Bordighera.

A submarine pipeline extends 0.6 mile seaward from a point on the shore, 1 mile W of Capo Saint Ampeglio.

A submarine pipeline extends ENE along the coast from a position lying 0.9 mile NE of Capo Saint Ampeglio to a position lying 0.6 mile WNW of Capo Nero. Anchoring in the vicinity of this pipeline is prohibited.

San Remo (43°49'N., 7°47'E.)

World Port Index No. 39360

10.4 The port of San Remo lies 2.5 miles ENE of Capo Nero and is a winter tourist resort.

Winds—Weather.—Winds from the E can cause a heavy surf in the harbor, making berthing difficult.

Depths—Limitations.—The harbor is protected by two breakwaters and has depths of 10 to 11m in the entrance. An extensive yacht marina is situated in the E part of the harbor. A commercial quay, situated in the W part of the harbor, is 100m

long and has a depth of 4.6m alongside. Vessels up to 100m in length and 4.3m draft can be accommodated.

Aspect.—The town is dominated by Monte Bignone, 1,298m high, standing 3 miles N of it. This hill can be recognized by its dark color and by a prominent building which surmounts a ridge close E of the peak.

The conspicuous cathedral of Madonna della Costra, surmounted by a white cupola and two low belfries, stands on the summit of a hill on which the old part of the town is situated. This cathedral is generally floodlit at night.

The new part of the town extends along the coast and includes numerous large hotels and villas. A prominent radio mast, 76m high, stands near the shore at the E end of the town.

Anchorage.—Vessels can anchor, in a depth of 12m, sand, close E of the harbor entrance. The holding ground is good, but anchorage is not advisable with strong S winds.

Directions.—The approach channel leads NW from a point 0.3 mile SE of the entrance. Vessel entering and leaving port should keep to the starboard side of the channel.

Caution.—A dangerous wreck lies about 0.4 mile E of the harbor entrance.

An outfall pipeline extends 0.7 mile seaward from a point on the shore, 0.5 mile W of the harbor entrance.

An outfall pipeline extends 0.2 mile seaward from a point on the shore, 0.5 mile E of the harbor entrance.

An outfall pipeline extends 0.5 mile seaward from a point on the shore, 0.8 mile E of the harbor entrance.

It is reported (1996) that three new breakwaters were under construction outside the port.

San Remo to Imperia

10.5 Capo Verde (Cape dell' Arma) (43°49'N., 7°50'E.), a rounded cape, is located 2.3 miles E of San Remo. It rises to a hill, 114m high, which is marked by a prominent succession of cultivated terraces. The small white sanctuary of Nostra Signora della Guardia, surrounded by trees, stands on the summit of this hill. A light is shown from a structure, 15m high, standing on the cape.

Torre dell' Arma, an ancient square tower, stands on the coast, 1 mile NE of Capo Verde. A breakwater jetty, 68m long, extends E from a point on the shore, close to this tower.

The village of Arma di Taggia extends along the coast between the tower and the mouth of the Fiumara di Taggia, 0.8 mile ENE. Numerous prominent chimneys stand in the village, and a yacht marina lies within the entrance of the river. A pleasure craft marina is reported (1989) to be under construction at a point along the shore, about 2 miles ENE of the river mouth.

10.6 Capo San Lorenzo (43°51'N., 7°58'E.), located 4.6 miles ENE of the mouth of the Fiumara di Taggia, is low and sandy. A prominent church with a belfry, which is hidden from the W by modern buildings, stands near the coast in the vicinity of the cape. A prominent sanitarium, fronted by a long veranda, stands 0.7 mile W of the cape.

The conspicuous village of Poggi, in which there are two prominent belfries, is situated on a hill, 149m high, 1.5 miles NE of the cape.

Caution.—An outfall pipeline extends 0.3 mile SE from a point on the shore, close to Torre dell' Arma.

A submarine pipeline lies about 0.5 mile offshore between Capo Verde (Cape dell' Arma) and Imperia. Anchoring within 1 mile of this pipeline is prohibited.

A dangerous wreck lies 4 miles E of Capo Verde.

Imperia (43°53'N., 8°02'E.)

World Port Index No. 39370

10.7 The port of Imperia consists of Imperia Ponente (formerly Porto Maurizio) and Imperia Levante (formerly Oneglia).

Winds—Weather.—Strong SE and E winds cause a heavy surf in the harbor and affect the water level.

Depths—Limitations.—The harbor basin at Imperia Ponente, on the W side of the port, is protected by two breakwaters. An extensive marina is situated in the N part. The commercial quay is 280m long with a depth of 6.8m alongside. Vessels up to 110m in length and 6m draft can be accommodated.

The harbor basin at Imperia Levante, on the E side of the port, is protected by two breakwaters. The commercial quays are 200m long, with a depth of 8.5m alongside, and 350m long, with a depth of 6.7m alongside. Vessels up to 10,000 dwt, 160m in length, and 8m draft can be accommodated.

Aspect.—Imperia Ponente (Porto Maurizio), a small town, is situated on a rounded hill which rises close N of Punta Chiappe, at the W side of the port. Imperia Levante (Oneglia) stands on a plain close E of the mouth of the Torrente Impero, at the E side of the port.

The prominent monastery of Santa Chiarra, with a long row of arches, stands close N of Punta Chiappe. Imperia Ponente Cathedral stands on the summit of a hill, 0.2 mile N of Punta Chiappe. It is a prominent light-colored building with a conspicuous dome flanked by towers with cupolas. This dome is hidden from the SW by other buildings.

A prominent group of chimneys is situated at the W end of Imperia Levante. A prominent town hall building, four-story with a square tower, stands midway between Imperia Ponente and Imperia Levante.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 11, 12, or 16 and generally board about 1 mile SE of the harbor entrance. Pilotage is advised for all vessels without local knowledge.

Vessels entering have priority over vessels leaving.

Regulations.—Vessels carrying or which have carried petroleum gas or chemical products are prohibited from navigating within the immediate area of the combined port.

Anchorage.—Vessels can anchor, in depths of 11 to 13m, sand, good holding ground, about 0.2 mile NE of the head of the S breakwater at Imperia di Ponente.

Caution.—A submarine pipeline extends 1.2 miles seaward from the mouth of Torrente Impero. An anchoring and fishing prohibited area, the limits of which are shown on the chart, lies in the vicinity of this pipeline.

Several trawling prohibited areas lie in the approaches to the harbor and may best be seen on the chart.

Between mid-April and the end of October, an area lying N of a line joining the heads of the inner breakwaters at both harbors is reserved for water-skiing in daylight hours. This area

is generally marked by buoys and navigating, anchoring, and fishing are prohibited within it.

Imperia to Rada di Vado

10.8 Capo Berta (43°54'N., 8°05'E.), located 1.5 miles E of the E basin at Imperia, is rounded and bare of vegetation on its lower part. When this cape is enveloped in cloud, SE winds can be expected.

Torre Alpicella stands on the summit of a hill, 267m high, 0.5 mile WSW of the cape.

Diano Marina, a village, is situated close N of Capo Berta. It can be recognized by the tall belfry of the church which has a small red dome. Diano Castello is situated 1.2 mile NW of Diano Marina. This prominent village can be identified by a white church with a large convent close S of it. Picco d'Evigno, 989m high, stands NNW of Diano Castello and is conspicuous.

Anchorage may be obtained off Diano Marina. A good berth lies, in a depth of 15m, sand, about 0.5 mile ESE of the village. Small vessels may anchor closer to the shore, in a depth of 6m.

Capo Cervo, located 2.8 miles ENE of Capo Berta, is rocky and precipitous. A prominent yellow house, with a red roof, stands on the cape and is flanked by two gray buildings.

The village of Cervo, situated close W of the cape, is easily recognized by the houses which are grouped around its church on the slope of a coastal hill. The beach fronting the village is crossed by a stone railway bridge with six arches.

The village of Rollo, with a conspicuous belfry, is situated on a hill 1 mile N of Capo Cervo and is prominent from seaward.

Caution.—An anchoring, fishing, and diving prohibited area, the limits of which are shown on the chart, is situated in the vicinity of an historic wreck lying 1.5 miles ESE of Diano Marina.

An outfall extends 0.6 mile SE from Capo Berta.

10.9 Capo Mele (43°57'N., 8°10'E.), located 2.7 miles NE of Capo Cervo, is high and rounded. A light is shown from a prominent tower with a dwelling, 25m high, standing on the cape. A signal station surmounts the summit of the cape.

Currents off this cape are strong and usually set SW. It is reported locally that they attain their greatest velocity between 1 mile and 2 miles offshore. However, at a distance of about 350m from the coast, there may be SW or even a counter-current at times. The currents are generally not dangerous and tend to set away from the coast.

Marina di Andora, a village, extends along the shore close W the cape and contains some prominent red buildings. Anchorage is available, in a depth of 13m, sand, about 0.4 mile SE of this village.

The coast between Capo Mele and Capo Santa Croce, 3.7 miles NNE, forms a wide bay. The shore is high and rocky for 1 mile and then it becomes low and sandy. The village of Laigueglia, situated 1.5 miles NNW of Capo Mele, has a prominent church with twin belfries and a white facade; only the upper part of the facade is visible from seaward.

Alassio, a resort town, extends along the beach, 1 mile S of Capo Santa Croce. Three churches stand in this town and the N and E ones have prominent belfries. The conspicuous sanctuary of Madonna Della Guardia, a large building, stands on the

crest of a ridge, 1.5 miles NW of the town. A T-headed pier projects 160m from the beach abreast the E church. It has a depth of 3m and is used by small craft in good weather.

Capo Santa Croce (44°01'N., 8°12'E.) is a steep promontory which terminates in a yellowish-colored rocky point. It is surmounted by a small gray chapel near two prominent high-rise buildings.

Caution.—A submarine pipeline extends up to 0.4 mile SE of Capo Santa Croce. Anchoring and fishing are prohibited in the vicinity of this pipeline.

10.10 Porto di Alassio (Luca Ferrari) (44°00'N., 8°10'E.), a small harbor, lies on the N side of Capo Santa Croce and is protected from the E by an outer breakwater. Its entrance, which lies between the head of the breakwater and a mole, is 80m wide. There are depths up to 4m in the harbor and extensive facilities for small craft and yachts. The port monitors VHF channels 9 and 16.

Monte Bignone, 520m high, stands 1 mile NW of Capo Santa Croce and is prominent.

Capo Lena (44°03'N., 8°14'E.), located 2.3 miles NE of Capo Santa Croce, is the SE extremity of a wide tract of low and flat land. It is rounded, sandy, and formed by deposits which are brought down by the Fiume Centa. Depths of less than 10m extend as far as 0.5 mile offshore to the S of the cape and it should be given a wide berth, especially after heavy rains and violent seas which produce changes in the depths near the mouth of the river.

Isola Gallinara lies 1 mile S of the cape. It is 90m high, rocky, and covered with vegetation. A prominent house, surmounted by a tower and surrounded by a wall, stands on the summit of this island.

Albenga, an old town, is situated 0.5 mile inland of Capo Lena. It can be recognized by several high reddish-colored towers, the cathedral, and a conspicuous high-rise building.

Anchorage may be obtained by small vessels, with local knowledge, in a depth of 6m, off the beach abreast this town.

It is reported that should the sky to the S become obscured by heavy cumulus clouds with gray strata, strong S winds may soon be expected.

Caution.—A submarine cable and a submarine pipeline (water) extend between the NW side of Isola Gallinara and the mainland to the NW. Anchoring and fishing are prohibited in the vicinity of this pipeline and cable.

Due to residual ordnance, fishing and diving are prohibited within 500m of Isola Gallinara.

Anchoring and fishing are prohibited in the vicinity of an historic wreck lying 1 mile ENE of Capo Lena.

10.11 Capo di Noli (44°12'N., 8°25'E.) is located 12.3 miles NE of Capo Lena. The coast between is dominated by a chain of high mountains. Monte Carmo, 1,390m high, stands 4 miles inland, nearly midway between the two capes.

Ceriale is situated 3 miles N of Capo Lena. This village can be recognized by its modern light-yellow buildings and a tall chimney. Castello Borelli is situated 0.5 mile NNE of Ceriale. This castle stands on the lower seaward slope of Monte Picarro, 281m high, and is surmounted by a conspicuous tall and slender tower. Borghetto Santo Spirito, situated 0.3 mile NNE of the castle, consists of modern buildings and hotels.

Six jetties, each 60m long and 160m apart, extend from the shore at Ceriale and terminate in almost circular platforms. The N platform is submerged and marked by a beacon.

Loano, a town, is situated 5 miles NNE of Capo Lena. It can be identified by the church which has a large and dark cupola surmounted by a statue. Another cupola, lighter and smaller, surmounts the monastery of Monte Carmel which stands 0.3 mile N of the town.

A fishing craft harbor fronts the town and is protected by two breakwaters.

Vessels can anchor, in a depth of 18m, about 0.5 mile SE of the town.

Pietra Ligure, another small town, is situated close N of Loano. It can be recognized by the buildings and tall cranes of a shipyard. A church standing in the NE part of the town is also prominent from seaward.

Caution.—Anchoring and fishing are prohibited in a fish haven area, the limits of which are shown on the chart, lying off Loano.

10.12 Capo di Caprazoppa (44°10'N., 8°20'E.), located 2.5 miles ENE of Pietra Ligure, is a rocky point, 82m high, which rises steeply from the sea. A prominent ruined tower, with a white villa nearby, stands on its summit. Monte Caprazoppa, 291m high, stands close W of the cape and is a good landmark because of the numerous red patches on its S slopes. In addition, a large and light-colored patch lies on its SE side and is very prominent from seaward.

The towns of Finalmarina, Finalpia, and Finalborgo form the municipality of Finale Ligure and present an almost unbroken line of buildings between Capo di Caprazoppa and Punta San Donato, 1.5 miles ENE. Punta San Donato is a small rocky projection which rises perpendicularly from the sea and is surmounted by an ancient tower.

The small harbor of Finale Ligure is formed by a breakwater, which extends NE from Punta San Donato, and has extensive facilities for yachts. The harbor monitors VHF channels 15 and 16.

Punta Crena, located close SSW of Capo di Noli, is steep, rocky, and surmounted by a prominent tower.

Capo di Noli (44°12'N., 8°25'E.), high and rocky, rises steeply from the sea. It is a yellowish-gray color and is dotted with vegetation. Monte Capo di Noli, 276m high, stands close SW of the cape and is prominent. The town of Noli is situated 0.5 mile N of the cape. La Rocca, an old castle with a high tower, stands on a steep and isolated hill, 121m high, close N of the town.

Vessels can obtain shelter from W winds in the bight lying between the cape and the town of Noli.

Spotorno, a town, is situated 2 miles N of Capo di Noli. The yellow belfry of its church rises above the houses and is prominent. A large hotel, with a large veranda, is situated close NE of the town and is prominent from seaward. An old fort stands on a hill, close NW of the town. A dangerous wreck lies close off this town.

Punta del Maiolo, located 1 mile NE of Spotorno, is wooded. It can be identified by Torre di Ere which stands on the summit of a hill, 127m high, 1.7 miles NE of the point. This prominent tower is square and has its upper part in ruins.

Isola di Bergeggi, 64m high, lies 1.2 miles SE of Punta del Maiolo. A ruined fort stands on the summit of this islet. From the S or SE, the islet is difficult to distinguish against the coastal background.

Capo di Vado (44°15'N., 8°27'E.), located 1.2 miles NNE of Punta del Maiolo, has several large stone quarries on its E side which give it a whitish appearance. Its summit, 161m high, is surmounted by the ruins of Forte di Stefano. A light is shown from a tower attached to a dwelling, 34m high, standing on the cape.

Rada di Vado (Quiliano) (44°16'N., 8°26'E.)

World Port Index No. 39420

10.13 The port of Rada di Vado consists of an open roadstead, a harbor, and an offshore pipeline terminal.

Winds—Weather.—During the winter, winds from the NE quadrant blow frequently and violently, sometimes preventing the berthing of vessels. Strong SW winds can also suspend berthing operations.

Tides—Currents.—The current is generally weak and usually sets SW with an inshore countercurrent. When this countercurrent sets in the opposite direction, it is sometimes strong enough to make berthing difficult and it also indicates that SE winds can be expected.

Depths—Limitations.—The Sarpom Offshore Terminal Berth, formed by seven mooring buoys, lies in a depth of 35m, 1.1 miles NNE of Capo di Vado. Two submarine pipelines extend WNW from the berth to the shore at the mouth of Torrente Quiliano. Tankers of 50,000 to 250,000 dwt can be handled. The largest vessel that can be accommodated is 351m in length and 316,000 dwt.

Porto di Capo di Vado, a harbor basin, is protected from the E by Molo di Sopraflutto, a main breakwater, which extends 0.4 mile NNW from the cape. This basin has 900m of total berthing space with depths of 10 to 15m alongside. There are facilities for container, ro-ro, and reefer vessels up to 60,000 dwt.

Six piers extend from the shore at Rada di Vado. Five of these piers, which are described from S to N, have commercial berthing facilities and one pier (Pontile Enel) is used only as a seawater intake.

Pier San Raffaele, a bulk cargo pier, is 450m long and has two berths. The N berth, 128m long, has a depth of 9.1m alongside and can handle vessels up to 30,000 dwt. The S berth, 160m long, has a depth of 12.5m alongside and can handle vessels up to 50,000 dwt, 220m in length, and 12.3m draft.

Pier Pontile Esso, an oil pier, is 350m long and has a depth of 9m alongside the berth at its head.

Pier Agip Agrimont, an oil pier, is 700m long and has a depth of 10m alongside the berth at its head.

Pier Industria Italiana, an oil pier, is 420m long and has a depth of 9.4m alongside the berth at its head. Vessels carrying sulfuric acid may also be handled here.

Pier Isa, an oil pier, is 435m long and has a depth of 9.4m alongside the berth at its head.

Aspect.—The port is backed by a chain of mountains which are covered with vegetation. The conspicuous sanctuary of

Madonna del Monte, with a belfry and cupola, stands on the summit of a hill, 162m high, 2.3 miles NNW of Capo di Vado.

From seaward, the inhabited districts along the shore appear as one single line of houses. The slender belfry of the cathedral standing in the center of Vado Ligure is conspicuous. Forte di Vado, situated close NW of Capo di Vado, is prominent from seaward and well preserved. A prominent church, with a belfry and a conical cupola, stands in the village of Zinola. A prominent church, with a yellow belfry and a cupola, stands at Legino.

Several lighted ranges, shown when vessels are expected, assist berthing at the piers.

Pilotage.—Pilotage is compulsory and are supplied from Savona. Pilots can be contacted on VHF channel 13 and generally board about 2 miles off the Savona harbor breakwater. Vessels should send an ETA from the last port of call then 72 hours and 24 hours in advance to Porto di Savona. Any changes in ETA greater than 12 hours should be reported. Rada di Vado harbor and terminals can be contacted by VHF.

Anchorage.—Rada di Vado offers excellent anchorage with good holding ground, but winds from the SE, although rarely violent, do raise a sea.

Vessels awaiting berthing in Rada di Vado may obtain anchorage off Savona or in a designated area, the limits of which are shown on the chart, lying centered about 2 miles NE of Capo di Vado. A pilot is required for anchoring within this designated area.

Caution.—An anchoring, fishing, and stopping prohibited area, the limits of which are shown on the chart, lies 1 mile N, NE, and E of the head of Molo di Sopralfutti.

Two outfall pipelines extend from the shore in the vicinity of the piers at Rado di Vado and may best be seen on the chart.

An area of works in progress (2000) is located between Banchina Nord and Pontile San Raffaele.

Savona (44°19'N., 8°30'E.)

World Port Index No. 39440

10.14 The port of Savona lies 3.5 miles NE of Porto Capo di Vado. The old part of the city is situated on a plain close SW of the harbor, at the foot of a hill, on which the modern part of the city is rapidly expanding.

Port of Savona Home Page

<http://www.porto.sv.it>

Winds—Weather.—Winds from the NE blow straight into the port, but do not raise a heavy sea. Winds from the E to S send in a swell, but this condition is generally of short duration. Gales from the SE are usually indicated when the water reaches the level of the first step of the Rotonda; this sometimes occurs 24 hours ahead of the storm. This is particularly advantageous, for although the stormy weather already prevails at sea, within the harbor there are usually only slight N winds, if any.

During the period of N winds prior to a gale, the peaks of the mountains are covered with elongated clouds, called Garo.

Tides—Currents.—The tides are negligible, rising only 0.3m at springs. However, the advent of strong onshore winds can increase the rise by as much as 0.6m.

The current off the port sets constantly SW with a velocity which depends on the winds and the strength of the discharges from the neighboring rivers. Its average rate is 1 knot, but under certain conditions it may attain a rate of 2 knots.



Savona

Depths—Limitations.—The harbor is protected from the SE by Nuovo Molo Frangiflutti, an outer breakwater, which extends 0.7 mile NE from Punta San Erasmo. Molo Frangiflutti, which extends NE, lies 275m NW of the outer breakwater and divides the harbor into two main parts.

Darsena Vecchia, a basin, is entered at the W end of the N part. It has 480m of total berthing space with depths of 4.6 to 8.5m alongside.

Darsena Nuova, a basin, is entered on the S side of the inner part. It has 794m of total berthing space with depths of 6.3 to 9m alongside.

Calata Paola Boselli, a quay, lies at the S side of the inner part. It has 525m of total berthing space with depths of 7.5 to 8.5m alongside.

Darsena Alto Fondale, which forms the outer part, has 450m of total berthing space with a depth of 15m alongside. Vessels up to 14m draft can be accommodated.

There are facilities for container, ro-ro, and bulk vessels.

Aspect.—Conspicuous landmarks include a chimney standing S of the harbor; the sanctuary of Madonna degli Angeli, with a wide belfry, standing by itself on the slope of a hill, close NW of the city; a high-rise building which stands in the harbor area and overlooks the city; and the silos situated on Calata Paolo Boselli.

The orange lighting of the harbor area can be seen from a great distance and greatly facilitates night approaches.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 13 and usually board between 0.5 and 1 mile from the harbor entrance.

Vessels 500 grt and less should contact the pilot station for instructions.

There is a maximum speed limit of 6 knots within the harbor. This station also supplies pilots for Rada di Vado.

Anchorage.—Anchorage, sheltered from the SW through N to the NE, is available, in depths of 12 to 22m, sand, good holding ground, in Rada di Albissola, an area lying 1.5 miles NE of the harbor entrance.

A designated anchorage area, the limits of which are shown on the chart, lies centered 1 mile S of the harbor entrance. Vessels are advised not to anchor in this area without the aid of a pilot.

Anchorage can also be taken in the designated area at Rada di Vado.

Caution.—An anchoring, stopping, and fishing prohibited area, the limits of which are shown on the chart, extends up to 0.5 mile from the harbor entrance.

An anchoring prohibited area, the limits of which are shown on the chart, extends up to 1 mile N, NE, E, and SE of the harbor entrance.

Several outfall pipelines, which may best be seen on the chart, extend from the shore NW of the harbor entrance and from the vicinity of Punta San Erasmo.

A area of reclamation works (2000) exists around the Molo Frangiflutti.

Savona to Genova

10.15 Albisola Marina (44°20'N., 8°30'E.) a small town, stands 1.5 miles NE of Savona. It is easily identified by a railroad station, a railroad bridge, and a church with a statue which are all prominent.

Punta Celle, located 1.4 miles ENE of Albissola Marina, terminates in a very steep and rocky mass which is surmounted by a pine grove.

Celle Ligure, a small town, is situated close NNE of the point. A beach at the center of the town is interrupted by a rocky elevation, almost sheer to the sea, which has arches and columns on it. A prominent hotel stands close NE of the town.

Punta dell' Omo, located 1 mile ENE of Celle Ligure, can be identified by the numerous light-colored and large buildings in its vicinity. La Crocetta, a small church with a pointed belfry, stands on the summit of a hill, 294m high, 1 mile NNW of the point and is easy to distinguish.

Varazze (44°22'N., 8°35'E.), a town, is situated 0.9 mile NE of Punta dell' Omo. The conspicuous Collegio Don Bosco, a yellow four-story building, stands at the back and overlooks the town. The white building of a shipyard is situated near the W end of the town and is prominent. Monte Grosso, 402m high, stands 1 mile NE of the town and is covered by dark green vegetation. It can be recognized by the small chapel of Guardia di Varazze, which in clear weather appears from seaward as a white point on a dark peak.

A small craft harbor, protected by a breakwater, lies close N of Punta dell' Aspera and close W of the town.

During periods of strong NE winds along the entire coast, it is reported that very weak winds, or a calm, will be experienced in the immediate vicinity of Varazze.

Vessels with local knowledge can anchor off the town, in a depth of 11m, sand.

The site of a historic wreck and its circular prohibited area is located 0.7 mile SE of Punta dell' Aspera.

10.16 Punta d'Invrea (44°20'N., 8°37'E.), located 2.4 miles NE of Varazze, can be identified by a castle, visible among the trees, standing at the top of a steep hill, close N of it.

Cogoleto, a small town, is situated 1.5 miles NE of the point and has a conspicuous white church standing on the beach at its E end. The conspicuous buildings of a hospital, some light-colored and others dark red, stand on a plateau, 193m high, 1 mile WNW of the town.

Capo Arenzano, located 1.7 miles ENE of Cogoleto, rises steeply from the sea to a flat summit on which stand numerous large buildings. A small craft harbor, the entrance of which is partially obstructed by a sand and gravel bank, lies close N of the cape.

A wreck, with a depth of 30m, lies about 1.6 miles SSE of the harbor.

The town of Arenzano, situated 0.5 mile N of the cape, is dominated by a church, with a prominent bell tower, standing on the slope of a hill behind it. Another prominent church stands close W of the town and rises high among the trees.

Punta della Chiappa is located 2 miles NE of Capo Arenzano. A pink three-story building, surmounted by a squat tower, stands on the point and aids in its identification. Scoglio Nave, a low and dark-colored rock, lies close off the point, but is difficult to distinguish against the coastal background.

Vessels can anchor, in a depth of 13m, sand and weed, E of the large church in Arenzano. The holding ground is good and small vessels can obtain shelter from W and SW winds.

Voltri (44°26'N., 8°45'E.) is situated on the E side of Torrente Cerusa, 3 miles NE of Arenzano. It forms the W end of the built up area which extends W from Genova. A prominent belfry, with a cupola, stands near the shore between Torrente Cerusa and Torrente Leiro, which divides the town in half. A prominent church, with a white and red belfry, stands on a hill, 159m high, behind the town.

Torrente Cerusa and Torrente Leiro bring down considerable deposits which form temporary banks off their mouths. These banks are usually dispersed along the coast during heavy weather and cause the beaches to extend further seaward.

Pra (44°26'N., 8°47'E.) is situated 1.5 miles E of Voltri. This town may be recognized by a distinctive building standing on the heights behind it. The building consists of two blocks, the higher one being surmounted by a cylindrical tower.

Genova (44°24'N., 8°56'E.)

World Port Index No. 39470

10.17 Genova, the principal commercial port of Italy, lies centered 19 miles NE of Savona and also has extensive ship-repair facilities.

Port of Genova Home Page

<http://www.porto.genova.it>

Winds—Weather.—The prevailing winds in summer are from the SE (Scirocco) and the strongest winds are from the SW (Libeccio). The latter seldom reach the port with any great force. However, when they do, these winds are quite violent and cause a high swell in the harbor.



Port of Genova

Winds from the N to NW, especially in winter, descend from the mountains in violent squalls and frequently bring rain, sleet, or snow. They usually reach their maximum force at a distance of 1 to 2 miles offshore where they raise heavy seas. Gales are most frequent in February and least frequent in July.

Tides—Currents.—The tides are negligible with a rise of only about 0.3m at springs. However, changes in the water level caused by winds and atmospheric pressure variations can exceed those of the tide. Winds from the S tend to raise the level and winds from the N tend to lower the level.

Tidal currents within the harbor are negligible. Outside the harbor, the current generally sets W at an average rate of 0.7 knot, increasing with SE winds to about 2 knots.

Depths—Limitations.—The Multedo Offshore Oil Terminal is situated off the W end of the port and consists of a platform and a single buoy mooring.

The single mooring platform lies in a depth of 50m, 1 mile SW of the W end of the airport at Genova. A submarine pipeline extends NE from the platform towards the shore. The berth at this platform can handle tankers up to 500,000 dwt.

The single buoy mooring (SBM) lies in a depth of 65m, about 1 mile ESE of the platform. A submarine pipeline extends NW from this buoy towards the entrance to the inner oil harbor. The berth at this buoy can handle tankers up to 270,000 dwt, 350m in length, 53m beam, and 20m draft.

The W part of the main port consists of Porto Petroli di Multedo, an inner oil terminal, the Ansaldo Shipyards, and the Cristoforo Colombo Airport. A steel works, with storage areas, is situated close E of the airport.

The E part of the port consists of numerous basins with the central part of Genova arranged like an amphitheater on the slopes of the mountains which encircle it.

The main harbor is protected from the S by a detached breakwater nearly 3 miles long. It is known as Diga Foranea, in the W part, and Molo Duca di Galliera, in the E part.

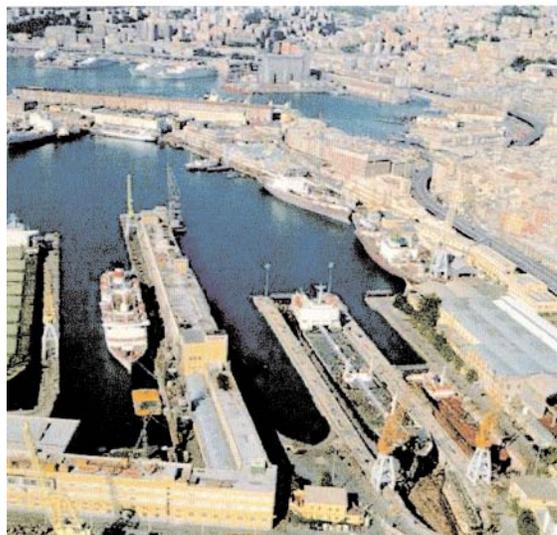
The entrance channel and turning basin at Port Petroli di Multedo have depths of 15.5m. This inner oil terminal has four piers projecting from the N side and a total of eleven berths.

Tankers up to 130,000 dwt, 259m in length, and 14m draft can be accommodated.

The W harbor entrance, which leads S of the W extremity of Diga Foranea, has a least charted depth of 13.5m. Use of this entrance is usually restricted to vessels berthing at the steel works basin. This basin, which has 500m of berthing space depths of 12.1 to 13.4m alongside, is used only by vessels with cargoes of coal or iron for the steel works. Vessels with a mast-head height exceeding 31m are not permitted to berth at the steel works.

The E and main entrance to the harbor lies between the E extremity of Mola Duca di Galliera and the head of Molo di Sottoflutto, which extends SSW.

Avamporto is entered from the E entrance and comprises the area between Molo Duca di Galliera and Molo Giano. This basin is mostly used by vessels awaiting a berth.



Genova—Bacino delle Grazie

Bacino delle Grazie lies N of Avamporto and is used mainly for repairs. Calata Olii Minerali, at the S part of the W side of this basin, has 474m of berthing space and can accommodate vessels up to 11m draft.

Porto Vecchio is entered from Bacino delle Grazie and extends W and N to the head of the port. There are depths of 7 to 11m alongside the numerous piers and quays which have facilities for general cargo, ro-ro, automobile ferries, and passenger vessels. A quay, 500m long, with a depth of 14.5m alongside, is used by container vessels.

Bacino della Lanterna lies W of Caleta Olii Minerali. This basin has depths of 12 to 13m with facilities for mineral, oil, coal, and bulk cargo. There is 1,184m of total berthing space and vessels up to 10.5m draft can be accommodated.

Bacino di Sampierdarena extends 1.2 miles WNW of Bacino della Lanterna. There are depths of 8 to 14m alongside the piers which project SSE into this basin and are used for general and bulk cargoes. In addition, a container quay, 1,200m long, has five berths, with depths of 11 to 11.6m alongside.

Aspect.—The municipality of Genova extends from Voltri to Nervi, about 13 miles ESE. The villages and small towns form an unbroken line of buildings along the coast which extend from the shore to the slopes of the mountains in the background. The center of Genova is easily recognized because its populated area extends chiefly inland. At night, the city lights are visible from a great distance to seaward.

The following landmarks are very conspicuous when approaching the harbor:

1. The sanctuary of Madonna del Gazzo (44°27'N., 8°51'E.) standing on the summit of Bric del Gazzo, 421m high. It can be recognized, even at night, due to its votive light shown on the crest of the mountain.

2. The sanctuary of Madonna della Guardia, with a cupola and steeple, standing on the summit, 804m high, of Monte Figogna, 3 miles N of Bric del Gazzo.

3. Forte Castellacio (44°26'N., 8°55'E.), with two radio towers and a massive reddish tower.

4. Forte Quezzi (44°26'N., 8°58'E.), a large structure, standing on a hill, 231m high, NE of the city.

5. Torre Quezzi, standing isolated 0.3 mile ENE of Forte Quezzi.

6. Forte Ratti (44°26'N., 9°00'E.), a long and low structure, with a round tower at its NW end.

7. Forte Richelieu, surmounted by a cupola, standing 1 mile SSW of Forte Ratti.

8. The buildings and lights of Cristoforo Colombo Airport (Genova) situated at the W end of the harbor.

9. A huge shed and six chimneys situated at the steel works to the E of the airport.

Approaching the harbor from the E, the following landmarks can also be easily identified:

1. Monte Fascie (44°25'N., 9°02'E.), 834m high, with a conspicuous white cross standing on the W side of its summit.

2. Monte Guigo, with a dense number of houses situated on its slopes, standing 1.5 miles SE of Monte Fascie.

3. Monte di San Croce, surmounted by a chapel, standing 1.5 miles ESE of Monte Guigo.

4. The steeple of Pieve Ligure standing on the SE slope of Monte di San Croce.

The fairway channel leading to the inner oil harbor is marked by lighted buoys.

Lanterna Light is shown from a structure, 76m high, standing 2 miles WNW of the E harbor entrance. A radiobeacon is situated at the light. A signal station is situated close S of the base of the light. Caution is necessary, as this light is reported to be not easily distinguished from the S and the signal station is not visible between the bearings of 010° and 024°.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 10, 12, 14, or 16 and usually board about 1 mile SE or SW of the harbor entrances or from the offshore terminals, as appropriate.

Regulations.—Vessels carrying polluting or dangerous cargo must report to the harbormaster 36 hours prior to entering Italian territorial waters.

Approach Zones, the limits of which are shown on the chart, lie in the vicinity of the approach channels leading to the E harbor entrance and to the inner oil harbor. Within these zones, vessels must keep to the starboard side of the fairway. Vessels



Genova Pilot Boat

crossing these zones must do so at right angles to the line of the channel and in the least time practicable.

A recognition and reporting zone has been established, bearing 215° and 5 miles from Lanterna Light, for vessels unable to find a berth in the harbor. Such vessels should enter the zone and report to the signal station on VHF channel 16 for instructions in order to determine their ETA.

In order to establish priorities between vessels leaving or entering port and aircraft taking off or landing at Cristoforo Colombo Airport a regulated zone has been established in an area connected by the following positions:

- a. 44°25.7'N, 8°45.2'E.
- b. 44°22.9'N, 8°43.7'E.
- c. 44°20.6'N, 8°55.0'E.
- d. 44°23.4'N, 8°56.3'E.

Additionally, two way points have been established in the waters leading to the approach channel to the petrochemical harbor (Multedo Oil Port). These points are designated T1 and T2 and are located, as follows:

1. T1—44°25.2'N, 8°49.5'E.
2. T2—44°24.7'N, 8°48.2'E.

Within the regulated area vessels entering the port have priority over aircraft movements. Vessels leaving port must give way to aircraft movements except in cases where the departing vessel has entered the approach channel and has already passed way point T1.

Vessels having an air draft of more than 48m must report to the Harbor Pilots Control Tower and to the Operations Room in the Harbormaster's Office prior to entering the regulated area or before moving within the area.

When transiting the approach channel to the oil harbor, all oil and gas tankers regardless of air draft and all other vessels with an air draft of more than 14m must make the same reports described above.

Vessels transiting the approach channel to the oil harbor are prohibited from stopping between the rubble breakwater and the head of the airport. Vessels using the Pra-Voltri Canale di Calma must maintain a distance of 50m to 150m from the Digea Foranea of Porto di Voltri.

Anchorage.—Anchorage may be obtained off Genova in the following designated areas, the limits of which are shown on the chart:

1. Zone Alpha (44°23'N., 8°45'E.)—For vessels proceeding to or from Genova-Voltri.

2. Zone Bravo (44°24'N., 8°50'E.)—For small tankers proceeding to or from Genova-Multedo.

3. Zone Charlie (44°22'N., 8°54'E.) and Zone Delta (44°21'N., 9°02'E.)—For vessels proceeding to or from Port Vecchio and Sampierdarena.

4. Zone Echo (44°22.6'N., 8°51.5'E.), Zone Foxtrot (44°22.6'N., 8°52.5'E.), and Zone Golf (44°21.7'N., 8°52.2'E.)—For tankers over 40,000 grt proceeding to or from Genova-Multedo.

5. Zone Hotel (44°23.3'N., 8°51.2'E.) and Zone Lima (44°23.4'N., 5°52.0'E.)—For tankers proceeding to or from Genova-Multedo between 20,000 and 40,000 grt.

Caution.—Anchoring, stopping, and fishing prohibited areas, the limits of which are indicated on the chart, lie in the vicinity of the harbor entrance channels.

The main harbor has no free-swinging anchorage mooring berths. In addition to numerous alternative Mediterranean mooring berths at quays and moleheads normally used for alongside berthing, there are a considerable number of fixed moorings suitable for lighterage operations in connection with ocean-going vessels.

Numerous unlighted mooring and warping buoys are situated throughout the harbor area.

A prohibited area, the limits of which are shown on the chart, has been established in the vicinity of the offshore terminals. The passage of unauthorized vessels through this area is prohibited.

The inshore area between Voltri and Pra is being reclaimed and developed as a large container and ro-ro terminal with a quay, 1,100m long, and depths up to 15m alongside.

A mole, the head of which is marked by a light, extends 0.3 mile SSE from an area of reclaimed land lying 0.9 mile E of Voltri. A main detached breakwater, about 1.3 miles long, is under construction in this vicinity. It extends SW and WNW from a position 0.7 mile WNW of the W extremity of the airport at Genova.

Many high-speed ferries operate in the harbor area.

Genova to Golfo Marconi

10.18 Nervi (44°23'N., 9°02'E.), a tourist resort, is situated 4.8 miles ESE of the E entrance to Genova and can be identified by its numerous large hotels and villas. A prominent building, with a small belfry and a cupola, stands on the W side of this town.

The coast between Nervi and Camogli, 5 miles SE, is rocky, indented, and drops steeply to the sea. The town of Bogliasco, situated 1.5 miles E of Nervi, can be identified by a high masonry viaduct. This viaduct has several arches and crosses Torrente del Poggio, a stream in the middle of the town.

Sori, a small town, is situated 1.5 miles ESE of Bogliasco. It can be identified by a concrete railroad viaduct, which crosses the mouth of Torrente di Sori, and by a large highway bridge standing close N of the viaduct. The belfry of a church, which stands close W of the viaduct, is also prominent.

Between Sori and Recco, 1.7 miles SE, there are numerous large houses and villas. The light-colored belfry of Sant' Apollinare stands at a height of 266m, 0.5 mile E of Sori. The

larger belfry of Polanesi stands at a height of 257m, 0.5 mile ESE of the former belfry. Both are very prominent from seaward.

The small church of Sant' Uberto, with no belfry, stands at a height of 480m, 0.5 mile N of the belfry of Polanesi. A high column, surmounted by a statue of Christ, stands close to it.

Camogli (44°21'N., 9°09'E.), an ancient town, is built on the slopes of Monte Esoli and can be easily recognized by its tall houses, one above the other. The prominent sanctuary of Caravaggio, an isolated and low building with a small stumpy belfry, stands on a summit, 615m high, 2 miles NE of the town. A small craft harbor fronts the town and is protected by a breakwater. Vessels, with local knowledge, can anchor off the town, in depths of 16 to 17m, sand, good holding ground, close SW of the head of the breakwater.

Caution.—Several outfall pipelines extend up to 1 mile seaward between Nervi and Camogli and may best be seen on the chart.

An area of foul ground, the limits of which are shown on the chart, lies about 1 mile SW of Camogli.

10.19 Promontorio di Portofino (44°19'N., 9°11'E.) is the most prominent of the numerous coastal projections on the NW coast of Italy. Its sides are high, rugged, rocky, and generally steep-to. Monte di Portofino, 610m high, stands in the SW part of the promontory and is surmounted by a disused signal station. Two radio masts stand 0.3 mile NNE of the summit and are prominent from the E and W, but are obscured from the S.

The village of San Rocco, with a prominent belfry surmounted by a black cupola, stands on a hill, 240m high, 1 mile S of Camogli and is visible from the W.

Punta della Chiappa, located 1.7 miles S of Camogli, forms the SW extremity of the promontory. It is a low, bare, and dark point which is marked by a beacon. Monte Tocco, 427m high, stands 0.5 mile E of the point. Its summit is surmounted by a disused signal station and a signal mast.

The coast between Punta della Chiappa and Punta di Portofino, 3.5 miles ESE, is high, rocky, and steep-to. Cala dell' Oro and Seno di San Fruttuoso, two small bays, lie 1 mile and 1.3 miles ESE, respectively, of Punta della Chiappa and are separated by a sharp ridge. This ridge terminates in a small rocky promontory, 103m high, on which stands an old tower.

Punta Portofino (44°18'N., 9°13'E.), the SE extremity of the promontory, is bare, rocky, and bold. It rises to a hill, 100m high, on which stand two old forts. A pillar stands at the extremity of the point. A light is shown from a structure, 12m high, standing close within the extremity of the point. A prominent statue of the Madonna stands on the slope of the hill, near the light.

Golfo Marconi

10.20 Golfo Marconi (44°18'N., 9°15'E.) is entered between Punta di Portofino and Chiavari, a town, 4.5 miles ENE. It extends 2.7 miles NNW to Rapello, at the head, and is considered to be the most picturesque in the Italian rieras. The W side of the gulf, which has many small bays, offers good shelter from winds from the S through N. However, the NE side of the gulf is exposed to S and SW winds.

During the winter, winds from the NW prevail and often blow with great violence. An exceptionally clear atmosphere with serene skies and sparse high clouds above the mountains around Rapallo and Chiavari usually precedes strong NE or NNE winds. In summer, winds from the S prevail and rarely attain great force. When NNW winds, locally called “Provenza,” blow violently, a change of weather can be expected with probable winds from the SE.

The most conspicuous landmarks within the gulf include Convento di Cervara, a long and isolated building, standing 1 mile NNW of Punta di Portofino; Monte Rosa, 612m high, which stands 1.7 miles NE of the head of the gulf and is surmounted by the sanctuary of N. S. di Montallegro; the isolated church of Sant’ Ambroglio, with a white belfry, standing halfway up a hill, between Rapallo and Zoagli; and Colonia Marina di Chivari, a red and white horizontally banded high building, standing near the coast, 0.8 mile WNW of Chiavari.

Caution.—Tankers that have carried or those carrying petroleum or chemical and gas products in bulk are prohibited from navigating within an area extending 6 miles offshore between Punta Carrega on Promontorio di Portofino (44°18'N., 9°11'E.) and **Punta Baffe** (44°14'N., 9°27'E.). From October to April, tankers of 650 grt or less are permitted to close the coast to 3 miles within this area.

10.21 Portofino (44°18'N., 9°13'E.), a small craft harbor, is entered between Punta del Coppo, located 0.3 mile NW of Punta di Portofino, and the coast, 0.1 mile NW. It is protected from all but NE winds, but even these cause little sea. The town is a tourist resort and contains several prominent hotels and villas.

Punta del Pedale is located 1.4 miles N of Punta di Portofino. Vessels can anchor, in depths off 20 to 30m, mud, off a bight lying S of this point.

Caution.—An outfall pipeline extends 1.1 miles ESE from a point on the shore, close N of Punta del Pedale. Anchoring and fishing with nets are prohibited within a zone of 200m to 400m centered on the pipeline. The 200m zone extends from the shore to the first 500m of the pipeline. The 400m area encompasses the remainder of the pipeline.

Several dangerous wrecks lie between Punta di Portofino and Punta di Pedale and may best be seen on the chart.

An outfall pipeline extends 0.2 mile SE from the N shore in the approaches to Portofino and may best be seen on the chart.

The Portofino Marine Nature Reserve has been established as a restricted area. The area extends 7 miles along the coastline from **Punta Cannette** (44°20.8'N., 9°09.3'E.), rounds **Punta della Chiappa** (44°19.3'N., 9°08.7'E.) and **Punta di Portofino** (44°17.8'N., 9°13.2'E.), and continues N to **Punta del Pedale** (44°19.2'N., 9°13.0'E.). Anchoring, fishing, and unauthorized entry or mooring are prohibited within this area.

10.22 Santa Margherita Ligure (44°20'N., 9°13'E.) (World Port Index No. 39475), a small harbor, lies in the SW corner of a small bay, 2 miles N of Punta di Portofino. It fronts the city and is protected by a mole which extends 0.2 mile NE from the coast. The harbor can be contacted on VHF channel 11 or 16 and is accessible to small vessels up to 50m in length and 4.6m draft, but strong winds from SE to SW cause a considerable sea

in the vicinity of the berths. Vessels can anchor, in depths of 14 to 15m, sand, fair holding ground, ESE of the head of the mole.

The city appears to be divided into two parts by an old fortress which stands 0.5 mile WSW of Punta Pagana, the NE entrance point of the bay. A church, with a white facade and a tall belfry, stands in the S part of the city and is prominent from seaward. Another prominent church, with twin belfries and a black cupola, stands 0.2 mile N of it.

Villa Spinola, surmounted by a square tower, stands close W of Punta Pagana and The Imperial Hotel, a large building, stands on the wooded slopes, close E of the head of the bay.

The city, a resort, is brightly lighted at night and is visible from a considerable distance to seaward.

Rapallo (44°21'N., 9°14'E.), a tourist resort, lies at the head of a small bay in the N part of the gulf. A small harbor, protected by moles, lies close N of Punta Langan, the SW entrance point of the bay. It can be contacted by VHF and consists of a small craft basin and an extensive yacht basin.

The town can be recognized by the casino, a red building, standing close NE of Punta Langan; the Excelsior Hotel, a large building, standing close NW of the casino; and the cathedral standing in the center of the town, 0.5 mile N of Punta Pagana. In addition, the clock tower at St. Michele church, situated 0.2 mile SW of Punta Langan, has been reported to be a good landmark and is illuminated at night.

Anchorage off Rapallo is very exposed and should only be used during good weather. Large vessels may anchor, in depths of 18 to 30m, mud, good holding ground, S of the harbor.

Caution.—An outfall pipeline extends 1.2 miles SSE from the head of the bay. Anchoring and fishing are prohibited in the vicinity of this pipeline.

10.23 San Pantaleo (44°20'N., 9°15'E.), a small town, is located 1.2 miles SE of Rapallo and can be identified by a prominent belfry. Zoagli, a village, is situated 0.5 mile SE of the town. A prominent railroad viaduct, with seven arches, crosses a river, close W of this village.

Monte Anchetta, 550m high, stands 1 mile ENE of Zoagli and overlooks this part of the coast. The belfry of Rovereto church can be seen above a triangular patch on the slope of this mountain.

Punta Chiappe is located 1.5 miles SE of Zoagli. The prominent chapel of Madonna della Grazie, a long and low building with a small tower, stands 0.3 mile ENE of this point.

10.24 Chiavari (44°19'N., 9°19'E.), an industrial town as well as a resort, is situated on the NW side of the mouth of Torrente Entella. The town is fronted by a small craft harbor which is enclosed by moles. An ancient fortress stands in the center of the town and a prominent convent, with a black cupola surmounted by a small copper dome, is situated near the shore, close E of the harbor.

Lavagna, a small town, stands on the SE side of the mouth of Torrente Entella and appears to be part of Chiavari when seen from seaward. It is dominated by the church of San Stefano, which has a black cupola and a white facade, and is flanked by twin belfries. The town is fronted by an extensive yacht harbor which is protected by two moles. Torre de Controllo, a building with a glass top, stands near the harbor. It is 19m high and very conspicuous.

Caution.—An area of sunken barges, the limits of which are shown on the chart, lies centered 0.5 mile SW of Zoagli.

An outfall pipeline extends 0.9 mile SW from a point on the shore, 0.2 mile E of Punta Chiappe.

A marine farm, marked by buoys, is located 0.5 mile SSE of Lavagna.

Golfo Marconi to Golfo della Spezia

10.25 Punta di Sestri (44°16'N., 9°23'E.), located 3.2 miles SE of Chiavari, is not easily discernible from the NW against the rocky background. This point is the NW extremity of a short, rounded, and wooded peninsula which is joined to the coast by a narrow isthmus. Torre Marconi, a massive and cylindrical tower, stands on the summit of the peninsula which is 40m high. It is visible only from the S and W, being hidden by trees from other directions.

Sestri Levante (44°16'N., 9°23'E.) (World Port Index No. 39480), a town, is situated partly on the peninsula and partly on a small plain at the mouth of Torrente Gromolo. The belfry of San Stefano church, a red building, which stands out against the wooded background, and the belfry of San Bernardo, which is small and pointed, are situated 1 mile ENE and 1.5 miles NE, respectively, of Punta di Sestri.

A harbor, used by small craft, is formed by a mole, quayed on its E side, which extends 265m NNW and N from Punta di Sestri. Anchorage is available, in depths of 11 to 13m, mud, close NW of the head of the mole. Small vessels can anchor closer inshore, in a depth of 9m, E of the mole. Local knowledge is advised as the depths in this vicinity are constantly changing because of deposits brought down by Torrente Gromolo.

Punta Manara, located 1.5 miles SE of Punta di Sestri, is bold and cliffy. It rises close inland to the summit of Monte Castello, which is 265m high and surmounted by a prominent building.

Vessels can anchor in the bay lying E of Punta Manara. There is good holding ground, in a depth of 9m, sand, about 0.2 mile from the head of the bay clear of the charted outfall.

Punta Baffe is located 1.8 miles ESE of Punta Manara. A prominent tower stands on the slope of a hill, 0.3 mile N of this point. Monte Pu, 1,001m high, stands 5 miles NE of the point and can be identified by its bare, rounded, and light-colored summit which rises above the densely wooded slopes.

10.26 Moneglia (44°14'N., 9°29'E.), a village, is situated on the NE shore of a small bay, 2 miles E of Punta Baffe. The prominent church of Santa Croce, with a slender belfry, stands at its SE end. A railway crosses two prominent viaducts, with several arches, which stand in the vicinity of the village.

Scoglio Pietra Stella, a rocky patch, lies about 200m offshore, S of Santa Croce church. It is reported to be awash in places.

The village of Lemeglio is situated on a hill, 0.5 mile SE of Moneglia; its church and steeple are very prominent from seaward.

Monte Pastorelli, 149m high, is the summit of a rounded headland located 8 miles ESE of Punta Manara. This headland terminates in Punta di Monte Grosso, at the W side, and in

Punta della Madonna, at the S side. The latter point is bare, rocky, and surmounted by a small chapel with an arched porch.

Bonassola, a village, stands at the head of a small bay which is entered between Punta della Madonna and Punta Levante, 0.5 mile ESE. The latter point is formed by the W extremity of a hill, 196m high. The village is situated between two streams and is fronted by a tall railway embankment.

Caution.—Several wrecks, some dangerous, lie off this stretch of coast and may best be seen on the chart.

A wreck lies about 1 mile off the coast at Bonassola. It is sunk in depths of 40 to 44m and is reported to contain ammunition.

10.27 Levante (44°10'N., 9°37'E.), an ancient town, is situated at the head of a bay, 1.5 miles SE of Bonassola. It is fronted by a sandy beach and backed by hills in the form of an amphitheater. La Torre, a battlement structure, stands on a steep rocky eminence, near the SE end of the beach. Casino Municipale, a prominent building with porticos at its base, is situated on the beach.

Secca del Peria, a rocky and shallow shoal area, lies about 0.2 mile offshore, 0.5 mile W of Levante. Depths of 10 to 14m lie in the passage between this shoal area and the shore.

A small craft harbor, protected by two moles, lies at the N side of the bay.

Punta del Mesco (44°08'N., 9°38'E.) is covered by thick vegetation and is faced with bare, rugged cliffs. A disused signal station stands 0.3 mile N of the point.

The area between Punta del Mesco and Capo di Monte Negro, 5 miles SE, is known as Le Cinq Terre and is noted for its wine production. It includes, from N to S, the villages of Monterosso al Mare, Vernazza, Corniglia, Manarola, and Riomaggiore. Several small private boat harbors lie within the bays along this stretch of the coast.

Monterosso al Mare is situated at the head of a bay which is entered between Punta del Mesco and Punta Corone, 1.2 miles ENE. This latter point is rocky and surmounted by a white pillar. The village stands on a rocky spur which divides a wide beach into two parts. A white villa, surmounted by a small tower, stands on a small rocky spur at the W end of the beach. Vessels can anchor, in a depth of 20m, off the W part of the beach.

The white church and belfry of San Bernardino, standing 3 miles E of Punta del Mesco, are prominent. Vernazza is situated along the shores of a cove, 1.5 miles SE of Monterosso al Mare.

The village of Corniglia is situated on the top of a promontory, 96m high, which has steep and rugged sides. It can be recognized by a prominent white and spired belfry. Manarola is situated on a rocky point, and Riomaggiore is situated at the mouth of a narrow valley.

Capo di Monte Negro can be easily recognized by the sanctuary of Madonna di Monte Negro, with its prominent belfry and cupola, standing 0.5 mile NE of its seaward extremity.

10.28 Scoglio FEMALE (44°04'N., 9°47'E.), a conical rock, lies 230m offshore, 2.3 miles SE of Capo di Monte Negro. A white cross stands on its summit and a red pillar stands at its foot. This rock is connected to the coast by a rocky ridge. It is

darker than the coast behind it and is easily recognizable when seen from the NW or SE.

Punta del Persico, located 1 mile WSW of Scoglio Ferale, is reddish-colored. A prominent light-colored house, with a tower, stands halfway up the hill behind this point.

Between Punta del Persico and Punta San Pietro, 1.7 miles SE, the rocky coast rises nearly vertically to a considerable height. Punta della Castellana, 510m high, stands 0.7 mile E of Punta del Persico and is surmounted by a fort. Monte Muzzerone, 327m high, stands 0.6 mile NNW of Punta San Pietro and is surmounted by a fort. An old prominent church is situated on Punta San Pietro and the ruins of a large tower stand on higher ground behind it.

10.29 Isola Palmaria (44°02'N., 9°51'E.), 204m high, is formed by rock which appears to consist of wide parallel strata, alternately light and dark-colored. A prominent signal station, with a lattice mast close by, stands on the summit of the island.

Vessels entering or leaving Golfo della Spezia are required to identify themselves by VHF to this signal station.

The narrow passage leading between Punta San Pietro and Isola Palmaria is navigable only by small craft.

Isola del Tino (44°01'N., 9°51'E.) lies close S of Isola Palmaria and is covered on its E side by a dark and thickly-wooded area. Its W side is composed of light-colored perpendicular cliffs. A light is shown from a structure, 24m high, standing on the summit of the island. A racon is situated at the light.

Il Tinetto, 18m high, lies close S of Isola del Tino and is connected to it by a ridge of rocks, some of which are above-water. Dangers extend up to 0.1 mile S of Il Tinetto.

The narrow passage between Isola del Tino and Isola Palmaria has a depth of 27m and can be easily navigated, but after strong winds, the current in this passage is appreciable. Vessels using this passage must reduce speed to not more than 6 knots.

Caution.—Anchoring, fishing, and dumping prohibited areas, the limits of which are shown on the chart, extend between the N side of the Isola del Tino and the S side of Isola Palmaria, and between the NW side of Isola Palmaria and the mainland.

Tanker lightening operations are sometimes carried out about 1.5 miles S of Isola del Tino. Vessels engaged in these operations may be at anchor or otherwise unable to maneuver and should be given a wide berth.

A circular prohibited area is located in the Seno di Fossola as shown on the chart.

Golfo della Spezia

10.30 Golfo della Spezia, which opens between Isola del Tino and Capo Corvo, 5 miles E, extends 5.5 miles NW to the port of La Spezia at its head. The gulf is safe, spacious, and is surrounded by mountains.

Winds—Weather.—In the gulf, winds from the SE and SW quadrants prevail in summer. Winds from the NE and N prevail in winter. None of these winds are dangerous.

The SE winds sometimes blow violently in winter and are usually accompanied by rain. They may be forecast by clouds,

which cover the summit of Punta della Castellana, and by a slight rise of water in the gulf.

When there are fresh W winds out at sea, heavy squalls may come down the gorges between the surrounding mountains on the W side of the gulf.

Tides—Currents.—Tidal rise at La Spezia is less than 0.5m at springs.

The current in the gulf normally sets N along the E shore and S along the W shore, but at times it is considerably influenced by the prevailing winds.

Aspect.—Capo Corvo, the E entrance point of the gulf, is formed by the S extremity of a rocky spur. Several rocks front the cape and are marked by a beacon. Monte Rocchetta, 412m high, is prominent and rises on the E side of the gulf, 2.5 miles NW of the cape. Tellaro, a prominent village, is situated on a rocky point, 2 miles NW of the cape.

Punta Santa Teresa, marked by a light, is located 2.5 miles NW of Tellaro.

Torre Scuola, marked by a light, lies close off the NE extremity of Isola Palmaria. It is square with a prominent triangulation column at the top and the S side is partly demolished.

Baia di Portovenete is entered between Torre Scuola and Punta della Castagna, 0.6 mile NNW. Portovenere, situated near the head of the bay, has a prominent church. The town is fronted by a small craft harbor which is protected by two moles.

Punta Santa Maria, marked by a light, is located 0.3 mile N of Punta della Castagna.

When approaching the gulf, conspicuous landmarks, in addition to those previously described, include the belfry of the village of Montemarcello which stands on a hill, 0.5 mile N of Capo Corvo; and Monte Murlo, 360m high, which stands 1.2 miles NNW of Capo Corvo, and is surmounted by a light-colored two-story building.

Regulations.—Due to the presence of danger areas, submarine exercise areas, exercise mine buoys, and torpedo launching zones, three mandatory traffic routes, which are indicated on the chart, are to be used when proceeding to and from Rada di La Spezia, the inner part of Golfo della Spezia, as follows:

1. **East Route.**—About 275m wide. Reserved for vessels approaching from or headed S which are less than 500 grt and with a draft of less than 5m, and for small vessels.
2. **Middle Route.**—About 500m wide. Used by vessels entering the port. This route is compulsory for vessels whose gross tonnage exceeds 500 tons and draft is greater than 5m.
3. **West Route.**—About 500m wide. Used by vessels leaving the port. The route is compulsory for all vessels regardless of tonnage.

Anchorage.—Baia di Portovenere offers anchorage, in 10 to 12m, mud, good holding ground, sheltered from the W. Seas from the SW that enter the bay between Isola Palmaria and the mainland are diminished by the shallow bar which lies across the E end of this passage.

Large vessels should anchor, in a depth of 12m, about 0.3 mile NW of Torre Scuola.

Caution.—Several shellfish havens lie close to the shores of the gulf and associated bays, and may best be seen on the chart.

A prohibited area lies within the bay entered between Punta della Castagna and Punta Santa Maria.

Rada di La Spezia (44°06'N., 9°50'E.)

World Port Index No. 39520

10.31 Rada di La Spezia, the inner part of Golfo della Spezia, is protected by Diga Foranea, a detached breakwater, and forms the extensive harbor of La Spezia. The port has commercial facilities, but is also a main naval base with a large naval shipyard situated in its NW part.

Port of Rada de La Spezia Home Page<http://www.porto.la-spezia.it>

Depths—Limitations.—Diga Foranea, the detached breakwater, is 1.2 miles long and lies between Punta Santa Teresa and Punta Santa Maria, with an entrance at either end. The surface of this breakwater along its central part is occasionally awash.

Passo di Levante, the NE entrance, is 228m wide and has a depth of 11m.

Passo de Ponente, the SW and main entrance channel, is 410m wide. A fairway channel, dredged to a depth of 13.9m, leads through this entrance and extends to the commercial facilities in the N part of the harbor.

Darsena Duca degli Abruzzi, which gives access to the naval dockyard, is enclosed by three moles. A channel, with a controlling depth of 11.2m, leads NW into this basin and is indicated by a lighted range.

The main commercial facilities include the following:

1. Molo Garibaldi Pier, which has 508m of total berthing space with depths of 7.5 to 8.5m alongside at its W side and 350m of berthing space, with a depth of 11m alongside, at its E side.
2. Malaspina Quay, 196m long, with a depth of 6.1m alongside.
3. Arton Quay, 300m long, with depths of 9.5 to 11m alongside.
4. Paita Quay, which has 535m of total berthing space with depths of 7.3 to 11m alongside.
5. Fornelli Pier (La Spezia Container Terminal), which has 1,138m of total berthing space, with depths of 10 to 13m alongside.
6. Messina Ro-Ro Terminal and Tarros Ro-Ro Terminal, which have depths of 8.5m and 6.7m alongside, respectively.
7. Molo Garibaldi Oil Jetty, which consists of a dolphin berth, 244m long, with a depth of 13.9m alongside.
8. Panigaglia (SNAM) Gas Jetty lies at the SW side of the harbor within a restricted area. It is 520m long and provides a berth, 241m long, with a depth of 10.4m alongside.
9. ENEL Oil and Coal Terminal Jetty is situated at the NE side of the harbor and has a berth, 260m long, with a depth of 13m alongside. It can handle vessels up to 84,150 grt, 255m in length, and 12.8m draft.
10. Arcola Offshore Oil Terminal, consisting of five mooring buoys, lies in the E part of the harbor and is surrounded by a restricted area. It can handle vessels up to 50,000 dwt, with a maximum length of 230m and a maximum draft of 12.8m. Caution is necessary since some of the

mooring buoys are not lighted and sometimes they may be partially submerged

There are facilities for tanker, bulk, passenger, general cargo, ro-ro, and gas vessels in the harbor. Generally, vessels are only restricted in size by their drafts.

In addition, the port has extensive repair facilities including six drydocks and a floating dock which can handle vessels up to 110,000 dwt.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 14 or 16 and generally board about 1 mile seaward of the main breakwater near Torre Scuola. Vessels should send an ETA 72 hours, 48 hours, and 24 hours in advance.

When approaching the gulf, vessels should report by VHF to the signal station situated on Isola Palmaria.

Signals.—When torpedo firing practice is taking place, the following signals are shown from a structure standing on Punta della Castagna:

1. By day—A red flag.
2. By night—Three vertical fixed red lights.

When gunnery practice is in progress, the following signals are shown from the structure on Punta della Castagna and the signal station on Isola Palmaria:

1. By day—A cone, point up; a ball; and a cone, point down, disposed vertically.
2. By night—Three vertical fixed red lights.

Tanker vessels carrying products considered dangerous and vessels carrying out bunkering operations must display the following signals:

1. By day—Flag B of the International Code of Signals.
2. By night—A red light visible all around.

Regulations.—Vessels must approach the port using one of the three mandatory traffic routes (see Regulations in Golfo della Spezia in paragraph 10.30).

Vessels in the harbor must not exceed a speed of 6 knots.

Parts of the inner gulf may be used by seaplanes. Vessels of any kind, which happen to be in the vicinity of seaplanes taking off or landing, must come to a stop and wait until the operation is completed; any interference with the planes must be avoided.

Vessels entering Rada di La Spezia, Porto Mercantile, and Darsena Duca degli Abruzzi must give way to vessels leaving.

Vessels with drafts of more than 9.4m have precedence in the dredged fairway channel which leads to the petroleum jetty at the SE side of Molo Garibaldi, provided Flag D of the International Code is displayed by day or a red, white, and another red light are shown vertically at night.

Commercial vessels must not secure to any of the mooring buoys in the harbor without permission of the authorities.

Ships may not be dismantled in the anchorage areas. An appropriate berth and permission from local authorities is required for such activity.

Anchorage.—Anchorage can be taken in the harbor under the directions of the pilot. Vessels can anchor, in 6 to 12m, thick mud, good holding ground. The surrounding mountains and the long detached breakwater give the roadstead excellent protection from the sea and weather.

Ten designated anchor berths have been established in the inner harbor. Berth I2 is reserved for use by methane tankers for limited periods of time to a maximum of 6 hours. Berth I1

and Berth I3 are reserved for use by naval vessels. Anchorage I8 is for use by tankers engaged in tank work or for safety reasons.

There are a number of mooring buoys, which provide free-swinging berths, situated in the inner part of the gulf, but they are reserved mainly for naval vessels.

Vessels up to 10m draft are advised to anchor about 1 mile SE of the SW end of the detached breakwater. Deep-draft vessels should anchor about 1 mile E of Isola del Tino.

Fourteen anchor berths have been established in the outer roadstead. Anchorage E9 is reserved for vessels carrying bulk liquid, gas or other dangerous cargo.

Anchorage E3 and Anchorage E4 are restricted to vessels with a length not greater than 130m, with a maximum stay of 48 hours.

Anchorage is prohibited along the range line leading into Darsena Duca degli Abruzzi.

Caution.—A torpedo firing range, marked by buoys moored along the firing line, extends 8.5 miles in a 112° direction from Punta della Castagna. A gunnery firing range extends 14 miles between the bearings of 133° and 150° from Punta della Castagna.

Submarine power cables lie in the vicinity of both harbor entrances and may best be seen on the chart.

The depths in the dredged fairway channels are constantly changing and the authorities should be contacted for the latest information.

Several shellfish haven areas lie along the shores of the inner part of the gulf and may best be seen on the chart.

Golfo della Spezia to Livorno

10.32 Punta Bianca (44°02'N., 9°59'E.), located 0.5 mile E of Capo Corvo, can be identified by a prominent whitish patch on its lower part. Castello Fabricotti, a prominent reddish building, is situated on the E slope of Monte Marcello, which stands 0.5 mile NNE of the point.

The mouth of the Fiume Magra, lying 1 mile NE of Capo Corvo, can be easily identified by the tall trees which fringe each bank. The coast between this river mouth and Livorno, 33 miles SSE, is low, sandy, and is backed by the high Apuan Alps, which can be recognized from a great distance by the marble quarries. The principal peaks of this chain are Monte Sagro, Monte Altissimo, and Monte Pania della Croce.

From seaward of La Spezia, with very clear visibility, the hills of Livorno can be seen to the SSE and appear as distant islands.

The white building of Colonia Marina of Marinella stands 1.7 miles ENE of Punta Bianca and is conspicuous.

10.33 Marina di Carrara (44°02'N., 10°02'E.) (World Port Index No. 39550), a small harbor, lies 2.7 miles E of Punta Bianca and is used for the loading of the well-known Carrara marble.

Marina di Carrara Home Page

<http://www.portauthoritymdc.ms.it>

Winds—Weather.—Strong SE winds cause a considerable sea in the harbor.

Depths—Limitations.—The harbor is protected by breakwaters. There is 1,139m of total berthing space with dredged depths of up to 10m.

Several mooring buoys are situated in the harbor and are used by yachts.

Aspect.—The yellow belfry of the church in the town is 45m high and is very prominent from seaward. A light is shown from a structure, 22m high, standing near the root of the W breakwater.

Pilotage.—Pilotage is compulsory for vessels of over 500 grt. Warships, auxiliary vessels, Italian and foreign hospital ships, fishing vessels not used in Atlantic trade, tugs, and local port services vessels are excluded from the piloting requirement. Pilots can be contacted on VHF channel 12 and generally board about 1 mile from the entrance. Departing vessels have the right of way over other traffic. Vessels of less than 2,000 grt employed in coastal trade and not requiring tug assistance may obtain radio assistance from the pilot station on VHF channel 12. Vessels should provide ETA 48 hours and 24 hours prior to arrival.

Anchorage.—An anchorage area, the limits of which are shown on the chart, lies centered 1.5 miles SW of the harbor. The anchorage contains seven designated berths; they are Y1, Y2, and Z1 through Z5. Berths are assigned by harbor authorities. This area is reserved for the use of commercial vessels awaiting alongside berths.

Caution.—The depths in the harbor and in the approaches are subject to change and the pilot should be contacted for the latest information.

The heads of the breakwaters should be given a wide berth in order to avoid the underwater foundations.

An area being reclaimed (2001), enclosed by a prohibited area, is located outside the E breakwater, as seen on the chart.

10.34 Marina di Massa (44°00'N., 10°06'E.) (World Port Index No. 39560), a tourist resort, is situated 3 miles SE of Marina di Carrara. Numerous prominent hotels and villas stand along the beach in this vicinity. The town of Massa is situated 2.5 miles inland and is visible from seaward.

Torre Balilla stands 1.5 miles SE of Marina di Carrara. This tower is 100m high and very prominent from seaward.

Forte dei Marmi, situated 7 miles SE of Marina di Carrara, is a bathing resort. It can be recognized by the many houses standing along the shore and by the Grand Hotel, a conspicuous three-story building with two superstructures on its terraced roof.

Between Forte dei Marmi and Viareggio, 6 miles SSE, the low and sandy coast presents an almost continuous line of buildings and is backed by thick pine woods.

Viareggio (43°52'N., 10°15'E.) (World Port Index No. 39580), a tourist resort, is situated at the seaward end of Canale della Burlamacca, 6 miles SSE of Forte di Marmi. A small harbor and a marina, protected by breakwaters, lie in the vicinity of the canal entrance. A light is shown from a structure, 16m high, standing near the root of the breakwater on the S side of the canal. The city can be recognized by a large four-story hotel in its N part, another hotel, with two towers,

standing close SE of the former one. The port monitors VHF channels 11 and 16.

10.35 Marina di Pisa (43°40'N., 10°16'E.), a tourist resort, is situated 11.5 miles SSE of Viareggio. This town can be recognized by a high belfry and an extensive yellow building which stand in its NW part. The town of Pisa stands 6 miles inland. A light is reported to be shown from a war memorial which stands on a hill 7 miles inland about 10 miles NE of Marina di Pisa.

Caution.—A dangerous wreck lies about 150m offshore, 0.4 mile NW of the entrance to Viareggio. This vessel, loaded with cement, lies close below the surface.

Vessels are prohibited from stopping within 1 mile of the entrance to Viareggio.

Several dangerous wrecks lie off the coast between Viareggio and Livorno and may best be seen on the chart.

Submarine cables extend seaward from a point on the shore, 2 miles S of Marina di Pisa.

Due to the changing depths and banks off the mouths of the rivers along this stretch of coast, vessels are advised to stay at least 1 mile offshore.

10.36 Secche della Meloria (43°34'N., 10°13'E.), on which the sea breaks during strong SW winds, consists of a series of shoals which are formed of sand and mud with occasional patches of rock and weed. These shoals lie almost parallel to the coast, between 2.7 and 5 miles W of Livorno.

Torre della Meloria stands on the S part of the shoals, 3.1 miles W of the S end of the outer detached breakwater at Livorno. This tower consists of a square building, 20m high, with arched openings in its lower part. A light is shown from a structure, 17m high, standing close S of this tower. Another light is shown from a structure, 20m high, standing on the N part of the shoals, 2.4 miles N of the tower.

Secca di Fuori, with a least depth of 8.9m, lies isolated about 4 miles NW of Torre della Meloria.

Livorno (43°33'N., 10°19'E.)

World Port Index No. 39590

10.37 The large port of Livorno (Leghorn) lies centered 7 miles S of Marina di Pisa. The city stands on a plain between the hills and the sea. Several military facilities are situated here including the Italian Naval Academy and the Italian War College.

Port of Livorno Home Page

<http://www.portauthority.livorno.it>

Winds—Weather.—Winds from the W to NW prevail during the summer. During the winter, winds from the SE to SW are prevalent with occasional SW gales. After periods of SW and W winds, considerable swell is usually experienced in the entrance channel.

Tides—Currents.—Tides rise about 0.5m at springs and 0.3m at neaps. During SE and SW winds, the water level may be increased by as much as 0.5m.

In summer, a current may set S at a rate of 0.3 knot, between Secche della Meloria and the coast. With persistent W winds, it may attain a rate of 1.5 knots.

Depths—Limitations.—The N entrance is 330m wide and may only be used by small vessels up to 5.5m draft. The port can accommodate vessels up to 11.4m draft.

The S and main entrance has a navigable width of 250m between the S end of Diga Curvilinea and the shoal water which extends from the shore at the E side. The entrance fairway is dredged to a depth of 12.5m.

The main port facilities are situated within several basins:

1. Bacino Santo Stefano:

- A gas and oil terminal has 410m of total berthing space, with depths of 4.3 to 11.3m alongside.

- Darsena Toscana, 1,200m long, has a depth of 12.5m alongside and Calata Alto Fondale, 750m long, has a depth of 12m alongside; both are used for containers. Facilities include post-Panamax shore cranes.

2. Bacino di Evoluzione—Calata Tripoli, 250m long, has a depth of 7.9m alongside and is used for chemicals.

3. Darsena Pisa—Calata Darsena Pisa, 250m long, has a depth of 12m alongside and is used for bulk cargo.

4. Darsena Admiral Inghirami (Dock No. 1)—A cargo terminal has 1,170m of total berthing space, with depths of 6 to 8.8m alongside, and is used by U.S. Navy vessels.

5. Canale Industriale—A cargo terminal has 2,000m of total berthing space, with depths of 5.5 to 8.5m alongside.

6. Bacino Cappellini:

- Calata Orlando, 450m long, has a depth of 8.7m alongside and is used for containers.

- Calata Franco, 320m long, has depths of 8.5 to 10m alongside and is used by ferries.

7. Bacino Firenze—Calata Pisa and Calata Carrara, each 450m long, have depths of 7.6m alongside and are mostly used by ferries, ro-ro, and passenger vessels.

8. Porto Mediceo—A passenger and ferry terminal has 1,300m of total berthing space, with depths of 4 to 8.7m alongside.

In addition, there are extensive repair facilities with two dry-docks. The largest is 350m long and 56m wide and can handle vessels up to 300,000 dwt.

Aspect.—Diga Marzocco, a low breakwater, extends SW from the coast and protects the port from the N. Diga Meloria and Diga Curvilinea together form one long detached breakwater which protects the port from the W. Diga della Vegliaia, a low and detached breakwater, protects the port from the S. The outer heads of these breakwaters are marked by lights.

Livorno Light is shown from a tower, 52m high, standing 0.5 mile NE of the outer head Diga della Vegliaia. A radiobeacon and a racon are situated at the light.

An articulated light is moored 1.2 miles NW of the N head of Diga Meloria and marks the N approach channel.

The coast to the N of the port consists of a low and even beach. Torre del Marzocco, a prominent tower with a tiled roof, stands at the S end of this beach near the root of Diga Marzocco. Numerous light-colored oil tanks are situated close N of this tower.

A conspicuous thin tower, 56m high, stands 1.1 miles NE of Torre del Marzocco in the vicinity of several tall chimneys and other industrial structures. Several grain silos, 45m high, stand



Livorno Light

on the N side of Porto Mediceo, 0.9 mile S of Torre del Marzocco.

Landmarks in the city and harbor area include a convent, with a cupola, standing 0.7 mile S of Torre del Marzocco; the square belfry of the cathedral, standing 0.3 mile S of the convent; and a conspicuous high-rise building, 86m high, standing 0.7 mile S of the cathedral. Another light-colored high-rise building stands in the center of the city and is prominent.

The cranes of the Ansaldo Shipyards, standing S of the grain silos, are prominent. The Italian Naval Academy, situated between Livorno and the suburb of Ardenza, consists of a large gray building. Its square clock tower, which is surmounted by a flagstaff, contains a signal station. Several radio antennas, 67m high, stand close S of the academy building.

The coast between Livorno and the suburb of Antignano, 3 miles SSE, is broken, rocky, and fronted by a bank.

Monte Nero, 313m high, stands 4.5 miles SSE of Livorno and is surmounted by a prominent tower. A white chapel stands high up on the slopes of this hill.

Pilotage.—Pilotage is compulsory for vessels over 500 grt and is available 24 hours. Pilots should be contacted on VHF channel 12 at least 1 hour prior to arrival. Pilots usually board about 1.1 miles SW of the S breakwater.

Pilots must contact Port Approaches Control on VHF channel 80 at the time of embarkation/disembarkation stating the following information:

Designator	Information Required
A	Vessel type, name, call sign, and flag
B	Time finished with engines in local time
C	Pilots name
D	Vessel position
E	Possible messages, should the pilot learn of the existence of serious faults which might put at risk the safety of shipping in general or the vessel concerned.

Regulations.—A traffic separation scheme (TSS) with inner and outer precautionary areas, the limits of which are shown on

the chart, lies in the approaches to the S entrance of the harbor and extends SW. Stopping is prohibited in the outer precautionary area. Inbound vessels must keep to the S of this zone and outbound vessels must keep to the N of it. Crossing the separation zone from N to S or vice-versa is prohibited except for small vessels and fishing boats.

If the entrance is occupied by a vessel leaving, an arriving vessel must wait until the entrance is clear.

Vessels using the N entrance must keep to the starboard side of the entrance channel. Vessels with drafts of more than 3m may not use the N entrance.

The Livorno Harbor Office is equipped with a **Port Approaches Control (PAC) System** which controls maritime traffic in the area of Livorno harbor and its approaches. The PAC Area is bounded, as follows:

1. North limit—43°45'N.
2. West limit—10°00'E.
3. South limit—43°20'N.

All merchant vessels over 30m long are subject to PAC control. Vessels arriving or departing the port of Livorno, or transiting the PAC Area, must report, as follows:

1. **Initial Contact Message.**—Vessels must contact PAC Livorno directly on VHF channel 80 (or through Maritime Warning on VHF channel 10) 30 minutes before entering the PAC Area, stating the following information:

Designator	Information Required
A	Vessel type, name, call sign, and flag
B	Position (latitude and longitude), heading, and speed
G	Last port of call
L	Destination (if in transit) and ETA (in local time)
O	Length, beam, and draft
P	Cargo (in the case of dangerous cargo indicate name/class of danger and quantity, method of transport (packages, containers, tanks, tank carriers, or in bulk), and whether they are unclean, not gas free, or not completely inert)
T	Name of vessel's owner and/or agent
W	Passengers and crew
X	Various possible faults, maneuvering information, etc. (to be indicated even if negative)

2. **Arrival Message.**—Vessels must contact PAC Livorno directly on VHF channel 80 (upon completion of mooring at quayside, by the pilot on board, or if lying at anchor in the roadstead, upon completion of anchoring, by the vessel's captain), stating the following information:

Designator	Information Required
A	Vessel type, name, call sign, and flag

Designator	Information Required
B	Time when finished with engines (in local time)
C	Position (pier or quayside, or if lying at anchor, the point of anchorage, with range and bearing from Livorno Light)

3. **Departure Message.**—Vessels must contact PAC Livorno directly on VHF channel 80 (or through Maritime Warning on VHF channel 10) 1 hour before departure, stating the following information:

Designator	Information Required
A	Vessel type, name, call sign, and flag
B	ETD
L	First port of call and ETA (if possible. Otherwise indicate “awaiting orders”)
P	Cargo (details as in Initial Contact Message.)
W	Passengers and crew
X	Various possible faults, maneuvering information, etc. (to be indicated even if negative)

4. **Crossing Entry and Exit Traffic Lanes Sector.**—Vessels wishing to be authorized to cross the Port of Livorno Entry and Exit Traffic Lanes Sector must contact PAC Livorno directly on VHF channel 80 (to be done by the pilot or the vessel’s captain), stating the following information:

Designator	Information Required
A	Vessel type, name, call sign, and flag
B	Request to cross the sector
H	Reasons for crossing

Anchorage.—Rada di Livorno, which lies between Secche della Meloria and the section of the coast extending N from the port area, offers temporary anchorage with some protection from SW seas. Anchorage may be taken in a depth of 9m, about 1.2 miles NW, 1.2 miles W, or 2 miles NW of the N harbor entrance.

In addition, designated anchorage berths under the control of the port authority lie, in depths of 10 to 50m, in the approaches to the port, as follows:

- Berth A, the explosives anchorage, lies 4 miles NW of the N entrance.
- Berth B, for vessels of 150m in length or less, lies 2.3 miles WNW of the N entrance.
- Berth C, for vessels of 150m in length or less, lies 1.6 miles SSW of the S breakwater.
- Berth D, for vessels over 150m in length, lies 2.8 miles SSW of the S breakwater.

- Berth E, for gas carriers over 200m and oil tankers, lies 3.6 miles S of the S breakwater.

An anchorage area, for cistern and gas carriers with lengths of under 200m, the limits of which are best seen on the chart, lies S of the S breakwater.

Caution.—An anchoring, fishing, and stopping prohibited area, the limits of which are indicated on the chart, extends up to 4.5 miles SW from the S entrance of the harbor.

Frequently, particularly in the early morning, the land breeze blows the smoke from the city toward Secche della Meloria. The resulting haze sometimes limits visibility and prevents identification of landmarks from seaward. In such instances, vessels coming from the N and W, even with light drafts, are advised to proceed S and pass well to the W of Secche della Meloria. Monte Nero, which is not usually obscured, may be used as an aid.

It is reported that the lights marking Secche della Meloria are not powerful. At night, especially during low visibility, vessels approaching from the N, W, or SW may first sight several fixed lights, which are situated in the industrial area to the N of the port, before sighting any navigational lights.

The entrance channels and harbor basins are subject to silting.

The PAC Center supplies the following information on request on VHF channel 80, or in emergencies on VHF channel 16:

- Weather conditions—Visibility, wind speed and direction, and sea conditions.
- Situation information—Condition of navigation support systems, presence of other vessels in the area, assigned berth, or the need to wait at anchor.

Livorno to Promontorio di Piombino

10.38 Torre del Boccale (43°29'N., 10°20'E.), which stands 4 miles SSE of the S breakwater at Livorno, is attached to a villa and the two together resemble a castle. Torre Calafuria, situated close N of a masonry viaduct, stands 0.2 mile SSE of Torre del Boccale and is also prominent. Il Montaccio, 253m high, stands 1 mile E of Torre del Boccale and its summit is surmounted by the ruins of a signal station.

Torre del Romito, a prominent light-colored structure, stands 1.2 miles ESE of Torre Calafuria. It surmounts the summit of Punta del Romito, a headland, which 91m high, steep, and wooded. Punta Fortulino, located 2.5 miles SE of Punta del Romito, can be identified by a reddish-colored building which stands amid the trees.

Punta Castiglioncello (43°24'N., 10°24'E.) is the extremity of a rocky promontory which rises to a summit, 50m high, close inland, and is covered with thick vegetation. A massive battlement tower stands near the summit of the promontory and several villas and houses are situated on its slopes. Villa Patrone, a conspicuous battlement structure, stands 0.2 mile E of the tower.

Rosignano Marittimo stands 3 miles E of Punta Castiglioncello. This small town can be easily recognized by the belfry of a church and a castle which are situated at its S end. Rosignano Solvay, another small town, extends along the coast to the SE of Punta Castiglioncello. It can be recognized by

several large industrial plants, with tall chimneys, standing at the S end.

Caution.—Several outfall pipelines extend up to 1.5 miles seaward from points along this stretch of the coast.

10.39 Vada (43°21'N., 10°27'E.) (World Port Index No. 39610), small port, lies 13 miles SE of Livorno. The town is built around a church, with a slender and prominent spire, and is clearly visible from seaward. A short pier fronts the town and is protected from the N by a breakwater which lies parallel to it. The pier is also protected from the S by a curved breakwater. Another pier, 1 mile long, extends W and WNW from the root of the N breakwater. A berth at this pier can accommodate LPG vessels up to 30,000 tons and 11m draft. Pilots are available from Livorno. The pilot boards vessels about 0.5 mile SW of the pier during daylight hours only. Anchorage is available ENE of Secche di Vada, in about 16m.

Secche di Vada (43°19'N., 10°22'E.), a rocky shoal, lies about 4.5 miles WSW of Vada. It has a least depth of 2m and lies in the vicinity of a bank which fronts the coast and has depths of less than 11m. Secche di Vada Light is shown from a prominent tower, 18m high, standing on the shoal.

Vessels can obtain anchorage, in a depth of 16m, sand and weed, about 1 mile NE of the light or in a depth of 13m, mud and weed, about 1.7 miles ENE of the light.

Fiume Cecina enters the sea 3 miles SE of Vada. Cecina, a small town, is situated 1.5 miles upstream and is partly hidden by trees. Its reddish-brown belfry, which has a clock, can be distinguished from seaward. Marina di Cecina, a village, stands close S of the river mouth. Forte di Cecina, a prominent building, stands in its NW part and resembles a row of houses,

Forte di Bibbona, a low and reddish-colored building, stands on the shore, 4 miles SSE of Marina di Cecina. It can be recognized from as far as 5 miles offshore. A modern five-story building stands 1 mile N of this fort. The village of Bibbona is situated 3.5 miles ENE of the fort and appears as a wide and light-colored patch on the slopes of the coastal hills.

Forte di Castagneto is situated 4 miles S of Forte di Bibbona and is similar in appearance. However, this fort may be distinguished by the village of Marina di Castagneto Carducci and the white building of the marine colony which stands close N of it. Torre Donoratico, a tall and slender tower, stands on the flat summit of a hill, 179m high, 2.8 miles SE of Forte di Castagneto.

San Vincenzo is situated within 4.5 miles of Forte di Castagneto and extends along a beach. This town can be distinguished from a great distance by the conspicuous belfry of its church and is fronted by a small boat harbor.

Punta del Molino (43°01'N., 10°31'E.) is located 5 miles S of San Vincenzo. The coast between is low and sandy. This rocky point is distinctive and indicates where the coast ceases being sandy and becomes rocky. Villa de Stefani, a yellow building with a red roof, stands on the summit of the point and forms an excellent landmark from seaward.

10.40 Porto Baratti (43°00'N., 10°30'E.) lies on the N side of Promontorio di Piombino and is entered between Punta del Molino and Colle di Populonia, a headland, 1.5 miles SW. Torre di Populonia, a conspicuous and battlement tower, surmounts the summit of Colle di Populonia, which is 181m high.

Two farmhouses and a chapel stand near the middle of the sandy beach at the head of the bay. Populonia, a village, is situated at the SW corner of the bay. Vessels with local knowledge can anchor within the bay.

Promontorio di Piombino, with a high and steep coast, extends 5 miles SSE from Porto Baratti. Monte Massoncello, 286m high, is the highest part of the promontory and stands 2 miles S of the village of Populonia. The land to the E of the promontory is low and when seen from a distance, from the N or S, the promontory appears as an island.

The description of the coast of Italy SE of Promontorio di Piombino continues in paragraph 13.2.

Caution.—An anchoring, fishing, and diving prohibited area lies in the N approach to Porto Baratti and may best be seen on the chart.

Arcipelago Toscano

10.41 Arcipelago Toscano, a wide group of islands, consists of Isola di Gorgona (43°26'N., 9°54'E.); Isola Capraia; Isola d'Elba; Isola Pianosa; Isola di Montecristo; Isola del Giglio; Isola di Giannutri; the small islands of Isola Palmaiola and Isolotto Cerboli which lie NW of Isola d'Elba; Scoglio d'Affrica (42°21'N., 10°04'E.); and Formiche di Grossetto (42°35'N., 10°52'E.). These islands are spread over an area which lies between the N part of the E coast of Corse (Corsica) and the W coast of Italy. They form excellent landmarks and the passages leading between them are wide and deep.

Caution.—Due to the existence of submarine cables and pipelines, several anchoring and fishing prohibited areas, the limits of which are shown on the chart, lie in the vicinity of the group of islands.

10.42 Isola di Gorgona (43°26'N., 9°54'E.), the N island of the group, lies 22 miles W of Punta Castiglione and is used as a penal colony. The island is hilly and much of it is covered with low scrub and a thin growth of trees. The coast on the W side is rocky and rises steeply from the sea to Punta Gorgona, the summit of the island, which is 255m high and surmounted by a disused signal station. Torre Vecchia, an old fort, stands on the crest of a hill, 208m high, close N of Punta Gorgona. It is very prominent from the E and W. The N and S extremities of the island are marked by lights. Cala della Scalo, the principal landing place, lies near the middle of the E side of the island and is also marked by a light. Due to the rocky bottom and the considerable depths close to the coast, in most places, there is no secure anchorage off the island.

Caution.—Unauthorized vessels are prohibited from stopping, fishing, and approaching within 2,000m of the island except with permission of the authorities at Livorno.

10.43 Isola Capraia (43°02'N., 9°39'E.) lies 29 miles WNW of Promontorio di Piombino and is of volcanic origin. The W slopes of the island are rocky and precipitous, but the E slopes are more gentle and partly cultivated. A mountainous ridge traverses the island, from N to S, and stands within 0.5 mile of the W coast. Monte Castello is the summit of the island. It is 447m high and stands 1.5 miles S of the N extremity of the island. Monte Arpagna, 410m high, stands 1.7 miles S of Monte Castello and is surmounted by a disused signal station.

These peaks are conspicuous and may be recognized from a great distance.

Lo Stagnone, a lake, is located at a height of 321m, 0.5 mile S of Monte Castello. It is drained by a river which reaches the E coast of the island at Porto di Capraia.

Le Formiche, a group of above-water rocks, extend up to 0.2 mile NE of Punta della Teia, the N extremity of the island.

Porto di Capraia, formed by an L-shaped mole, lies at the SW corner of a small bay on the NE side of the island. The S entrance point of this bay is marked by a light and the small town of Capraia stands close S of it. Forte di Capraia is situated at the E side of the town and accommodates a prison.

Punta della Zenobito, the S extremity of the island, can be identified by a tower which stands at a height of 83m above a ridge of light-colored rock. The cliffs to the NE of the tower, when seen from the SE, have a pronounced reddish color. Punta del Trattoio, marked by a light, is located 1.5 miles NNW of Punta della Zenobito. Isolotto La Praiola, a high and rounded islet, lies 0.5 mile NNE of this point and is connected to the coast by a ridge of rocks.

Caution.—Landing and navigating within 0.3 mile of the coast in the N part of Isola Capraia is prohibited. However, landing is permitted at Porto di Capraia.

Arcipelago Toscano—Isola d'Elba

10.44 Isola d'Elba (42°46'N., 10°18'E.), the largest island of the group, is located with its N extremity lying 5 miles SW of Promontorio di Piombino and is separated from the mainland by Canale di Piombino.

Three distinct mountain ranges stand on the island. The W and highest range culminates in Monte Capanne, 1,019m high, which is the summit of the island. The W coast of the island is steep, rocky, and offers no shelter, but the other coasts are deeply indented by numerous small bays and are frequently used by vessels encountering strong N winds. The N and E coasts of the island present a cultivated and pleasant appearance, while the W and S coasts are steep and rugged. Cima del Monte, 516m high, dominates the E coast of the island.

Caution.—Local magnetic anomalies are frequently encountered off the coasts of Isola d'Elbe.

10.45 Capo Vita (42°52'N., 10°25'E.), the N extremity of the island, is dominated by Monte Grosso, 347m high, which stands 1.2 miles SSW of it and is surmounted by a disused signal station. A detached rocky patch, with a least depth of 6m, lies about 0.8 mile N of the cape. A prominent and isolated obelisk stands 0.5 mile S of the cape.

Isola dei Topi, 34m high, lies 0.5 mile SE of the cape. Capo Castello, a prominent and rounded headland, is located 0.2 mile S of the cape and surmounted by several conspicuous villas.

Cavo, a village, stands at the head of a small bay which is entered 0.4 mile SE of Capo Castello. It is fronted by a pier, with depths of 2 to 7m alongside, which is used by ferries from the mainland and small craft.

Capo Pero, located 1.2 miles SE of Cavo, is steep, rocky, and surmounted by a prominent yellow house. Torre del Giove, a massive and rectangular-shaped tower, stands on a conical

peak, 352m high, 1.5 miles SW of the cape. It is the best landmark on the E coast of the island and is visible from any part of Canale di Piombino. When seen from the E, this tower appears to be pierced in the middle.

La Mineraria di Vigneria (Pontile Vigneria), a pier, is situated 1.7 miles SSW of Capo Pero. It is 80m long and is used for loading ore.

10.46 Rio Marina (42°49'N., 10°26'E.) (World Port Index No. 39660), a small harbor, lies at the foot of reddish-colored mountains. Rio dell' Elba is situated on the mountain slopes, 1 mile W of the harbor. This town can be easily distinguished from seaward as a large three-story building stands in its N part and is conspicuous.

The harbor is protected by a mole and has general depths of 6m, but is subject to silting.

Vessels can anchor, in a depth of 30m, mud, good holding ground, in front of the town.

Capo Ortano, located 1 mile S of Rio Marina, is steep and rocky. A prominent radio mast stands on the summit of a hill, 0.2 mile WSW of the cape. Isolotto d'Ortano, 24m high, lies 1.5 mile S of Rio Marina and has bare, rocky sides and a rounded green summit. It is connected to the coast by a rocky ridge.

Punta delle Canelle (Capo d'Arco), located 2.5 miles S of Rio Marina, is steep, rocky, and fronted by a shallow shoal. Capo Bianco, located 1 mile WSW of the point, can be recognized by whitish patches on its lower parts. A pier, used for the loading of mineral ore, extends from a small point, 0.3 mile NNE of this cape.

10.47 Golfo di Porto Azzurro (42°46'N., 10°24'E.) is entered between Punta dello Stendardo, located 0.5 mile WSW of Capo Bianco, and Capo Forcado, 0.6 mile SSE. This gulf is dominated by a prominent and huge citadel, which stands on the promontory close NW of Punta della Stendardo. A large conspicuous cross stands on Monte Mar di Capanna, 290m high, 1 mile NW of the citadel. Monte Castello, 390m high, is higher of two peaks, which stand 0.5 mile NW of Monte Mar di Capanna and is surmounted by a prominent pillar.

A light is shown from a tower, 6m high, standing on the wall of a fort which is situated on Capo Forcado.

Isolotto dei Liscoli lies close inshore, 0.7 mile SE of Capo Forcado. Its upper part is covered with brush while the lower part is bare and shows prominent white strata.

Porto Azzurro, a small harbor, lies in a cove entered close W of the promontory on which the citadel is situated. It is protected by a mole and is accessible to small vessels, with local knowledge, up to 80m in length and 5m draft.

Caution.—Anchorage within depths of less than 50m in the vicinity of Porto Azzurro is reported to be dangerous due to unexploded mines.

In 1982, a considerable landslide occurred in the vicinity of Punta dello Stendardo and vessels should stay clear of this point.

10.48 Punta dei Ripalti (42°42'N., 10°26'E.), the SE extremity of Isola d'Elba, is steep and rocky. This point is dominated by Poggio del Turco, 187m high, which stands close N of it. Capo della Calamita, located 1.2 miles W of the



Rio Marina

150m high. The twin peaks of Monte Volterraio stand 3 miles NW of the head of this gulf. An ancient castle stands on the W peak and can be distinguished from seaward. Anchorage is available, in a depth of 11m, sand, in the NW corner of the gulf.

Golfo della Lacona is entered between Capo della Stella and Capo di Fonza, 1.5 miles W. It is surrounded by high land and sheltered from N winds. Vessels can obtain anchorage, in depths of 5 to 16m, good holding ground, in the N part of this gulf.

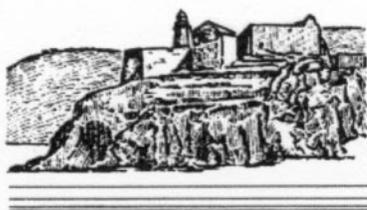
Golfo di Campo is entered between Punta di Mele, located 0.7 mile W of Capo di Fonza, and Punta di Campo, 1.5 miles WSW. Monte Poro, 157m high, stands close W of Punta di Campo.

Marina di Campo, a small harbor, lies on the N side of a rocky promontory which projects from the W side of the gulf. It is protected by a breakwater and has a depth of 4m. The gulf offers good shelter from all winds except those from the SE. There is good holding ground and anchorage can be taken, in a depth of 12m, about 0.2 mile NE of the harbor.

10.50 Punta di Fetovaia (42°44'N., 10°10'E.), 37m high, is located at the SW end of the island and is the extremity of a narrow peninsula. This peninsula has rugged and steep sides, and consists of barren cliffs with a flattish top.

The W and NW coasts of Isola d'Elba, beyond Punta di Fetovaia, are high and rocky with no coastal indentations of any importance and practically no noteworthy features. There is no safe shelter as the winds and seas are reported to follow the contour of the coast.

Punta Nera, the W extremity of the island, can be identified by light-colored patches on the rocks. Campo alle Serra, 600m high, stands 1 mile ENE of the point and is very visible from seaward. Its summit is surmounted by an old and disused signal station.



Capo Focardo Light

point, is the S extremity of a high, mountainous mass which is composed of reddish-colored rock, rich in iron ore.

Isolotti Gemini, lying 1 mile NW of Capo della Calamita, consists of an outer islet, 42m high, and an inner islet, 23m high. Scoglio Corbella, lying 0.5 mile WSW of these islets, are a group of blackish above and below-water rocks.

Caution.—Anchorage within depths of less than 40m in the vicinity of Isolotti Gemini is reported to be dangerous due to unexploded mines.

10.49 Cala dell Innamorata (42°43'N., 10°22'E.) (World Port Index No. 39700) is entered between Isolotti Gemini and Capo Francese, 0.5 mile N. A large T-shaped iron ore pier, which extends 135m WNW, is situated within this cove. There are depths of only 2m at the head of this pier, but vessels can obtain anchorage off it, in a depth of 26m, weed.

Golfo Stella is entered between Punta Morcone, located 1 mile NNW of Isolotti Gemini, and Capo della Stella, 2 miles WNW. It is bordered on the W side by a long and narrow promontory which terminates to the S in Monte Capo Stella,

Punta Polveraia (Punta Forana) (42°48'N., 10°07'E.) is formed by a perpendicular headland. A light is shown from a tower, 10m high, surmounting the point.

10.51 Marciana Marina (42°48'N., 10°12'E.) (World Port Index No. 39715), a small harbor, lies 4 miles ENE of Punta Polveraia and is protected by a breakwater. It has depths of 3 to 6m and is used by fishing vessels and yachts.

The village, which backs the harbor, can be identified by Torre Medicea, a prominent tower, standing at its W end and by a hill, 118m high, standing at its E end.

Golfo di Procchio is entered 2 miles E of Marciana Marina. Its E side is bordered by a wide and sandy beach. Numerous hotels, high-rise buildings, villas, and beach huts stand along the shores of this gulf. Vessels can anchor off the beach, in a depth of 24m, sand.

Golfo della Biodola lies close NE of the E entrance of Golfo di Procchio and is seldom visited by vessels.

Golfo di Viticcio is entered between Punta Penisola and Capo d'Enfola, 0.7 mile N. A village stands at the SE corner of this small bay. Vessels can obtain temporary anchorage, in a depth of 10m, rock and weed, off a beach on the S side of the low isthmus connecting Capo d'Enfola with the mainland.

Capo d'Enfola (42°50'N., 10°16'E.) is formed by the outer end of a peninsula which rises to a conical hill, 135m high,

near its extremity. Scoglio la Nave, a bare and conical rock, lies close NW of the cape.

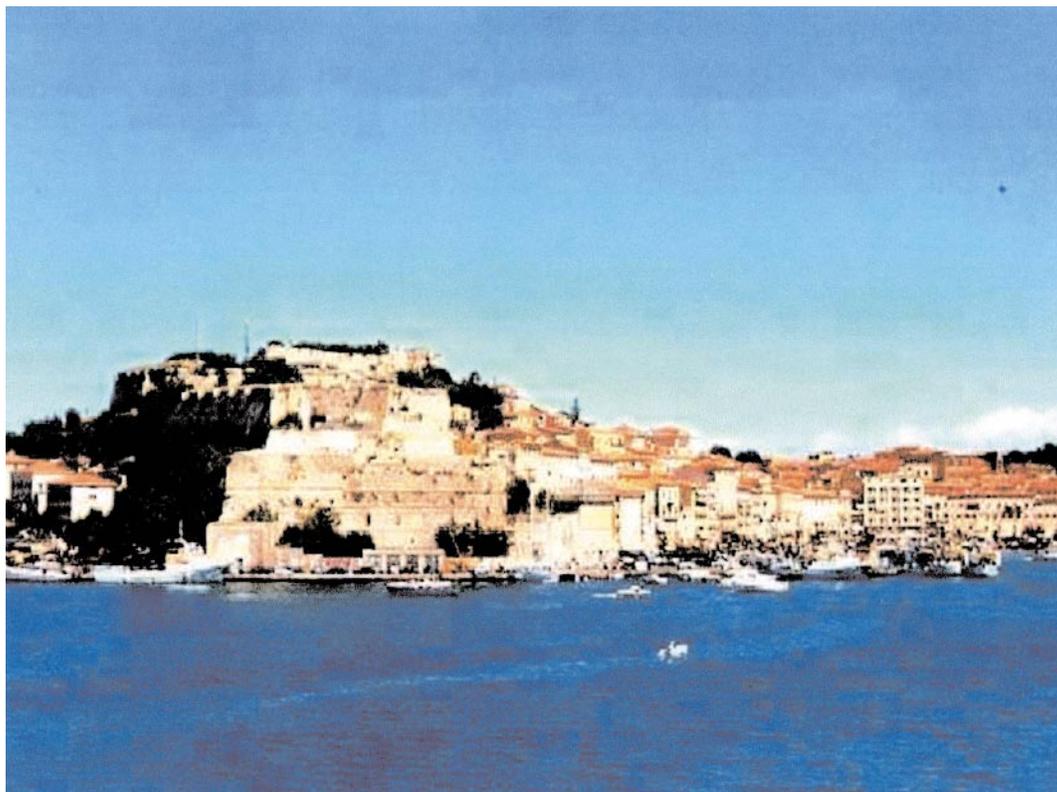
Punta Acquaviva is located 1.2 miles ESE of Capo d'Enfola. Secca di Santa Lucia, a rock, lies 0.7 mile ENE of the point and has a least depth of 8.5m.

Capo Bianco, located 1.2 miles ESE of Punta Acquaviva, is steep, of moderate height, and has white patches on both sides. Secca di Capo Bianco, a rocky spit, extends up to about 0.3 mile NNE of the cape and is marked by a lighted beacon.

Scoglietto, lying 0.7 mile NE of Capo Bianco, is a barren and blackish rock on which landing is prohibited. Scoglietto Light is shown from a prominent structure, 8m high, standing on its summit.

Punta Falcone (42°49'N., 10°20'E.) is located 0.8 mile ESE of Capo Bianco and is fronted by a spit of sand and rock which extends up to 150m NNE of it. A light is shown from a tower, 25m high, standing on Forte Stella, 0.1 mile SE of Punta Falcone. Forte Falcone, another prominent fort, is situated close NW of Forte Stella.

10.52 Portoferraio (42°49'N., 10°20'E.) (World Port Index No. 39720), a small port, lies within Rada di Portoferraio, which is entered between Punta Falcone and Punta Falconaia, 1.1 miles E. The bay has depths of 25 to 40m at the entrance, which gradually decrease within, and is accessible to vessels of any tonnage.



Portoferraio

Winds—Weather.—In winter, winds from the NE and SE quadrants prevail, those between the S and SE predominating. In the other seasons, winds from the SW quadrant prevail. The N winds sometimes blow violently in winter, particularly in February and March, and raise heavy seas in the outer anchorages.

Depths—Limitations.—La Darsena, the harbor basin, fronts the city and is protected by a mole. It is 245m long and 200m wide and has depths of 6 to 14m in the center. The quays lining its sides have depths of 3 to 4m alongside. Several mooring buoys lie in this basin. In addition, a new harbor, has 300m of total berthing space with depths of 4 to 10m alongside. It is used by ferries and vessels with drafts up to 9m.

Aspect.—When approaching the bay, the city of Portoferraio, which is built on the S slopes of a peninsula, is not visible from seaward. However, Forte Falcone and Forte Stella, which stand on the NE side of the city, can be distinguished. Volterraio, an ancient and prominent castle, stands on a peak, 394m high, at the E side of the bay.

Pilotage.—Pilotage into the bay and harbor is compulsory for vessels over 500 grt. All naval vessels are exempt from this requirement. The harbor can be contacted on VHF channel 11 or 16. Vessels must keep to the port side of the harbor when entering or leaving and departing vessels have the right-of-way.

Anchorage.—Rada di Portoferraio affords anchorage to vessels of all sizes, but the bottom, being of soft mud, is not a good holding ground. With SE winds, which prevail in the area, vessels are liable to drag anchor, even when riding to two anchors.

Arcipelago Toscano—Isola Palmaiola

10.53 Isola Palmaiola (42°52'N., 10°28'E.), lying 2.8 miles E of the N extremity of Isola d'Elba, is conical and has precipitous sides. It is 105m high and steep-to except on its N side where dangers extend up to 0.3 mile offshore. A light is shown from a structure, 14m high, standing on the summit of the island.

Isola Cerboli (42°52'N., 10°33'E.), lying 3.2 miles ESE of Isola Palmaiola, is steep-to. When seen from the NW or SE, it presents an irregular outline. The summit of this small island is 74m high and surmounted by an old tower.

Arcipelago Toscano—Isola Pianosa

10.54 Isola Pianosa (42°35'N., 10°05'E.), lying 7 miles SSW of Isola d'Elba, is flat and generally less than 30m high. In contrast to the other islands of the group, except for several buildings and some slight undulations of the land, it presents a low and uniform appearance from seaward.

Punta del Marchese, the N extremity of Isola Pianosa, is formed by the N end of a promontory which occupies the N part of the island. Scoglio Scarpa, an above-water rock, lies close N of the point and is dark and prominent. Foul ground extends up to 0.6 mile E of the point and it should be given a wide berth.

Podere del Marchese, a prominent and isolated building, stands on a hill, 21m high, which rises close SE of the point.

Punta dei Bagni is located 1.7 miles SSE of Punta del Marchese. A masonry obelisk stands on the coast, close S of this point.

Cala San Giovanni is entered between Punta dei Bagni and a point, surmounted by a barracks, 0.4 mile SE. Secca San Giovanni, partly awash in places and on which the sea breaks, extends about 0.2 mile ENE from this latter point. Pianosa, a village, stands within a sandy beach at the head of Cala San Giovanni. A light is shown from a structure, 14m high, standing 0.5 mile S of Punta dei Bagni and close NE of the prison.

Isolotto La Scola lies 0.5 mile ESE of the light and is prominent. This islet has a flat top, which is surmounted by a pillar, and is 34m high, being of a greater height than the main island. It lies in a shallow area of rocks and shoals and should be given a wide berth.

Punta Brigantina, 28m high, is the S extremity of Isola di Pianosa. This point is surmounted by a house, and shoals with depths of less than 3m, extend up to 0.1 mile S and SW of it.

Punta del Segnale, located 1 mile WNW of Punta Brigantina, is the E entrance point of Cala Ruta. This small cove has depths of 10 to 14m up to within a short distance of its rocky shores. Torre San Marco, a prominent tower, stands on top of a cliff, close W of the cove. Anchorage is available, in a depth of 18m, sand, about 0.5 mile SSE of Punta del Segnale.

Golfe della Botte, entered W of Punta del Marchese, offers shelter from winds from the SE and SW quadrants. Its shores are precipitous and of uniform height. Anchorage can be taken, in a depth of 10m, sand and weed, about 0.5 mile E of its W entrance point.

Caution.—Due to the existence of the penal establishment on the island, landing or stopping near the shores is prohibited.

It is reported that unexploded ordnance lies close to Isolotto La Scola and close to Punta del Marchese.

Arcipelago Toscano—Islands Southeast of Isola Pianosa

10.55 Isola di Montecristo (42°20'N., 10°19'E.) lies 16 miles SE of the S extremity of Isola Pianosa. The island is formed of granite and is bare and conical with precipitous steep-to coasts. Picco del Segnale, the summit, stands in the N part and is 645m high.

The island does not offer anchorage for large vessels due to its sheer depths and abundance of rocks. However, the numerous bays provide shelter in all weather to small boats and fishing vessels.

Caution.—Isola di Montecristo is a game reserve and is inhabited only by game wardens. Landing on the island or navigation within 500m of it without permission is prohibited.

10.56 Scoglio d' Affrica (42°21'N., 10°04'E.), a small rock, lies 10.5 miles W of the NW extremity of Isola di Montecristo. It is 2m high and is surrounded by shoal spits. A light is shown from a tower, 16m high, standing on this rock. Scoglio d'Affrica lies in the SW part of Formiche di Montecristo, a bank, which has depths of less than 37m.

Two rocky patches, with depths of 7.5m and 6m, lie about 2.5 miles and 3 miles NNE, respectively, of Scoglio d'Affrica.

Another shoal, with a depth of 15m, lies about 0.9 mile E of the rock.

Caution.—Scoglio d’Affrica should not be approached closer than 1 mile, particularly during bad weather, as it is often difficult to distinguish.

10.57 Isola del Giglio (42°21’N., 10°54’E.) is separated from Promontorio Argentario (see paragraph 13.8) by a passage, 8 miles wide. The island is formed of granite and little cultivated. Its coasts are high, mostly steep-to, and generally clear of dangers.

Poggio della Pagana, 496m high, is the summit of the island. It rises near the center and is surmounted by a beacon. Giglio Castello, a village, stands at a height of 402m, 1 mile N of Poggio della Pagana. A huge castle and a disused signal station are situated in the vicinity of this village and are excellent landmarks. A prominent disused lighthouse stands at a height of 288m, 0.5 mile N of the castle.

Punta del Fenaio is the NW extremity of the island. A light is shown from a prominent structure, 10m high, standing on this point.

Punta di Capel Rosso is the S extremity of the island. A light is shown from a prominent tower, 20m high, standing 0.2 mile N of the seaward extremity of this point.

Giglio Marina (42°22’N., 10°55’E.), a village, is situated on the E side of the island, 2.6 miles N of Punta di Capel Rosso. It can be identified by a light-colored church, with a prominent belfry, and by an old circular tower which stands at the E end.

A small harbor, sheltered by two moles, fronts the village. The entrance, open to the N, is 50m wide. The harbor has a depth of 4m and is used by small vessels, ferries, and yachts. It can be contacted by VHF.

Caution.—It is reported that unexploded ordnance, which is dangerous to navigation, lies in a depth of 42m, close S of the small harbor at Giglio Marina.

10.58 Isola di Giannutri (42°15’N., 11°06’E.) lies 6 miles SSW of Promontorio Argentario (see paragraph 13.8) and 9 miles SE of Isola del Giglio. It has a rocky and steep-to coast. Punta Mezzogiorno, 93m high, rises near the S end of the island. It is the highest peak and is surmounted a building which resembles a tower.

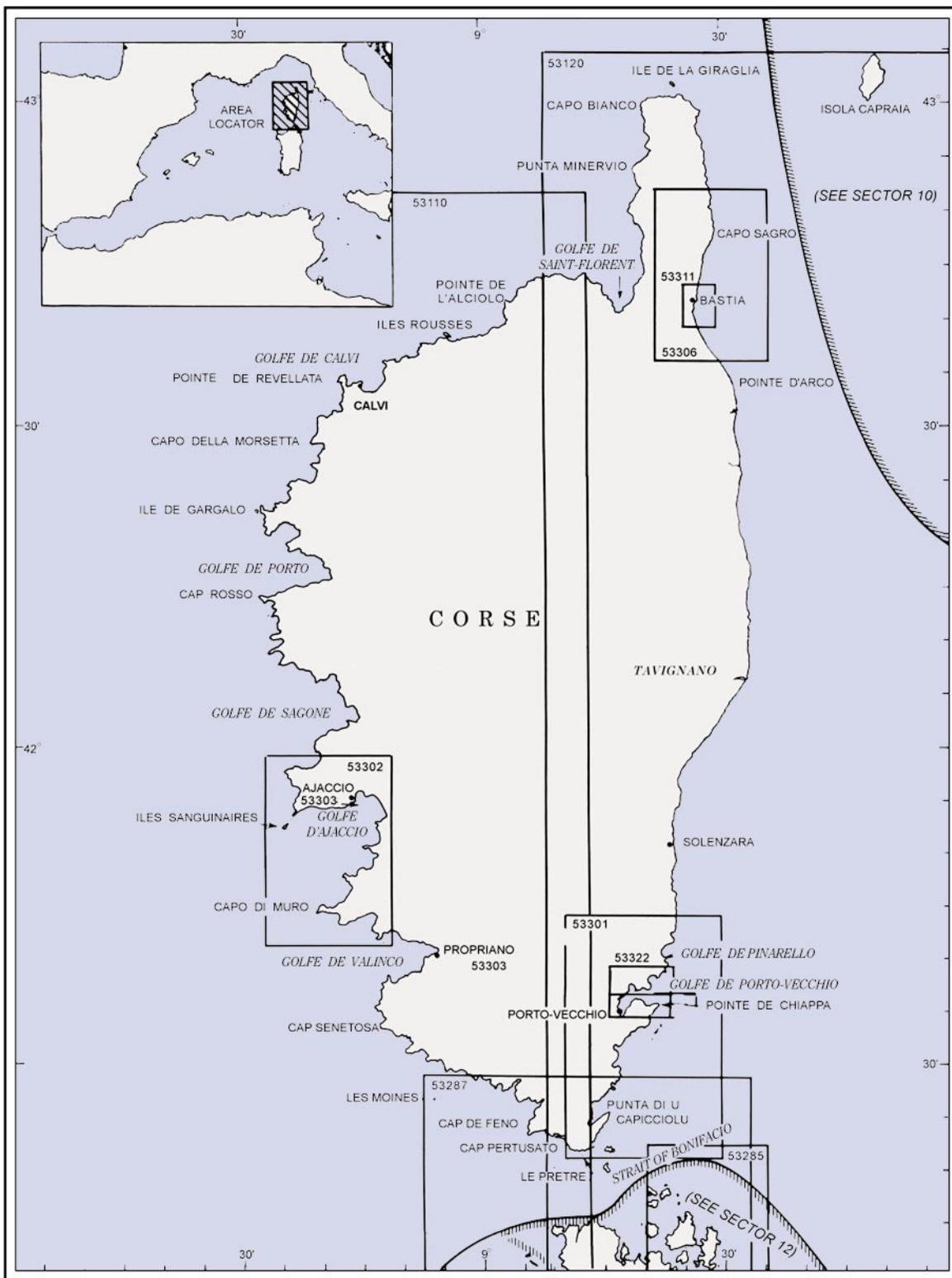
There is no water on the island, except what is collected in reservoirs from the rain, and there are few inhabitants. Numerous ruins and fragments of marble from the period of the Roman Empire are found everywhere on this island.

Punta del Capel Rosso is the S extremity of the island. A light is shown from a tower, 9m high, standing on this point.

Punta Secca, the N extremity of the island, is low, flat, and formed of black rock. Cala Maestra, a small cove, is entered 0.8 mile SW of Punta Secca and used by small craft. Poggio Cannone, 83m high, stands close E of the head of this cove and is surmounted by a massive building which resembles a fortress.

Golfo degli Spalmatoi occupies most of the E side of the island and has bare, rocky, and steep-to shores. It offers excellent shelter from all winds except those from the SE quadrant. Anchorage can be taken anywhere in the gulf. The depths are considerable, being about 40m, and the bottom is rocky. Cala Spalmatoi, a deep and narrow cove, lies in the NW corner of the gulf and offers good anchorage, in a depth of 13m, to small vessels with local knowledge.

Caution.—Due to submarine archaeological operations, vessels are prohibited from passing within 0.1 mile of most of the shore of Isola di Giannutri.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.
SECTOR 11 — CHART INFORMATION

SECTOR 11

FRANCE—CORSE (CORSICA)

Plan.—This sector describes the coasts of Corse (Corsica) and the Strait of Bonifacio which separates Corse from Sardegna (Sardinia). The descriptive sequence is from the N to S along the E coast of the island and from S to N along the W coast.

General Remarks

11.1 The island of Corse (Corsica) is French and, although separated by a comparatively shallow channel from Sardegna (Sardinia), is distinctive on account of its rugged outline and mountainous ridges.

Tides—Currents.—The range of the tide in this area is negligible.

There are no regular currents along the coasts of Corse, except in the Strait of Bonifacio where they are influenced by the winds. After strong NW gales, the current, which usually sets E, may attain a rate of 3 knots.

Regulations.—Tankers laden with hydrocarbons and vessels carrying dangerous cargoes, over 1,600 grt, are required to keep at least 7 miles off the Corsican coast, except in the Strait of Bonifacio.

Special regulations apply to tankers laden with hydrocarbons and to vessels carrying dangerous cargoes navigating in the approaches to French ports. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Mandatory Access Channels and Waiting Areas, which are navigation controlled, lie in the approaches to several ports and are indicated on the charts. Tankers laden with hydrocarbons and vessels carrying dangerous cargoes, over 1,600 grt, are required to use these approach access channels and associated waiting areas. Special regulations apply to these vessels navigating in the Mandatory Access Channels. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

All vessels carrying hydrocarbons, including oil, or other dangerous cargoes navigating within French territorial waters should maintain a continuous listening watch on VHF. A frequency or channel will be designated for this purpose by the local area traffic surveillance authority.

Cap Corse to Bastia

11.2 Capo Bianco (43°00'N., 9°21'E.), the NW extremity of the peninsula of Cap Corse, has a whitish appearance, but the coast to the N of it is rugged and black.

Capo Grosso, 127m high, is located 1.2 miles NE of Capo Bianco and surmounted by a signal station. The prominent villages of Tollare and Barcaggio are situated 1.2 miles and 1.8 miles E, respectively, of the cape. A prominent round tower stands near the village of Tollare.

Pointe d'Agnello is located at the NE end of the peninsula of Cap Corse, 2.8 miles E of Capo Grosso. A round tower stands at the edge of a cliff on this point.

Ile de la Giraglia (43°02'N., 9°24'E.) lies N of the peninsula of Cap Corse, 1 mile NNW of Punta d'Angelo. This small island lies at the N end of the coastal bank and is steep and surmounted by an old square tower. A light is shown from a prominent tower, 26m high, standing on the N part of the island.

A rock, awash, lies about 0.2 mile W of the N extremity of the island and a shoal patch, with a depth of 5.3m, lies about 0.2 mile S of the S extremity of the island.

11.3 Mont Cinto (42°22'N., 8°54'E.), 2,710m high, is the summit of a mountain range which ends abruptly at its N end in Mont Asto (42°35'N., 9°12'E.), 1,533m high.

Vessels approaching the peninsula of Cap Corse from the W or NW will first see this large mountain range which dominates the NW coast of Corse. The outline of the island then becomes lower and rises towards the mountain chain, which runs S to N on the peninsula of Cap Corse.

A tower stands on the coast, 1.5 miles SE of Pointe d'Agnello. Danger de Sainte-Marie, with a least depth of 5m, lies about 0.5 mile N of this tower and Banc de Sainte-Marie, with a least depth of 9.3m, lies about 1 mile ENE of this tower. The sea breaks heavily on these dangers during bad weather. A fringing reef, with a least depth of 2.6m, extends up to about 0.5 mile ENE from the tower.

Rade de Sainte-Marie, formed between the aforementioned dangers and the coast, offers anchorage with moderately good shelter from W winds. A good berth, in depths of 11 to 12m, weed, lies about 0.3 mile NE of the tower and SSE of Danger de Sainte-Marie.

11.4 Iles Finocchiarola (42°59'N., 9°28'E.), marked by a lighted buoy, consists of three islets which are surrounded by rocks. A ruined tower stands on the E and largest islet. Sommet Tamarone, 112m high, stands on the coast, 0.7 mile WSW of the ruined tower. Its summit is surmounted by a prominent pyramid.

Pointe de la Coscia, located 1 mile S of Sommet Tamarone, is the S entrance point of Baie de Tamarone. This bay is 0.7 mile wide and affords shelter from W winds.

Macinaggio, a village, is situated in a bay which is entered S of Pointe de la Coscia. It is fronted by a small harbor which is protected by two jetties and has extensive facilities for small craft and yachts.

Marine de Meria, a small cove, is entered 1.5 miles SSE of Macinaggio and can be recognized by an old mill which stands on a rocky promontory on the N side. A small town is situated near the shore at the head of the cove. Sommet Castello, 475m high, stands 1.5 miles WSW of the cove and can be seen over the intervening hills.

Capo Sagro (42°48'N., 9°30'E.), marked by a light, is located 11 miles S of Iles Finocchiarola and a signal station stands close N of it. Mont Merizatodio, 778m high, rising steeply 1.5 miles W of the cape and dominates the immediate area.

The village of Erbalunga, situated 1.5 miles SSW of Capo Sagro, stands on the S side of a rocky point; an old tower in ruins stands on the extremity of the point. A prominent convent is situated close N of the village and the isolated belfry of the church at Brando stands 0.8 mile WNW of it.

Tour de Miomo is situated 2 miles S of Erbalunga and stands near a group of houses on a rocky point which overlooks a small beach. Close S of this beach, the coast rises fairly steeply to the summit of Sommet Cornichiola which is 282m high.

Pointe Toga (42°42'N., 9°28'E.) is located 2 miles S of Tour de Miomo and has a large steel works situated close SSW of it.

Bastia (42°42'N., 9°27'E.)

World Port Index No. 39060

11.5 Bastia, the principal commercial port of Corse, comprises three separate harbor areas. Port Saint-Nicholas, in the center, is reserved for commercial operations; Vieux-Port, in the S part, is used by fishing vessels and pleasure craft; and Port de Plaisance de Toga, in the N part, is used by yachts and small craft.

Winds—Weather.—The Libeccio, a local W to SW wind, is predominant throughout the year and reaches a maximum frequency in summer. It can be especially violent in this vicinity.

Tides—Currents.—Tides and currents at Bastia are negligible, the water level being affected mainly by periods of strong winds.

Depths—Limitations.—Port Saint-Nicholas is the only harbor accessible to commercial vessels. Pier limitations are, as follows:

Pier	Length	Max. draft	Remarks
South Jetty Quay	157m	7.5m	General cargo and tankers
North Jetty Quay	125m	6.5m	General cargo and tankers
Aviation	45m	6.5m	Vessels less than 40m long
Fango 1	219m	6.5m	General cargo and tankers
Rive	90m	6.7m	General cargo and tankers
North Quay	118m	6.5m	Cement
Northeast Quay	137m	6.5m	General cargo and tankers
East Quay	245m	7.5m	General cargo and tankers

Pier	Length	Max. draft	Remarks
No. 8 Quay	150m	9.0m	General cargo and tankers

When ships simultaneously occupy North Quay and Northeast Quay, their lengths are limited to 72m at North Quay and 120m at Northeast Quay.

There are facilities for general cargo, ro-ro, bulk, automobile ferries, tankers, gas, and passenger vessels. Generally, vessels up to 160m in length and 7m draft can be accommodated. It has been reported that vessels up to 200m in length have been handled.

Aspect.—The mountains, which form the backbone of the peninsula of Cap Corse, rise close behind the coastal strip on which Bastia is situated. Le Pigno, the highest peak, stands 2.5 miles inland and is surmounted by a prominent pylon. The spire of the church of Sainte-Marie, situated in the citadel at the S end of the town, is prominent from seaward.

Pilotage.—Pilotage is compulsory for vessels over 45m in length or over 150 grt. Pilots can be contacted on VHF channel 9, 12, 15, or 16 and generally board about 1 mile E of the harbor entrance. Vessels should send an ETA at least 1 hour in advance. Pilots are provided by Haute Corse Station whose center is at Bastia.

Pilots at this station also serve the oil berths at Lucciana and Solenzara.

Regulations.—A Mandatory Access Channel, the limits of which are shown on the chart, lies in the approaches to the port and is entered 7 miles E of the harbor. All vessels over 1,600 grt and carrying hydrocarbons or dangerous substances must report their entry into this channel and maintain a listening watch on VHF. For further information, see paragraph 11.1.

The access route for other vessels lies S of the Mandatory Access Channel and may best be seen on the chart.

The speed limit within 1 mile of the port is 20 knots.

Anchorage.—During W winds, vessels may anchor in Anse de Porto Vecchio. There are depths of 15 to 30m in this bight, about 0.4 mile S of Vieux-Port.

Caution.—Anchoring, fishing, and diving prohibited areas, the limits of which are shown on the chart, lie in the approaches to the port.

Bastia to Golfe de Porto Vecchio

11.6 Etang de Biguglia (42°38'N., 9°27'E.) enters the sea 2 miles S of Bastia. This river extends 7 miles SSE and is separated from the sea by a narrow sand dune which is covered with vegetation.

Between Bastia and Alistro, 27 miles SSE, the coast is mostly low and backed by mountains standing from 2 to 5 miles inland.

South Bastia Gas Terminal (42°40'N., 9°28'E.) is situated close N of Etang de Biguglia. The berth, which consists of several mooring buoys, lies at the seaward end of a submarine pipeline which extends 0.4 mile ESE from the shore. A lighted buoy is moored about 0.3 mile E of the berth and marks the E approach. Pilotage, which is compulsory, must be obtained from Bastia.

Regulations.—An access channel, 0.5 mile wide, leads W to the terminal berth and is entered about 7 miles E of it. The use of this channel is obligatory for vessels carrying methane.

Vessels using the access channel should not enter it before obtaining permission from the Captain of the Port of Bastia by VHF.

Caution.—A submarine pipeline extends 0.8 mile NE from a point on the shore, 3.2 miles SSE of the South Bastia Gas Terminal. Anchoring is prohibited in the vicinity of this pipeline.

11.7 Punta di Arcu (Pointe d'Arco) (42°34'N., 9°31'E.), located 8 miles SSE of Bastia, is surmounted by a ruined tower and a white building. Maison Casone, with a prominent terraced balcony, stands on a ridge, 3 miles NNW of the point. Maison Pinetta, consisting of two low buildings with red roofs, is situated 2 miles SE of Maison Casone.

Furiani, a village, stands 2.5 miles SW of Bastia and is dominated by a white, square bell tower.

Mouillage d'Arco, lying 2 miles N of Pointe d'Arco, affords anchorage, in a depth of 20m, sand and weed, very good holding ground.

Lucciana Oil Terminal (42°33'N., 9°33'E.), an offshore pipeline berth, is situated 2 miles S of Pointe d'Arco. It lies in a depth of 9.9m and consists of four mooring buoys. A lighted buoy is moored about 0.3 mile E of the berth and marks the approach. Pilotage is compulsory within a 1 mile radius circle centered on the terminal. Pilots are provided from Bastia and board about 1 mile from the terminal.

Regulations.—A Mandatory Access Channel, the limits of which are shown on the chart, lies in the approaches to the terminal and is entered 6 miles E of the berth. All vessels over 1,600 grt, carrying hydrocarbons or dangerous substances, must report their entry into this channel to the Captain of the Port of Bastia and maintain a listening watch on VHF. For further information, see paragraph 11.1.

11.8 Flueve Golo (42°31'N., 9°33'E.) enters the sea 2.5 miles S of Pointe d'Arco. Several oil tanks stand 1.2 miles NW of the river mouth and are visible from seaward.

Between this river and Fium' Alto, 5 miles S, the low and flat coastal area extends as much as 4 miles inland in places. Two beacons, reported to be not very conspicuous from seaward, stand within this stretch of the coast. To the S of Fium' Alto, the mountains slope down to the beach.

Marine de Padulella, situated 3.5 miles S of Fium' Alto, comprises several prominent houses, one of which is very white. The belfry of San-Nicolao, standing 1.5 miles inland, is isolated and conspicuous from seaward.

Port de Campoloro, a yacht marina, lies 2 miles S of Marine de Padulella and is protected by two breakwaters.

Prominent mountains inland include Mont San Petrone, 1,767m high, standing 9 miles W of Marine de Padulella; and Pointe de Caldane, 1,724m high, standing 3.5 miles S of Mont San Petrone.

Tour d'Alistro, a ruined tower, stands 11.5 miles S of Fium' Alto. Between this tower and Marine de Solenzara, 25 miles SSW, the coast is low, marshy, and provides no sheltered anchorage. A light is shown from a tower, 23m high, standing

0.8 mile NW of Tour d'Alistro. A disused signal station is situated near the light.

The chapel of Sainte-Marie stands 6 miles S of Tour d'Alistro and is prominent.

Tour Bravone, in ruins, stands on a coastal hill, 48m high, 3.5 miles S of Tour d'Alistro.

Etang de Diane lies 3.5 miles S of Tour Bravone. This lagoon is navigable by boats in winter and has a mouth near its N end. The ruins of Tour de Diane stand on the S side the mouth.

The town of Padulone (Marine d'Aleria), consisting of several houses, is situated close S of the lagoon on the N side of the mouth of the Tavignano. Also in this vicinity, the conspicuous belfry of the village of Aleria and the old penitentiary of Casabianda are prominent from seaward.

The village of Calsarello stands on the S side of the Fium d'Orbo, 5 miles SW of Padulone. It has a building, with a cylindrical tower surrounded by pillars, which is visible from seaward. A tower, which resembles a lighthouse, stands 0.5 mile SSW of the village and is prominent. A stranded wreck lies 1 mile S of the river mouth.

The village of Prunelli-di-Fiumorbo, in which stands a domed belfry, is situated inland, 5.5 miles WNW of Calsarello. The conspicuous belfry at Isolaccio-di-Fiumorbo stands at the head of a valley, 2 miles W of Calsarello.

11.9 Solenzara Oil Terminal (41°55'N., 9°25'E.) lies 4.5 miles S of Calsarello. A submarine pipeline extends about 0.3 mile from the shore to a berth, which consists of four mooring buoys, and its seaward end is marked by a yellow and black buoy. A lighted buoy is moored about 0.2 mile E of the berth and marks the approach.

Pilotage is compulsory within a circle of radius 3 miles of the terminal. Pilots are provided from Bastia.

Regulations.—A Mandatory Access Channel, the limits of which are shown on the chart, lies in the approaches to the terminal and is entered about 6.5 miles E of the berth. All vessels over 1,600 grt, carrying hydrocarbons or dangerous substances, must report their entry into this channel to the Captain of the Port of Bastia and maintain a listening watch on VHF. For further information, see paragraph 11.1.

Caution.—Solenzara Air Base is situated 1.5 miles NW of the oil terminal; a prohibited area extends up to 300m from the base.

11.10 The Riviere de Travo (41°54'N., 9°24'E.) enters the sea 1 mile SW of the oil terminal. It can be identified by a large bridge, with a chapel situated N of it, standing 1 mile inland. The heights of Ventiseri, on which stand a belfry and a triangulation marker, are located 4 miles WNW of the river mouth.

The prominent village of Solenzara stands on the S side of the mouth of the Solenzara River, 3 miles S of the mouth of the Travo. Sommet de Mozza, 1,124m high, stands 4 miles W of this village and has the appearance of a gigantic column.

Between Solenzara and Punta San Ciprianu, 15 miles S, the coast is rocky and backed a short distance inland by pine-covered mountains. Mont Santo stands 1.7 miles SW of Solenzara. The conspicuous village of Sari is situated on its slopes.

Anse de Cannella, lying 3.5 miles S of the mouth of the Solenzara River, can be identified by the red cliffs which over-

look a beach at its head. Anse de Favone, another cove, lies 5 miles S of the Solenzara River and can be identified by a prominent chapel which stands on its N entrance point.

Punta de Fautea (41°43'N., 9°25'E.), the E extremity of a rocky promontory, is dominated by Tour de Fautea, which can be seen from some distance seaward. Ile de Fautea, 32m high, lies close off this promontory.

Golfe de Pinarellu (Pinarello Bay) is entered between a point located 1.2 miles S of Punta de Fautea and Ile de Pinarellu, 1.3 miles S. The latter island is 58m high and is surmounted by a conspicuous tower. Ilot Roscana, a group of rocks, lie in the entrance to this gulf. They are red with whitish tops and the largest is 9m high. The gulf affords anchorage to small vessels, in depths of 12 to 15m, in its central part. The holding ground is poor and there is no protection from E winds.

Punta Capicciola, located 1.5 miles SSW of Ile de Pinarellu, is the extremity of a narrow peninsula which is 30m high and reddish in color. A rock lies close off the extremity of the point. Sommet della Vacca Morta, 1,315m high, stands 10 miles W of the point and is black and jagged.

Baie de San Ciprianu (41°38'N., 9°21'E.) is entered between Punta d'Arasu and Punta San Ciprianu, 1.2 miles SSW. Ile de Cornuta, reddish and pointed, and Ile San Ciprianu, 24m high with a rounded top, lie 0.2 mile S and 0.2 mile SW, respectively, of Punta d'Arasu.

A light is shown from a structure, 11m high, standing on Punta San Ciprianu.

The bay affords anchorage to small craft, in a depth of 6m. This anchorage is sheltered from W through N to NE, but the holding ground is not good.

11.11 Golfe de Porto Vecchio (41°37'N., 9°20'E.) is entered between Punta San Ciprianu and Punta de la Chiappa, 1.2 miles SE. It offers the best anchorage on the E coast of Corse.

Roches de Pecorella, a group of above-water and submerged rocks, lies 0.7 mile ESE of Punta San Ciprianu. This group is marked by a lighted beacon and submerged rocks, shoals, and dangers lie within 0.2 mile of it.

Punta di Benedettu is located on the N shore of the gulf, 1.3 miles W of Punta San Ciprianu. It forms an isolated promontory, 45m high, in the middle of a plain. Anchorage can be obtained SW of Punta San Ciprianu and E of Punta di Benedettu, in depths of 10 to 20m, mud and weed. This roadstead has good holding ground, but is exposed to E winds.

Punta de la Chiappa (41°37'N., 9°20'E.) is the S entrance point of the gulf. A light is shown from a prominent structure, 21m high, standing on the point. Roches de Chiappino, a group of above-water rocks and shoals, lies 0.2 mile NE of the point.

Punta di l'Arena is located on the S shore of the gulf, 2.3 miles W of Punta de la Chiappa. The coast between is composed of high cliffs which are interrupted by sandy beaches. Punta di l'Arena is fronted by a sandy spit, which extends NNW, and should be given a wide berth.

Ilot Ziglione, 13m high and wooded, lies about 200m offshore, 0.9 mile SW of Punta di l'Arena. Small vessels may obtain anchorage SW of Punta di l'Arena or, in a depth of 6m, mud and weed, between N and NW of Ilot Ziglione.

Marina d'Arge, located 1.1 miles W of Punta de la Chiappa, is the most prominent beach on the S shore of the gulf.

Paso Nord leads into the gulf between Punta San Ciprianu and Roches de Pecorella, and Passe de l'Est leads between Roches de Pecorella and Roches de Chiappino.

11.12 Porto Vecchio (41°35'N., 9°17'E.) (World Port Index No. 39070), a small port, lies at the SW end of the gulf.

Depths—Limitations.—The port consists of a yacht harbor, which fronts the town, and Quai de Commerce, which fronts an area of salt pans, 0.3 mile SE of the town.

There is 250m of total berthing space with a depth of 5.5m alongside. Vessels up to 5.2m draft can be accommodated.

Aspect.—The town, which contains a prominent steeple, is built on a hill and is surrounded by walls. The conspicuous ruins of Chateau de Georgesville, with a gray-green flat roof, are situated 0.5 mile N of the town and surrounded by trees. Several white warehouses stand in the vicinity of the commercial quay.

A directional sector light is shown from a structure standing on the W shore of the gulf and indicates the fairway.

Pilotage.—Pilotage is compulsory for vessels over 60m in length. Vessels should send an ETA 24 hours in advance and then contact the pilot on VHF channel 16 when within range. Pilots are provided from Ajaccio.

Regulations.—A Mandatory Access Channel, the limits of which are shown on the chart, leads W and SW through the gulf to the harbor. Its seaward entrance lies 0.6 mile NNW of Punta de la Chiappa. All vessels over 1,600 grt, carrying hydrocarbons or dangerous substances, must report their entry into this channel and maintain a listening watch on VHF. For further information, see paragraph 11.1.

Golfe de Porto Vecchio to the Strait of Bonifacio

11.13 Iles Cerbicale (41°33'N., 9°22'E.), a group of islands, lies 0.8 mile offshore and is centered 2.6 miles S of Punta de la Chiappa.

From the N to S, the group consists of Ile Forana, 34m high, Ile de Maestro Maria, 5m high, Ile Piana, 36m high, and Ile Pietricaggiosa, 10m high.

Rocher de la Vacca, an islet, lies 0.5 mile ESE of Ile Forana. It is 24m high, isolated, and rather pointed. Danger de la Vacca lies about 0.7 mile SE of Rocher de la Vacca and is marked by a lighted buoy. It consists of two shoal heads with depths of 4 to 4.5m.

Iles du Toro (41°30'N., 9°23'E.) lies 2.3 miles SSW of Danger de la Vacca and comprises of a compact group of rocks up to 34m high. The W rock is prominent and has a summit shaped like a finger. Hautfond du Toro, a rock, lies about 0.5 mile E of the group. It has a least depth of 2.7m and is marked by a lighted buoy.

Caution.—The above dangers are surrounded by shoals, rocks, and foul ground, and vessels are advised to give them a wide berth.

Iles Cerbicale is a designated nature reserve. Landing is prohibited between April 1 and August 31 unless special permission has been given. The landing of motor vehicles is forbidden at all times.

11.14 Punta di Rondinara (41°28'N., 9°17'E.), reddish in color, is the extremity of a peninsula, 59m high, which is

connected to the mainland by a low isthmus. Tour de Sponaglia, a ruined tower, stands 1.2 miles NNE of the point and is conspicuous.

Golfe de Santa Manza (41°26'N., 9°16'E.) is entered between Punta di Rondinara and Punta di u Capicciolu, 2.2 miles SSW.

Punta di u Capicciolu is the NE extremity of a peninsula which rises to a remarkable summit, 107m high, 0.2 mile SW of the point. The ruins of Tour Santa-Manza stand 1 mile SW of the point.

Cap Blanc is located at the head of the gulf, 1.5 miles W of Punta di u Capicciolu. It is composed of prominent white cliffs, 46m high.

Anchorage is available in the gulf, sheltered from all but winds between the N and E. The bottom is sand and weed, good holding ground.

Caution.—A dangerous wreck is located 0.7 mile NE of Punta di Rondinara. It is surrounded by an anchoring, fishing, and diving prohibited area of 300m radius.

11.15 Punta de Sporono (Pointe Sperone) (41°22'N., 9°16'E.) is located 4.2 mile SW of Punta di u Capicciolu and is the SE extremity of Corse. It is formed by a small tongue of land with vertical sides and is surmounted by a beacon.

Ile Porraggia (41°23'N., 9°16'E.), 19m high, lies 2 miles S of Punta di u Capicciolu. This island is surmounted by a pyramid of stones and an islet lies close NE of it.

Iles Gavitti (41°24'N., 9°15'E.), lying 0.7 mile NW of Ile Poraggia, consists of a group of rocks up to 4m high, which lie on the middle of a bank with depth of less than 5m.

Isles Lavezzi (Archipel Lavezzi) (41°20'N., 9°15'E.) lie centered 4 miles S of Punta di u Capicciolu. The group is composed of two principal islands and numerous small islets, reefs, and shoals. A channel, marked by buoys, leads between the group and Corse. It is used only by small vessels, with local knowledge, during clear daylight hours.

Ile Cavallo, the N principal island, lies 1.5 miles E of Punta de Sporono. It is 37m high and is surrounded by rocks and shoals.

Ile Perduto, lying 1.5 miles E of the island, is low and surmounted by a small block of stone. Above and below-water dangers extend up to about 0.4 mile from the islet and are marked by a lighted buoy.

Ecueil de Perduto, a drying rock, lies about 0.5 mile SE of the islet. It is marked by a lighted beacon.

Ile Lavezzi (41°21'N., 9°15'E.), the S principal island, consists of a rugged mass of rock. It is surrounded by rocks and is connected to Ile Cavallo by foul ground. Capu di u Beccu, the S extremity of the island, is difficult to identify from the S as it blends with the higher elevations of the island. A light is shown from a structure, 10m high, standing on this cape.

The prominent Pyramide de la Semillante, in commemoration of the wreck of the French frigate La Semillante in 1854, stands on an islet close W of the cape.

Ile Piana lies 0.5 mile NE of Pointe de Sperono and is marked by a prominent beacon.

Ecuel de Lavezzi, with a least depth of 3.1m, lies about 1 mile S of the S extremity of Ile Lavezzi. A light is shown from a structure, 22m high, standing on this shoal and a lighted buoy is moored about 0.4 mile SSE of it.

Caution.—Iles Lavezzi are a designated nature reserve area and diving and fishing are prohibited in the vicinity of the group.

A submarine pipeline extends between the N end of Iles Lavezzi and the S coast of Corse and may best be seen on the chart.

The Strait of Bonifacio

11.16 The Strait of Bonifacio is 6.5 miles wide, but off-lying islands and dangers narrow the principal passage to a width of 3 miles. There are depths of not less than 53m in the fairway between Iles Lavezzi and Isola Razzoli.

Winds—Weather.—In the summer, the predominant winds in the strait are from the W. In the winter, the predominant winds are from the NE. The winds strengthen in the strait and shift from NW to SW, at the E entrance, and from NE to SE, at the W entrance.

Winds from the SW are very rare during the summer in the W part of the strait. They blow most often during the winter before strong gales and storms. However, winds from the NW can quickly develop.

Generally, winds ease up during the night and regain their maximum intensity in the middle of the day.

Tides—Currents.—In the strait, tidal currents are weak and variable, but there are important wind induced currents.

Winds from the NW produce currents which set E at up to 2 knots; winds from the W may produce currents which set E at up to 4 knots; and winds from the E produce currents which set W at up to 3 knots.

Regulations.—Transit is prohibited to ships carrying hazardous cargos flying Italian and French flags. Ships with hazardous cargo flying other flags shall comply with regulations issued by their flag state.

For the purpose of improving the safety of navigation in the Strait of Bonifacio and reducing the risks of pollution of the French and Italian coastlines as a result of groundings or collisions involving tankers, gas carriers, or bulk chemical carriers, a system of reporting, surveillance, and information has been established by the Governments of France and Italy in order to warn vessels of any hazard that might threaten their safe passage.

A Ship Movement and Reporting System (MAREP) has been established within the Strait of Bonifacio and its E and W approaches.

The system is mandatory for all vessels of 300 grt and over. The system is referred to as BONIFREP and covers the waters within a 20-mile radius of Bonifacio (41°23.4'N., 9°09.8'E.). The system's call sign is "Bonifacio Traffic" and is used when reporting to either the Italian authority based at La Maddalena Coast Guard Station, Sardinia or the French authority based at the Pertusato Naval Signal Station, Corsica. Vessels should establish contact on VHF channels 10 and 16.

Vessels are required to transmit their reports upon entering the precautionary areas situated at either end of the routing scheme, or when passing the following demarcations:

1. **Eastbound.**—A line joining:
 - a. Cabo de Feno Light (41°23.6'N., 9°05.9'E.).
 - b. The W end of the N limit of the routing scheme (41°19.2'N., 9°06.5'E.).

- c. The W end of the S limit of the routing scheme (41°16.8'N., 9°06.2'E.).
 - d. Capo Testa Light (41°14.7'N., 9°08.7'E.).
2. **Westbound.**—A line joining:
- a. Punta di Rodinara (41°27.9'N., 9°16.7'E.).
 - b. The E end of the N limit of the routing scheme (41°22.6'N., 9°22.4'E.).
 - c. The E end of the S limit of the routing scheme (41°21.6'N., 9°23.3'E.).
 - d. Punta Galera (41°14.6'N., 9°27.6'E.).

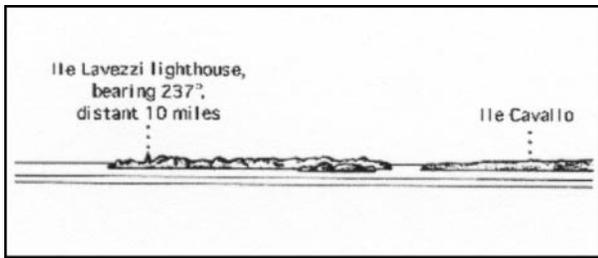
The reported information should be formatted, as follows:

Article	Required Information
A	Name, call sign, and IMO number.
C	Latitude and longitude.
D	Bearing and distance from a landmark.
E	Course.
F	Speed.
O	Draft.
P	Cargo category and quantity.
Q or R	Vessel defects, damage, or limitations.
X	Any additional information, including pollution incidents or cargo loss.

Vessels of over 5,000 grt transporting oil, dangerous chemicals, or substances likely to pollute the sea or coastline are strongly urged not to pass through the Strait of Bonifacio. This recommendation does not apply to vessels sailing in either direction between Porto Torres and any port on the Italian mainland from Civitavecchia to Napoli.

Caution.—Several submarine cables, some power, lie in the strait and may best be seen on the chart. Anchoring and fishing in their vicinity is prohibited.

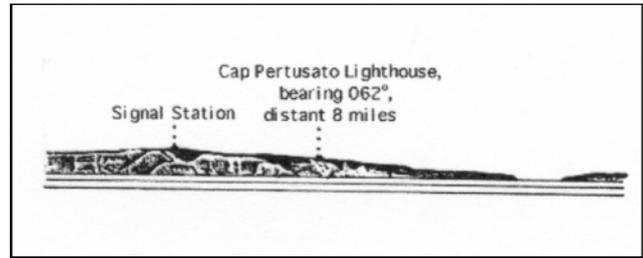
A magnetic anomaly maybe experienced in the vicinity of the power cables.



The Strait of Bonifacio from NE

11.17 North side of the Strait of Bonifacio.—In clear weather, vessels approaching the Strait of Bonifacio from the E or W can first identify the high mountains in the S part of Corse which may best be seen on the chart.

The N side of the strait between Punta de Sperono (Pointe Sperone) and Capo Pertusato is composed of very rugged, red granite cliffs. Then towards Cap de Fenò, the coast consists of



The Strait of Bonifacio

relatively low, rocky cliffs. In the vicinity of Bonifacio, the coast comprises of nearly horizontal plateaus which are formed of whitish limestone and backed by angular ridges.

Le Pretre, a shoal, lies about 0.4 mile WSW of Punta de Sperono. It has a least depth of 4.6m and is marked by a beacon.

Capo Pertusato (41°22'N., 9°11'E.), the S extremity of Corse, is located 1.7 miles W of Punta de Sperono. Ile Saint-Antoine, surmounted by a chapel, lies close S of the seaward extremity of the cape. A light is shown from a prominent structure, 17m high, standing 0.2 mile ENE of the cape. A prominent signal station is situated 0.5 mile NW of the light.

The port of Bonifacio lies 1.7 miles NW of Capo Pertusato and is fully described in paragraph 11.19.

11.18 South side of the Strait of Bonifacio.—The S side of the strait is formed in the W part by the N coast of Sardinia and in the E part by L'Archipelago della Maddalena, an extensive group of islands, which are fully described beginning in paragraph 12.5.

Isola Razzoli (41°18'N., 9°21'E.), the NW island of the group, is marked by a light with racon. It is bordered to the NW by Secca di Razzoli, a rock, which is the outermost danger on the S side of the passage. This rock lies about 0.5 mile NW of Isola Razzoli Light and has a least depth of 8m.

Isola la Presa lies 1.5 miles E of Isola Razzoli and a shoal, with a depth of 10m, lies about 0.4 mile N of it.

Directions.—The main passage through the strait lies between Ecueil de Perduto and Ecueil de Lavezzi, on the N side, and Isola Razzoli and Punta Falcone, the N extremity of Sardegna, on the S side. The passage is not less than 3 miles wide and presents no difficulties during daylight.

At night, vessels coming from the N or NE can avoid Ecueil de Perduto by keeping Isola Razzoli Light bearing not less than 180°. When Ile Lavezzi Light bears 270°, vessels should then steer SW through the middle of the strait between Isola Razzoli and Ecueil de Lavezzi. After passing through the red sector of Isola Razzoli Light, vessels should alter course and steer W with the latter light kept bearing 080° astern until W of Ecueil de Lavezzi. Vessels may then shape courses as convenient for the remainder of the passage.

At night, vessels from the W should steer for Isola Razzoli Light, with a bearing less than 093°, and keep to the S of its red sector. Having passed through the red sector of Ile Lavezzi Light, vessels should then steer NE out of the E entrance of the strait.

Passage de la Piantarella, which leads between the SE coast of Corse and the islands of Ile Poraggia and Ile Ratino, has a least depth of 9m in the fairway. It should be used only during the daytime when the wall beacons on Ile Piana and Punta de Sperono are clearly visible.

Caution.—Deep-draft vessels should take care to avoid the shoal bank which lies 2 miles E of Ile Lavezzi Light.

Passage between Iles Lavezzi and Ecueil de Lavezzi does not shorten the route distance to any great extent and is not recommended for large vessels.



Passage de la Piantarella

11.19 Bonifacio (41°23'N., 9°09'E.) (World Port Index No. 39080), a small port, lies on the N side of the strait. The harbor is formed by a cove which affords excellent shelter.

Depths—Limitations.—The harbor is mostly used by ro-ro ferries, fishing vessels, and pleasure craft. The main commercial quay is 60m long with a depth of 7m alongside. Vessels up to 100m in length and 4m draft can be accommodated.

Aspect.—The town is built on the rocky peninsula, which forms the S side of the cove, and is visible from some distance seaward. The cliffs of the peninsula overhang the sea and have chasms which appear as prominent black patches on the white rock. The town is bounded to the E by the white walls of fortifications. The church of Sainte-Marie Majeure, with a prominent belfry surmounted by a small Byzantine dome, stands close W of the fortifications. The conspicuous octagonal tower of Saint-Dominique stands 0.2 mile W of the church. The low and conical belfry of Saint-Francois is situated close to the SW extremity of the peninsula.

Pilotage.—Pilotage is compulsory for vessels over 70m in length. Vessels should send an ETA at least 24 hours in advance. Pilots can be contacted on VHF channel 16 and are provided from Ajaccio.

Caution.—Certain water areas and quays are reserved for use of the French Navy and are not to be used by other vessels without authorization by the Naval Commandant.

The harbor entrance is reported to be difficult to distinguish from a distance.

The Strait of Bonifacio to Golfe de Valinco

11.20 Cap de Feno (41°23'N., 9°06'E.), the NW entrance point of the Strait of Bonifacio, is dominated by a ridge which extends 1.5 miles ENE. Three prominent peaks rise from this

ridge. The E peak is 219m high and is surmounted by Croix de la Trinite. The W peak is 229m high. A light is shown from a structure, 12m high, standing on the cape.

Iles de la Tonnara, a group of islets, lies close offshore, 2 miles N of the cape. The largest islet of the group is surmounted by a prominent stone pyramid.

Golfo de Ventilegne is entered between Iles de la Tonnara and Punta de Ventilegne, 1.2 miles NW. The N and E shores of this small bay are fronted by a rocky bank.

Baie de Figari is entered between Punta de Ventilegne and Pointe de Figari, 2 miles WNW. Tour de Figari stands on a heap of rocks on the W shore of this bay, 1 mile NE of Pointe de Figari. This tower is reported to be difficult to distinguish against the background. The bay affords good anchorage to vessels with local knowledge, except during SW winds. The bottom is formed of sand and mud with moderately-good holding ground. The best berth is sheltered from NW winds and lies, in a depth of 16m, weeds, about 0.1 mile ESE of Tour de Figari. A directional light leads into the bay.

Tour d'Olmeto (41°29'N., 8°59'E.), a conspicuous white tower, stands 2.8 miles NW of Pointe de Figari. Three groups of dangers extend up to 2 miles SW of this tower. Petit Ecueil d'Olmeto, with a depth of 3.9m, is the outermost danger; Grand Ecueil d'Olmeto, with a least depth of 0.2m, lies in the middle; and Ecueil du Pretre, with a depth of 0.8m, lies closest to the shore and is marked by a beacon which was reported destroyed in 1986.

Sommet La Petrosa, 412m high, stands 2 miles N of the tower and overlooks this section of the coast.

11.21 Les Moines (41°27'N., 8°54'E.), consisting of three groups of dangerous rocks, lies 1.8 miles W of Petit Ecueil d'Olmeto. The middle group of rocks is the highest and rises up to 6m. A light is shown from a structure, 31m high, standing on the S group of rocks.

Rocks and shoals extend up to 0.2 mile SW of the light and an isolated sandy patch, with a least depth of 17m, lies about 1.2 miles W of the light.

The passage between Les Moines and Petit Ecueil d'Olmeto is 1.3 miles wide. The N extremity of Les Moines is steep-to and the two N rocks are clearly visible.

Capu di Zivia (Pointe Latoniccia) (41°31'N., 8°50'E.) is the extremity of a promontory which rises to Sommet de Pietra Nera. This peak, which stands 1.7 miles NE of the cape, is 197m high and rocky.

Ilot Latoniccia lies 0.2 mile S of the cape. It is steep, 20m high, and whitish in color. A rocky patch, with a depth of 4.7m, lies about 0.2 mile S of this islet and foul ground extends between them.

Haut-Fond de Latoniccia, a rocky area with a least depth of 23m, lies about 2.5 miles S of Capu di Zivia. During W winds, vessels should avoid this locality because of the heavy sea caused by eddies.

Between Capu di Zivia and Capo Senetosa, 3.5 miles NW, the coast is rocky, indented by several coves, and backed by low mountains which form prominent isolated blocks.

Capo Senetosa (Pointe Senetose) (41°34'N., 8°47'E.), a prominent headland, is the SW extremity of Corse. It rises to a summit, 129m high, 0.8 mile inland which is surmounted by a gray tower. A light is shown from a prominent structure

standing 0.5 mile SE of the point. This light structure is 13m high and consists of two white towers joined by a white building.

Pointe Aquila, a low and narrow tongue of land, projects 250m SSW from the cape. The cape is fronted by above and below-water rocks and should be given a wide berth. Scoglio Blanco, the outermost visible rock, lies about 0.2 mile NW of the cape.

The coast between Capo Senetosa and Punta di Camo Moro, 5 miles N, is rocky, sheer, and jagged. Pointe d'Eccica, located 2 miles NNW of Capo Senetosa, is bordered by a peak, 111m high, which rises close E of it. Ile d'Eccica, low and bare, lies 0.5 mile W of the point. The channel between this islet and the point is encumbered with rocks.

Golfo de Valinco

11.22 Golfo de Valinco (41°40'N., 8°49'E.) is entered between Pointe di Camo Moro and Capo di Muro, 9 miles NW. It offers good shelter during E and S winds, but is exposed to those between the W and N. The promontory of Pointe di Camo Moro is surmounted by a fort with a large prominent tower.

The gulf extends 6 miles ENE and is enclosed by mountains. Pointe di Furchiccioli, 1,535m high, stands 5 miles NE of the head of the gulf. This peak appears as a plateau with a bare ridge and is very steep on its W side. Pointe di Buturetu, 870m high, is crowned by a rock which has the appearance of a citadel. This peak stands 2 miles N of the head of the gulf and overlooks the village of Olmeto, which is situated on its E slopes. Pointe Savaziglia, 669m high, stands 2 miles E of the head of the gulf. This mountain has two peaks and overlooks the village of Viggianello which is situated on its W side.

The S coast of the gulf recedes to form a bight close E of Pointe di Camo Moro. The village of Campo Moro is situated at the head of this bight. A large modern chateau, with three prominent turrets, stands close SW of the village. Anchorage is available, in depths of 12 to 24m, weed, good holding ground, N of the chateau and about 0.2 mile from the beach at the head of the bight. Shelter is afforded from winds between the SW and W, but this roadstead is untenable with winds from the NW.

Pointe di Falumbaja (Pointe Cardiciani) is located 2 miles E of Pointe di Camo Moro. It is fronted by a group of detached rocks, one of which is white and prominent.

11.23 Propriano (41°41'N., 8°54'E.) (World Port Index No. 39090), a small port, lies at the inner end of the gulf.

Depths—Limitations.—The main harbor, which is mostly used by pleasure craft and ferries, is formed by a jetty which extends 0.2 mile N from the shore. A basin for fishing vessels lies in the inner part of the harbor and an extensive yacht marina lies close E of it.

The commercial basin has a quay, 100m long, with a depth of 5.5m alongside and a dolphin berth which can accommodate ro-ro vessels up to 135m in length and 7m draft.

Aspect.—The town can be identified by a conspicuous church, with a square belfry, which stands isolated on high ground. A light is shown from a structure, 17m high, standing on the seaward extremity of the harbor jetty.

Pilotage.—Pilotage is compulsory for vessels over 60m in length. Pilots are provided from Ajaccio. Pilotage is available and advisable for all vessels without local knowledge. The pilot may be contacted on VHF channel 9 or 16.

Anchorage.—Anchorage is available, in depths of 10 to 12m, sand and weed, close E of the N jetty head, but this berth is exposed to winds between the W and N.

Caution.—During NW winds, a swell enters the harbor.

Obstructions and rocks lie on the N side of the main harbor jetty and it should be given a wide berth.

11.24 Pointe d'Aglio (41°41'N., 8°53'E.), marked by a tower, is located 0.8 mile NW of Propriano.

The head of the gulf comprises a wide, sandy beach. The Riviere Barachi flows into the gulf near the N end of this beach.

Pointe di Bitussu (Pointe de Taravo) located 2.3 miles WNW of Pointe d'Aglio, is low and fringed by rocks. A prominent tower stands 0.5 mile N of the point and a sandy beach extends 1.5 miles NW from it to Porto Pollo.

Porto Pollo, a small bight, offers shelter during NW winds although the holding ground is not good. Vessels should anchor, in a depth of 20m, about 300m offshore in its SW part.

Pointe di Porto Pollo is located SW of Porto Pollo and is fronted to the S and SE by foul ground.

Baie de Cupabia is entered between Pointe di Porto Pollo and Cap Nero, 3.5 miles WNW. Both of its entrance points are fringed with rocks and shoals. The E shore of the bay is rocky and overlooked by Tour Capanelle, which stands 1.5 miles N of the S entrance point. Anchorage can be taken, in depths of 12 to 15m, sand and weed, about 0.2 mile offshore, WNW of Tour Capanelle. This berth is sheltered from all winds except those from the SW.

Cap Nero, the N entrance point of the bay, is formed of high, black cliffs. The Nero stands on the cape. It is light-colored and shows up clearly amongst the vegetation. Sommet della Monteta, 349m high, stands 1.5 miles NE of the cape and is prominent from seaward.

A detached rock, with a depth of 2.4m, lies about 0.7 mile E of Cap Nero.

11.25 Capo di Muro (41°44'N., 8°40'E.), the N entrance point of the gulf, is located 2.3 miles NNW of Cap Nero. A light is shown from a tower, 7m high, standing on the cape.

This cape is fronted by a bank, with depths of less than 18m, which extends up to 0.5 mile S and SW of it. A detached rocky patch, with a least depth of 11m, lies about 1 mile S of the cape.

Golfe d'Ajaccio

11.26 Golfe d'Ajaccio (41°50'N., 8°43'E.) is entered between Capo di Muro and Pointe de la Parata, 9.5 miles NNW and extends 10 miles NE.

A prominent television tower surmounts a peak, 580m high, which stands 5 miles ENE of Capo di Muro.

Pointe Guardiola, located 0.5 mile N of Capo di Muro, is fringed by rocks which extend up to 0.5 mile offshore. Sommet Guardiola, 167m high, stands 0.5 mile E of the point and Tour Muru stands on a cliff, close E of its summit.

The gulf is overlooked on its E side by Cozzanaccio, 1,060m high, which rises 12.5 miles NE of Capo di Muro.

The coast extending to the NE of Capo di Muro forms three open bays which are separated by protruding points.

Pointe de la Castagna, which separates the first and second bays, is located 3.7 miles NE of Pointe Guardiola. It is rounded and rises to a summit, 91m high, which is surmounted by a tower.

Pointe de Sette Nave, which separates the second and third bays, is located 3.2 miles NE of Pointe de la Castagna and fronted by foul ground and rocks. It is the W extremity of a peninsula which is surmounted by Tour Isolella, a prominent tower. La Campanina, a shallow rock, lies about 0.5 mile SW of the point and is marked by a beacon, 7m high.

Pointe de Porticcio, which borders the N side of the third bay, is located 2.6 miles NE of Pointe de Sette Nave and is fronted by rocks. A prominent hotel is situated 0.2 mile E of the point. Ecueil Dorbera, a group of rocks, lies about 0.3 mile SSW of the point.

To the N of Pointe de Porticcio, the head of the gulf is bordered by a sandy beach. An airport is situated on a plain, which adjoins the beach, 2.5 miles NNE of the point.

11.27 Pointe d'Aspretto (41°55'N., 8°46'E.), located 2.4 miles NNW of Pointe de Porticcio, is the E entrance point of Baie d'Ajaccio. Darse d'Ajaccio, a small enclosed harbor, lies on its E side. The hangars and buildings of a French naval air station stand on the point and are conspicuous.

Les Scoglietti, a group of above-water and submerged rocks, extends up to about 0.4 mile S of Pointe d'Aspretto. An obstruction, with a depth of 11.4m, lies close S of this group.

The W entrance point of Baie d'Ajaccio is located 1 mile WSW of Pointe d'Aspretto. A conspicuous citadel stands on this point. A light is shown from a tower, 13m high, standing at the E side of the citadel.

La Citadelle, a shoal patch, lies about 0.2 mile S of the citadel. It has a least depth of 3.3m and is marked by a lighted beacon. A rocky shoal, with a depth of 3.5m, lies about 0.1 mile W of the beacon.

Ajaccio (41°55'N., 8°45'E.)

World Port Index No. 39100

11.28 Ajaccio, the capital of Corse, is a commercial port and the site of a naval base. The port occupies Baie d'Ajaccio and consists of three basins, which lie on the W side of the bay, and an outer harbor which consists of the center and E side of the bay.

Winds—Weather.—The prevailing winds are from the NE and very mild weather exists all year round. During the winter, strong SW winds may be experienced.

Tides—Currents.—Tides and currents are negligible. Winds from the SW may sometimes cause a sea and swell in the harbor.

Depths—Limitations.—The approaches to the bay impose no limitations on the size of vessels using it. The fairway leading through the harbor to the various basins is deep and clear.

Bassin de la Ville, the S harbor basin, is protected from the S by the Jetee de la Citadelle. Its S part is used by fishing vessels and pleasure craft.

Quai de la Gare Maritime, 200m long, and Quai l'Herminier, 90m long, form the W side of this basin and have depths of 6.5 to 7m alongside. Jetee des Capucins projects E from the N end of Quai l'Herminier. Its S side has a berth, 100m long, with a depth of 7m alongside.

Bassin des Capucins lies N of Bassin de la Ville. The N side of Jetee des Capucins forms the S side of this basin and has a berth, 135m long, with a depth of 7m alongside. Jetee du Margonajo and Quai de la Chambre de Commerce form the N and W sides of the basin and have depths of 7.5m alongside.

The above quays have extensive ro-ro facilities and can accommodate vessels up to 200m in length and 7m draft.

Bassin de Cannes, the N harbor basin, is occupied by an extensive yacht marina.

Appontement Jeanne d'Arc, with a depth of 6m alongside, extends from the NW corner of the bay and is used by LNG vessels.

Appontement Saint Joseph, with a depth of 7.5m alongside, extends from NE corner of the bay and is used by oil tankers.

Tahiti LNG terminal, consisting of a mooring buoy, lies 0.2 mile NE of Pointe d'Aspretto. A submarine pipeline extends NNE from the berth to the shore. Vessels up to 1,500 tons and 5m draft can be handled.

Aspect.—The olive-covered slopes of Mont Salaro rise behind the town and several prominent chapels are situated on them.

A French naval seaplane base, with hangars and workshops, is situated on the S side of Pointe d'Aspretto. Two radio masts stand 0.5 mile N of this base and two radio masts stand on a cliff on the E shore of the bay, 0.3 mile NW of the base.

Pilotage.—Pilotage is compulsory for vessels over 45m. Pilots can be contacted on VHF channels 12 and 16 and generally board about 0.4 mile ESE of La Citadelle Beacon. Vessels should send an ETA at least 24 hours in advance and a confirmation 1 hour before arrival.

This station also provides pilots for Propriano, Bonifacio, and Porto-Vecchio.

Regulations.—A Mandatory Access Channel, the limits of which are shown on the chart, lies in the approaches to Ajaccio and is entered 15 miles SW of the port. All vessels over 1,600 grt, carrying hydrocarbons or dangerous substances, must report their entry into this channel and maintain a listening watch on VHF. The use of this channel is reported to be only authorized during daylight. For further information, see paragraph 11.1.

Restricted military zone areas, the limits of which are shown on the chart, lie in the vicinity of the base at Pointe d'Aspretto and in the vicinity of Appontement Saint Joseph, at the NE corner of the bay. Vessels without prior permission from the military authorities are prohibited from entering these areas.

A restricted area, the limits of which are shown on the chart, lies in the vicinity of Appontement Jeanne d'Arc, at the NW corner of the bay. Vessels and small craft are prohibited from entering or anchoring in this area when a methane tanker is berthed at the pier.

A navigation restricted area, the limits of which are shown on the chart, lies N of a line between Les Scoglietti and the citadel. Within this area, sailing vessels and small craft must proceed only for the purpose of entering or leaving a harbor basin or an anchorage berth. Such craft must stay clear of any vessels 50m in length and over. Bathing, diving, or using beach craft or wind surfers is prohibited within this area.

Anchorage.—There is good anchorage, but SW and ENE winds, if strong, usually cause a moderately rough sea.

Mouillage de la Ville, in Bassin de la Ville, offers anchorage to small vessels, in depths of 5 to 7m, with a swinging radius of 115m.

Large vessels, of unlimited size, anchor in Mouillage des Capucins, which lies E of Bassin des Capucins, in depths of 20 to 25m, mud, excellent holding ground.

Caution.—Submarine cables extend S from the vicinity of the W entrance point of the bay. They extend out of the gulf and along the SW coast of Corse and may best be seen on the chart.

A prohibited anchorage area, the limits of which are shown on the chart, lies in the vicinity of the entrance to Bassin de la Ville.

Seaplanes from the naval air station frequently carry out practice flights.

Several unlighted mooring buoys are reported to be situated within the bay.

Anchoring and fishing are prohibited in the vicinity of the Tahiti LNG Terminal.

11.29 Chapelle des Grecs (41°54'N., 8°43'E.) stands on the coast, 1 mile WSW of Ajaccio. La Guardiola, a drying rock surrounded by foul ground, lies about 0.4 mile S of the chapel. A light is shown from a prominent tower, 8m high, standing on the rock.

La Botte, a rock, lies about 0.6 mile WSW of La Guardiola. It is 4m high. An outfall pipeline extends 0.3 mile S from the shore, close W of this rock.

Pointe Scudo, located 2 miles W of Chapelle des Grecs, is fronted by rocks and shoals. A prominent house, with a tower, stands 0.5 mile N of this point.

Pointe de la Parata is located 3 miles WSW of Pointe Scudo. Its summit, 58m high, stands close N of the seaward extremity and is surmounted by Tour Parata. Sommet Scuda, 529m high, stands 3.5 miles ENE of the point and is surmounted by a pyramid.

The gulf is overlooked on its N side by Pointe di Lisa, 790m high, and Punta Pozzo di Borgo, 780m high, which stand 4.5 and 5.5 miles NE, respectively, of Pointe de la Parata. A prominent chateau is situated near the summit of Punta Pozzo di Borgo and a dome-shaped monument stands on its S slope.

Iles Sanguinaires (41°53'N., 8°36'E.), a chain, extends up to about 2 miles SW of Pointe de la Parata. It consists of several shoals, three rocky islets, and the main island of Grand Sanguinaire.

Grand Sanguinaire lies at the SW end of the chain. A light is shown from a prominent structure, 16m high, standing on the summit of the island and a tower stands near the S end.

Rocks and shoals extend up to 0.5 mile SW of the SW end of the island and up to 0.3 mile SE of its SE end. Ecueil du Tabernacle, a rock with a least depth of 3m, lies 0.6 mile SE of

the SE end of Grande Sanguinaire and is marked by a lighted buoy.

Passe des Sanguinaires leads between Ile Porri, the N islet of the chain, and Pointe de la Parata. It is 0.2 mile wide and has a depth of 7m. Vessels of moderate draft, with local knowledge, can use this channel during daylight and with good weather.

Caution.—Vessels entering Golfe de Ajaccio should steer to pass clear of Iles Sanguinaires and at least 1 mile SW of the S extremity of Grande Sanguinaire.

Golfe d' Ajaccio to Golfe de Calvi

11.30 Cap de Feno (41°58'N., 8°36'E.) is located 4.3 miles N of Pointe de la Parata. The coast between is moderately high and rocky. The cape consists of steep cliffs and Tour de Feno, a prominent tower, stands close E of its seaward extremity.

La Botte, a rock 22m high, lies about 0.7 mile offshore, 1.2 miles S of the cape. Ecueil de Fico, with a least depth of 2m, lies about 0.5 mile N of La Botte.

Golfe de Lava is entered between Capo di Feno and Pointe Parragiola, 3.5 miles NE. Pietra de Piombata, 10m high, lies 1.2 miles ENE of Capo di Feno. This rocky islet is surrounded by dangerous rocks. La Figiera, another small islet, lies 0.2 mile offshore, 1 mile ESE of Pietra de Piombata. During good weather, anchorage can be obtained in the N part of this gulf.

Bank de Provencale, with a least depth of 15.4m, lies about 1.7 miles NE of Pointe Parragiola.

Golfe de Sagone is entered between Pointe Parragiola and Pointe di u Puntiglione, 6 miles NNW. Pointe Palmentoju is located on the SE side of the gulf, 4.1 miles NE of Pointe Parragiola. It is surmounted by a ruined tower and fronted by rocks. Recife de Paliage, a rocky shoal area, lies 1.4 miles W of this point and has a least depth of 0.9m.

Pointe Saint-Joseph is located on the NE side of the gulf, 2.8 miles N of Pointe Palmentoju. Recife de San Giuseppe (Recife de Saint-Joseph), a group of rocks and shoals, extends up to 1 mile SW of this point. A sandy beach extends 1.5 miles SSE from Pointe Saint-Joseph to Pointe Capigliolu, which is fronted by rocks and surmounted by two ruined towers.

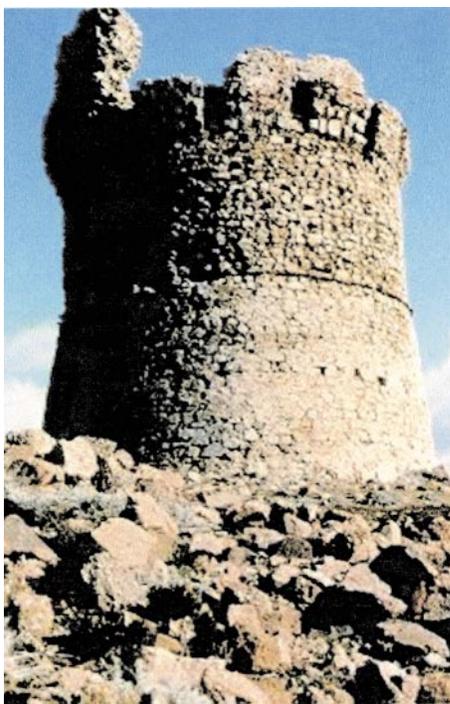
Anse de Sagone, in the NE part of the gulf, is entered E of Pointe de la Batterie (Pointe Albellu), which is located 1.5 miles NW of Pointe Saint-Joseph. Sommet Saltelle, 924m high, stands 3 miles ENE of the head of this bay and overlooks the area. Anchorage is available, in a depth of 12m, sand and mud, in the NW part of the bay. Local knowledge is advised.

Pointe de Triu, located 1 mile W of Pointe de la Batterie, is fronted by a rocky area with a least depth of 2.7m. Plateau de la Licciola, with a least depth of 9.2m, extends up to about 0.5 mile SSW of the point.

11.31 Punta di u Puntiglione (Pointe de Cargese) (42°08'N., 8°35'E.), the N entrance point of the gulf, is fronted by rocks. A prominent tower surmounts the summit of a hill, 162m high, which stands 0.5 mile NE of the point. The village of Cargese, situated 0.7 mile ENE of the point, is laid out like an amphitheater and has two prominent belfries.

Recif Marifaja, 1.5m high, lies about 0.6 mile offshore, 2 miles ESE of the point. A shoal patch, with a depth of 7.1m, lies 0.6 mile WSW of the point.

Golfo de Peru (42°08'N., 8°35'E.) lies between Punta di u Puntiglione and Punta d'Omignia, 1.5 miles NW. The latter point is fronted by an above-water rock and is formed by a long and narrow peninsula which is surmounted by a tower.



Punta d'Omignia

Golfo de Chioni is entered between Punta d'Omignia and Pointe d'Orchino, 1.7 miles N. The latter point is fronted by rocks and is marked by a tower which stands 0.7 mile ENE of it.

A shoal patch, with a depth of 9m, was reported (1986) to lie about 1 mile NNE of Pointe d'Orchino.

A bight is formed between Pointe d'Orchino and Punta alli Tuselli (Pointe Tuselli), 1.8 miles N. Port d'Arone (Anse d'Arone) and Cala di Palu, two coves, lie in the inner N part of this bight. Except at the head of this bight, where there is a sandy beach, the shores consist of blackish cliffs. Small vessels can obtain shelter from NW winds within the two coves. Local knowledge is required.

11.32 Cap Rosso (Cap Rossu) (42°14'N., 8°32'E.) is composed of cliffs and is fronted by several rocks. Tour de Turghio stands on the summit of a gigantic red granite cliff, 342m high, 0.5 mile E of the extremity of the cape.

Golfo de Porto is entered between Cap Rosso and Cap Senino, 5 miles NE. The coasts of this gulf are steep and surmounted by high mountains. The S shore is bordered by some rocky islets which lie close inshore. Pointe Palani, located 1 mile E of Cap Rosso, has a conspicuous granite pinnacle standing above it.

The village of Porto is situated at the head of the gulf and is separated from the sea by a rocky promontory on which stands

a prominent tower. A quay, used by small craft, lies on the N side of this promontory.

Golfo de Girolata is entered between Cap Senino and Punta Rossa, 2 miles NW. Cap Senino is the W extremity of a promontory which is dominated by Mont Senino, 619m high and very steep. Girolata is situated in a cove at the head of the gulf. A fort, surmounted by a tower, stands on the NW entrance point of the cove. Anchorage can be obtained, in depths of 20 to 29m, within this cove.

Sommet Porcire, 540m high, stands 1.8 miles NE of Punta Rossa and overlooks this part of the coast.

Pointe Palazzo is located 2.7 miles N of Punta Rossa. The coast between consists of high, rugged, and dark red cliffs. Pointe Palazzo is topped by a plateau, the striated rocks of which resemble a row of books. Ilot Palazzo, 58m high, lies close NW of the point.

11.33 Ile de Gargalo (Ile de Gargalu) (42°22'N., 8°33'E.) lies 0.5 mile SSW of Pointe Palazzo and is separated from the mainland by a very narrow passage. The summit of the island, 127m high, is surmounted by a tower and Le Casque, a distinctive helmet-shaped rock, stands on a small plateau, close NW of it. A light is shown from a structure, 6m high, standing on the NW end of the island. Ilot Garganello, a small islet, lies close off the S extremity of the island.

Baie d'Elbo indents the coast between Pointe Palazzo and Pointe Nera, 1 mile E. Marine d'Elbo, a sandy beach, is located at the head of a small inlet, in the S shore of the bay. There are several buildings here and it is an important center for lobster fishing. Ilot Pori, 31m high, lies 0.5 mile ENE of Pointe Nera. The shores of Baie de Focolara, which is entered close E of the islet, consist of high cliffs.

Sommet Mufraeccia, 407m high, stands 0.8 mile inland, 3.7 miles NE of Pointe Palazzo.

Les Scoglietti, a group of above-water rocks up to 4.3m high, lie off a point located 0.8 mile NW of this hill. The group is surrounded by foul ground and rocks, awash.

Golfo de Galeria, is entered between Pointe Ciuttone, located 6 miles NE of Pointe Palazzo, and Pointe Stollo, 1.7 miles SW. The village of Galeria is situated at the S corner of the gulf and Tour Galeria stands on low ground, 0.5 mile SW of it. A rocky area, with a least depth of 1.8m, fronts the shore at the head of the gulf and extends up to about 0.3 mile offshore, N of the village. Pointe Ciuttone is formed by an isolated out-crop of red granite. This outcrop rises to a height of 200m about 0.5 mile inland and a stone pyramid stands about halfway up its slope. The gulf is easily identified by Capu Tondu, 840m high, which stands 2 miles S of its head and has an isolated peak. The gulf offers fairly good anchorage during good weather, but with a W swell, it becomes untenable. Fog appearing SW of Capu Tondu usually precedes the arrival of the swell. Anchorage can be taken, in depths of 13 to 17m, sand, mud, and weed, about 0.3 mile WNW of Tour Galeria.

11.34 Baie de Crovani (42°28'N., 8°29'E.) is entered between Capo Morsetta, located 2 miles N of Pointe Ciuttone and Cap Martino, 1.3 miles SSE. A low islet, which is fronted by rocks on its SW and S sides, lies close SW of Capo Morsetta. A sandy beach lies at the head of the bay and the prominent

buildings of the village of L'Argentelle are situated near its S end. The bay offers good anchorage, sheltered from all but W winds.

Sommet Vigatoggio, 259m high, stands 0.7 mile NE of Capo Morsetta. This peak is surmounted by a pyramid; another one is situated on its SW slope.

Tour Turccia, in ruins, stands on a bare and pointed peak, 294m high, 1.5 miles NNE of Capo Morsetta.

Capo al Cavallo is located 2.6 miles NNE of Capo Morsetta. A prominent disused signal station is situated on a summit, 322m high, standing 0.4 mile ESE of the cape.

Banc de Cavallo, with a least depth of 31m, extends up to 1.8 miles NW of Capo al Cavallo. During bad weather, the sea breaks heavily on this bank and vessels are advised to stay at least 3 miles from it.

Baie Nichiareto, entered 2 miles ENE of Capo al Cavallo, is reported to give good shelter from W to SW winds. A rock, 17m high, lies 0.3 mile SE of Pointe Bianca, the S entrance point of the bay.

Pointe de Revellata (42°35'N., 8°43'E.), located 4.7 miles NE of Capo al Cavallo, is the N extremity of a peninsula which rises on its E side to a ridge. Sommet Belloni, surmounted by a prominent black pyramid, is the highest peak of this ridge and stands 0.7 mile SW of the point. The W coast of the peninsula consists of nearly perpendicular cliffs. A pointed rock, 27m high, fronts the NE side of Pointe de Revellata. A light is shown from a tower with a dwelling, 16m high, standing on the point.

Caution.—Fishing is prohibited in an area which extends NW from Pointe de Revellata.

Golfe de Calvi

11.35 Golfe de Calvi (42°34'N., 8°47'E.) is entered between Pointe Saint Francois (Punta San Francesco), located 0.7 mile E of Pointe de Revellata, and Pointe Caldano, 2 miles ENE, which is surmounted by a tower.

Vessels approaching the gulf may identify it by Mont Grosso, 1,941m high, standing 8.5 miles SE of Pointe Saint Francois, and by the E termination of a chain of mountains which dominates this region.

Other conspicuous landmarks include the chapel of Madonna della Serra standing at a height of 216m, 1.5 miles SW of Pointe Saint Francois; Maison Renucoli, flanked by two clusters of trees, situated 1.5 miles SSE of Pointe Saint Francois; the red railroad station of Calenzana-Lumio standing at the head of the gulf, 1.5 miles S of Pointe Caldano; and the flat summit of Bestia, 803m high, standing 4 miles SE of Pointe Caldano. About halfway up the W slopes of Bestia, a road can be seen leading to the prominent village of Montemaggiore, which stands 1.5 miles S of the summit. The slender steeple of a church is situated in the village and is conspicuous from seaward.

11.36 Calvi (42°34'N., 8°46'E.) (World Port Index No. 39110), a small port, lies close SE of Pointe Saint Francois.

Depths—Limitations.—The harbor area lies S of the citadel and E of the lower town. It is protected from the NE by the land formation. A small jetty projects SSE from the coast off the SE extremity of the citadel and provides partial protection during

N and NE winds. There is an extensive yacht basin which is protected by a breakwater.

Quai Nord, the principal quay, is 140m long and has facilities for ro-ro vessels. Vessels up to 120m in length and 5.5m draft can be accommodated.

A mooring buoy is situated S of the quay.

Aspect.—The town is divided into two parts. The N, or high part, is surrounded by the walls of a prominent citadel and has a bell tower situated in its midst. The S, or lower part, is situated immediately SW of the citadel and is overlooked by two forts, one of which is surmounted by a white building. A tall and slender steeple stands in this part.

Pilotage.—Pilotage is compulsory for vessels of 60m length or more and for vessels over 150 gross tons. The pilot is provided by Bastia.

Anchorage.—Anchorage in the gulf is excellent with W or SW winds, but winds from the N and NE can cause rough seas. The recommended berth, in a depth of 12m, sand and weed, lies about 0.2 mile E of the head of the breakwater of the yacht basin.

Caution.—Several submarine cables are landed in the vicinity of Pointe Saint Francois. Anchoring and fishing are prohibited within 0.6 mile NNE of the point.

Golfe de Calvi to Cap Corse

11.37 Pointe d'Espagno (42°36'N., 8°48'E.) is located 1 mile N of Pointe Caldano. The coast between is low and fringed by rocks. The ruins of a tower stand on the N side of Pointe d'Espagno, which is fronted by Ile de Spano (Ile d'Espagno), 15m high and flat, on its W side.

Pointe Saint-Ambrogio is located 1.2 miles E of Pointe d'Espagno. Rocher Elephant, two round and prominent rocks, are situated close inland, between these two points. The rocks stand on the slope of a hill and are so named because of their shape. A small yacht harbor, protected by two moles, lies close S of Pointe Saint-Ambrogio.

Pointe Saint-Damiano is located 1.3 miles ENE of Pointe Saint-Ambrogio. This point is low, but can be readily identified by its white rocks. The village of Algajola, with its slender steeple, stands 0.5 mile ESE of the point and a wide and sandy beach extends 0.7 mile NE from it. Ecueil de l'Algajola (Danger de l'Algajola), a group of shallow rocks, lies 1.5 miles NW of Algajola. This group is marked by a beacon which is difficult to distinguish. The beacon was reported (1992) to be destroyed.

Punta di Vallitone is located 1.5 miles NE of the village. This point is low, rocky, and a tower stands near its extremity. La Galere, a rock awash, lies 0.3 mile NE of the tower and should be given a berth of at least 0.5 mile.

11.38 Iles Rousses (42°39'N., 8°56'E.), a group of four yellowish islands, lies close off the coast, in the vicinity of the town of L'Ile Rousse. Grande Ile Rousse (Isula la Pietra), the largest island, is connected by a causeway to Ile Sicota, the S island of the group, which in turn is connected by another causeway to the mainland. The other two islands lie close N of the W end of Grande Ile Rousse.

Vessels approaching this part of the coast can easily identify Sommet d'Orcica, 409m high, which is conical and stands 1.2 miles SSE of Ile-Rousse. The village of Monticello is situated

on its E slope and the domed chapel of Saint-Francois is situated 0.5 mile SE of the village.

11.39 L'Ile Rousse (42°38'N., 8°56'E.) (World Port Index No. 39120), a small and partially-protected harbor, is formed by a jetty extending SE from the causeway which links Grande Ile Rousse to Ile Sicota.

Depths—Limitations.—A quay on the S side of the jetty is 128m long and has a depth of 4.6m alongside. Another quay, 125m long, has a depth of 7.2m alongside. The harbor has facilities for ro-ro vessels and is mostly used by ferries. Vessels up to 160m in length and 7.1m draft can be accommodated.

Aspect.—Prominent features in the town include the twin steeples of the church of Sainte-Marie, which is situated 0.5 mile SSE of the W extremity of Ile Sicota; the cathedral standing close E of the church; and a large red hotel situated close SE of the cathedral.

A prominent disused signal station stands on the N slope of a hill, 0.7 mile W of the town.

Pilotage.—Pilotage is compulsory for vessels 60m or more in length and vessels of more than 150 gross tons. The pilots are available from Bastia.

Anchorage.—Anchorage is available for vessels of any size, in depths of 14 to 27m, NE of the town, but the roadstead is exposed to winds from between the NW and NE. Small vessels can anchor closer inshore, S of the jetty head.

Caution.—Danger de L'Ile Rousse, a rocky area with a least depth of 6.5m, lies within 0.5 mile NNW of the extremity of the jetty.

Haut-Ford de Naso, with a least depth of 13m, lies about 0.5 mile NE of the jetty head. Heavy seas break over this shoal during bad weather.

11.40 Pointe de Lozari (42°39'N., 9°00'E.), located 3 miles E of L'Ile Rousse, is bordered on its W side by a large house and several hangars, with red roofs, and on its E side by a long sandy beach on which are situated several houses. The village of Belgodere stands 3.2 miles S of the point and is conspicuous because of its elevated position on the slopes of a blackish and bare peak, 1,207m high.

From seaward, the rocky coast between L'Ile-Rousse and Golfe de Saint Florent, 15 miles ENE, is dominated by a mountain range which stands 2.5 miles inland and has peaks of 396 to 488m high. The most conspicuous summits are Mont Iffana, 475m high and rounded, standing 8.5 miles ENE of L'Ile-Rousse; Mont Robbia, 413m high with a very sharp peak, standing 2.5 miles ENE of Mont Iffana; and Mont Genova, 418m high and cone-shaped, standing 1.8 miles SE of Mont Robbia.

Anse de Peraiola is entered 2.7 miles NE of Point de Lozari. The ruins of a tower stand on its N entrance point and a cliff nearby forms a prominent white patch which can be seen from seaward. Punta di l'Acciolu (Pointe de l'Alciolo) is located 1.8 miles N of this inlet. This point rises steeply to Mont Orlando, 170m high, which stands 0.5 mile SE of it. A prominent rock, which is beak-shaped and pointing W, stands on the point.

Punta di Mignola is located 11.7 miles NE of L'Ile Rousse. This point can easily be recognized by a black pyramid standing at a height of 152m, 0.5 mile S of it. Irregular depths lie up

to 2 miles N of the point and cause a very heavy sea during W winds.

Punta di Curza is located 2.5 miles E of Punta di Mignola. This point is whitish, low, and salient and a long sandy beach extends to the W of it. Mont Porcini, 114m high, stands 0.7 mile S of the point.

Punta Mortella (42°43'N., 9°16'E.) is located 2 miles SE of Punta di Curza. A light is shown from a tower with a dwelling, 12m high, standing on the point. A conspicuous disused signal station stands close SW of the light.

11.41 Golfe de Saint Florent (42°42'N., 9°18'E.) is entered between Punta Mortella and Pointe Vecchiaia, 3 miles E, and provides indifferent anchorage. Strong swells enter this gulf and the holding ground is poor.

Landmarks in the vicinity include Punta del Cepo, located 1.2 miles SSE of Punta Mortella, which is surmounted by an old battery, and the citadel and village of Saint-Florent, which stand on the E side of the head of the gulf, 3 miles SE of Punta Mortella.

Pointe Vecchiaia is marked near its extremity by a pyramid. A light is shown from a structure, 5m high, standing 0.5 mile E of this pyramid. Tour de Farinole stands 1.3 miles NNE of the light.

Ecueil de Tegnosa, a rocky bank with parts nearly awash, lies about 0.3 mile W of the citadel at Saint-Florent and is marked by a lighted beacon, 8m high. A rocky patch, with a least depth of 1.7m, lies about 0.2 mile NE of the beacon.

Cap Fornali, surmounted by an old tower, is located on the W side of the gulf, 1 mile from the head. A light is shown from a structure, 9m high, standing on the cape.

An extensive yacht and small craft harbor fronts the village of Saint-Florent and is protected by breakwaters.

Anchorage is available, in depths of 11 to 12m, sheltered from all but N winds, in a roadstead lying 0.3 mile SE of Cap Fornali. Smaller vessels, with local knowledge, can anchor, in a depth of 6m, sand and weed, close S of the lighted beacon marking Ecueil de Tegnosa.

Caution.—Due to the existence of submarine cables, an anchoring and fishing prohibited area, the limits of which are shown on the chart, extends NW from the vicinity of the entrance to Golfe de Saint Florent.

A fishing and diving prohibited area extends up to 2.3 miles from the coast in the vicinity of Tour de Farinol and may best be seen on the chart.

11.42 Nonza (42°47'N., 9°21'E.), a small village, is situated on a steep rock, 4.2 miles NNE of Pointe Vecchiaia. This village can be identified from a considerable distance by a large and prominent tower which stands on its N side.

Roches d'Albo, located 1.7 miles NNW of Nonza, are formed by a perpendicular white cliff which is surmounted by a disused asbestos factory.

Pointe de Canelle (Punta di Canelle) is located 1.5 miles NNW of Roches d'Albo and a pyramid stands near its seaward extremity. Mont Cucaru (Mont Cuccaro), 932m high, stands 2 miles E of Pointe de Canelle and overlooks this part of the coast.

The belfry tower at Canari, situated 1 mile NE of Pointe de Canelle, is the most prominent object in this vicinity. A large convent, with a pink belfry, and a chateau stand near the tower.

11.43 Punta di Stintinu (Pointe Minervio) (42°54'N., 9°19'E.) is located 3.8 miles N of Pointe de Canelle. It rises to the summit of Mont Minervio, 418m high, which stands 0.4 mile inland and is surmounted by a pyramid.

Tour de Seneque is situated on a prominent and rocky pinnacle, 2 miles ENE of Mont Minervio. The village of Pino stands 1 mile W of this tower and is very conspicuous. It contains a chateau and several tombs.

Near the coast in this vicinity, an old tower stands on a low hill and overlooks a convent. The village of Morsiglia is situated 2 miles N of Pino. This village is dominated by the chapel of La Madone, which stands on the summit of a hill, 542m high, 0.8 mile E of it.

Isola Centuri lies close to the coast, 3 miles N of Punta di Stintinu. Baie de Centuri is entered between this island and a point, 0.7 mile N. The island is connected to the coast by a ridge of rocks and is surrounded by above and below-water rocks. A rocky patch, with a least depth of 0.3m, lies about 250m NNW of the island. The bay is fronted by a rock shelf

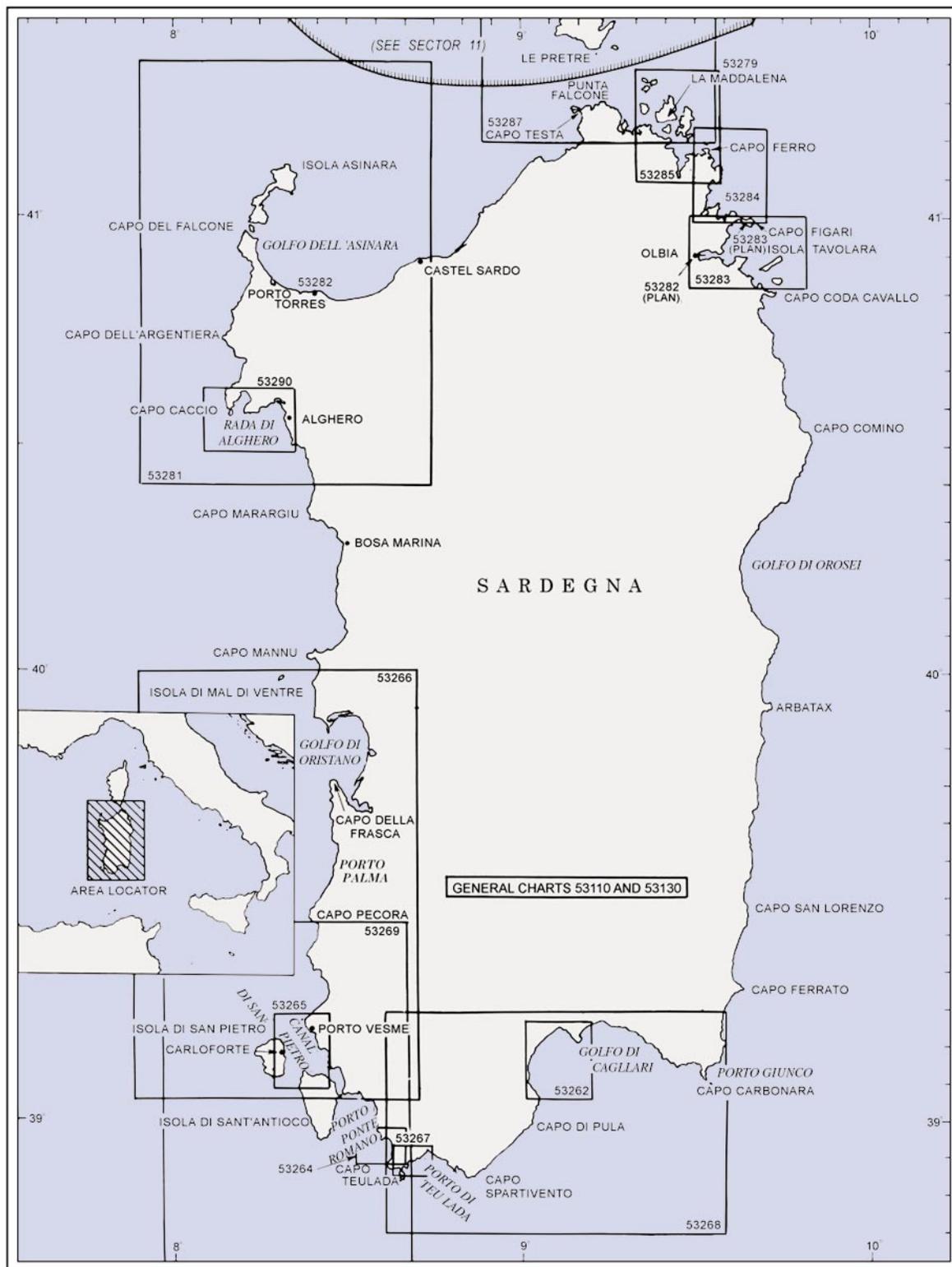
which has depths of less than 5m and extends up to 250m from the shore in places. The conspicuous village of Centuri is situated in the SE corner of the bay. A prominent mill stands 0.5 mile NE of the E extremity of Ile de Centuri and Chateau Marcantoni, a building surmounted by a flagpole, stands 0.5 mile E of it.

A small harbor, used by yachts and fishing boats, fronts the village of Centuri and is protected by a mole. Anchorage is available, except with W winds, in depths of 15 to 18m, within Baie de Centuri, but the holding ground is not very good.

This area is dominated by Sommet Torricella, 544m high, which stands 1.5 miles E of the head of the bay and is surmounted by a white dome and a radio mast. The chapel of Sainte-Catherine stands at a height of 521m, 0.4 mile NNW of mast.

Hautfond de Centuri, with least depth of 13.8m, lies centered 3 miles NW of Ile de Centuri. The sea breaks heavily on this rocky bank and during bad weather it should be given a wide berth.

Capo Bianco (43°00'N., 9°21'E.), the NW extremity of the peninsula of Cap Corse, is located 1.8 miles N of Ile de Centuri and has previously been described in paragraph 11.2.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.
SECTOR 12 — CHART INFORMATION

SECTOR 12

ITALY—SARDEGNA (SARDINIA)

Plan.—This sector describes the coasts of the Italian island of Sardegna (Sardinia), L'Archipelago della Maddalena, and other off-lying islands and islets. The descriptive sequence is from N to S along the E coast and S to N along the W coast.

General Remarks

12.1 Regulations.—Tanker vessels of 1,600 grt and over, entering or leaving Italian ports and carrying, or with uncleaned tanks which last carried, petroleum, gas, or chemical products should report to a shore station before entering Italian territorial waters off Italian ports. For further details, see Pub. 140, *Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea*.

Vessels of over 5,000 grt transporting oil, dangerous chemicals, or substances likely to pollute the sea or coastline, are strongly urged not to pass through the Strait of Bonifacio. This recommendation does not apply to vessels sailing in either direction between Porto Torres and any port on the Italian mainland from Civitavecchia to Napoli.

Caution.—Several submarine cables, some power, lie in the Strait of Bonifacio and may best be seen on the chart. Anchoring and fishing in their vicinity is prohibited.

A large area of the Tyrrhenian Sea to the E of Sardegna is used for missile firing exercises. This area extends up to approximately 12°E. For further details, see Pub. 140, *Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea*.

Punta Falcone to Capo Ferro

12.2 Punta Falcone (41°16'N., 9°14'E.), the N extremity of Sardegna, can be identified by a hill, 57m high, which stands close inland of the point and is surmounted by a small beacon.

Punta Marmorata is located 0.5 mile E of Punta Falcone. A granite pyramid, 13m high, stands on this point and a similar pyramid, 11m high, stands 0.4 mile SW of it.

Isola Marmorata, consisting of two islets, lies close SE of Punta Marmorata and is surrounded by rocks and foul ground. A dangerous wreck, with a mast showing, lies about 0.2 mile NNE of the N islet. The passage lying between Isola Marmorata and the mainland is obstructed by rocks.

Cala Marmorata, entered S of Isola Marmorata, offers good shelter from SW, W, and NW winds, but those from the latter direction sometimes send in a heavy swell. The head of this bay is rocky and should not be approached.

Scoglio Paganetto, marked by a beacon, lies about 1.5 miles E of Cala Marmorata and is the NE of the dangerous rocks which extend from Punta Monterosso. Secca Colombo, a rocky patch, lies about 0.5 mile SE of Scoglio Paganetto and has a least depth of 7m.

Punta Monterosso, located 1.4 miles ESE of Cala Marmorata, is fringed by dangers and should not be approached within at least 0.8 mile.

Porto Pozzo, entered 1.3 miles SSE of Punta Monterosso, offers excellent protection for small vessels which anchor in the S end. However, the shores of this inlet are shallow and foul. A small craft harbor lies on the W shore.

Porto Liscia offers the best anchorage along this section of the coast. This inlet is entered between Punta delle Vacche, which forms the E side of Porto Pozzo, and Penisola Cavalli. The latter point is 16m high and is fronted by a small islet and several above-water rocks. Anchorage can be taken, in a depth of 18m, mud, about midway within the entrance. Excellent anchorage is also available, sheltered from N winds, in the W part of this inlet. The berth lies in a depth of 18m, sand, but to reach it vessels must take care to avoid a detached rocky patch, with a depth of 9.5m, which lies near the center of this roadstead. A shoal patch, with a least depth of 6.5m, also lies in the SW part of the roadstead. Local knowledge is advisable.

Porto Puddu (Porto Pollo) is entered close E of Penisola Cavalli and offers anchorage, in a depth of 8m, weed.

12.3 Punta Sardegna (41°12'N., 9°22'E.), high and rocky, is located 7 miles SE of Punta Falcone. A light is shown from a structure, 13m high, standing on the point. Mont Canu, 396m high, stands 4 miles S of the point and is prominent.

Rada di Mezzo Schifo is entered between Punta Stropello, located 0.5 mile S of Punta Sardegna, and Punta Palau, 1 mile SE, which is marked by a light. Anchorage is prohibited due to unexploded ordnance on the bottom.

The village of Palau is situated on the W side of a cove which is entered between Punta Palau and Punta Nera, 0.6 mile SE. A pier, with a depth of 7m alongside, fronts the village, 0.3 mile SSE of Punta Palau. A shoal, with a least depth of 1.4m, extends WNW from Punta Nera and is marked by a lighted beacon.

Capo d'Orso, located 1.5 miles ESE of Punta Nera, is marked by a light. This steep and rugged cape rises to a hill, 122m high, which is surmounted by a peculiar rock formation resembling a bear.

Golfo Saline is entered between Punta Capre, located 0.8 mile S of Capo d'Orso, and Punta Saline, 0.7 mile SSE. It offers anchorage, sheltered from NW winds, in depths of 14 to 18m, weed, about 0.3 mile S of Punta Capre.

12.4 Golfo di Arzachena (41°08'N., 9°27'E.) is entered between Punta Saline and Capo Tre Monti, 1.8 miles SE. Secca di Tre Monti, with a depth of 5m, lies about 0.7 mile NNW of Capo Tre Monte and is marked by a lighted beacon. The gulf offers good shelter from all directions except the NE quadrant.

An obelisk stands on a hill, 15m high, standing close SW of Punta Arzachena, which is located 1.5 miles SSE of Punta Saline. Another similar obelisk stands on Monte Corro, 1.3 miles SSW of Punta Arzachena.

A rocky patch lies about 0.3 mile S of Punta Arzachena and is marked by a beacon. Isolotto Pa, low, rocky, and deep yellow in color, lies 2 miles SSE of Punta Saline. A beacon surmounts



Capo Ferro Light

the summit of Tre Monti, 64m high, which stands 0.3 mile S of the extremity of Capo Tre Monti.

Anchorage can be taken, in a depth of 15m, sand and weed, about 0.5 mile E of Isolotto Pa. During winds from the NW or SW, small vessels can find good shelter and may anchor, in a depth of 5m, about 250m S of Isolotto Pa.

Liscia di Vacca, a bay, lies 1.5 miles E of Capo Tre Monti and is entered S of Isolotto Cappuccini, an islet, 23m high. Anchorage can be taken, in a depth of 20m, weed, about 0.5 mile SE of the summit of this islet, but it is exposed to NW winds and to the swell from the NE.

Capo Ferro (41°09'N., 9°32'E.), located 2.3 miles NE of Golfo di Arzachena, is the NE extremity of Sardegna. The cape is formed by a steep, rugged, and dark-colored promontory. A light is shown from a prominent structure, 18m high, standing on the cape.

L'Archipelago della Maddalena

12.5 L'Archipelago della Maddalena (41°15'N., 9°24'E.) lies off the E part of the N coast of Sardegna and consists of several islands and numerous islets and rocks. Isole Razzoli, Budelli, Santa Maria, Spargi, Maddalena, Santo Stefano, and Caprera are the principal islands of the group and are all formed of red granite.

Isola Razzoli (41°18'N., 9°21'E.), the NW island, lies on the SE side of the Strait of Bonifacio. This island is hilly and rocky and its shores are indented and fringed by rocks. Monte Capello, 65m high, is the summit of the island and stands in its SE part. A light, with racon, is shown from a prominent tower, 12m high, standing near the NW extremity of the island. A conspicuous building, 20m high, is situated close SE of the

light. This building is reported to be the former light structure and is now a signal station.

Scoglio Callot, an above-water rock, lies close off the NW extremity of the island and Secce Razzoli, a rocky patch, lies 0.3 mile NW of it and has a least depth of 8m.

Isola Budelli (41°17'N., 9°21'E.), hilly and barren, lies close S of Isola Razzoli and is separated from it by Cala Giorgio Marino. A prominent pyramidal beacon, plainly visible, stands on Punta Bambaccia, the S extremity of the island. Temporary anchorage can be taken, in depths of 22 to 33m, within Cala Giorgio Marino, but this rostead is exposed to W winds.

Cala Lunga, on the W side of the island, contains a short beach on which landing is possible. A small pier is situated in the NE part of this bay and is used for servicing the light.

Caution.—Navigation, anchoring, fishing, and hunting are prohibited within 300m of Isola Budelli without permission of the authorities.

A prohibited area, best seen on the chart, is located between Isola Razzoli and Isola Santa Maria.

12.6 Isola Santa Maria (41°18'N., 9°22'E.) lies close E of Isola Razzoli and is flat and covered with vegetation. Guardio Turco, the summit of the island, is 49m high and stands near the center. A light is shown from a structure, 12m high, standing on Punta Filetto, the E extremity of the island.

Isolotto La Presa, 50m high, lies close off the N extremity of Isola Santa Maria and is almost connected to it. A shoal, with a depth of 10m, lies about 0.5 mile NW of the N extremity of Isola Santa Maria. Cala Muro lies between the SW side of Isolotto La Presa and the NW side of Isola Santa Maria. It offers good anchorage, in depths of 14 to 33m, but is exposed to NW winds and strong NE winds send in a heavy swell.

Three groups of islets, with deep and narrow channels between them, lie on the E and SE sides of Isola Santa Maria and are surrounded by rocks.

Isola Corcelli, the N group, is separated from Isola Santa Maria by Passo Santa Maria. A rocky patch, with a depth of 6.6m, lies almost in the middle of this channel. The largest island of this group is 31m high; a stone pyramid, 3m high, stands on the E islet; and a light is shown from a structure, 12m high, standing on the N islet.

Isola Barettoni lies close S of Isola Corcelli. The largest islet of this group is 40m high; this islet can be distinguished from all directions by the conical profile of its S part.

Isolotti Barrettinelli, the S group, lies close S of Isola Barettoni and is separated from the N extremity of Isola Maddalena by Passo di Barrettinelli, which is about 0.5 mile wide between the shoal areas at its sides.

Isola Spargi (41°15'N., 9°21'E.) is hilly, furrowed by ravines, and fringed with rocks. A beacon stands near its summit, Guardia Preposti, which is 153m high and stands in the S part of the island. When viewed from the W, the profile of this island appears to slope from the S to the N. Punta Banditi, a conspicuous rocky elevation, terminates in three peaks near the N extremity of the island and can easily be distinguished.

Secca Corsara, with a depth of 3m, lies about 0.3 mile off the SW extremity of the island and is marked by a lighted beacon.

Isolotto Spargiotto lies 0.7 mile WSW of the NW extremity of Isola Spargi and the channel between them should not be attempted. This small island is 47m high, bare, and fringed by islets and rocks.

12.7 Isola La Maddalena (41°14'N., 9°25'E.), the largest island in the archipelago, is predominantly mountainous, barren, and rocky. It is the only one which is thickly populated. The coast is indented, fringed with numerous dangers, and inaccessible nearly everywhere.

The principal peaks on the island are Puntiglione, 143m high, which stands in the SW part; Guardia Vecchia, 152m high, which stands in the SW part and is surmounted by a mast and a signal station on a fort; and Guardia del Turco, 84m high, which stands near the N end and is surmounted by a prominent beacon.

Punta Marginetto, the N extremity of Isola Maddalena, is low. Stagno Torto, a bay, is entered close SW of the point. It is exposed to N winds and should not be entered without local knowledge. Punta Tegge, the SW extremity of Isola Maddalena, is formed by a rocky peninsula, 20m high. A detached shoal patch, with a least depth of 2.5m, lies close W of this point and is marked by a beacon.

Caution.—Submarine cables are landed in the vicinity of the W side of Stagno Torto and may best be seen on the chart.

12.8 Punta Lunga (41°15'N., 9°26'E.) is located 1 mile SE of Punta Marginetto, the N extremity of Isola Maddalena. This point is fronted by rocks and can be recognized by its elongated shape and by a prominent column which stands on its extremity. A yacht marina and a hotel complex are situated in a small inlet which is entered close S of the point.

Isola Giardinelli lies 1.5 miles S of Punta Lunga. It is 12m high and is connected to Isola Maddalena at the SW end.

Passo della Moneta, which leads between Isola Maddalena and Isola Caprera, has a least depth of 1.5m and is available to small craft with local knowledge. The S part of this passage is obstructed by a causeway which has an opening, 21m wide, and an overhead clearance of 4.6m.

12.9 Rada di La Maddalena (41°12'N., 9°24'E.) (World Port Index No. 39140) lies between the S coast of Isola Maddalena and the NW coast of Isola Santo Stefano. The town of La Maddalena is situated on the N side of the roadstead.

Winds—Weather.—Winds from the W are the prevailing ones. When the sky is dark and clouds form over the coast of Corse, it is a good indication that strong W winds can be expected.

Tides—Currents.—Currents in this area are mainly influenced by the winds. During a strong W wind, a current has been reported to set E at a rate up to 4 knots.

Depths—Limitations.—La Maddalena is mostly used by small craft, coasters, and ro-ro ferries. The two main quays are 280m and 154m long and have depths of 6.4m alongside. Vessels up to 150m in length and 6m draft can be accommodated alongside.

Aspect.—Secca di Mezzo Passo, a rocky shoal with parts awash, lies 0.4 mile SSW of Punta Tegge, the SW extremity of Isola Maddalena.

Secca del Palau, a dangerous shoal area with large above-water rocks, lies centered 0.5 mile SE of Secca di Mezzo Passo. Its NE and S sides are marked by lighted beacons.

The main entrance fairway leads ENE into the roadstead between these two outer dangers and is indicated by a lighted range which may best be seen on the chart.

Isola Chiesa lies at the head of the roadstead and its NE extremity is connected to Isola Maddalena by a bridge. Two conspicuous radio masts stand on this small island.

A passage leads between Secca del Palau and Isolotto Roma, 0.2 mile E, and is indicated by a lighted range.

Several shoal rocky areas lie on either side of the entrance channel and are marked by buoys and beacons.

Conspicuous landmarks at La Maddalena include a three-story college building which stands on a hill, at the NW side of the town and the belfry of the cathedral.

Pilotage.—Pilots are not available at the port. It is recommended that large vessels, without local knowledge, request a local pilot from the naval base. The harbor can be contacted on VHF channel 11 or 16.

Anchorage.—The roadstead offers anchorage to large vessels and provides good holding ground. However, it is exposed to W winds which are the most violent. Anchorage in the roadstead is reserved for commercial vessels and small Italian warships. There are several mooring buoys which are used by Italian naval vessels.

Caution.—Anchoring and fishing prohibited areas lie in the NE part of the roadstead and in the outer approaches, and may best be seen on the chart.

12.10 Isola Santo Stefano (41°12'N., 9°25'E.) is rather flat on its W side, while its E side rises steeply from the sea. Punta della Zuccherio, 101m high, is the summit of the island and stands in the central part.

Casa Napoleone, a two-story building, and Forte San Giorgio, surmounted by a pillar, stand 0.3 mile E and 0.3 mile NE, respectively, of the SW extremity of the island. Both are very prominent landmarks.

Isolotto Roma lies close off the SW part of Isola Santo Stefano. This islet is arid, yellowish, and 13m high. A prominent monument stands on its W extremity. A shoal area lies close W of this islet and is marked by a beacon.

Scoglio Nasse, marked by a beacon, is the N of a group of rocks which extend up to 150m N from the NW extremity of Isola Santo Stefano.

Two piers are situated close S of Punta Sassu, the NE extremity of the island; the S pier can be used by vessels with drafts up to 6.1m.

Rada di Santo Stefano (41°12'N., 9°26'E.) lies between the E side of Isola Santo Stefano and the S part of the W side of Isola di Caprera. A naval base is situated on Isola Maddalena at the head of the roadstead. Rada di Santo Stefano is entered from the S and is reserved for the use of the Italian Navy.

Caution.—Anchoring and fishing prohibited areas lie in the vicinity of Rada di Santo Stefano and may best be seen on the chart.

A prohibited area, best seen on the chart, lies along the E coast of Isola Santo Stefano.

12.11 Isola Caprera (41°13'N., 9°28'E.), the E island of the archipelago, is higher and more rugged than the other islands. Punta Teialone, the summit of the island, stands close E of the center. It is 212m high and surmounted by a small tower. Messa del Cervo, 139m high, stands in the N part of the island. These two summits are the only unmistakable peaks of the whole archipelago.

Punta Coticcio is the seaward extremity of a salient projection on the E coast of the island. It is 198m high and reddish in color.

Punta Rossa (41°10'N., 9°28'E.), the S extremity of Isola Caprera, is formed by the seaward end of a long and narrow peninsula. This peninsula is easy to identify by the long sheds, walls, and bastions of the works situated on it.

Secca di Punta Rossa, a shoal bank, extends 0.2 mile SW of the point and is marked by a buoy. Isola Porco, 25m high, lies 0.5 mile NW of the point and is fringed by rocks. A beacon stands at the NE side of this islet.

The promontory of Punta Rossa is centered 0.8 mile NNE of Punta Rossa. It is 40m high and is connected to the main island by a narrow isthmus. Isola Pecora, 15m high, lies on the shore bank, close E of the E end of this promontory. It is fringed by rocks and is surmounted by a beacon.

Punta Fico, the SW extremity of Isola Caprera, is located 1.7 miles NW of Punta Rossa. It is the W extremity of a small peninsula which rises to Monte Fico, 71m high, 0.3 mile NE of the point. Isolotto Fico, marked by a beacon, lies close SW of the point. A shoal extends up to 0.1 mile W in the vicinity of Punta Fico and is marked by a buoy.

A causeway, previously described in paragraph 12.8, extends W from the W side of Isola Caprera to the SE extremity of Isola Maddalena.

Caution.—Anchoring and fishing prohibited areas lie in the vicinity of Isola Caprera and may best be seen on the chart.

Prohibited areas lie in the vicinity of the S part of Isola Caprera and may best be seen on the chart.

12.12 Off-lying dangers.—Isolotti Monaci (41°13'N., 9°31'E.), a group of rocky islets and shoals, lies 1.2 miles E of the E side of Isola Caprera. The islets are low and light-colored. The passage between this group and Isola Caprera is deep and free of dangers. A light is shown from a tower, 16m high, standing on the SW islet.

Secca dei Monaci (41°13'N., 9°33'E.), with a least depth of 2.8m, lies about 1 mile E of Isolotti Monaci and is marked close E by a buoy.

Secca delle Bisce (41°11'N., 9°32'E.), a rocky shoal with a least depth of 4.5m, rock, is centered about 2 miles SSE of Isolotti Monaci, and about 1.3 miles NNE of Isola delle Bisce.

Isola delle Bisce (41°10'N., 9°31'E.), 21m high and barren, lies close N of Capo Ferro. This islet is not easily distinguishable from the land behind it. A light is shown from a tower, 9m high, standing on the S side of the islet. The N side of the islet is foul and rocky shoals extend up to about 0.4 mile N of it.

Passo delle Bisce leads between Capo Ferro and Isola delle Bisce. It is free of dangers and is used by vessels from the E which are proceeding to Rada di Santa Stefano.

Caution.—A prohibited area, best seen on the chart, surrounds Isole delle Bisce.

Capo Ferro to Olbia

12.13 Punta Cervo (41°08'N., 9°32'E.), located 1.2 miles SSE of Capo Ferro, is low, bare, and fringed with shoals. Secca del Cervo, with a least depth of 2.3m, extends 0.6 mile NE of the point. The extremity of this shoal is marked by a lighted beacon.

Porto Cervo (41°08'N., 9°32'E.), a harbor, formed by an inlet, is entered S of Punta Cervo. The entrance channel is indicated by a lighted range which may best be seen on the chart. A speed limit of 3 knots is in force within Porto Cervo. A quay is situated on the E side of a cove in the SE part of the harbor. It is 228m long and has depths of 3 to 7.3m alongside. In addition, there are several mooring buoys in the cove.

An extensive harbor for yachts and small craft lies in a cove at the head of the harbor.

Golfo Pevero (41°07'N., 9°33'E.), entered SE of Porto Cervo, offers good protection from SE and SW winds, but is open to the NE. Vessels, with local knowledge, can anchor, in depths of 11 to 14m, weed, within the gulf.

Monte Zoppo (Monte Zoppu), a good landmark, stands 0.5 mile S of the SE entrance point of Golfo Pevero. This hill is barren, reddish, and 139m high. Punta Moru, bare and rugged, is located 2.3 miles W of Monte Zoppo. It is 390m high and is surmounted by a pyramid.

Isole di li Nibani, a group of rocks and shoals, extends up to 1 mile NNE from the SE entrance point of Golfo Pevero. These dangers are dark, rocky, and difficult to distinguish from the land behind them. The N islet is 26m high and is marked by a lighted beacon.

Passo delle Galere, which lies between Isole di li Nibani and the mainland, is 0.1 mile wide and has a depth of 9m in the fairway. It can be used by vessels with local knowledge by day.

Caution.—A prohibited area, best seen on the chart, surrounds Isole di li Nibani.

12.14 Punta Capaccia is located 1.7 miles S of Isole di li Nibani. A prominent hotel stands on the side of a bay, close W of the point.

Golfo di Congianus (41°04'N., 9°34'E.) is entered between Punta Capaccia and Capo Figari, 7.5 miles SE. Several islands and islets lie in its NW part and its shores are high, rocky, and indented. Several small yacht marinas are situated within the gulf.

Isola dei Poveri, lying 0.5 mile SE of Punta Capaccia, is barren, reddish, and surrounded by rocks which are marked by a buoy and a lighted beacon; a deep passage, 0.2 mile wide, leads between these dangers and the coast of Sardegna.

Isola Mortorio, lying 1.5 miles SE of Isola de Poveri, is reddish, rugged, and barren. It rises to a height of 77m near the NE end. The E side of this island is steep-to, but the NW and S sides should not be approached closer within 0.2 mile because of foul ground. Isole Mortoriotto are formed by two detached, dark, and steep-to rocks. They lie close together, 0.5 mile NE of Isola Mortorio, and are marked by a lighted beacon.

Isolotti Camize, bare and reddish, lie on a bank about 0.5 mile W of Isola Mortorio; a deep passage, 0.2 mile wide, leads between them.

Isola Soffi, 32m high, lies 1 mile SW of Isola Mortorio. It is less rugged and more covered with vegetation than the rest of the islands. Isole Le Camere, formed by two small islands, lies close NE of Isola Soffi. They are 22m and 30m high, rugged, and are sparsely covered with vegetation.

Caution.—An anchoring and trawling prohibited area lies in the vicinity of Golfo di Congianus and may best be seen on the chart.

A prohibited area, best seen on the chart, surrounds Isola Mortorio and Isola Soffi.

12.15 Cala di Volpe (41°05'N., 9°32'E.) lies on the NW side of the gulf and is entered N of Punta Ligata, which is marked by a light. It offers good shelter from NW winds. Punta Ligata can be easily recognized by Monte dell'Isola, which stands close SW and has a prominent conical profile. Vessels can anchor, in a depth of 20m, sand and weed, in the outer part of this cove. Small vessels, with local knowledge, can anchor, in a depth of 9m, in the N part of the cove, sheltered from E winds.

Golfo di Cugnana is entered between Punta Ligata and Punta Volpe, 1.7 miles SSE. Porto di Cugnana, the inner part of this bay, is shallow. Monte Congianus, 649m high, stands 1.5 miles NW of the head of this bay and can be identified by a small saddle in its summit.

Isola Portisco, a small islet, lies on a bank close to the W side of Golfo di Cugnana. It is low, dark-colored, and not readily identified from seaward. Anchorage can be taken, in a depth of 15m, about 0.5 mile SSE of this islet. Cala Razza di Giunco, a small cove, lies on the NW side of Golfo di Cugnana. It affords anchorage, in a depth of 7m, about 0.2 mile from the head.

Caution.—A submarine cable is located between the coast S of Portisco harbor and the coast S of Nuraghe point.

12.16 Capo Figari (41°00'N., 9°40'E.), located 5.2 miles SE of Punta Volpe, is the E extremity of a rocky peninsula which is 340m high and steep-to. The precipitous cliffs, which rise from the sea, have large fissures in places and are riddled with caves. The N slopes of the peninsula are whitish and the peninsula itself is covered with bushes and dwarf trees of a dark green color.

With strong NW winds, violent gusts blow down from this cape.

Golfo degli Aranci (40°59'N., 9°37'E.) is bounded on the NE side by the peninsula of which Capo Figari is the E extremity. Anchorage by commercial vessels can be taken, in a designated area, within this gulf, sheltered from NE and NW winds. The bottom is mostly mud and weed with good holding ground. However, strong SE winds send in a heavy sea and storms from the N and E cause a considerable swell in the roadstead. During offshore winds, which are prevalent in winter, the water level in the gulf may be lowered.

Isolotto di Figarolo, marked by a light, lies 1.2 miles SW of Capo Figari. This islet is 141m high, pyramidal in shape, and is covered with thick brush. A narrow passage, with a depth of 7.7m in the fairway, leads between this islet and the S side of the peninsula. It should be used only by small vessels with local knowledge.

Golfo di Olbia (40°57'N., 9°38'E.) is entered between Punta delle Casette, located 3.6 miles SW of Capo Figari, and Cape Ceraso, 3.8 miles SE. Porto di Olbia lies at its head.

12.17 Porto di Golfo Aranci (Aranci Gulf Harbor) (41°00'N., 9°37'E.) (World Port Index No. 39170) lies at the head of the gulf and is mainly used by ferries. The harbor consists of two basins, divided by moles. There is a depth of 7.7m in the S basin and depths of 5.3 to 7.2m in the N basin. A small fishing and yacht harbor lie close N of the commercial quay. The most prominent buildings include the post office standing near the waterfront; the railroad station, with a red roof; and a modern three-story structure standing E of the town. A local pilot is available upon request.

Regulations.—See Regulations for Olbia in paragraph 12.19.

Caution.—An anchoring and fishing prohibited area extends about 0.5 mile S and W from the head of Golfo Aranci and may best be seen on the chart.

12.18 Isolotto Porri, 9m high and covered with vegetation, lies 0.8 mile SSW of Punta delle Casette. Secca dei Porri, with a least depth of 3.5m, lies about 0.5 mile offshore, 1.2 miles SSW of the point.

Monte Sa Curi, 415m high, stands 2.5 miles W of Punta delle Casette. Another prominent peak, of lesser height and not so sharp, stands close S of it.

Capo Ceraso (40°55'N., 9°39'E.), the S entrance point of the gulf, is the NE extremity of a promontory. Monte Maladormida (Monte Maladrummi), 218m high, stands on this promontory, 1.2 miles SW of the cape. A tower is situated near the extremity of the cape. A shoal bank fronts this cape and extends up to 0.4 mile E of it. A large rock lies about 0.2 mile E of the cape and is marked by a pyramidal beacon. An islet lies 0.1 mile NW of the cape and is also marked by a pyramidal beacon.

Punta Ruia, 35m high, is located 1 mile W of Capo Ceraso. It is prominent and is surmounted by a beacon in the form of a dome. A rocky area extends up to 0.3 mile N from the coast between this point and the cape.

Olbia (40°55'N., 9°30'E.)

World Port Index No. 39180

12.19 The port of Olbia lies at the W end of a long and narrow inlet at the head of Golfo di Olbia. It is therefore not easily seen from seaward.

Tides—Currents.—The tidal range is small, being only 0.6m at springs. There is little or no current in the harbor. Outside the harbor, the currents vary depending on the wind conditions. Tidal currents can sometimes reach rates of 3 to 4 knots near the harbor entrance.

Depths—Limitations.—A long mole, which terminates in Stazione Marittima, extends 0.8 mile E from abreast the town of Olbia and is reserved for the use of ferries. A channel, dredged to a depth of 9.8m, was reported (1984) to lead to the berths at the E end of this mole.

A secondary channel, 73m wide, leads to Molo Vecchio and Pontile Benedetto Brin, and has been dredged to a depth of 6.7m. A main berth, 320m long, is situated at S side of Pontile Benedetto Brin and another, 130m long, is situated at the E side of Molo Vecchio. Both have depths of 6.7m alongside.

At Su Arrasolu, situated 0.5 mile NW of Stazione Marittima, a T-headed pier extends from the shore and has a depth of 6.8m at its head.

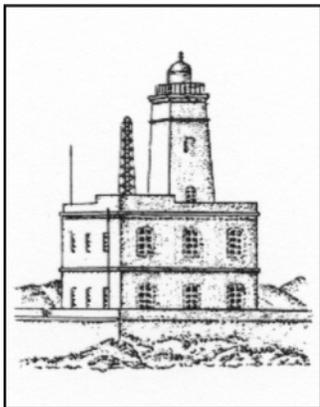
Several mooring buoys are also situated within the harbor.

Generally, vessels up to 10,400 dwt, 191m in length, and 6.1m draft can be accommodated.

Aspect.—The fairway leading through the entrance of the inlet is marked by lighted beacons.

Islotta della Bocca lies close E of the S entrance point of the inlet. A light is shown from a structure, 22m high, standing on this islet. A racon is situated at the light.

The principal landmarks in the vicinity of the town include the dome of the cathedral; a low and dark-colored bell tower; several tall cranes; and two radio masts.



Isotta della Bocca Light bearing SW

Pilotage.—Pilotage is compulsory for vessels over 500 grt, but is recommended for all vessels without local knowledge. Pilots can be contacted on VHF channel 6, 9, 12, 14, or 16 and generally board about 1 mile E of Isola della Bocca. Vessels should send an ETA at least 2 hours in advance. Pilots are reported to speak good English.

Regulations.—A Traffic Separation Scheme (TSS) has been established in the approaches to Olbia and may best be seen on the chart. A separation zone lies about 2.3 miles N of Capo Ceraso. Inward and outward routes for Porto di Golfo Aranci are situated to the N of this zone; inward and outward routes for Olbia are situated to the S of the zone.

The TSS is not IMO-adopted, but the Italian authorities have advised mariners that the principles of the routing system defined in Rule 10 of The International Regulations for Preventing Collisions at Sea (72 COLREGS) apply.

The berths at Stazione Marittima are reserved for the use of ferries.

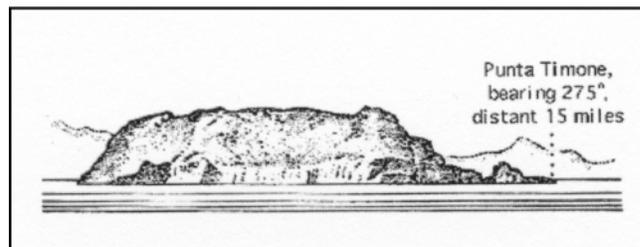
Anchorage.—Anchorage can be taken in Golfo degli Aranci or in a designated area lying 1.8 miles E of the entrance to the inlet.

Caution.—Anchoring and fishing prohibited areas lie in the approaches and entrance to the harbor and may best be seen on the chart.

Olbia to Arbatax

12.20 Golfo Spurlatta (40°54'N., 9°39'E.), entered SE of Capo Ceraso, offers anchorage, sheltered from all but NE winds, in depths of 15 to 20m. However, cables lie in the greater part of this gulf.

Isola Tavolara, the N extremity of which lies 4.2 miles E of Capo Ceraso, forms the outer SE side of the gulf. It is long, narrow, and almost inaccessible. Punta Cannone, 564m high, stands in the SW part of the island and is the summit. Punta Castellacio, 510m high, stands in the NE part of the island and is prominent. The SE coast, NW coast, and the SW end of the island are steep-to.



Isola Tavolara

Punta Timone, the NE extremity of the island, is located at the outer end of a small peninsula, 185m high. A light is shown from a tower, 7m high, standing on this point.

Cala del Faro, a cove, lies on the SE side of the peninsula and offers anchorage to small vessels, in depths of 14 to 17m.

Punta del Papa is the E extremity of the island. A disused light structure stands 0.2 mile N of this point. Monte del Papa, 305m high, stands 0.2 mile W of the point and is prominent.

Spalmadore di Terra, a bight, lies at the SW end of Isola Tavolara and offers anchorage, in a depth of 20m, about midway between the entrance points. This berth is exposed to SE winds which send in a heavy sea. Several houses stand at the head of the bight and a conspicuous lime kiln is situated on its E side. A low, narrow, and sandy peninsula extends 0.5 mile SW and forms the NW side of this bight. A shoal area extends up to 0.5 mile NW of this sandy peninsula and Isolotto Verde, Isolotto Spalmadore, and numerous rocks lie on it.

Isolotto Reulino (Isolotto Rosso), 11m high and reddish, lies 0.3 mile S of the S extremity of this sandy peninsula. Isolotto Cana, rocky and grayish, lies 0.7 mile SSE of Isolotto Reulino.

Porto della Taverna indents the coast between Isolotto Reulino and Isolotto Cana. Anchorage can be taken, in a depth of 18m, sand and weed, about 0.5 mile SSW of Isolotto Reulino and in the middle of the entrance to Porto della Taverna. Small vessels, with local knowledge, can anchor, in depths of 9 to 11m, sand, about 0.5 mile farther SSW.

Caution.—Due to the existence of cables, an anchoring and fishing prohibited area lies in Golfo Spurlatta and may best be seen on the chart.

A prohibited area, marked by lighted beacons, surrounds Isola Molarotto and may best be seen on the chart.

12.21 Isola Molara (40°52'N., 9°44'E.), 158m high, is undulating and partially cultivated. Isola Molarotto, lying 1.7 miles E of the E extremity of Isola Molara, is 51m high, reddish, and conical.

Scogli Cerri (Scogli Tre Fratelli), consisting of several above and below-water rocks, lies between 0.5 mile and 1.2 miles SW of Isola Molarotto. The passage between these shoals and Isola Molarotto should not be attempted, but the one between the shoals and Isola Molara can be used.

12.22 Capo Coda Cavallo (40°50'N., 9°44'E.) is reddish and the extremity of a small peninsula, 10m high. A hill of the same name, 103m high, stands 0.7 mile WSW of the cape. Isolotta Proratora, lying close NW of the cape, is also reddish. Punta Sugaraccia, 62m high, is located 0.5 mile W of the cape and is a good landmark.

Cala Coda Cavallo, entered between Punta Sugaraccia and Isolotta Proratora, affords anchorage, in depths of 10 to 14m, sheltered from all winds.

Porto Brandinchi is entered between Isola Rossa (Isola Ruia), located 1.2 miles SW of Capo Coda Cavallo, and Scoglio Testa di Moro, 0.3 mile S. Isola Rossa is a dull reddish color and can be easily identified. The coast between this island and Capo Coda Cavallo is fringed with rocks and should not be approached closer than 0.2 mile. The passage leading between the island and the coast to the N is foul.

Scoglio Testa di Moro, which lies on the outer end of a bank with depths of less than 11m, is triangular in shape and not easily identifiable from a distance, particularly during rough weather. A small promontory, 29m high, stands at the head of Porto Brandinchi and separates two coves which have white sandy beaches. Anchorage is available, in depths of 12 to 14m, less than 0.5 mile W of Isola Rossa. Porto Brandinchi is exposed to SE winds and NE winds cause a heavy surf.

From Porto Brandinchi to Capo Comino, 19 miles SSE, the coast differs greatly in aspect from that farther to the N. Ex-

tensive coastal plains, parts of which are marshy, lie between the mountains and the shore, but the coast itself is low, sandy, and noticeably white in places. The land is under cultivation and the farm buildings and scattered villages give it an appearance which contrasts greatly with the destitute and forsaken aspect of most parts of Sardegna.

San Teodoro d'Ovidde, situated 5 miles SSW of Capo Coda Cavallo, can be recognized by its white belfry. From the E, the village is partially hidden by a group of trees. The coast to the N and the point located E of this village should be given a wide berth as they are fringed with dangers.

Punta d'Ottiolu, located 2.5 miles SE of the village, is sharp and rocky. Punta Maggiore, dark and conical, stands 6.5 miles WSW of the point and is 971m high. Isolotto d'Ottiolu, low and inconspicuous, lies 1 mile S of the point and is marked by a light. A submerged reef extends about 0.5 mile E of this islet.

Punta Santa Ana, located 3.5 miles S of Punta d'Ottiolu, can be recognized by a small hill which stands near it. This hill has a long white stripe on its slope, which when seen from the N, has the appearance of a village.

Isolotti dei Pedrami (Scoglio Pedrami), surrounded by several above-water rocks, lies 1.2 miles offshore, 1.7 miles SE of Punta Santa Ana. Punta Pedrami is located 2.4 miles S of Punta Santa Ana and is backed by Monte Lungu, 232m high and cone shaped.

Posada, a village, is situated 2.5 miles SW of Punta Pedrami and stands at the foot of a conspicuous castle which is in ruins at its W end; the houses of the village are gathered on the summit of a cone-shaped hill with steep sides.

12.23 La Caletta (40°37'N., 9°45'E.), the harbor for Siniscola, is easily recognized by Torre San Giovanni, which stands immediately N of it. The harbor, which is used by small craft and coasters, is formed by two breakwaters and is sheltered from all winds. The outer breakwater extends SE from near Torre San Giovanni. There is a berth, 160m long, on the inner side of the outer breakwater. It is used by small vessels up to 4.5m draft.

Punta Santa Lucia, located 2 miles SSE of La Caletta, can be identified by a partly demolished tower. From the N, a group of reddish houses and a long stretch of white sand behind the tower stand out against the background of green vegetation. However, the houses and the stretch of sand are not very conspicuous from the S. A small hill stands 0.3 mile S of the tower and is surmounted by a silo.

12.24 Capo Comino (40°32'N., 9°50'E.), the E extremity of Sardegna, is low, rocky, fringed by reefs, and should be given a wide berth. A light is shown from structure, 20m high, standing on the cape. A disused signal station is situated 0.2 mile WSW of the light.

Isola Ruia (Isola Rujia) lies close inshore on the N side of the cape. It is low, rocky, reddish, and surrounded by rocks. Anchorage, sheltered from SW and NW winds, can be obtained, in a depth of 29m, sand, about 0.7 mile N of this islet. Small vessels, with local knowledge, can obtain shelter from SE winds, closer inshore, in depths of 10m.

Punta Catarina, 1,127m high, stands 14 miles WSW of Capo Comino at the SW end of Monte Alvo de Siniscola, a mountain range. This range shows up white above the dark-colored

mountains in front of it and is an excellent landmark. Punta Cupetti, 1,250m high, stands at the NE end of this range.

From Capo Comino to Punta Nera, 8.5 miles SSW, the coast is backed by a series of rocky hills which are mostly covered with vegetation, but show large bare patches of reddish rock in places. Due to dangers fringing this stretch of the coast, vessels should not approach within less than 1 mile.

Punta Ginepro, located 5.8 miles SSW of Capo Comino, is low and fringed with rocks.

Punta Nera (40°23'N., 9°45'E.), located 8.5 miles SSW of Capo Comino, is a low and rounded projection and is darker than the land behind it.

12.25 Golfo di Orosei (40°14'N., 9°43'E.), entered close S of Punta Nera, is bordered by a shorebank which extends 4 miles SW of the N entrance point. This stretch of the coast should not be approached closer than 1 mile due to the alluvial deposits brought down by Fiume Cedrino. The land behind the shorebank is low and marshy, but the rest of the coast of the gulf is mostly high, steep, and inaccessible. A wreck, with a depth of 8m, lies about 1.2 miles offshore, 1.7 miles SSW of Punta Nera.

Orosei, a town, stands 2.5 miles W of Punta Nera. It is situated on the S bank of the Cedrino and is partly visible from seaward. A belfry, with a black cupola, and the facade and dome of a church are prominent. Monte Tuttavista, 805m high, stands 3 miles W of Orosei and is prominent. Anchorage can be taken, in depths of 18 to 30m, fair holding ground, about 1 mile offshore, 1 mile S of Punta Nera.

Cala Gonone, located 7.5 miles SW of Punta Nera, can be easily recognized by a group of houses which stand on the shore and interrupt the uninhabited appearance of this part of the coast. Villa Maria Luisa, light blue with yellow shutters, is the most conspicuous building in this vicinity.

12.26 Capo di Monte Santu (40°05'N., 9°44'E.) is a steep and rugged promontory which rises perpendicularly from the sea. When seen from the N, it appears as a slope with a high terrace. From the E and SE, conspicuous reddish patches show up on its cliffs.

The coast between Capo di Monte Santu and Capo Bellavista is high, rocky, and inaccessible for the first 6 miles, then it becomes low and sandy.

Punta Pedra Longa, located 4 miles SSW of Capo di Monte Santu, is fronted by a detached reddish column which is shaped like a pointed tooth and very conspicuous. From the E, it can be mistaken for the rocky part of Monte Ginnircu from which it projects.

Isola dell'Ogliastra, 47m high, lies 3 miles S of Punta Pedra Longa and is reddish, rocky, and covered with scanty vegetation. Several rocks extend up to 0.2 mile seaward off its NE side. Torre Santa Maria Navarrese stands on a point, 1 mile NW of this islet. The passage leading between the islet and the coast is 0.5 mile wide and has a depth of 8.5m in the fairway.

Anchorage can be taken, in a depth of 15m, sand and weed, about 0.2 mile SSW of Isola dell'Ogliastra or in a depth of 8m, about 200m W of the islet, but these berths are dangerous in SE winds.

Lotzorai, a village, is situated 2 miles W of Isola dell'Ogliastra and is visible from seaward. A light-colored belfry, with a prominent spire, stands in it.

Gulf di Tortoli is entered between Isola dell'Ogliastra and Capo Bellavista, marked by a light, 2.5 miles S.

Caution.—Winds from the NW and NE quadrants come up suddenly and blow with extreme violence in this vicinity. They may last for 4 or 5 days and are preceded by whitish clouds which cover the peak of Monte Santo.

Winds from the SW quadrant, which also blow with great force, may be forecast by low clouds on the slopes of the mountains around Ogliastra. With these wild winds, the sea rapidly becomes rough and constitutes a danger for vessels in the harbors. In summer, rather weak SE winds prevail and are preceded by a dense mist over all the SE quadrant.

Arbatax (39°56'N., 9°42'E.)

World Port Index No. 39190

12.27 The port of Arbatax lies in the S part of Golfo di Tortoli and on the N side of the promontory of Capo Bellavista. It is the only refuge on the E coast of Sardegna to the S of Olbia.

Depths—Limitations.—The harbor is formed by two breakwaters. The E breakwater extends NW from the N extremity of Capo Bellavista and the W breakwater extends NE from the head of the gulf. The harbor is entered from the NW and has a depth of 12m in its outer part.

The main facilities include West Quay, with 450m of berthing space and depths of 8 to 8.4m alongside; Central Quay, with 100m of berthing and a depth of 5.6m alongside; and South Quay, with 80m of berthing space and a depth of 8.7m alongside. There are facilities for ro-ro vessels and additional berths along the inner side of the E breakwater. Vessels up to 200m in length and 7.6m draft can be accommodated.

Aspect.—The belfry of the cathedral at Tortoli, situated close W of the port, is prominent.

Torre di Arbatax, gray with a red roof, stands at the W side of Arbatax. A conspicuous chimney is situated 0.5 mile W of the tower. Colonia Marina, white with red-roofed buildings, is situated on the beach of the S shore of the harbor.

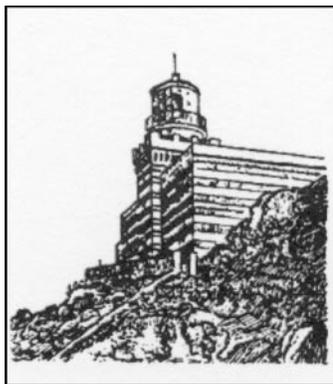
Pilotage.—Pilotage and berthing services are optional and are available by local people. The port can be contacted on VHF channel 16; the local pilot generally boards about 1 mile NE of the harbor entrance.

Regulations.—Bunkering must be authorized in advance and is carried out only during daylight hours.

Anchorage.—Anchorage is available 0.5 to 0.7 mile N of the light at the head of the E breakwater. The pilot boat leads vessels to anchorage.

Arbatax to Golfo di Cagliari

12.28 Capo Bellavista (39°56'N., 9°43'E.) is a rocky promontory, which due to the low land behind it, appears as a dark-colored island when seen from the N or S. A light is shown from a prominent structure, 19m high, standing on the cape. An auxiliary light is shown from a concrete column.



Capo Bellavista Light

Porto di Frailis, a cove, lies on the S side of the cape and has a depth of 10m in the entrance. Torre San Gemiliano, 42m high, stands on its W entrance point. Anchorage can be taken, sheltered from NW winds, in a depth of 20m, sand, about 0.3 mile SE of the tower.

Between Capo Bellavista and Capo Sferracavallo, 13 miles S, the coast alternates in high rocky stretches and low, sandy, and marshy stretches.

Capo Sferracavallo is overlooked by Punta Cartuceddu, 598m high. Monte Ferru, 875m high, stands 2 miles NW of the cape and is also a good landmark.

Torre San Giovanni di Saralla, 20m high, stands near the coast, 3 miles S of Capo Sferracavallo. A wreck, with a depth of 14m, lies about 0.5 mile S of this tower.

Torre di Murtas stands 7 miles S of Torre San Giovanni di Saralla and several prominent reddish above-water rocks lie close E of it. Cala Murtas, a bight, extends between this tower and Capo San Lorenzo, 3.5 miles S. A white sandy beach lines the shore of the bight. The conspicuous ruins of Castel di Quirra surmount the summit of a conical hill, 296m high, which stands 2.5 miles SW of Torre di Murtas.

Isola di Quirra (Scoglio di Murtas), 12m high and surrounded by smaller rocks, lies 1 mile offshore, 2 miles SSE of Torre di Murtas. From the NNE, this islet appears reddish with a whitish top. A navigable passage leads between the islet and the coast, but it can only be used by vessels with local knowledge.

12.29 Capo San Lorenzo (39°29'N., 9°39'E.), 184m high, is dark and rocky. This cape can easily be identified by the dark-colored tower which stands on its summit. A tourist village, consisting of low houses, is situated W of the cape and is visible from the N.

From the cape, the coast, for a distance of 3 miles to the S, is backed close inland by a chain of hills with flattened conical summits. This stretch of the coast is fringed with shoals and should not be approached within 0.5 mile.

Torre Motta (Monte Rosse) stands 2 miles S of the cape and Torre di Porto Corallo, 15m high, stands on a low and rocky point, 1.3 miles farther S.

The coast between Torre di Porto Corallo and Capo Ferrato is low, sandy, and backed by salt water lagoons. It is fringed with shoals and should not be approached within 0.5 mile.

Caution.—It is reported that unexploded ordnance lies within 3 miles of the coast between Torre di Murtas and Torre Monte Rosso.

12.30 Capo Ferrato (39°18'N., 9°38'E.), a steep and whitish promontory, rises to Monte Ferru, 299m high. This conical hill stands 1.5 miles inland and is surmounted by a prominent tower. Monte Sette Fratelli, 1,023m high, stands 9 miles W of the cape. Seven rather inconspicuous saw-toothed peaks stand on its flattened summit. A light is shown from a structure, 10m high, standing on the cape.

A rocky shoal, with a least depth of 12.5m, lies about 5 miles SSW of Capo Ferrato.

Between Capo Ferrato and Punta dei Cappuccini, 7 miles S, the coast is mostly low and sandy, but has rocky points in places. Monte Nai and Monte Cannas, two cone-shaped peaks, dominate this stretch of the coast. A prominent road leading to the summit can be seen on the latter mountain.

Monte Turun (Monte Turnu), located 1.5 miles NNW of Punta dei Cappuccini, is a rocky promontory, 56m high. Scoglio di Sant' Elmo, barely above water and steep-to, lies about 0.2 mile offshore, 0.3 mile E of Monte Turun.

Punta dei Cappuccini rises steeply from the sea and is free from off-lying dangers. Anchorage, during offshore winds, is available, in a depth of 20m, sand, midway between Scoglio di Sant' Elmo and this point.

Torre di Cala Pira, light-colored and conspicuous, stands 0.7 mile S of Punta dei Cappuccini. Anchorage can be taken, in a depth of 30m, sand, about 0.7 mile SSE of this tower.

Punta Molentis, located 2.5 miles SSW of Torre di Cala Pira, is a small promontory, 7m high. It is fringed with rocks and connected to the mainland by a low sandspit. Anchorage, with local knowledge, can be taken, in a depth of 26m, sand, about midway between Punta Molentis and Isola Serpentara.

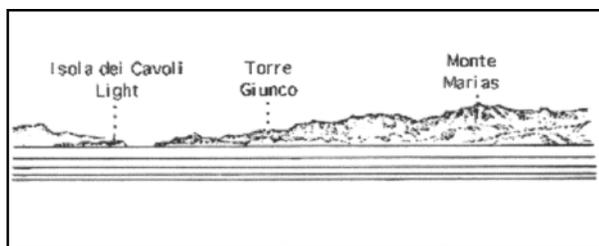
12.31 Isola Serpentara (39°08'N., 9°36'E.) lies 2.3 miles ENE of Punta Molentis, and Torre di San Luigi surmounts its summit which is 54m high and stands in the N part. This tower is reported to be cylindrical, badly-ruined, and not very prominent. Three rocky islets lie on a shoal bank which extends up to 0.4 mile N of the island. The passage leading between the island and the mainland has a depth of 23m and is free of dangers.

Porto Giunco, a bight, is entered between Punta Molenti and Capo Carbonara, 2.7 miles SSW. Torre Giunco, partly in ruins, stands on the summit of a small promontory, 64m high, 1 mile N of Capo Carbonara. Anchorage can be taken, in a depth of 17m, sand and weed, about 0.7 mile ENE of this tower. However, this berth should not be used during NE or SE winds.

Secca dei Berni, marked by a lighted beacon, lies 1.5 miles SSW of Punta Molentis. This shoal patch has a least depth of 2.4m at its N end.

12.32 Capo Carbonara (39°06'N., 9°31'E.), the SE extremity of Sardegna, is the seaward end of a steep peninsula which is covered with low evergreen vegetation and joined to the mainland by a low, sandy isthmus. A light is shown from a

structure, 5m high, standing 0.7 mile NNW of the extremity of the cape. A disused signal station, consisting of a house, and Torre Caterina stand on the summit of the peninsula which is 112m high.



Isola dei Cavoli from ESE

Isola dei Cavoli (39°05'N., 9°32'E.), 40m high, lies 0.3 mile SE of Capo Carbonara. It is low, rocky, and partly covered by bushes. A light is shown from a conspicuous structure, 37m high, standing in the NE part of the island.

The island is surrounded by rocks and shoals and should not be closely approached. The passage leading between the island and Capo Carbonara has a least depth of 10.5m in the fairway, but a shoal bank extends up to 0.3 mile NW from the N side of the island. A depth of 15m lies about 1.5 miles S of Isola dei Cavoli Light.

Secca di San Caterina (Secca di Cala Caterina), a rocky patch, lies about 1.5 miles W of Isola dei Cavoli. It has a least depth of 5.1m and is marked by a lighted beacon.

Caution.—Anchoring and fishing are prohibited in the vicinity of a submarine cable which is landed on the NW shore of Isola dei Cavoli.

Golfo di Cagliari

12.33 Golfo di Cagliari (39°10'N., 9°07'E.) is entered between Capo Carbonara and Capo di Pula, 25 miles WSW. The two sides of the gulf are mountainous, but a long stretch of sandy shore lies at the head and is broken only by Capo Sant' Elia. Several extensive saltwater lagoons and areas of marshes lie behind the sandy shore.

The prevailing winds in the gulf are from the W and ENE, and these may increase suddenly to violent storm which can last for 3 days. The W winds gain in velocity as the barometer falls, while the ENE winds increase as the barometer rises.

12.34 East side of Golfo di Cagliari.—**Golfo di Carbonara** (39°07'N., 9°29'E.) is entered between Capo Carbonara and Capo Boi, 4.2 miles WNW. A light is shown at the head of this gulf, 1.5 miles NNW of Capo Carbonara. A prominent white house is situated 0.2 mile NW of this light. A large and conspicuous hotel stands 1.3 miles ENE of Capo Boi. The conspicuous ruins of Fortezza Vecchio are situated on a salient point, 1.5 miles NW of Capo Carbonara. Scoglio Santo Stefano, 18m high and surrounded by rocks, lies about 0.2 mile SW of Fortezza Vecchio.

Capo Boi, the W entrance point of this small gulf, is formed by the termination of a rocky promontory. This promontory is 119m high and its summit is surmounted by Torre di Capo Boi.

Secca de Piscadeddus, with a least depth of 3.7m, lies about 0.5 mile offshore, 1 mile E of the cape.

Monte Maria, 587m high, stands 3 miles NE of Capo Boi and rises gently to a central peak which is easily identified. Anchorage can be taken, in a depth of 20m, sand, about 0.7 mile WNW of Fortezza Vecchio. Smaller vessels can anchor closer inshore, in a depth of 15m.

Quartu Sant' Elena, a town, is situated 1 mile inland, 13 miles NW of Capo Boi. A white cathedral stands in the town and has a reddish roof, a cupola, and a belfry all of which are prominent.

Capo Sant' Elia (39°11'N., 9°10'E.), located at the head of Golfo di Cagliari, appears as an island when seen from the E. This cape can be easily recognized by its whitish chalk streaks. A light is shown from a prominent tower, with a dwelling, 21m high, standing on the SW side of the cape.

Torre Sant' Elia is situated on the summit of the cape and Torre del Poetto, partially in ruins, is situated on the E side. Castello Sant' Ignazio, a small fort, stands 0.5 mile N of the light and The Lazaretto, a large and light-colored building, is situated at the foot of the hill, close W of the fort.

Scoglio Sant Elia, a prominent above-water rock, lies at the extremity of a shoal spit, about 0.2 mile W of the light.

Caution.—Close approach to the coast in the vicinity of Cape Sant' Elia is prohibited due to the possibility of rock falls.

Cagliari (39°13'N., 9°07'E.)

World Port Index No. 39210

12.35 The port of Cagliari, the largest commercial port of Sardegna, lies at the head of the Golfo di Cagliari, 3 miles NW of Capo Sant' Elia. The city of Cagliari is the capital of the island.

Winds—Weather.—Winds from the NW prevail and generally blow for a considerable length of time. Winds from the SE occur infrequently and winds off the land are more frequent and violent. The winds from the SE raise a sea in the roadstead and a consequent swell results in some parts of the port. A mass of clouds on the mountains is usually an indication of winds from the SE quadrant. The sky with scattered cumuli indicates the probability of winds from the NW.

Tides—Currents.—Tides are negligible, being only 0.3m at springs. However, the water level can be raised by as much as 0.3m by onshore winds.

The currents are weak and mostly influenced by the wind. A current, which sets E, is particularly noticeable with winds from the NW quadrant, and after heavy rains it carries sea weed into the harbor.

Depths—Limitations.—The harbor is protected from the S by Nuovo Molo di Levante, which extends 0.6 mile W and then 0.4 mile SW from the E shore of the promontory. It is also protected from the SW by Nuovo Molo di Ponente, which extends about 1 mile seaward.

The main quays include Calata Sant Agostino, with 278m of total berthing space and a depth of 7.6m alongside; Molo Sa-baudo, with 652m of total berthing space and depths of 8.1 to 8.5m alongside; Molo Rinascita, with 910m of total berthing space and a depth of 10.9m alongside; and Molo di Levante, with 350m of total berthing space and a depth of 11.1m alongside. There are facilities for container, ro-ro, and bulk vessels.

The harbor also has 817m of total berthing space, with depths of 2.1 to 8.8m alongside for small craft and passenger ferry vessels.

Vessels up to 7.9m draft can be accommodated alongside.

Aspect.—The city is situated on the S slope of a small hill and has a picturesque and imposing appearance. Its buildings, which are arranged in the form of an amphitheater, are dominated by conspicuous towers and cupolas. When the city is approached from the SE, it is hidden by the promontory of Capo Sant' Elia. The illumination of the city is very conspicuous from seaward and may be visible from up to 20 miles distant.

The following landmarks are conspicuous:

1. Torre San Pancrazio, standing in the N and highest part of the city
2. Castello San Michele, with four towers and several radio station antennas close above it, standing 1.5 miles NNW of Torre San Pancrazio
3. A yellow sanitorium situated at the foot of Monte Urpino, to the E of the city;
4. A cathedral, with the dome and steeple in the form of a tower, standing in the city
5. Torre dell' Elefante, reddish with a battlement structure appearing to be composed of two towers, standing in the center of the city
6. A convent, which may be recognized by its numerous windows and white cupola, situated in the SE part of the city
7. A high-rise building, brown with white horizontal bands, standing in the vicinity of the harbormaster's office

Prominent landmarks in the vicinity of the harbor include a silo and several gantry cranes.

A racon is situated at the light structure standing on the head of Nuovo Molo de Levante.

Pilotage.—Pilotage is compulsory for vessels of over 500 grt. Pilots can be contacted on VHF channel 9 or 16 and generally board about 1 mile outside the harbor entrance near the lighted beacon.

Regulations.—A Traffic Separation Scheme is established in the approaches to Cagliari. The scheme consists of two pairs of inbound and outbound lanes separated by a broad separation zone. Each pair of lanes has its own narrow separation zone. The separation zone between the pairs of lanes is marked at its N end by a lighted buoy. The lanes E of the separation zone are for use in approaching the old port. The lanes to the W of the separation zone are designed for use in approaching the new harbor facilities of Nuovo Porto Industriale (Porto Canale). A common precautionary zone lies N of the pairs of lanes between the two harbor entrances.

A Vessel Traffic Service has been established in Cagliari Roads. Three convergence points have been established to permit local authorities to conduct radar tracking and authorize vessel movement in the area, as follows:

1. Point P—For vessels bound for the commercial port
2. Point Y—For vessels bound for Porto Industriale
3. Point Q—For vessels enroute to the Sarroch Oil Terminal

All points are charted. Vessels closing these points must report to the Operations Center or pilots on VHF channel 14 or 16.

Anchorage.—Anchorage can be taken in three separate designated areas, as follows:

1. Anchorage Area Bravo—A trapezoidal-shaped area centered 1.7 miles SSW of the light at the head of the Nuovo Molo di Levante. Its NE and SE sides border the outbound lane of the TSS for the new construction harbor. It is adjacent to Anchorage Area Delta.
2. Anchorage Area Delta—A quadrilateral-shaped area centered 1.5 miles SW of the same light. Its NE side borders the outbound lane of the TSS for the new industrial port.
3. Anchorage Area Foxtrot—Located on the E side of the TSS for the old harbor of Cagliari. It is also a quadrilateral area centered 1.0 mile from the same light. It borders the inbound lane of the TSS for the old port.

Caution.—The lighted aids are reported to be difficult to distinguish due to the numerous bright neon lights of the city.

Several submarine cables lie in the approaches to the port and may best be seen on the chart.

Ferry traffic in the harbor is heavy.

A Marine Nature Reserve, the limits of which are shown on the chart, has been established on the W side of the gulf between Punta Zavorra (39°03'N., 9°03'E.) and Capo Saint Elia. Fishing is restricted within the area. For details, consult local authorities.

12.36 West side of Golfo di Cagliari.—Villa Marongiu (39°12'N., 9°04'E.), a very conspicuous building, is situated 1.7 miles WNW of the head of the outer breakwater at Cagliari and can be recognized by its red color. Torre Su Loi, 9m high, stands 5 miles SSW of the villa and is also conspicuous. Monte Luis, 177m high, stands 2 miles SSW of the tower and is conical with a rounded summit. A prominent chimney stands 2 miles S of the tower.

ENICHEM Pier (Pontile SIL) extends 1 mile SE from a point on the shore, 2.7 miles SW of Villa Marongiu. Vessels up to 6m draft can be handled alongside.

Regulations.—A Traffic Separation Scheme is established in the approaches to the ENICHEM Pier facility. It consists of a NW inbound traffic lane, a southeastbound departure lane, and a narrow separation zone. The entrance is 2.4 miles SE of the head of Pontile ENICHEM Sud.

Caution.—A new harbor, Nuovo Porto Industriale, lying close NE of Villa Marongiu, remains under construction (2000) and is protected by two breakwaters which extend up to 1 mile seaward from the shore in this vicinity. A lighted buoy is moored near the entrance to the new facility.

12.37 Sarroch Oil Terminal (Porto Foxi) (39°05'N., 9°02'E.) (World Port Index No. 39215), a refinery with associated flares and tanks, is situated 9 miles SW of Cagliari and stretches for about 1.5 miles along the coast. This installation is served from seaward by Pontile Saras No. 1 and Pontile Saras No. 2.

Depths—Limitations.—Pontile Saras No. 1 extends ENE from the coast, 1.7 miles NNW of Punta Zavorra (39°04'N., 9°03'E.). It is illuminated by bright neon lights and is very visible from seaward.

The pierhead extends 0.2 mile SE from the E extremity of the main pier. A turning area, lying NE of this pierhead, and an approach channel are dredged (1980) to a depth of 22.8m and are marked by lighted buoys. A turning area, lying close SW of this pierhead, is dredged (1980) to a depth of 18.8m and is marked by a lighted buoy. An outer approach lighted buoy is moored about 2.6 miles SE of the pierhead.

Tankers up to 380,000 dwt and 20.7m draft can be accommodated at the berth on the NE side of this pierhead.

Two berthing arms extend NW from the N side of Pontile Saras No. 1, and three berthing arms extend SE from the S side. The outer berthing arms on each side of the pier can accommodate tankers up to 270m in length with drafts of 11.6 to 12.8m, but a shoal patch, with a depth of 9.7m, lies close off the head of the NW arm. The inner arm on the NW side and the center arm on the SE side of the pier can accommodate tankers up to 200m in length with drafts of 7.9 to 11m, but a shoal patch, with a depth of 10.2m, lies close W of the head of the SE arm. The inshore berthing arm on the SE side is designed to handle coastal tankers up to 5,000 grt.

Pontile Saras No. 2, also known as Pontile Saras Chimica, extends 0.6 mile E from the shore, 1 mile NNW of Pontile Saras No. 1. An inner berth, suitable for small tankers, extends 230m SE from its midpoint.

A main outer berth, formed by dolphins, is situated at the head. A lighted range, indicated on the chart, assists vessels approaching the pierhead. The outer berth can handle tankers up to 212m in length and 9.2m draft.

Pilotage.—Pilotage is compulsory for vessels over 500 tons. Pilots can be contacted on VHF channel 14 or 16 and board in the vicinity of Anchor Berths G1, G2, G3, or G4, according to the size of the vessel.

Regulations.—A Traffic Separation Scheme is established in the approaches to the terminal. The scheme consists of a NW inbound lane, a SE outbound lane, and a narrow separation zone. The inbound lane is marked on the N by a line of lighted buoys marking the entrance channel. The S limit of the inbound lane is the separation zone and is marked by a line of lighted buoys along the center of the separation zone. The S limit of the outbound lane is the boundary of Anchorage Area Alfa. A lighted safe-water buoy, designated Q, marks the entrance to the inbound lane.

Anchorage.—The following designated anchorage berths are situated in the vicinity of the terminal:

1. Anchor Berth G1 lies 2.3 miles NE of Punta Zavorra and should be used by vessels with drafts greater than 12.8m.
2. Anchor Berth G2 lies 1 mile NNE of Punta Zavorra and should be used by vessels with drafts less than 12.8m.
3. Anchor Berth G3 lies 2.5 miles N of Punta Zavorra and should be used by vessels of less than 5,000 tons.
4. Anchor Berth G4 lies 2.5 miles E of Punta Zavorra and should be used by large vessels of 250,000 grt.

There are three designated anchorage areas in the vicinity of the terminal, as follows:

1. Anchorage Area Alfa—Located E of Punta Zavorra. It contains two anchor berths; Anchor Berth G2 is in the NW part while Anchor Berth G4 is in the E part. Its NE limit borders the outbound TSS lane for the terminal.

2. Anchorage Area Charlie—A triangular-shaped area centered 3.4 miles NNE of Punta Zavorra. It contains Anchor Berth G3. Its NE side borders the outbound TSS lane for the ENICHEM Pier.

3. Anchorage Area Echo—A quadrilateral area centered 2.3 miles NE of Punta Zavorra. It contains Anchor Berth G1.

Caution.—A restricted area, the limits of which are shown on the chart, lies in the vicinity of the terminal piers. Passage is prohibited in this area except by vessels using the terminal and by craft in the harbor service.

12.38 Punta Zavorra (39°04'N., 9°03'E.), located 1.8 miles S of the oil terminal, is dominated by several hills which are covered with vegetation. Sarroch is situated near the top of a small hill, 1.5 miles WNW of the point. A large yellow building stands in the NE part of this village and is very prominent. Torre dei Diavolo stands at the top of a rocky precipice, 1 mile SSW of the point.

Capo di Pula (38°59'N., 9°01'E.), the W entrance point of Golfo de Cagliari, is the rocky extremity of a low and sandy peninsula. It is dark-colored and 35m high. A light is shown from a structure, 16m high, standing on the cape.

The peninsula is joined to the mainland by a low isthmus, which is dominated by the church of Sant Efsio. Isolotto Coltellazzo lies close E of the cape and is dark in color.

Isolotto San Macario lies about 0.4 mile offshore, 1.2 miles NNE of the cape. A conspicuous tower stands in its N part and it is steep-to on the E side.

Punta Sa Cresia, 864m high, stands 6 miles NW of the cape. Its gentle sloping sides constitute an excellent landmark in this vicinity.

Golfo di Cagliari to Porto Ponte Romano

12.39 Capo Spartivento (38°53'N., 8°51'E.) is located 10 miles SW of Capo di Pula. The coast between consists mostly of very light-colored sandy beaches. Because of underwater rocks, the shore in this vicinity should not be approached closer than 1 mile. Behind the beaches, the land is mostly low but is backed by mountains.

Torre di Cala d'Ostia, 7m high, stands 3.2 miles SW of Capo di Pula and is prominent from seaward. Torre de Chia, 44m high, stands 5 miles farther SW and dominates a small, rocky promontory.

Isolotto Su Giudeu, low and blackish, lies close inshore, 1.2 miles SW of Torre de Chia. On the shore facing this islet can be seen several conspicuous sand dunes. They are very light-colored and from the E, appear as a large white patch.

Capo Spartivento is steep, rocky, and is bordered close inshore by several islets and rocks. Rocky patches lie up to 0.5 mile seaward of the cape and should be avoided. A light is shown from structure, 19m high, standing on the cape. A white house stands close to the light and a disused signal station stands 0.5 mile N of it.

Porto di Malfatano is entered between Isolotti Ferraglione, lying 1 mile WNW of Capo Spartivento, and Capo Malfatano,

1 mile W. The latter cape is the extremity of a steep-sided peninsula, 67m high, which is surmounted by Torre Malfatano. Isola Tuaredda, 31m high with an above-water rock close SW, lies near the head of this inlet. Anchorage can be taken, in a depth of 15m, weed and rock, about 0.2 mile from the shore, in the outer part of the inlet.

12.40 Golfo di Teulada (38°53'N., 8°43'E.) is entered between Capo Malfatano and Capo Teulada, 7.5 miles W. Porto di Teulada, a cove, lies at its head. The E shore of the gulf is hilly and barren and should not be closely approached. Torre di Piscinni, 12m high and truncated, dominates a small rocky point, 1.5 miles NW of Capo Malfatano. Porto di Teulada offers shelter during NE and NW winds. Its E shore is fairly steep-to, but a rocky patch, with a depth of 7.5m, lies about 0.3 mile ENE of Punta Niedda, its W entrance point. Torre Budello, 23m high, stands on a point on the W side of Porto di Teulada, near its head. Punta Planedda, 350m high, stands 1.5 miles E of this tower and is surmounted by a conspicuous white building.

Anchorage can be taken, in a depth of 16m, sand and weed, about 0.2 mile SE of Torre Budello. This berth is sheltered from NE and SW winds.

Isolotta Rossa (Isola Rossa), lying 0.5 mile S of Punta Niedda, is 54m high, reddish, and stands out against the coast. From the SE, this islet appears saddle-shaped, but from the SW, only one hillock is visible.

Capo Teulada (38°52'N., 8°39'E.), 223m high, rises steeply from the sea at the outer end of a hilly peninsula. This peninsula decreases in height towards the mainland to which it is joined by a low, sandy isthmus.

Cala Brigantina, located 1.5 miles NE of the cape, is open to the SE. It is separated from Porto Scudo, which is also open SE, by a steep promontory, 165m high. Torre di Porto Scudo stands on the SE slope of this promontory.

Caution.—An anchoring and fishing prohibited area lies in the vicinity of Capo Teulada and may best be seen on the chart.

An area of unexploded ordnance lies 1.5 miles WNW of Capo Malfatano.

12.41 Golfo di Palmas (39°00'N., 8°30'E.) is entered between Capo Teulada and Capo Sperone, 11.5 miles NW. It offers good anchorage with the best holding ground being on its E side. Although the gulf is open to the S, the seas raised by winds from that direction are considerably decreased by the time they reach the inner roadstead anchorages. The only off-lying dangers are Secca di Cala Piombo and Secca della Vacca. On either side of the gulf, the coasts are hilly and extensive salt water lagoons lie near the head.

Cala Piombo, entered close NW of Capo Teulada, is free from dangers and its shores can be approached closely. Its head is bordered by a shorebank and numerous sand dunes. Torre di Cala Piombo stands on the summit of a hill, 193m high, which stands on the N side of this cove.

Secca di Cala Piombo, with a least depth of 1.3m, lies about 0.7 mile WNW of the N entrance point of Cala Piombo. The passage leading between this shoal and the mainland is deep in the fairway.

Punta Menga (38°57'N., 8°35'E.), 31m high, is covered with low vegetation and shows up against the whitish dunes behind

it. A small house stands on the summit of this point. The shore of Porto Pino, entered SE of the point, is generally sandy with many dunes surrounded by pine bushes.

The coast between Punta Menga and Punta di Porto Botte, 3.5 miles NNW, is rocky and backed by low hills which are covered with vegetation. Porto Botte, entered N of Punta di Porto Botte, has sandy shores backed by low marshes and salt ponds. A pier is situated 0.7 mile E of the N entrance point. It is connected with the railroad system and is a shipping point for charcoal. A warehouse, with a red roof, stands close to a group of white houses in this vicinity. There are also large heaps of charcoal nearby, which are sometimes prominent from seaward. Anchorage, with local knowledge, within this bay is available, in a depth of 10m, sand, SW of the warehouse.

The head of Golfo di Palmas consists of a low and sandy isthmus which connects Isola di Sant' Antioco to the mainland.

Porto Ponte Romano (39°03'N., 8°28'E.)

World Port Index No. 39220

12.42 Porto Ponte Romano (Sant' Antioco) is the deep-water harbor for the town of Sant' Antioco, which is situated on the W side of the head of the gulf.

Winds—Weather.—The prevailing wind in winter is from the NW (Maestrale) and is sometimes rather violent. In other seasons, the winds alternate. Winds from the SE (Sirocco) sometimes brings haze.

Tides—Currents.—Tides are almost negligible, being only 0.3m at springs.

Winds from the NW may lower the water level in the harbor and winds from the SE may raise it. The currents in the approaches are negligible.

Depths—Limitations.—The harbor is approached through a channel, 80m wide. This channel leads E of a detached breakwater and has a depth of 7.5m. The coal pier provides 365m of berthing space on its W side, 320m on its E side, and 222m at its head.; there are depths of 7 to 8m alongside. Banchinna della Sanita extends 150m ENE from the root of the coal pier and has depths up to 8m alongside. Vessels up to 7m draft can be accommodated.

Aspect.—At night, the port is lighted by powerful lights on high columns which are visible for a great distance.

Conspicuous landmarks include the harbormaster's office building at the base of the pier, a high crane at the coal quay, and a reddish building standing 2 miles NNE of the base of the pier.

The entrance fairway is marked by lighted buoys. A light is shown from a tower, with a dwelling, 22m high, standing at the E side of the harbor.

Pilotage.—Pilotage is compulsory for all vessels of over 500 grt. Pilots can be contacted on VHF channel 12 and generally board about 0.5 mile SE of the outer fairway lighted buoys.

Anchorage.—The entire area of water in the N part of the gulf offers anchorage with a bottom of sand and weed, good holding ground. Vessels should anchor, in a depth of 9m, close SE of the outer end of the entrance channel or, in depths of 14 to 18m, about 3 miles S of the harbor.

Six anchorage areas, S1 to S6, are located in Golfo di Palmas. Coal lightering operations are carried out in S3 (from

October 1 through May 31) and in S4 (from June 1 through September 30).

12.43 Punta Cannai (38°58'N., 8°27'E.), a low and rocky point, is located 1.6 miles NE of Capo Sperone. It is surmounted by Torre Cannai, 29m high, which is gray and very conspicuous from seaward.

The coast for the first 3 miles to the SW of Porto Ponte Romano is low and is bordered by a sandy shore backed by a marshy strip. Along most of the remainder of the W side of the gulf, hills extend to the shore and end mostly in cliffs, 9 to 24m high. Three small coves lie along this stretch of shore and there are short segments of sandy beach at their heads.

Secca della Vacca, with a depth of 4.2m, lies about 1 mile SSW of Punta Cannai and is marked by a beacon.

Capo Sperone (38°57'N., 8°25'E.), the S extremity of Isola di Sant' Antioco, is low and rocky. This cape is dominated by a gray building, with a turret, which stands 0.7 mile N of its seaward extremity. Monte Arbus, 230m high, stands 1 mile ENE of the cape and is the highest of three prominent hills in this vicinity. A beacon is situated on its summit.

Isolotta la Vacca, 95m high, lies 2 miles SE of Capo Sperone and is fringed with numerous above and below-water rocks. Il Vitello, the highest of these above-water rocks, lies close off the N end of the islet.

Isolotta del Toro (38°52'N., 8°25'E.), 112m high, lies 5.5 miles S of Capo Sperone. This islet is conical and steep-to. A light is shown from a structure, 6m high, standing on the summit of the islet. A detached shoal, with a least depth of 11.6m, lies about 0.2 mile NW of the islet.

Banco Pomata (Secca Pomata), a detached rocky patch, lies about 2.7 miles WSW of Capo Sperone and has a least depth of 13m. During W gales, the sea breaks heavily over this patch and it should be given a wide berth.

Isola di Sant' Antioco

12.44 Monte Perdas de Fogu (39°02'N., 8°26'E.), 271m high, is the summit of Isola di Sant' Antioco. Isolotto Mangiabarca, marked by a light, lies close offshore, 8 miles NNW of Capo Sperone. The W coast of the island between the cape and the islet is rocky, indented in places, and is fringed by a shore bank.

The NW coast of the island between Isolotto Mangiabarca and Punta di Manca, 2 miles NNE, is steep and rocky, but not greatly elevated. The conspicuous buildings and chimneys of the tunny fisheries at Spiaggia Grande are situated in the vicinity of Punta Maggiore which is located close NE of the Isolotto Mangiabarca.

Secca della Saline, a shoal area with several rocks awash, lies about 0.2 mile offshore, 1 mile SW of Punta di Manca.

Calassetta (39°06'N., 8°22'E.) is situated on the N extremity of Isola di Sant' Antioco. This town is dominated by a conspicuous tower, 29m high, which stands close W of it. The white cupola of the church, visible only from the N, is also prominent. A pier and a mole front the NE side of the town. The pier has a depth of 4m alongside a spur on its S side. Anchorage can be taken, in depths of 11 to 13m, sand and weed, about 1.2 miles NW of the town.

The N coast of Isola di Sant' Antioco between Calassetta and Punta Dritta, 2.5 miles E, is low and marshy. Scocca (Scrocca Manu), 148m high, stands midway along this section of the coast and is surmounted by a beacon.

Sant' Antioco, situated on the NE side of the island, is laid out in the form of an amphitheater on the slope of a hill. An ancient fort dominates the town and the church is also prominent.

Caution.—An anchoring and fishing prohibited area, which may best be seen on the chart, extends between the NW side of Isola di Sant' Antioco and the SE side of Isola di San Piero.

Isola di San Pietro

12.45 Isola di San Pietro (30°09'N., 8°17'E.) is separated from Isola di Sant' Antioco and the mainland coast of Sardegna by Canale di San Pietro. The N and central portions of the island are rugged and hilly, but the S part is rather flat and more extensively cultivated. Guardia dei Mori, 215m high, is the summit of the island. It stands in the N part and is surmounted by a prominent building.

The S coast of the island is fringed with reefs. Punta delle Colonne, the SE extremity, takes its name from a group of conspicuous columnar rocks standing on a rocky area which extends up to 0.2 mile S of the point.

12.46 Capo Sandalo (39°09'N., 8°13'E.), the W extremity of the island, is rugged and fronted by a small islet. A light is shown from a prominent structure, 30m high, standing on the cape. A radiobeacon is situated at the light.

Isolotto del Corno (Isolotto del Gallo), 16m high, lies 0.8 mile W of the cape and is steep-to.

La Punta, the NE extremity of Isola di San Pietro, is the extremity of a level promontory, 20m high. Several buildings and a tall chimney stand at a tunny fishery on this promontory.

Isola Piana, 19m high, lies 0.5 mile NE of La Punta. A light is shown from a structure, 8m high, standing on the N side of the island. This island is rocky, covered with vegetation, and the buildings and a tall chimney of a tunny fishery are situated on its E side. Isolotto dei Ratti, 6m high, lies close S of Isola Piana and is covered with vegetation.

The E coast of Isola di San Pietro is low, sandy, and fringed with numerous shoals. An extensive flat extends E from this coast and connects it with the coast of Sardegna.

Caution.—Tunny nets, which are generally marked, may extend as much as 3 miles N of Isola di San Pietro.

Punta Grossa is located 1.2 miles S of La Punta. A group of warehouses, no longer in use, are situated close N of the point and are conspicuous from seaward.

12.47 Carloforte (39°08'N., 8°19'E.) (World Port Index No. 39250), a small harbor, lies on the E side of Isola di San Pietro and fronts the only town on the island. It is sheltered by two breakwaters and mostly used by ferries and fishing boats. There is a depth of 5.4m alongside the main quay. Vessels up to 3,000 dwt and 4.6m draft can be accommodated. Pilotage is not compulsory, but persons with local knowledge are available. The port can be contacted on VHF channel 11 or 16. Several shoals lie in the approach and two narrow channels lead to the harbor entrance. Both are marked by lighted buoys

and indicated by range beacons, some lighted, which may best be seen on the chart. Vessels with drafts up to 4m may obtain anchorage about 0.8 mile E of the cathedral belfry. This berth is on the S range line.

All winds cause surf in the harbor, especially winds from the N and SE. Winds from the NE and SE quadrants also cause heavy seas in the harbor.

Prominent landmarks in this vicinity include Torre San Vittorio, standing close SE of the town; the steeple of the cathedral in the town; and a large reddish building standing close NW of the town.

Vessels must contact the port authorities on VHF channel 16 prior to entering or leaving the port. Departing vessels have the right-of-way over vessels entering the port. There is a speed limit of 3 knots in the harbor.

Caution.—An outfall pipeline extends 1 mile E from a point on the coast, close N of Carloforte.

A submarine cable, which may best be seen on the chart, extends WNW from a point on the coast, close N of Carloforte.

A least depth of 4.7m lies between the breakwater heads.

A fishing prohibited area, best seen on the chart, is centered on the anchorage in position 39°10.6'N, 8°20.0'E.

Canale di San Pietro

12.48 Numerous shoal areas obstruct Canale di San Pietro and restrict passage to vessels with drafts of less than 4.6m. The S part of the passage is deep and clear. The safest route through the center portion of the passage is in the vicinity of several buoys which are moored about 1 mile off Carloforte. Passage just E of these buoys leads over a bank in a least depth of 5m. Caution and careful navigation are necessary in this area. The N part of the passage has several offshore banks with wide areas of open water between them and the shores.

Anchorage in the S part of Canale di San Pietro is preferable to that in the N part, because of its less difficult approach. It is exposed to SW winds, but these are neither frequent nor violent. Anchorage, sheltered from NW winds, can be taken, in depths 11 to 13m, sand and weed, about 1.5 miles SE of Torre San Vittorio.

Anchorage can be taken, in a depth of 12m, sand and weed, in the N part of Canale di San Pietro, about 1 mile SE of Isola Piana.

Pilotage is compulsory for vessels transiting the Canale di San Pietro and those heading to or coming from Porto Vesme.

Porto Vesme (39°12'N., 8°24'E.)

World Port Index No. 39260

12.49 The port of Porto Vesme lies 4.5 miles NE of Carloforte and is mostly used for the shipping of bulk minerals and coal.

Winds—Weather.—The predominant winds are from the NW, SSE, and SSW. During the winter, NW winds may produce a strong undertow in the port.

Tides—Currents.—The tidal range is generally about 0.3m, although from December to April it may be as much as 0.6m.

In general, the tidal currents are negligible, but may become appreciable during strong winds.

Depths—Limitations.—The harbor, which is protected by breakwaters, is approached through a channel, 200m wide. The fairway of this channel is dredged to a depth of 14m. The entrance between the breakwater heads is 134m wide.

The main facilities include Banchina Commerciale, an ore quay, which has 280m of berthing space, with a depth of 8.2m alongside, and whose W side is reserved for vessels up to 32,500 dwt with a maximum length of 200m; Pontile Euroallumina, a bulk ore terminal, which has 400m of berthing space with a depth of 13m alongside; and Pontile Samin, 40m long, with a depth of 8.5m alongside. This berth is used for sulfuric acid and can handle vessels with a maximum length of 100m and a maximum draft of 9m.

It is reported that vessels up to 92,000 dwt and 12m draft can be accommodated in the harbor.

Aspect.—Scoglio La Ghingetta, lying 1 mile NW of the harbor entrance, is surrounded by rocks. A light is shown from a tower, 10m high, standing on this rocky shoal.

Several shoal patches, with depths of 3 to 7m, lie about 1.6 miles WNW of the light and are marked by a lighted buoy.

Portoscuso, a small craft harbor, lies close NW of Porto Vesme and is protected by breakwaters. Torre Portoscuso, a large structure, stands close W of a village, 0.2 mile NW of the harbor.

The coal conveyor loading system and two chimneys of an electric plant, which are situated at Porto Vesme, are conspicuous from seaward. The entrance channel is marked by lighted buoys.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Vessels approaching from the N usually embark the pilot about 2 miles N of Isola Piana. Vessels approaching from the S and all vessels with a draft of less than 5.2m embark the pilot about 1 mile N of Calasetta. In inclement weather from the NW, vessels arriving from the N will be directed to head to the entrance of South Channel or to the Gulf of Palmas to board the pilot. The pilots and harbor can be contacted on VHF channel 12. Pilots are provided from Porto di Sant' Antioco.

Anchorage.—Anchorage for vessels with drafts not exceeding 6m is available about 0.4 mile E of Scoglio La Ghingetta. Anchorage, sheltered from all but NW winds, can be obtained in Anchorage Papa, in a depth of 13m, sand and weed, good holding ground, about 1.2 miles SW of Porto Vesme.

Other anchorage berths have been established in the approaches to Porto Vesme. Zone P1, Zone P2, and Zone P5 each have a radius of 0.3 mile and are for vessels with a maximum draft of 8m. Zone P3 and Zone P4 each have a radius of 0.2 mile and are for vessels with a maximum draft of 5.2m.

Directions.—From the NW, large vessels are advised to approach the port by passing between Isola dei Meli and Secca Martin in depths of about 30m. Smaller vessels may pass between Isola Piana and Secca Grande in depths of about 15m, but currents setting NNE towards Secca Grande are sometimes experienced.

Caution.—Entry into port is not recommended with strong SE winds, which increase the current setting on the breakwater and make maneuvering difficult in the very restricted waters.

A prohibited entrance area, with a radius of 300m, surrounds Scoglio La Ghingetta.

The entrance fairway is subject to silting.

Canale di San Pietro to Porto di Oristano

12.50 Capo Altano (39°14'N., 8°22'E.), located 2.5 miles NW of Porte Vesme, is high and rocky. Isola dei Meli, 11m high, lies 0.5 mile W of the cape and is surrounded by rocks and foul ground.

Caution.—Tunny nets, which are generally marked, may extend as much as 3 miles W of Capo Altano.

12.51 From Capo Altano to Porto Paglia, 3.5 miles NW, the coast is high and rocky. At Porto Paglia, a small inlet, the buildings of a tunny-processing plant are conspicuous. A low reddish tower stands close W of the buildings and is prominent from seaward.

Fontana a Mare, situated 1.5 miles NNE of Porto Paglia, can be recognized by a conspicuous white chimney dominating a group of ruined houses. A white pipeline descends down the side of a hill from the chimney. A stretch of sandy beach extends between Porto Paglia and Fontana a Mare. At Porto Nebida, situated 1 mile N of Fontana a Mare, a four-story building stands at the base of a small wharf and is prominent from seaward.

Scoglio Pan di Zuccherò (39°20'N., 8°24'E.), 132m high, lies close offshore. When seen from the SW, this rock blends in with the coastal background and is not easy to identify.

Porto Flavia, a small inlet with steep shores, lies close NE of Scoglio Pan di Zuccherò. An ore-loading machine, situated in an opening in the cliff, loads ore directly into holds of vessels via a chute. Vessels usually anchor, in a depth of 9m, close to the loading facility and moor to bollards on the shore. In addition, there are several mooring buoys in the vicinity. The berth is sheltered from N winds, but loading operations may be effected during the prevailing NW winds.

Torre di Cala Domestica, 40m high, stands 2.5 miles NNW of Porto Flavia and is prominent.

12.52 Capo Pecora (39°27'N., 8°23'E.), 18m high, is a small projection which is joined to the coast by a low stretch of land. It is dominated by Punta del Guardianu, 478m high, which stands 1.2 miles inland. An above-water rock lies close off the W extremity of this cape. The conspicuous peak of Monte Arcuentu, 785m high, stands 12 miles NE of the cape.

The coast between Capo Pecora and Capo della Frasca (Capo Frasca), 19 miles NNE, is steep and rugged. At the center of this stretch, a large isolated building stands at Porto Tremolia.

Porto Palma, a small inlet, is entered 3 miles N of Porto Tremolia and has a sandy beach at its head. Several buildings and a tall chimney of a tunny-fisheries plant are situated along this beach.

Torre di Flumentorgiu, 61m high, stands on a small point, 1 mile NNW of Porto Palma. It is conspicuous and very visible from seaward.

Capo Frasca (39°46'N., 8°27'E.) is the N extremity of Piana di Santadi, a plateau, which rises perpendicularly from the sea and is covered with vegetation. A light is shown from a structure, 8m high, standing on the cape.

Caution.—An anchoring and fishing prohibited area, the limits of which are shown on the chart, lies in the vicinity of Capo Frasca.

12.53 Golfo di Oristano (39°49'N., 8°30'E.) is entered between Capo della Frasca and Capo di San Marco, 5.5 miles NNW. The gulf has low, sandy, and gently sloping shores. In places, there are several whitish sand dunes, with patches of vegetation, backed by extensive lagoons and marshes.

Conspicuous landmarks in the approach to this gulf include Monte Sa Trebinalada, 795m high, with two peaks, standing 13.5 miles E of Capo Frasca; Monte Urtigu, 1,050m high, with gently sloping sides, standing 19 miles NNE of Capo San Marco; and Torre San Giovanni, 50m high and surmounted by two small turrets standing on a hill, 1 mile N of Capo di San Marco.

A prominent bell tower stands in the town of Oristano, which is situated 7.5 miles ENE of Capo di San Marco.

Torre Grande (Gran Torre), standing 4.7 miles NE of Capo di San Marco, is a large tower, 15m high, surrounded by houses. A light is shown from this tower.

Pontile Merci, situated 0.9 mile SE of Torre Grande, projects 180m SW from the shore. Its head is rectangular and has a depth of 6.9m alongside.

Pontile Perlite, situated close SE of Pontile Merci, projects 135m WSW from the shore. It has a T-head, 37m long, with a depth of 6.7m alongside.

Pontile SIPSÀ, situated close SE of Pontile Perlite, projects 180m WSW from the shore. The head is fitted with pipelines for crude oil and has depths of 7 to 8m alongside.

Porto di Oristano (39°52'N., 8°33'E.)

World Port Index No. 39261

12.54 Porto di Oristano lies 3 miles SE of Torre Grande and is entered through a dredged channel leading SE from a deep area which extends NE into Golfo di Oristano.

Depths—Limitations.—The harbor entrance is protected by a mole and approached by a channel, 200m wide, which has a dredged depth of 13m (1982).

The harbor consists of an outer basin and an inner basin, both of which have a depth of 12m.

The main quays include Banchina Sottoflutto, with 306m of berthing space and a depth of 10.5m alongside; Molo Sottoflutto, with 120m of berthing space and a depth of 9.5m alongside; Banchina Est, with 407m of berthing space and a depth of 10.5m alongside; Banchina Nord, with 500m of berthing space and a depth of 11m alongside; and Banchina Martini, with 250m of berthing space and a depth of 11m alongside.

Vessels up to 60,000 dwt, 300m in length, and 11.7m draft can be accommodated.

Aspect.—An outer lighted buoy is moored about 1.2 miles SSW of Torre Grande and marks the approach. A lighted range indicates the entrance channel.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 12 and board 2 miles NW of the port. Tugs are available from Porto Torres, but 48 hours advance notice must be given.

Anchorage.—Small vessels can obtain anchorage, in a depth of 6m, about 0.6 mile offshore, SSW of Torre Grande. Two designated anchor berths are available, with limits as shown on the chart. Berth C is located 1 mile SE of Capo di San Marco. Berth D is NE of Berth C and centered 2.2 miles E of Capo di San Marco.

Caution.—Depths within Porto di Oristano are subject to change. Mariners are advised to contact the port authority for the latest information.

Porto di Oristano to Isola Asinara

12.55 Capo di San Marco (39°52'N., 8°26'E.), 56m high, is formed by a small and rocky promontory which is joined to the mainland by a low and narrow strip of land. A light is shown from a prominent structure, 15m high, standing on the cape.



Capo di San Marco Light bearing N

Torre Vecchia, a low tower, is situated 0.5 mile NE of the light.

Caution.—Unexploded ordnance is reported (1994) to lie close SE of Capo di San Marco.

A prohibited area, best seen on the chart, encircles Capo di San Marco.

Lighted superbuoys, best seen on the chart, lie up to 40 miles W and SW of Capo di San Marco. These buoys are anchored to the bottom by nylon cables and are a hazard to navigation and to fishing.

12.56 Capo Mannu (40°02'N., 8°23'E.) is located 11 miles NNW of Capo di San Marco. The coast between is backed by a range of low hills covered with scrub in its S part and is low and marshy in its N part. Torre Sevo, standing 2.8 miles NW of Capo di San Marco, is very visible from seaward.

Il Catalano, a dark-colored rock, lies on a shoal area, about 7.5 miles W of Capo di San Marco. It is 11m high and is surmounted by a disused light structure. A detached rocky patch, with a depth of 12m, lies about 1.2 miles SSW of this rock and a dangerous wreck lies in this vicinity.

Rocky shoals, with depths 2.5m and 8m, lie about 0.7 mile NNE and 2.5 miles NNE, respectively, of Il Catalano.

Isolotto Mal di Ventre (39°59'N., 8°18'E.), 18m high, is flat, rocky, and fringed by shoals. Rocky shoals extend up to 1 mile NE of the island and a detached rocky area, awash, lies about 1 mile SW of the island. A light is shown from a structure, 4m high, standing on the summit of the island. Anchorage is

available, in a depth of 16m, about 0.5 mile SE of the island and sheltered from NW winds.

Caution.—A prohibited area, best seen on the chart, extends from the NE extremity to the SW extremity enclosing the entire W part of the island.

12.57 Capo Mannu, 48m high and precipitous, is joined to the mainland by a marshy isthmus. When seen from the N or S, this cape appears to consist of two flat islets. A light is shown from a structure, 11m high, standing on the cape. Torre Mora and Torre Mannu stand close S and 0.7 mile NE, respectively, of the light.

Cala Saline, entered S of Capo Mannu, offers shelter to vessels from winds from the NE and SE. Local knowledge is essential.

Isola de sa Tounaria (Isolotto Peloso), 12m high, lies close offshore, 1.7 miles NE of Capo Mannu.

The coast between Capo Mannu and Capo Marargiu, 18 miles N, is rugged and somewhat high. Monte Urtigu dominates the first section of this stretch of the coast.

Torre Foghe, a conspicuous tower, stands near the mouth of the Fiume Mannu, 9.2 miles NE of Capo Mannu. The town and cathedral of Cuglieri are situated 4.5 miles E of this tower and are plainly visible from seaward.

Rocks extend up to 0.5 mile offshore, 2 miles N of Torre Foghe.

Torre Columbargia, 33m high, stands on a reddish hill, 1.2 miles N of Torre Foghe. The town of Tresnuraghes is situated 3 miles ENE of this tower and can easily be recognized by its cathedral dome which is fronted by two spires.

Isola Rossa (40°17'N., 8°28'E.), 15m high, lies close off the S entrance point of Fiume Temi to which it is joined by a dike. A large and conspicuous tower stands on the summit of the island.

A small breakwater extends SSE from the S extremity of this island and a pier, with a depth of 4m at its head, extends from the E side of the island. Anchorage can be taken, in a depth of 16m, about 0.2 mile NW of the island, but the berth is exposed.

12.58 Bosa Marina (40°16'N., 8°32'E.) is situated close NE of Isola Rossa and on the S bank of Fiume Temo. Several conspicuous resort buildings stand 1 mile S of the town. A quay, 115m long, fronts the town and has a depth of 3m alongside. There is an extensive marina and small craft harbor in this vicinity.

Torre Argentiera stands 2.5 miles N of Isola Rossa and is visible from seaward. However, a conspicuous steep-sided hill, scored with vertical furrows, stands close E of the tower and is a better landmark.

Capo Marargiu (40°20'N., 8°23'E.) is high, bordered by rocks, and distinctive due to its greenish color. A shoal patch, with a depth of 5m, lies about 0.5 mile SW of the cape.

Torre Badde Iana stands 6.5 miles N of the cape and is white and prominent.

Punta Poglina, located 4 miles NNW of Torre Badde Iana, is low and surmounted by Torre Poglina, partially in ruins.

Rada d'Alghero (40°34'N., 8°15'E.) is entered between the town of Alghero, situated 13 miles N of Capo Marargiu, and Capo Galera, 3 miles WNW. The E shore of this bay is low and sandy, and the W shore is hilly and rocky. An undulating

coastal plain, partly under cultivation, lies immediately inland of the head of this bay.

Isolotto della Maddalena, marked by a light, lies on the shore bank, 0.9 mile NW of Alghero. It is 4m high and rocky. Because of its reddish color, this islet shows up against the light sandy background of the shore. Depths of less than 5.5m extend SW from this islet.

Conspicuous landmarks in this vicinity include Monte Doglia, 437m high and conical, standing 3.5 miles N of Capo Galera; a yellow villa standing on Capo Galera; Torre Lazzaretto, standing 0.5 mile N of Capo Galera; and a belfry standing 1.2 miles N of Alghero.

This bay is open to winds from the SW which may last as long as 8 days. When the summit of Monte Doglia is enveloped in dense clouds, winds from the S or SW can be expected. A dense fog over the coast to the S of Alghero is a sign of winds from the W or NW.

Anchorage is available, in a depth of 20m, sand and weed, good holding ground, about 0.7 mile W of Isolotto della Maddalena. Anchorage is also available, in a depth of 14m, sand and weed, about 0.2 mile E of Torre Lazzaretto.

Alghero (40°34'N., 8°19'E.) (World Port Index No. 39280), a small harbor, is sheltered by two breakwaters. The town stands on a small rocky promontory and is surrounded by medieval walls. The harbor is accessible to small vessels up to 70m in length and 4m draft. Pilotage is not compulsory, but is available. The pilot may be contacted on VHF channel 11 or 16.

Fertilia, a small town, is situated 2.5 miles NE of Capo Galera. It has a prominent church spire and is fronted by a small and shallow harbor.

12.59 Punta del Giglio (40°34'N., 8°12'E.) is located 2 miles W of Capo Galera and the coast between is high and rocky. Punta del Giglio rises to a height of 108m, 0.2 mile inland, and is surmounted by a tower. Punta del Rumani, 169m high, stands near the coast, about midway along this stretch.

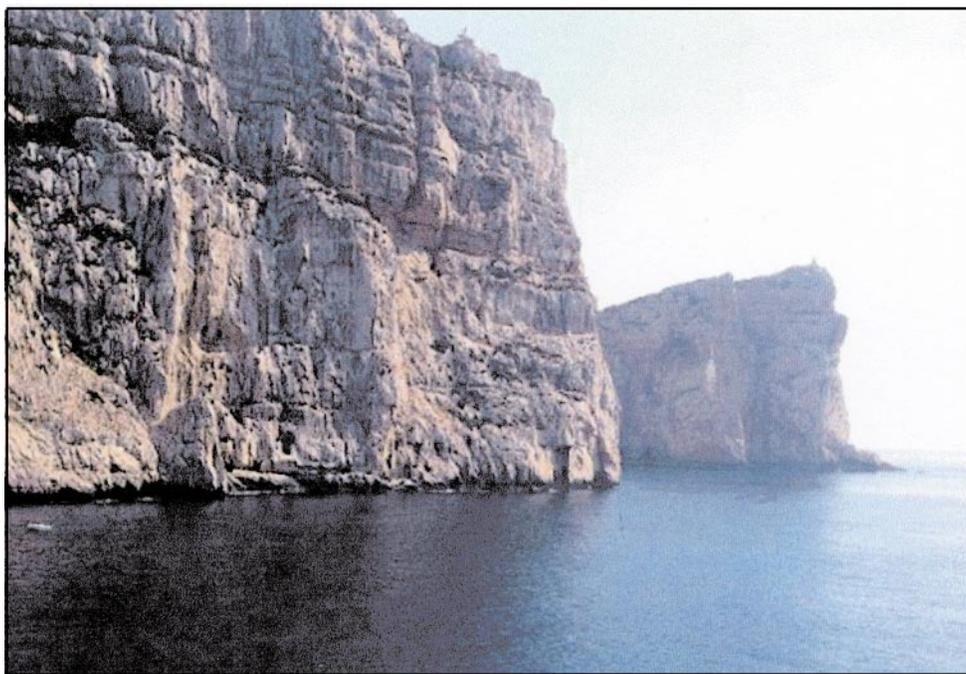
Porto Conte, entered close W of Punta del Giglio, offers shelter from all winds. Monte Timidone, 361m high, stands on the W side of this inlet and dominates the whole of this area. With strong N winds, it is advisable to keep close to the NW shore of this inlet and in the lee of Monte Timidone. When this hill is obscured by clouds, strong NW winds can be expected and may last for up to 5 days.

Torre Nuova stands on a point located 1.5 miles N of Punta del Giglio. This point is marked by a light and several hotels and other prominent buildings are situated in its vicinity. Anchorage can be taken, in depths of 6 to 20m, good holding ground, within this inlet.

12.60 Capo Caccia (40°34'N., 8°10'E.), the W entrance point of Porto Conte, is an imposing dark-colored promontory with an almost perpendicular rock face. A light is shown from a structure, 24m high, standing on the cape.

Caution.—A prohibited anchorage area extends up to 0.3 mile seaward around Capo Caccia.

The coast from Capo Caccia to Punta delle Gessiere, 4 miles N, is high and inaccessible. Isolotto Foradada, 182m high and pierced by a hole, lies 0.7 mile NW of the cape and is conspicuous. Isola Piana lies 2.7 miles NNW of the cape. It is 107m high and conspicuous. Torre Pegna stands on the brink of a cliff, 0.7 mile SSE of the islet.



Capo Caccia

Torre di Bantine Sale, 20m high and partly demolished, stands on the S entrance point of Porto Ferro, 4.2 miles NE of Punta delle Gessiere. Torre Bianca, 64m high and conspicuous, dominates a small conical promontory covered with brush on the N entrance point of this bay.

Capo dell' Argentiera (40°44'N., 8°08'E.), 221m high, can be easily recognized. Miniera dell' Argentiera stands close E of the cape. A prominent church and the conspicuous equipment of the continually active mines are situated in this village.

From Capo dell' Argentiera to Capo del Falcone, 14 miles N, the coast is high, rocky, and inaccessible. It has a whitish color for about 3 miles to the SSW of Capo del Falcone.

Capo Mannu, located 4 miles NNE of Capo dell' Argentiera, is formed by a dark spur-shaped promontory. Isola dei Porti, lying 6 miles NNE of Capo Mannu, appears conical from the SW, but from the NW it is difficult to distinguish from the coast.

Punta Scoglietti, located 2.5 miles SSW of Capo del Falcone, is low and rocky. When seen from the S, this point appears to be whitish. It should not be approached closer than 0.5 mile because of the fringing rocks and shoals.

12.61 Capo del Falcone (40°58'N., 8°12'E.) is formed by the N termination of a small peninsula. The summit of this peninsula, 189m high, stands 1 mile S of its seaward extremity and is surmounted by Torre del Falcone, a conspicuous tower.

Isola Piana, 23m high, lies close NE of the cape and divides the canal leading between Sardegna and Isola Asinara into two passages. A conspicuous dark tower stands on the NE side of this islet. Passaggio della Pelosa, the S passage, is available only to small craft with local knowledge. Passaggio dei Fornelli, the N passage, has a depth of 3m in the fairway and is available only to small vessels with local knowledge during good weather. An overhead cable, with a height of 25m, spans the W entrance of Passaggio dei Fornelli and is supported by three pylons.

Isola Asinara

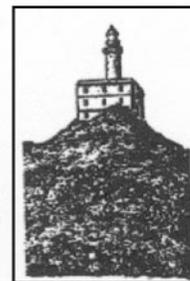
12.62 Isola Asinara (41°04'N., 8°16'E.) consists of four principal parts, all high, which are connected by low isthmuses. The principal elevations of the island, from S to N, are Monte Maestra Fornelli, 265m high; Monte Tumbarino, 241m high; Monte Ruda, 215m high; and Monte Scomunica, 408m high.

Punta della Scorno (Punta Caprara) (41°07'N., 8°19'E.), the N extremity of the island, is fringed with shoals which extend up to 0.2 mile N of it. A light is shown from a prominent structure, 35m high, standing on the point.

The W coast of the island is inaccessible and barren. The E coast is partly rocky, partly sandy, and fringed with rocks, except along the NE part which is generally steep-to. The buildings of a penal colony are situated on the N side of Cala d'Oliva, which is entered 2.5 miles SSE of Punta Caprara.

Punta Trabuccato is located 4.3 miles SSE of Punta della Scorno. This point is the extremity of a small peninsula which is connected to Isola Asinara by a low isthmus. Torre Trabuccato stands on the summit of this low peninsula.

Rada della Reale, entered SW of Punta Trabuccato, has high and rugged shores. Three groups of buildings of a quarantine



Punta della Scorno (Punta Caprara) Light

station stand on the N shore of this inlet. Two masonry piers are situated near the W group of these buildings. The larger one, 75m long and T-shaped, has a depth of 5m close off its head.

Scogli Neri, a group of drying rocks, extends up to 1.3 miles SE from the vicinity of the quarantine station and is marked by a lighted beacon. Anchorage is available on either side of this group, in a depth of 10m, sand and weed. Regulations state that these anchorages be used only in emergencies. Winds from the E and NE cause a heavy swell in this bight.

Caution.—The island and waters surrounding the coastline are known as Asinara National Park.

A restricted area, the limits of which are shown on the chart, lies in the vicinity of Isola Asinara. Landing is prohibited, except for persons engaged in rescue or surveillance activities or those with specific permission from park authorities.

12.63 Golfo dell' Asinara (41°00'N., 8°30'E.), entered E of Isola Asinara, offers good anchorage, sheltered from winds from the NW, SW, and SE quadrants.

Between Punta Negra, located 1.8 miles SE of Capo del Falcone, and Porto Torres, 9 miles SE, the shores of Golfo dell' Asinara are low, sandy, and backed by ponds. From Porto Torres to Punta Tramontana, 11.3 miles ENE, the shore consists of a series of sand dunes with a scattering of vegetation. The remainder of the coast is composed of alternate high rocky tracts and low sandy sections. In the background, the undulating terrain rises gradually towards the higher elevations of the interior of Sardegna.

Winds from the NW, frequently very stormy, prevail in this gulf. Winds from the NE, which are infrequent, usually raise a rough sea in the gulf. If the coast of Sardegna is plainly visible from the offing, generally NE or SE winds are to be expected. When Monte Scomunica, standing near the N end of Isola Asinara, is covered with clouds, generally strong NW or SW winds are to be expected. There are no well-defined currents in the gulf and those which have been encountered are mainly surface currents influenced by the wind.

Stintino (39°56'N., 8°14'E.), a small town, is situated 1 mile S of Punta Negra and has several prominent white houses. Two conspicuous chimneys of a tunny fisheries plant stand 1 mile S of the town. Also prominent at this side of the gulf are Monte

Elva, 112m high, and Monte Alvaro, 342m high, which stand 4.5 miles W and 4.5 miles SW, respectively of Porto Torres. Anchorage can be taken, in a depth of 29m, sand, good holding ground, about 0.7 mile E of Stintino.

Porto Torres (40°50'N., 8°24'E.)

World Port Index No. 39310

12.64 Porto Torres lies at the head of Golfo dell' Asinara and consists of a new harbor and an old harbor.

Winds—Weather.—A violent NW wind, which is common through the winter season, may create a heavy sea and considerable surf in the approaches to the port.

Tides—Currents.—The tide is negligible, rising only 0.3m at springs.

Depths—Limitations.—The old harbor, lying at the E side of the port, is protected by two breakwaters which form an entrance, 270m wide, facing NE. This harbor is divided into two basins. Avamporto is the outer basin and Porto Interno is the inner basin.

A part of the E side of the W breakwater is used for berthing tankers with drafts up to 8.2m.

A quay, 450m long, is situated on the SW side of the E breakwater and has depths of 8.2 to 9.1m alongside its outer end, and depths of 6.1 to 8.5m alongside its inner end.

The entrance to the inner basin leads between two moles and is 80m wide. This basin has 740m of quayside, with depths of 5.5 to 6.5m alongside.

Vessels up to 150m in length and 8m draft can be accommodated in the old harbor.

The new harbor, which includes an oil terminal, lies at the W side of the port and is protected by a breakwater which extends about 0.6 mile NNE, 0.5 mile ENE, and then 1 mile E. It has facilities for container, ro-ro, bulk, and tanker vessels.

Pontile di Levante, at the E side of the new harbor, extends 0.5 mile N from the shore. It has two berths for tankers at the outer end, with depths of 12.7 to 14.5m alongside, and two berths for dry cargo vessels at the inner end with depths of 12m alongside.

Pontile ANIC No. 1 extends 0.6 mile N from the shore, 0.3 mile W of Pontile di Levante. It has three berths with depths of 9 to 16m alongside. Berthing is done during daylight hours only; unberthing is allowed up to 2359 local time.

Pontile ANIC No. 2 extends 0.5 mile N from the shore, 0.7 mile W of Pontile ANIC No. 1. There are three berths, with depths alongside of 4 to 9m.

Aspect.—The town is situated on rather flat terrain and is without any conspicuous heights when seen from seaward. The most conspicuous landmark is the chimney of the cement works which stands 0.8 mile WSW of the root of the W breakwater. This chimney is reported to be clearly visible because of its outline against the sky. Also prominent from seaward are the Colonia Marina, a pink building, standing 0.5 mile E of the town; several green tanks situated to the W of the town; and the two loading gantries at the harbor.

Vessels of unlimited size with drafts up to 14.5m can be accommodated.

A light is shown from a prominent structure, 20m high, standing 0.2 mile S of the old harbor. A light with racon is situated at the head of the W breakwater at the old harbor.

Pilotage.—Pilotage is compulsory for vessels over 500 tons. Pilots can be contacted on VHF channel 12 or 16 and generally board about 1 mile from the breakwater. Large tankers are boarded up to 3 miles from the breakwater.

Caution.—A submarine power cable lies in the entrance to the old harbor and may best be seen on the chart.

The navigation lights at the harbor are reported to be sometimes difficult to distinguish against the bright lights of the industrial area.

Several submarine cables, which may best be seen on the chart, extend N from the shore of the gulf, close E of the port.

Porto Torres to Punta Falcone

12.65 Punta Tramontana (40°53'N., 8°38'E.), the E entrance point of Golfo dell' Asinara, can be easily recognized by a conspicuous tank standing on it. The coast between this point and Porto Torres is moderately high and steep, with a succession of sand dunes in the E part.

Castelsardo, a town, stands on a small conical promontory, 4 miles NE of Punta Tramontana. An ancient fortified citadel, surmounted by the tall antenna of a television relay station, stands on the summit of the promontory which is 114m high. From the W, the belfry of the cathedral can be seen at a lower level and appears similar to a lighthouse. Torre Fragiario, partly ruined, stands close W of the town.

Secca di Castelsardo, a detached rocky patch with a depth of 11m, lies about 5.5 miles N of Castelsardo. The sea breaks on this patch during strong N winds. Secca di Punta Spinosa, with a depth of 9m, lies about 1 mile W of Castelsardo.

San Pietro a Mare is situated SW of the mouth of Fiume Coghinas, 4 miles E of Castelsardo. This village stands behind sand dunes and a conspicuous chimney can be seen close S of it.

Fiume Coghinas is the second largest river in Sardegna, but its mouth cannot be easily identified from seaward. The sea in the vicinity of the mouth of this river becomes turbid only when the river is swollen.

Isola Rossa, lying 9 miles NE of Castelsardo, is 27m high, barren, reddish, and surrounded by rocks. A prominent tower stands on a point, 23m high, located close E of this island. A shoal, with a depth of 7.9m, lies about 0.5 mile S of the island.

Punta di li Francesi (Punta Vignola), located 11 miles NE of Isola Rossa, is 28m high and rocky. A prominent tower, partly in ruins, stands 0.5 mile SE of this point. A shoal, with a depth of 9.4m, lies about 1.5 miles ENE of the tower.

Capo di Monte Russu, located 3.5 miles ENE of Punta di li Francesi, is a rugged and reddish promontory, 89m high, which is easily recognized. From the W, it stands out from the surrounding land and large patches of light-colored sand can be seen on its shores. An islet lies 0.2 mile N of this cape.

Detached rocky patches, with depths of 6.5m and 7.5m, lie about 1 mile W and 1.5 miles SW of the light. A patch, with a depth of 7.5m, lies about 0.7 mile SSW of the SW extremity of the cape. The sea breaks heavily on the shoals lying W of the cape with rough NW seas.

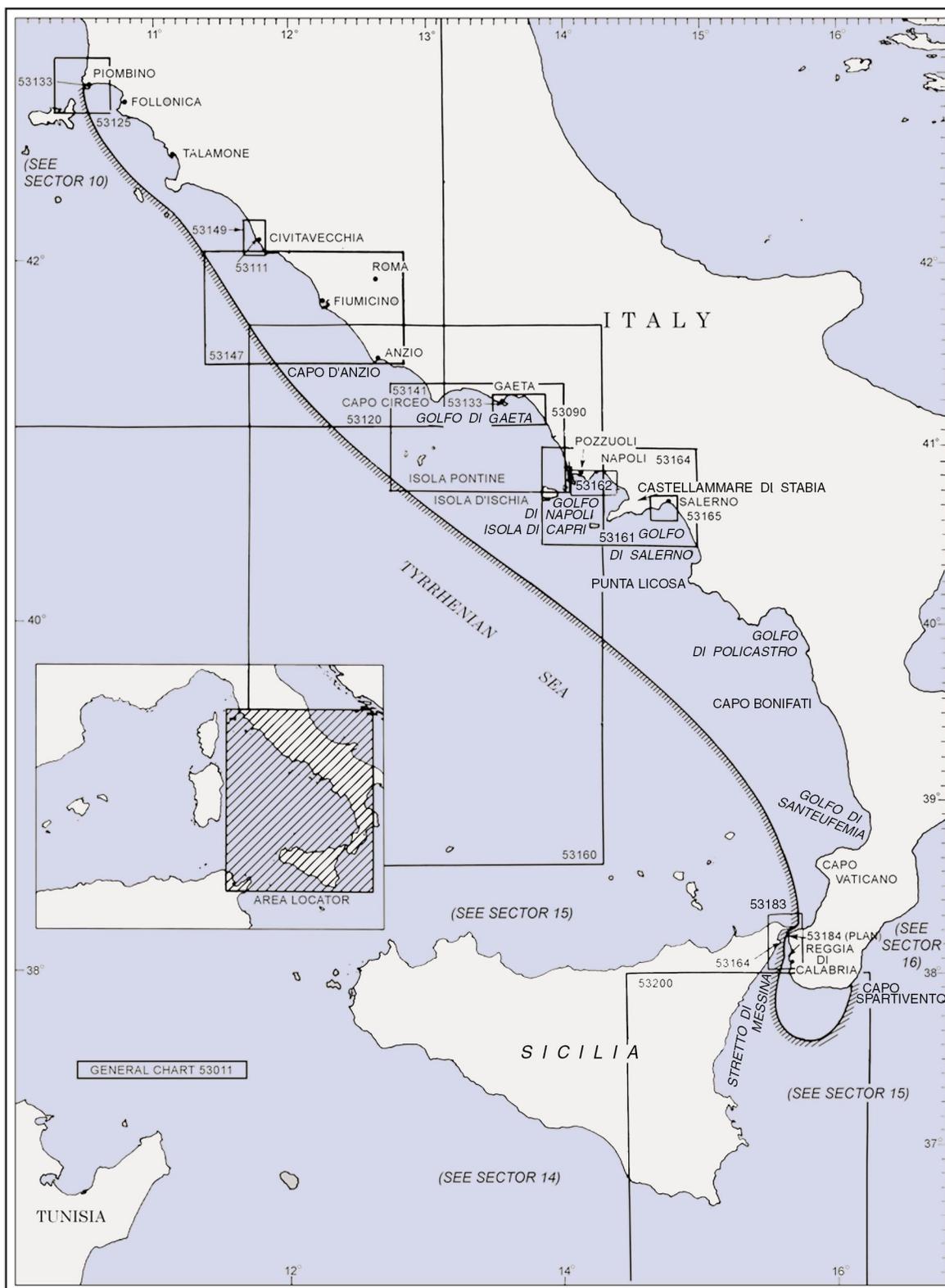
12.66 Capo Testa (41°14'N., 9°08'E.), the SW entrance point of the Strait of Bonifacio, is a prominent and rugged projection which is connected to the mainland by a low, narrow, and sandy isthmus. An inconspicuous pillar stands on its summit which is 127m high. A light is shown from a structure, 33m high, standing near the NW end of the peninsula. A disused signal station is situated close W of the light.

La Colba, a cove entered on the SE side of the cape, offers excellent shelter from winds from the NE quadrant. Anchorage can be taken in Baia Santa Reparata, which lies close E of Capo Testa, by small vessels. The best berth, in a depth of 16m,

sand, lies about 200m from the E shore and SE of the W entrance point.

Between Capo Testa and Punta Falcone, 3.5 miles E, the S side of the Strait of Bonifacio is high, rocky, and fringed with rocks and shoals. Porto Longonsardo, a narrow creek, lies 2.5 miles NE of Capo Testa. A light is shown from a structure, 7m high, standing 0.5 mile SW of the E entrance point of this creek. A village is situated on the W entrance point. A quay, with a depth of 5m alongside its outer end, projects from the W side of the creek and is used by fishing vessels and ferries.

The Strait of Bonifacio is described fully beginning in paragraph 11.16.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.
SECTOR 13 — CHART INFORMATION

SECTOR 13

ITALY—WEST COAST—PROMONTORIO DI PIOMBINO TO CAPO SPARTIVENTO

Plan.—This sector describes the NE and E shores of the Tyrrhenian Sea, the E side of Stretto di Messina, and the toe of the boot of Italy. The general descriptive sequence is from N to S.

General Remarks

13.1 Regulations.—Tanker vessels of 1,600 grt and over entering or leaving Italian ports and carrying, or with uncleaned tanks which last carried, petroleum, gas, or chemical products should report to a shore station before entering Italian territorial waters off Italian ports. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Canale di Piombino

13.2 Canale di Piombino (42°54'N., 10°29'E.) is generally about 5 miles wide and leads between the SW side of Promontorio di Piombino and the NE end of Isola d'Elba.

Punta Falcone (42°56'N., 10°30'E.), the SW extremity of Promontorio di Piombino, is a conspicuous headland which is fronted by a prominent rock. When seen from a distance, the promontory appears to be an island.

Isola Cerboli and Isola Palmioli lie in the S approach to the channel and are fully described in paragraph 10.53.

At night, the red flashes of the blast furnaces situated in the industrial area of Piombino on the S end of Promontorio di Piombino are visible for some distance offshore. The thick smoke of the chimneys also helps to identify the area.

During the winter, the currents in Canale di Piombino are not very strong and are influenced by the prevailing winds. In summer, a current sets E and sometimes attains a rate of 2.5 knots, but it is weakened by SE winds. When winds are blowing from either of the two W quadrants, this current is strong in the vicinity of Isola Palmioli and weak along the coast of Promontorio di Piombino.

Caution.—Due to the existence of submarine cables and pipelines, an anchoring and fishing prohibited area, the limits of which are shown on the chart, extends S and W from the SW side of Promontorio di Piombino.

Portovecchio di Piombino (42°56'N., 10°33'E.)

World Port Index No. 39740

13.3 The port of Piombino lies in the NW corner of Golfo di Follonica and is protected by breakwaters. The city of Piombino, an industrial center, is situated SW of the port and stands on the S end of Promontorio di Piombino.

Port of Piombino Home Page

<http://www.porto.piombino.li.it>

Depths—Limitations.—Mollo Bateria extends NE and protects the harbor from the SE. Pontile Italsider extends SE and protects the harbor from the N and E. The approach has depths of 13 to 18m.

The main berths include the following:

1. Ilva Pier N—260m long, with a depth of 11.9m alongside.
2. Ilva Pier S—180m long, with a depth of 9.2m alongside.
3. Magona Pier N—50m long, with a depth of 6.7m alongside.
4. Magona Pier S—100m long, with a depth of 6.1m alongside.
5. Trieste Pier—130m long, with a depth of 5.8m alongside.
6. Outer Mole—140m long, with a depth of 7.9m alongside.

There are facilities for general cargo, passenger, ro-ro, and bulk vessels. Lightering operations are also possible in an area designated by the port authorities.

The port can accommodate vessels up to 80,000 dwt, with a length of up to 260m, and a maximum draft of 11.9m.

Berthing of vessels greater than 50,000 dwt is inadvisable in darkness or bad weather. Severe S gales may force all ships in the harbor to leave berths on account of the swell and proceed to sea.

Aspect.—La Rocchetta, a rocky spur, is located 1.3 miles SE of Punta Falcone and extends 250m S from the middle of the city. A light is shown from a structure, 5m high, standing on this spur.

A prominent red belfry stands at the W end of the city and a hospital, with a slender tower, stands in the center. Il Castello, an old and massive fortress, stands on the coast, close E of the city.

A prominent disused signal station, with a flagstaff close to it, stands on the SE extremity of Promontorio di Piombino. Several blast furnaces and numerous chimneys are situated farther inland.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 12 and generally board about 1 mile ESE of the Molo Bateria. Vessels should send an ETA and call on VHF 1 hour prior to arrival.

Regulations.—Vessels entering or leaving the harbor must keep to the starboard side of the approach channel and proceed at the slowest speed consistent with maneuverability. Vessels entering the harbor must give way to vessels leaving.

Vessels entering or leaving Piombino should maintain a listening watch on VHF channel 13, as follows:

1. On entering—From 1 mile off the entrance until completion of berthing.
2. On leaving—Immediately on leaving the berth until 1 mile off the entrance.

If requested, the Vessel Traffic Service (VTS) will provide information, radar assistance, and radar pilotage in the

approaches to Piombino. This service is available 24 hours. The VTS is located at the Semaphore Station and can be contacted on VHF channel 12.

Anchorage.—Anchorage A is for vessels with a draft of 7m or less. Anchorage C is for vessels with a draft of greater than 7m. Both anchorages are best seen on the chart.

Anchorage may be taken, in a depth of 9m, good holding ground, NE of the harbor entrance. However, strong S or SE winds frequently raise heavy seas in the roadstead, hampering cargo handling operations.

Caution.—Anchoring and fishing are prohibited within 350m of a line joining the heads of Molo Batteria and the approaches to Pontile Italsider.

Golfo di Follonica

13.4 Golfo di Follonica lies between Promontorio di Piombino and Punta Ala, 11 miles SE. Its N and NE shores are low and marshy, but the SE shore consists of a sandy beach and is backed by green hills. Torre del Sale, attached to a house, stands on the N shore of the gulf, 2.8 miles NE of Piombino. Torre Mozza, a dark tower, stands on the beach, 4.2 miles E of Torre del Sale. Its upper part is broken away.

Several large buildings, a chimney, and silos line the shore near Torre del Sale, and are fronted by a small private oil harbor. The berth, which is protected by moles, has a depth of 4.5m alongside and can handle vessels up to 2,000 dwt and 4.3m draft. An outfall pipe lies off the harbor entrance.

Follonica (42°55'N., 10°46'E.), a small town, is situated on the NE shore of the gulf, 2.5 miles ESE of Torre Mozza. It stands on the coastal plain among numerous pine trees. A church, with a slender belfry, stands in the town; a prominent tall building stands 0.2 mile SSW of the church; and a large yellow building, with a red roof, is situated 0.4 mile SE of the town.

A pier, used primarily for the extraction of sea water for use in refrigeration plants, extends up to 1.5 miles SE of Follonica. There are depths of 7 to 8m along the N side of the head of this pier, and depths of 5 to 6m along the S side of the head.

Anchorage areas, best seen on the chart, have been established, as follows:

1. Area A—Vessels with a draft exceeding 7m.
2. Area B—Vessels bound for the Torre del Sale power station.
3. Area C—Vessels with a maximum draft of 7m.

Caution.—A prohibited area, which may best be seen on the chart, lies 1.5 miles W of this sea water extraction pier.

13.5 Punta Portiglione (42°53'N., 10°47'E.), located on the E side of the gulf, is relatively high and steep. A prominent two-story building stands on the flat top of the point. This point marks the end of a low beach and the beginning of a steep and rocky stretch of coast.

A concrete platform and pillar, standing close 90m SW of Punta Portiglione, is the terminus of an overhead cable ore transporter. Vessels up to 134m in length and 5.5m draft can be handled at this facility. Pilotage is compulsory for vessels over 500 tons. It has been reported (1987) that this terminus is no longer in use.

Punta Ala (42°48'N., 10°44'E.), the SE entrance point of Golfo di Follonica, is easily identified by a fort standing 0.2 mile E of it. This fort is comprised of a pink, square building with windows and it is surmounted by a tower. A two-story building, with a curved facade facing W, stands on the extremity of the point. An extensive yacht marina lies in the vicinity of the point.

A strong current, especially during the summer with NW winds, sets towards Scogli Porchetti, a ridge of above and below-water rocks, which extends 0.4 mile W of Punta Ala. Scoglio dello Sparviero, an islet, lies 0.5 mile WSW of the outer rock of the ridge, and is surmounted by an old tower. The passage between this islet and the ridge of rocks should not be attempted.

Golfo di Follonica to Baia di Talamone

13.6 Forte Rocchetta (42°46'N., 10°48'E.), a yellow building with a square tower, stands on a rocky spur, 3.5 miles SE of Punta Ala. Between this fort and Cala di Forno, 16 miles SE, the coast consists of a sandy beach, broken only by the entrance of Fiume Ombrone. Torre Galera, standing 0.5 mile NNW of Forte Rocchetta, is high and surrounded by ruins. To the S of Cala di Forno, the coast is formed by cliffs. Two small towns and numerous towers are situated along this coastal area.

Castiglione della Pescaia (42°46'N., 10°53'E.) stands on the N bank of a canal. This town is situated partly on a plain and partly on a hill which is surmounted by an old citadel. A point, covered with a thick pine grove, is located 0.7 mile WNW of the town. A prominent brick-red villa, fronted by a wall, stands in the middle of the pine grove. Numerous villas, with bright red roofs, are situated along the coast between this point and the town.

Marina di Grosseto, situated 5 miles SE of Castiglione della Pescaia, is a beach resort with numerous villas and buildings standing close to the shore. Torre San Rocca stands on the beach at this resort. It is red with a white roof, but is difficult to distinguish from the nearby structures.

Fiume Ombrone, located 4 miles S of Marina di Grosseto, empties into the sea through a low beach and its mouth should be given a wide berth at all times. A house, with a red roof, stands on the beach in front of thick pine woods in the vicinity of the river mouth.

Torre Castel Marina stands 2.5 miles E of the mouth of Fiume Ombrone. Torre Collelungo stands 0.5 mile farther SSE and is an old and well preserved tower.

Between Torre Collelungo and Cala Forno, 1.5 miles SSE, the coast is rocky. Torri dell'Uccellina, standing 1.2 miles E of Torre Collelungo, consists of two towers. The NW tower is tall and reddish and the other is shorter and dark in color. A conspicuous tower, with high windows, also stands on the S side of Cala Forno. Cala Forno is a small and rocky cove, with depths in the middle of 5m, lying on the N side of a high promontory.

Torre Cannelle stands 2.3 miles SSE of Cala Forno. This tower is squat and square with an enclosing wall on its S side.

Capo d'Uomo, located 4 miles SSE of Cala Forno, is surmounted by a tall and prominent tower.

Formiche di Grosseto (42°34'N., 10°53'E.), consisting of a group of three rocks, lies about 7 miles SW of the mouth of Fiume Ombrone. The N rock, 12m high and whitish, is the

largest and highest of the group. A light is shown from a structure, 12m high, standing on this rock. The middle rock is blackish. The S rock is the smallest and lowest of the group. During gales, overfalls have been observed more than 0.5 mile S of it.

Caution.—It is reported that unexploded ordnance exists to the W of Castiglione della Pescaia. It lies in a depth of 6.4m within approximately 1.7 miles of the W harbor light. Vessels are advised that it is dangerous to navigate or anchor in this vicinity.

A wreck lies about 1 mile W of the tower standing on the S side of Cala Forno. It is reported to contain unexploded ordnance which has been dispersed on the bottom. Therefore, it is prohibited to anchor or fish within 1.5 miles of the coast between Cala Forno and the mouth of the Fiume Ombrone.

Baia di Talamone

13.7 Baia di Talamone (42°33'N., 11°09'E.) is 1.2 miles wide at its entrance and is fringed by a bank which is clearly marked by discolored water. The village of Talamone, surrounded by a wall, is situated close N of the W entrance point. An old fortress, surmounted by a tower, stands within the village walls. A light is shown from a tower, 18m high, standing on the S side of the fortress.

A prominent church belfry is situated close N of the village, but is visible only from between the S and E. A cemetery, with a conspicuous white monument, is situated about midway between the village and this belfry. A small craft harbor, protected by a mole and a breakwater, front the village.

A square tower stands on the S entrance point of the bay. Torre Saline, a massive square tower with several houses close to it, stands 3 miles farther SSE. A tall and conspicuous silo, with a flat roof and a yellow superstructure, is situated in a village, NW of Torre Saline.

During N winds, Baia di Talamone affords good anchorage, in a depth of 12m, mud, SE of the cemetery and ENE of the W entrance point.

Caution.—Anchorage is prohibited in a triangular area which extends 0.7 mile S of Talamone and may best be seen on the chart.

A dangerous wreck is reported to lie about 0.7 mile SE of Talamone.

Promontorio Argentario

13.8 Promontorio Argentario (42°24'N., 11°08'E.), which is higher and more prominent than Promontorio di Piombino, appears as an island when seen from a distance. Its coasts are rugged, rocky, broken, and steep-to.

Monte Argentario, the summit of the promontory, and Poggio Canaloni, standing 0.3 mile S of it, appear as twin peaks when seen from the W or SW, because of the similarity of their outlines. During the summer, the mountains are generally obscured by haze, but in winter, a mountain with twin peaks, standing 35 miles NE of the promontory, is clearly visible in good weather. However, during strong SE winds, this mountain is covered with mist.

Conspicuous landmarks in this vicinity include Torre Argentiera, a tall and dark tower, standing 2 miles SSE of

Punta Lividonia (42°26'N., 11°06'E.); the television antenna situated N of Monte Argentario; and Scoglio Argentarola, a tall and light-colored building, standing on the N end of a ridge, 1.7 miles S of Punta Lividonia.

Isola del Giglio and Isola di Giannutri, which lie E and S of Promontorio Argentario, are fully described in paragraph 10.57 and paragraph 10.58, respectively.

13.9 Porto Santo Stefano (42°26'N., 11°07'E.) (World Port Index No. 39790), a Naval harbor, lies on the NE side of Promontorio Argentario. It is entered between Punta Nera and Punta della Madonnetta, 1 mile WNW, and consists of two harbors, Porto del Valle and Porto Vecchio.

Winds—Weather.—Winds from the NW are often strong and raise a sea in the roadstead. Winds from the NE quadrant, especially NNE winds, are dangerous to vessels at the quays.

Depths—Limitations.—The entrance to Porto del Valle has a depth of 11m and there are general depths of 5 to 10m within the harbor. Banchino Toscana has 120m of berthing space with depths up to 7.6m alongside. Vessels up to 90m in length can be handled with drafts up to 7m, and vessels up to 110m in length can be handled with drafts up to 6.5m. Tankers up to 20,000 tons can be accommodated by mooring stern-to at the outer side of the E mole and discharging via a floating pipeline. There are also facilities for bulk, ro-ro, and hydrofoil vessels.

Aspect.—The town stands at the foot of steep hills and is dominated by an old fort and a church with a square belfry. The town of Orbetello is situated near the middle of a large salt lake which separates Promontorio Argentario from the coast. This town is plainly visible and prominent from seaward. A conspicuous tower, in ruins, stands on a point, 0.7 mile E of Punta Nera. A prominent column, surmounted by a statue, and a small white pillar stand on Punta della Madonnetta.

Pilotage.—Pilotage is compulsory for vessels over 500 tons. The pilots can be contacted on VHF channel 12. Vessels in the roadstead must not exceed a speed of 6 knots.

Anchorage.—Vessels can anchor off the harbor, in a depth of 26m, mud, WNW of Punta Nera and NW of the church.

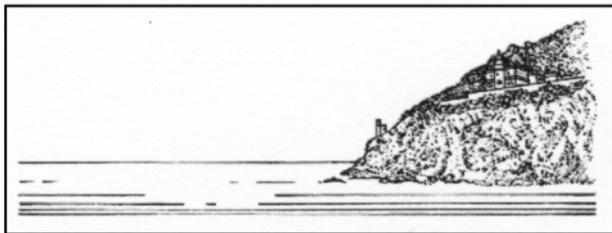
Caution.—Due to submarine cables, an anchoring and fishing prohibited area, the limits of which are shown on the chart, extends N from the N side of Porto Santo Stefano and then SW to Isola del Giglio.

In order to avoid obstructing vessels entering and leaving the port, anchoring and fishing are prohibited in an area, which may best be seen on the chart, lying in the roadstead.

13.10 Punta Lividonia (42°26'N., 11°06'E.), the NW extremity of Promontorio Argentario, is surmounted by a disused light structure. A light is shown from a structure, 12m high, standing close SW of the point. A prominent mast stands close SE of the point.

Punta Calagrande, located 1.5 miles SW of Punta Lividonia, is surmounted by a disused signal station consisting of a building surrounded by a group of light-colored huts.

Punta Calamoresca, 0.7 mile S of Punta Calagrande, is surmounted by an old ruined tower. Scoglio Argentarola, lying 0.3 mile W of this point, is a dark above-water rock which is steep-to except at its N end. A spit, with a depth of 8m at its extremity, extends about 100m N from its N end.



Punta Lividonia from SW

Punta di Torre Ciana, steep and rocky, is the S extremity of Promontorio Argentario. A tower, with a short wall behind it, stands close within this point.

Punta Avoltore, located 1.5 miles E of Punta di Torre Ciana, consists of steep, rugged cliffs which rise sheer from the sea. These cliffs, 227m high, are surmounted by a massive and conspicuous tower.

Colle della Rocca, a hill, stands 1.5 miles N of Punta Avoltore, on the S side of Porto Ercole.

Porto Ercole (42°23'N., 11°13'E.) (World Port Index No. 39800), a small craft harbor, lies on the SE side of Promontorio Argentario at the head of a small inlet. It is protected by a breakwater. From the E, the hills on both sides of the inlet appear rounded and of about the same height. Both of these hills project out conspicuously from the higher land of which they are spurs, and are surmounted by old forts. Another small but conspicuous light-colored fort stands 0.5 mile SW of the S entrance point of the harbor. Anchorage can be taken off the entrance to the harbor, in a depth of 14m, sand, NNW of the S entrance point of the inlet.

Promontorio Argentario to Civitavecchia

13.11 Punta Ansedonia (42°24'N., 11°17'E.), located 3.5 miles E of Porto Ercole, is the S end of a moderately high, steep, and rocky promontory which separates two beaches. Torre Ansedonia, a ruined, barely visible tower standing on the summit of the promontory is visible from seaward. A house, with a red roof, is situated near this tower and to the W and lower down stands a prominent white house. Another tower, partly in ruins, stands on the SE extremity of the point.

Isola Formica di Burano, lying 1.7 miles SE of Punta Ansedonia, is low and black. It should not be closely approached.

Between Punta Ansedonia and Civitavecchia, 30 miles SE, the coast is low, sandy, and can be approached within 1 mile, except near Punta Morelle, about midway along this stretch. The village of Capalbio, standing 6.7 miles NE of Punta Ansedonia, appears as a white patch from seaward and is conspicuous. This village is dominated by a square tower.

Montalto di Castro (42°21'N., 11°36'E.), a village, is situated 2 miles inland. This village can be identified by its conspicuous church belfry and small castle which has two red towers. Torre di Montalto stands on the beach, SW of the village. It is a brick structure situated at the SE end of a long building.

Porto Clementino, situated 9 miles SE of Torre di Montalto, consists of a group of buildings standing on the beach. A conspicuous white building, painted red in its upper part, stands close S of this town and is surmounted by a tower. Another conspicuous white building is situated close NW of the town.

Tarquinia, situated 3.2 miles NE of Porto Clementino, is a large town which stands on a plateau. It has numerous towers and a conspicuous church is situated at the E end. A conspicuous red building, without windows, stands on the hillside, about midway between Tarquinia and Porto Clementino.

Torre Valdaliga, a short tower, stands on the coast, 1.8 miles NW of Civitavecchia. A power station, with three conspicuous chimneys, is situated close E of this tower.

Two structures, from which lights are shown, are situated 0.2 mile WNW and 0.3 mile W of the power station. Two piers, which carry pipes for the extraction of sea water, extend up to 0.2 mile S of the power plant and are marked by lights at their heads.

Caution.—Coastal reclamation is being carried out between a position lying 0.7 mile SE of the power station and the entrance to Civitavecchia.

Anchoring and fishing prohibited areas, which may best be seen on the chart, extends SW from the vicinity of a point lying 4 miles SE of Porto Clementino and Torre Valdaliga.

A submarine pipeline, which may best be seen on the chart, lies about 2 miles offshore along the S part of this stretch of coast.

A prohibited area has been established in the vicinity of position 42°20.0'N, 11°27.4'E. No fishing, anchoring, diving, or trawling is permitted within a 500m radius of this marine reserve.

Civitavecchia (42°06'N., 11°47'E.)

World Port Index No. 39810

13.12 Civitavecchia, the port for Roma, stands on a plain and is easily seen and identified from seaward. The port consists of outer and inner harbors with several basins.

Winds—Weather.—The prevailing winds are from the SE and bring rain, especially during the winter. In the summer, the land and sea breezes usually alternate, except for variations due to atmospheric disturbances. Strong SW breezes may raise a slight sea in the outer harbor.

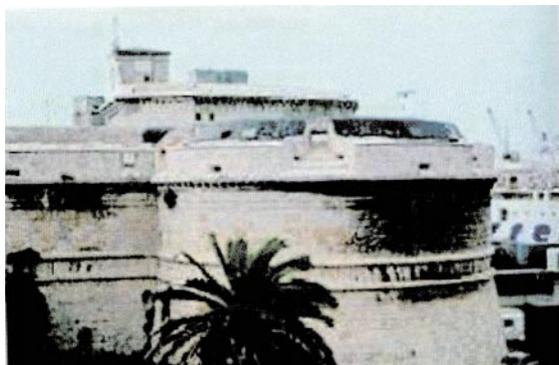
Tides—Currents.—Currents in the vicinity of the port follow the direction of the wind. Generally, they set NW with little strength.

Depths—Limitations.—The harbor is protected by an outer breakwater which extends 1 mile NW from the W side of Forte di Michelangelo. A shoal, marked by a lighted beacon, lies about 500m ESE of the head of this breakwater and narrows the entrance channel to a width of about 120m.

The five main harbor basins have 1,851m of total berthing space, with depths of 5.5 to 11.9m alongside. Darsena Petrolri, a tanker basin, has 702m of total berthing space, with depths of 10.2 to 10.5m alongside. In addition, there is 868m of total berthing space, with depths of 7.3 to 8.7m alongside, on the inner side of the breakwater.

There are facilities for ferry, cruise, bulk, and tanker vessels. Vessels up to 49,500 dwt, 250m in length, 35m beam, and 10.5m draft can be accommodated.

Aspect.—Good landmarks in the vicinity of the harbor include a cemetery, enclosed by a stone wall, situated 0.2 mile NE of the harbor entrance; a number of silos standing in the SE part of the harbor; and Forte di Michelangelo standing close SE of the harbor.



Fort di Michelangelo

A chimney, 250m high and painted with red and white stripes, and a group of three smaller chimneys, also painted with red and white stripes, stand in the NW part of the town. Civitavecchia Light is shown from a prominent structure, 33m high, standing 1.5 miles E of the harbor entrance. A radio-beacon is situated at the light. A racon is situated at the light structure standing on the head of the outer breakwater.



Civitavecchia Light

An oil platform, from which a light and a racon is shown, has been established NW of Civitavecchia, 1.5 miles W of Torre

Valdaligia (42° 07.4'N., 11°45.6'E.). A submarine oil pipeline is laid from the platform to the shore, 1 mile NE.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 14 and generally board about 1 mile from the harbor entrance.

Regulations.— A Traffic Separation Scheme has been established in the approaches to Civitavecchia. The scheme consists of a precautionary area, a 200m wide separation zone, an inbound lane SE of the separation zone, an outbound lane NW of the separation zone, and an Inshore Traffic Zone. All vessels transiting in the TSS near the port entrance must maintain a listening watch on VHF channels 14 and 16.

Anchorage.—Vessels can anchor, in a depth of 16m, about 500m NW of the head of the outer breakwater. Two anchorage areas have been established. Anchorage Area A is for use by all vessels except those carrying dangerous cargo. Anchorage Area B is for use by vessels carrying dangerous cargo.

Caution.—Care should be exercised when entering the harbor at night as the navigation lights are not easily distinguished from the lights of the town.

An anchoring, fishing, and stopping prohibited area, the limits of which are shown on the chart, lies in the vicinity of the approaches to the port.

The above oil platform is surrounded by a restricted area, with a radius of 0.2 mile, to which entry is prohibited.

An extensive area of works in progress extends NW from the head of the outer breakwater and is best seen on the chart.

Civitavecchia to Fiumicino

13.13 Capo Linaro (42°02'N., 11°50'E.) is low and barren. It is surmounted by two high antennas which are very conspicuous from seaward.

Santa Marinella, a small town and summer resort, extends along the coast to the E of the cape. Palazzo Riviera, a conspicuous group of high buildings, is situated near the E end of this town. Anchorage may be obtained, by vessels with local knowledge, in a depth of 12m, weed, about 0.2 mile offshore, 0.5 mile ESE of Palazzo Riviera.

Torre Marangone, a large square structure, stands on the beach, 2 miles NNW of the cape. An extensive yacht and pleasure craft harbor, protected by two moles, lies close NNW of this tower.

The coast between Capo Linaro and the mouth of Fiume Tevere, 25 miles SSE, is low and slopes gently to the sea. The N part of this stretch of coast is barren, while the S part is thickly covered with pine trees. Numerous small streams flow through valleys and discharge into the sea along this stretch. Shoals and rocky patches front the shore and extend up to 2 miles seaward in places.

Caution.—Three obstructions, which may best be seen on the chart, have been placed, with depths of 18 to 22m, on the seabed between 2.5 miles NW and 1 mile W of Capo Linaro. These obstructions are used as a deterrent to trawling.

13.14 Santa Severa (42°01'N., 11°58'E.) is situated on the coast, 5.5 miles ESE of Capo Linaro. This village can be identified by the houses which are enclosed within the walls of a large castle. At a short distance NNE of the castle, a conspicuous hill, with a bare and white peak, stands out from

the surrounding hills and is visible at a great distance. A conspicuous red villa is situated 1.3 miles SE of Santa Severa. It is surrounded by trees and stands close N of a section of low trees. A factory, with a tall chimney, is situated close E of this villa.

Anchorage may be obtained, with local knowledge, in a depth of 11m, about 0.2 mile SW of the castle, having regard to the coastal bank and detached shoal patches in this vicinity. Several rocks lie close offshore abreast the castle and give it protection from the sea.

Monte Santo, 430m high, stands 4.7 miles NE of Santa Severa. It has a conspicuous rocky projection on the NW side and the ruins of a fort stand on the summit. A large, low, and light-colored building, which is visible from seaward, stands on the saddle between Monte Santo and Monte Sassone, 1.3 miles W. Torre Flavia, split in two and dark, stands 5.5 miles SE of Santa Severa.

Cerveteri, a village, is situated 3.2 miles NE of Torre Flavia and is clearly visible from seaward. Two villages, separated by a wooded area, stand on the coast to the SSW of Cerveteri and are prominent. A conspicuous church, partly hidden by some houses, stands at the NW end of Ladispoli, the NW village. Two conspicuous buildings, one being a well-preserved castle and the other a modern house, stand at the E end of Palo, the SE village.

The coast between Palo and Fiumicino, 11 miles SSE, is backed by low, undulating hills which gradually decrease in elevation to the S. Torre di Palidoro, a square and light-colored structure, stands 2 miles SE of Palo and can be easily identified by a low farmhouse which is situated close SE of it.

Torre del Maccarese stands 3.5 miles SSE of Torre di Palidoro and is square and shorter than the former tower. It is situated at the N edge of a dense wood which backs the coast and extends 2 miles SSE. A dangerous wreck, marked by a buoy, lies offshore 3.7 miles WSW of the tower.

When navigating at night along the coast between Capo Linaro and Capo d'Anzio, 50 miles SE, the glare of the lights of Roma (Rome) can be seen.

Fiumicino (41°46'N., 12°14'E.)

World Port Index No. 39820

13.15 Fiumicino stands on the N bank of Canaledi Fiumicino, just within its shallow entrance. Fiumara Grande, the S branch of Fiume Tevere (Fiume Tiber), is located 2 miles S. Isola Sacra, which separates the two entrances, is low and flat with no distinctive features. The offshore oil terminal lies SW of the town.

Tides—Currents.—Great caution is necessary when conducting a coastal transit at night in this vicinity, especially during fresh NE winds, because of the nature of the coast, the off-lying shoals, and the various and irregular currents. In general, the current from Fiumara Grande sets perceptibly NNW because of the prevailing S winds. Its rate is variable and can sometimes reach as much as 6 to 7 knots. This is also true off the mouth of Canale di Fiumicino. When S winds are blowing freshly, the dividing line between the yellowish current and the blue sea water is distinctly visible. If a vessel is approaching from the SW, blue water will be reached after the vessel has

passed beyond the river mouth. The current close inshore sometimes sets towards the land.

Depths—Limitations.—The offshore oil terminal consists of two mooring platforms connected to the shore by submarine pipelines.

These platforms, situated 0.5 mile apart, lie 2.7 miles SW of the entrance to Canale di Fiumicino. Platform R1 can accommodate vessels up to 200,000 dwt, with drafts up to 15.2m. Platform R2 can accommodate tankers up to 150,000 dwt, with drafts up to 13.7m. Each terminal is marked by a light.

Aspect.—The town of Fiumicino is situated on the N bank of a canal which forms the seaward mouth of Fiume Tevere. The large buildings and control tower of the airport stand close N of the town and are very conspicuous. A large yellow hotel and the pilot lookout station tower, 13m high, stand at the W end of the town and are prominent. A light is shown from a structure, 17m high, standing in the vicinity of the canal entrance.

Lido di Ostia, conspicuous and clearly visible from seaward, extends SE along the coast from the S entrance of Fiumara Grande. Within this resort is a prominent church, water tank, and the tower of a college.

Pilotage.—Pilotage is compulsory for berthing at the mooring platforms and for all vessels transiting the canal and river. Pilots can be contacted on VHF channel 12 or 16 and board in the pilotage zone, located about 1 mile N of the platforms. Vessels should send their ETA 72 hours and 24 hours in advance through Roma Radio.

Regulations.—Traffic zones have been established in the waters between Fosso Cupino and Tor San Lorenzo. There are three zones, as follows:

1. Local Traffic Zone.
2. Inshore Traffic Zone (ITZ).
3. Offshore Traffic Zone.

Vessels of 50 grt and over are prohibited from navigating in the ITZ, with the following exceptions:

Vessel Exception	Entry/Exit Point
Tankers carrying hydrocarbons, noxious substances, or dangerous chemical products in a liquid or gaseous state	Check Point Zone
Vessels bound for North Anchorage	Echo 1 Area
Vessels bound for South Anchorage	Echo 0 Area
Vessels leaving the ITZ	Uniform 0 Area

The Entry/Exit Points are located, as follows:

Entry/Exit Points	Description
Check Point Zone	A point about 11 miles SW of the breakwaters.
Echo 1 Area	Area with a radius of 0.3 mile centered on a point about 8 miles WSW of the breakwaters.

Entry/Exit Points	Description
Echo 0 Area	Area with a radius of 0.3 mile centered on a point about 6 miles SW of the breakwaters.
Uniform 0 Area	Area with a radius of 0.3 mile centered on a point about 6 miles WSW of the breakwaters

Vessels bound to or from the canal must pass 3.5 miles N of Echo 1 Area or 4.5 miles S of Echo 0 and head on a direct course without passing through the anchorage areas.

Anchorage.—The anchorages are designated for use, as follows:

1. Anchorage Alpha—Vessels of 30,000 dwt and over. This anchorage contains anchor berths F1, F2, and F3.
2. Anchorage Beta—Vessels less than 30,000 dwt. This anchorage contains anchor berths F4, F5, and F6.
3. Anchorage Delta—Vessels with a maximum draft of 3m. This anchorage contains anchor berths F7, F8, and F9.

Caution.—An anchoring prohibited area, which can best be seen on the chart, lies in the vicinity of the offshore terminal.

A spoil ground, with a radius of 0.5 mile, lies centered 2.5 miles WNW of the entrance to Canale di Fiumicino.

Navigation is restricted for merchant vessels exceeding 50 tons in the Fiumicino Coastal Traffic Zone, which lies close seaward of the 100m depth curve and for those vessels approaching or departing the oil terminal or port facilities. Fishing vessels of less than 150 tons and pleasure craft are exempted from these restrictions, but must remain clear of the oil terminal restricted area and the anchorages.

Tankers transporting liquid or gaseous hydrocarbons or dangerous chemical products must enter the inshore traffic zone through the Check Point Zone (41°40.8'N., 11°59.2'E.) where vessels must obtain permission to enter from the Operations Center of the harbormaster.

Vessels requesting an anchor berth in the North Anchorage must enter the ITZ through Echo 1 Area, centered on position 41°46.2'N, 12°02.5'E. Vessels requesting anchorage in the South Anchorage must report from Echo 0 Area, centered in position 41°41.8'N, 12°07.9'E. All vessels leaving the ITZ must do so via Uniform 0 Area, centered on position 41°43.5'N, 12°05.8'E. Each of the calling-in areas has a radius of 0.3 mile.

Vessels arriving or departing the port area must transit 3.5 miles N of Echo 1 Area, avoiding the anchorage zones.

A dangerous wreck, the position of which is approximate, lies in 41°48.3'N, 12°10.0'E, 3 miles NW of the entrance to Canale di Fiumicino.

Fiumicino to Capo Circeo

13.16 Capo d'Anzio (41°27'N., 12°37'E.) is located 25 miles SE of Fiumara Grande. The coast between consists of a light-colored sandy beach. Dense pine woods back the first 11 miles of this stretch of shore. The next 8 miles is covered by a continuous succession of buildings behind which is cultivated land with scattered groups of trees. The remaining 7 miles is formed by an almost uninterrupted line of buildings backed by a dense pine forest.

Monte Cavo (41°45'N., 12°42'E.), the W peak of Monti Albani, stands 14 miles inland and is conspicuous. It can be identified by a large building on the summit.

Other landmarks along this part of the coast include Castel Proziano, a white tower, which rises above a group of houses 5 miles ENE of Lido di Ostia; and a large red square tower in the village of Pomezia, which is situated 3 miles inland, 14 miles NW of Capo d'Anzio.

A large industrial complex, with a high tank, is situated close inland, 4.5 miles NNW of Capo d'Anzio.

Capo d'Anzio is formed by a steep headland of porous rock. It has numerous grottoes and terminates in an arch which is clearly visible from the S. A light is shown from a structure, 21m high, standing 0.2 mile SE of the cape.

Caution.—Anchoring prohibited areas, which may best be seen on the chart, extend up to 6 miles seaward along the coast between Fiumara Grande and Capo d'Anzio.

Numerous outfalls, most marked by lighted buoys, are found along this section of the coast and are best seen on the chart.

13.17 Anzio (41°27'N., 12°38'E.) (World Port Index No. 39830), a resort, is fronted by a harbor which extends along the coast E from Capo d'Anzio. The harbor is protected from the S and SW by Molo Innocenziano and from the W by Molo Neriano.

Tides—Currents.—Along this part of the coast, the current usually sets NW parallel to the shore. Although weak under normal conditions, its strength may be increased by SE winds. During SE winds, water may be driven into the harbor.

Depths—Limitations.—There are four berths situated on the inner side of Molo Innocenziano with depths of 4.5m alongside. The harbor is mostly used by coasters, fishing vessels, and pleasure craft.

Aspect.—Prominent landmarks include a cupola standing among the trees of a cemetery, 0.5 mile NNE of Capo d'Anzio; a large cathedral standing 0.2 mile S of the cemetery; and a dark red tower standing 0.5 mile E of the cape.

Nettuno, situated 1 mile ENE of Anzio, is conspicuous from seaward because of its closely grouped buildings, large castle with rugged towers, and church with a gray belfry and high facade. This village is fronted by an extensive yacht marina.

Villa Borghese, a gray building with a flat roof, stands among a group of trees about midway between Anzio and Nettuno and is also conspicuous.

Pilotage.—Pilotage is compulsory for vessels of over 200 tons. Pilots can be contacted on VHF channel 12, 13, or 14 and board off the harbor entrance. Due to the continual variations in depths at the harbor entrance, local knowledge is required. Pilot service is restricted in bad weather. Entering or exiting port in adverse weather is prohibited.

Regulations.—Entering the port at night is not advisable. Vessels must contact Coast Guard Operations on VHF channel 12 or 16 prior to anchoring. Upon anchoring, vessels must also send the following information:

1. National and international call signs.
2. Flag, number, and port of registration.
3. Length and grt.
4. Type and quantity of cargo. If the vessel is empty, state the nature of the last cargo carried.

5. Time of anchoring and estimated length of stay.
6. Position of anchoring.
7. Number of personnel on board.
8. Purpose of anchoring.
9. Any damage or deficiencies which could develop into an emergency situation.

Anchorage.—During good weather, temporary anchorage can be taken, in a depth of 9m, sand, about 0.5 mile SE of the head of Molo Innocenziano.

Caution.—Approaching the harbor from the W or SW, care is necessary to avoid the dangers which extend SE of Capo d'Anzio.

It is reported that unexploded ordnance lies in a depth of 6.4m approximately 1 mile E of the head of Molo Innocenziano.

13.18 Capo Circeo (41°14'N., 13°04'E.) is located 23 miles SE of Capo d'Anzio. The coast between is low, sandy, and uniform. A chain of several narrow lakes lies close inside the SE part of this stretch of coast.

Torre Astura, standing 7 miles ESE of Capo d'Anzio, is a conspicuous dark-colored structure which is visible from a great distance. It stands on a rock which is connected to the shore by a stone bridge with several arches.

Torre di Foce Verde, a square structure, stands on the coast, 2 miles E of Torre Astura. A small water intake pier is situated S of the tower. An extensive industrial complex, with a conspicuous tall building, is situated 0.8 mile N of the tower. The town of Latina, situated 4 miles farther NE, can be identified by a tall light-colored belfry with a tower standing near it.

Sabaudia, situated 5 miles NNW of Capo Circeo, can be identified by its slender church belfry with a tower standing near it. Both of these structures rise from among several light-colored buildings and stand out against the dark forest behind the town.

Torre Paola, standing 3 miles S of Sabaudia and at the foot of Monte Circeo, is a short and gray structure which does not show up well against the rocky slopes behind it.

Capo Circeo is the SW extremity of a promontory which is connected to the mainland by a low and flat plain. This promontory, when seen from the NW, appears as a high, pointed island. From the SE, it appears as a long undulating ridge. A disused signal station stands near the middle of the promontory. A light is shown from a structure, 18m high, standing 1 mile E of the cape.

Torre del Fico stands on the E extremity of the promontory, 2 miles E of the cape. It is round and conspicuous. Torre Vittoria and Torre Olevola stand 1 mile NNE and 2 miles NNE, respectively, of the cape. They are both square with windows and several buildings are situated in their vicinities.

Isole Pontine

13.19 Isole Pontine (Isole di Ponza) (40°50'N., 12°58'E.), consisting of a group of five islands, lies in the approach to Golfo di Gaeta. This group is divided into two distinct sections, 22 miles apart. Palmarola, Ponza, and Zannone form the NW and more important section and lie 15 to 20 miles SSW of

Capo Circeo; Ventotene and Santo Stefano, forming the SE section of the group, lie about 30 miles SE of the cape.

The currents around Isole Pontine are usually weak and are greatly influenced by the winds. After heavy gales, they often run strongly in the passages which separate the islands.

Isola di Palmarola (40°56'N., 12°51'E.), the W island of the group, has high, irregular coasts.

Cala del Porto, on the W coast of the island, affords the only anchorage. La Forcina, dominating the head of this inlet, is a distinctive, light-colored, and rocky mass. From the W, it shows three distinct peaks, but from the E, it shows only one sharp summit. A promontory, 70m high, forms the S side of this inlet. It is surmounted by a small chapel and is connected to the main island by a low isthmus. Anchorage can be taken in the inlet, during offshore winds, in depths of 8m to 9m, sand.

Isola di Ponza (40°54'N., 12°57'E.), the largest island of the group, is high with a rugged and irregular outline. Isola di Gavi, lying close off the NE extremity of Isola di Ponza, is light-colored except for the red rock at its N end.

The E coast of Isola di Ponza is bare and rugged, with light-colored limestone showing at various places. Scoglio Evangelista lies 1 mile SW of Isola di Gavi and is high and conspicuous. A light is shown from the S extremity of Isola di Ponza at Punta della Guardia.

13.20 Ponza (40°54'N., 12°58'E.) (World Port Index No. 39840) is situated on the S side of Cala di Ponza, an inlet, and is fronted by a small harbor protected by moles. The harbor has depths of 2.6 to 6m and is accessible to vessels up to 60m in length and 5m draft. Larger vessels can anchor off the harbor entrance, in depths of 10 to 22m, mud. The cupola of the church and a castle, which are situated in the town, are conspicuous.

Faraglioni, lying close off the W coast of the island, is a conspicuous group of rocks. The largest and highest of which has a white patch and is especially noticeable from the S and SW.

Scoglio della Botte (40°51'N., 13°06'E.), lying 7 miles SE of Isola di Ponza, is a bare rock with steep sides, 18m high.

Isola Zannone (40°58'N., 13°03'E.) lies 3.2 miles NE of Isola di Ponza and several shoals lie on the bank which separates them. Lights are shown from the N and SW extremities of this island.

Isola Ventotene (40°48'N., 13°26'E.) rises to a summit, 139m high, close within its S extremity. A large and conspicuous yellow castle stands at the S end of a village on the NE coast of this island. A small harbor, marked by a light, fronts the village and is used by ferries.

Isola Santo Stefano (40°47'N., 13°27'E.) lies close E of Isola Ventotene and is surmounted by a conspicuous yellow building. Both of these islands are formed by the remains of an ancient volcanic crater.

Caution.—Landslides may occur along the coasts of Isola di Ponza and Isola Ventotene.

Prohibited areas marking nature reserves, best seen on the chart, have been established surrounding these islands.

Golfo di Gaeta

13.21 Golfo di Gaeta, fronted by Isole Pontine, lies between Capo Circeo and Punta Torre Fumo, 53 miles SE. The coast is

generally low and flat, except near Terracina, Gaeta, and Mondragone.

Terracina (41°17'N., 13°15'E.), situated on the NE side of a shallow canal, is a resort and consists of an old city and a new city. The old city stands on the slope of a rocky hill and is dominated by two conspicuous towers and a belfry which are situated close NW of it. The new city stands on a plain at the foot of the hill and has several prominent buildings. The ruins of an ancient temple, with numerous arches, stands on the hill above the city. It is conspicuous from the E and S. A small craft harbor lies in the vicinity of the canal entrance and is protected by breakwaters. The port monitors VHF channels 14 and 16. Anchorage can be taken, in depths of 5 to 15m, sand, good holding ground, E of the canal entrance clear of the prohibited area.

Gaeta (41°13'N., 13°35'E.)

World Port Index No. 39860

13.22 The port of Gaeta lies at the W side of Golfo di Gaeta. The city stands on the W side of the promontory which forms the SW entrance point of Rada di Gaeta. It is divided into two parts, Gaeta-Sant' Erasmo and Gaeta-Porto Salvo. Formia, with its two small harbors, is situated on the NW side of the roadstead.

Winds—Weather.—From September to April, winds from the E prevail; from May to August, winds from the W prevail. Generally, the velocity of these winds is minimal during the morning, increasing in the afternoon, and decreasing at sunset. Gusts from the N, which may blow suddenly in winter, are, although rare, violent and dangerous for vessels in the harbor. Strong winds from SE to SSW create a strong surf along the coast, especially at Gaeta-Porto Salvo.

Depths—Limitations.—The approach to the roadstead is deep and clear of dangers.

Porto San Antonio, in the S part of the harbor, has a depth of 6m and is reserved for naval vessels. Vessels up to 180m in length and 8m draft can be accommodated.

Bancina Caboto, a dry cargo pier, is 106m long. Vessels up to 130m in length and 6.4m draft have been accommodated alongside.

Banchina Genepesca, a ro-ro pier, is 70m long and has berths on either side with depths of 4.2 to 5m alongside.

Salvo d'Acquisto, a dry cargo pier, is 240m long. Vessels up to 7m draft can be accommodated alongside.

AGIP Oil Jetty is 200m long and has a depth of 15m alongside. Tankers up to 90,000 dwt and 14.6m draft can be accommodated.

It is reported (2001) that the offshore oil terminal berth is not in use.

Aspect.—Rada di Gaeta, a bay, lies between Promontorio di Monte Orlando and Promontorio di Scauri, 4.7 miles NE. The port lies at the SW end of this bay. Between Gaeta and Sperlonga, 8 miles NW, the coast is rugged and cliffy with several conspicuous features and objects. The promontory at Sperlonga decreases in height towards its extremity, on which stands Torre Truglia, a prominent structure. Torre Sant' Agostino, situated 3.7 miles SE of Torre Truglia, is a structure

partly in ruins which stands on a sandy beach. Torre Viola, standing 2 miles farther SE, consists of two structures, one cylindrical and the other one square and lower.

The promontory of Monte Orlando, at the SW entrance of the roadstead, is high, rocky, and surmounted by the Torre Orlando, which is conspicuous. A light is shown from a tower, 14m high, standing close SSE of Torre Orlando.

A conspicuous castle is situated 0.4 mile E of the light. Punta della Trinita, the SW extremity of the promontory, is formed by a high, brown, and rugged cliff with three vertical clefts. A chapel is situated in one of these clefts. A light is shown from a structure, 6m high, standing on Punta Stendardo, the NE extremity of the promontory. A signal station is situated close SE of the light.

That part of the city called Gaeta-Sant' Erasmo is situated partly on a spur, which projects E from Promontorio di Monte Orlando, and partly on the N side of the promontory itself. Within this part of the city, the red tower SW of Porto San Antonio and the former convent SW of Punta Mulino can be identified. That part of the city called Gaeta-Porto Salvo is ancient and extends 1 mile N from the N side of the isthmus which connects Promontorio di Monte Orlando with the mainland. Monte Conca, 189m high, rises in slopes close N of this part of the city.

Formia, in the NW part of the roadstead, is an industrial town and can be identified by Castello Baldoni, which stands isolated on a green hill behind the it. A high chimney stands close NE of the town. The town is fronted by two small craft harbors which are protected by breakwaters.

A lighted range, which may best be seen on the chart, indicates the approach to the oil jetty.

Pilotage.—Pilotage is compulsory for vessels over 500 tons. Pilots can be contacted on VHF channel 12 or 16 and generally board within 2 miles ENE of Punta Stendardo. Vessels should send an ETA 72 hours, 48 hours, and 24 hours in advance. They should then contact the pilot 1 hour before arrival.

Anchorage.—Anchorage berths, best seen on the chart, have been established from NNW through ESE of Punta dello Stendardo. The berths are designated A through E, F, F1, F2; G1 through G4, and R.

Anchorage can be taken NE of the harbor and clear of the prohibited areas. Anchorage can also be taken off Formia, in depths of 12 to 14m, mud, good holding ground, but this roadstead should only be used in good weather during offshore winds.

Caution.—Shellfish bed areas lie along the shores in parts of Rada di Gaeta and may best be seen on the chart.

Anchorage and fishing prohibited areas lie in the approaches to the port and may best be seen on the chart.

A submarine pipeline extends up to 1.6 miles ESE and SE from the N part of the port and may best be seen on the chart.

Landslides may occur along the coast of Golfo de Gaeta. Prohibited areas, which may extend from 50 to 250m from the coast, may be established as necessary.

A prohibited area, radius 0.5 mile, surrounds the dangerous wreck SW of Terracina.

A marine nature reserve, marked by lighted buoys, has been established along the S coast of the Promontorio Monte Orlando.

13.23 Mondragone (41°07'N., 13°53'E.), situated on the E side of the gulf, stands among trees at the foot of Monte Petrino, which is surmounted by a conspicuous castle. To the SE of this town, conspicuous objects include a square church tower and a water tank, showing above the trees, in the village of Castelvolturno on the SE bank of Fiume Volturno; Torre Patria, a square structure, close S of which the hills begin to approach the coast; and a dark building, with a red roof and tower, situated close inland behind several low sand dunes, 2 miles N of Torre Patria.

Anchorage is obtainable, with good holding ground, off the coast to the W of Mondragone. This roadstead is sheltered from NE winds, but is dangerous during SW winds.

To the NW of Mondragone, the village of Castelforte, which is dominated by a white tower, is conspicuous from seaward. The village of Minturno, situated 4 miles SW of Castelforte, contains two large prominent factories and a belfry. A square tower, standing close N of this village, appears to be part of the village when seen from the S.

Golfo di Gaeta to Golfo di Napoli

13.24 Isola Flegree (40°43'N., 13°55'E.), a group of three islands, lies within 10 miles of Punta Torre Fumo, the S entrance point of Golfo di Gaeta. It consists of Isola d'Ischia, Isola di Vivara, and Isola Procida.

Isola di Vivara (40°45'N., 14°00'E.), 109m high, is covered with bushes and surmounted by a tower. This small island lies at the SW end of Isola Procida and is connected to it by a bridge.

Isola Procida (40°45'N., 14°01'E.) is the NE island of the group. This island is covered mostly with vineyards. Its summit, 91m high, stands in the NE part. A prominent beacon stands on the S extremity of the island. A light is shown from a structure, 3m high, standing on Punta Pioppeto, the N extremity of the island. Several small boat harbors are situated around the island.

13.25 Isola d'Ischia (40°43'N., 13°55'E.), the outermost and largest island of the group, lies on the NW side of the entrance of Golfo di Napoli. It is separated from Isola di Procida and the mainland to the NE by Canale d'Ischia and Canale di Procida. The island, which is nearly all covered with vegetation, rises in its W part to Monte Epomeo, its summit. From the NW and SE, the two sharp peaks of Monte Epomeo, which stand close together, appear as one.

Punta Imperatore, the SW extremity of the island, is a rocky promontory which forms an imposing mass, 227m high. A disused signal station is situated on the summit of this promontory. A light is shown from a structure, 13m high, standing on the W slope of the point.

The town of Forio stands about midway along the W coast of the island, close inland of Punta del Soccorso. A large and prominent tower rises from among the buildings in this town. The church situated on Punta del Soccorso is also conspicuous. A small harbor fronts the town and is subject to silting. It is only used by small craft and yachts.

On the N coast of the island, the village of Lacco Ameno can be identified by a prominent tower and a white house at its W

end. A pier, with a depth of 6m at its head, fronts this village, but dangers lie within its head.

Casamicciola Terme, situated 0.7 mile E of Lacco Ameno, is another prominent village fronted by a small harbor. It is reported that hydrofoil ferries berth here.

Porto d'Ischia (40°45'N., 13°57'E.) (World Port Index No. 39900), a small harbor, lies on the NE side of the island. It is lined with quays and sheltered from all winds, but entry is limited to vessels up to 70m in length and 4m draft. It is reported that hydrofoil ferries berth here. This harbor can be contacted on VHF channels 13, 15, and 16.

Castello d'Ischia, situated 1.4 miles SE of Porto d'Ischia, is prominent and stands on a round rock, 91m high. This rock is connected to the E coast of the island by a causeway with an arched bridge under it which forms a boat passage. A church and the ruins of a cathedral stand close to this castle.

Landmarks include a prominent yellow building standing close S of the harbor and a church and another building situated along the S shore of the harbor.

Caution.—An anchoring prohibited area extends NE between Isola d'Ischia and the mainland and may best be seen on the chart.

Vessels are warned not to anchor, fish, or engage in any form of seabed activity along the W side of Isola d'Ischia. This is due to the danger from obstructions and explosive ordnance on the bottom.

13.26 Canale d'Ischia (40°44'N., 13°59'E.), about 1.2 miles wide at its narrowest part, lies between Isola d'Ischia and Isola di Vivara. This passage is considered safer than Canale di Procida. Formiche di Vivara, a rocky shoal with a depth of 4m, lies 1 mile NE of Castello d'Ischia. This shoal is marked on its W side by a lighted beacon. Vessels should pass about midway between Formiche di Vivara and Castello d'Ischia. On the W side of the passage, the town of Ischia, which stands along the NE end of the island, is conspicuous.

The currents off the coast of Isola d'Ischia are usually weak and are influenced by the wind. However, in this passage they sometimes attain an appreciable velocity, and in good weather they become tidal and change direction every 6 hours.

Canale di Procida (40°46'N., 14°03'E.), lying between Isola di Procida and the mainland to the NNE, is 1.5 miles wide. However, because of several shoals, the fairway, which has a depth of 9m, is reduced to a width of only about 0.2 mile. The town of Procida, standing on the NE end of the island, is conspicuous from seaward. This town is fronted by a small craft harbor which is protected by breakwaters.

Golfo di Napoli

13.27 Golfo di Napoli (40°40'N., 14°12'E.), which is approached from the SW via the channel of Bocca Grande, is flanked on its NW side by the islands of Isole Flegree and on its SE side by Isola di Capri. The shores of this gulf contain three spacious bights; Golfo di Pozzuoli and Rada di Napoli lie on the N side while Rada di Castellammare di Stabia lies on the E side.

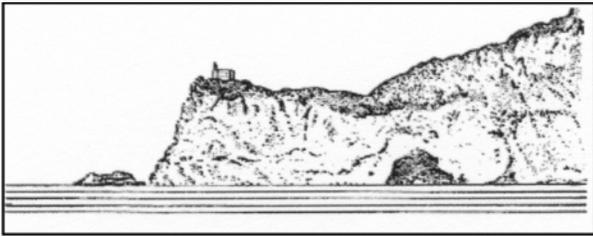
Vesuvio (40°49'N., 14°26'E.), which dominates the entire gulf, is easily identified from seaward because of its isolated position in a region of low land. The N coast of the gulf is less

mountainous than the S side and consists of green hills with extinct craters here and there.

Monte Sant'Angelo a Tre Pizze (40°39'N., 14°30'E.) is the summit and the most conspicuous peak of the ridge which stands on the SE side of the gulf.

13.28 Golfo di Pozzuoli (40°47'N., 14°07'E.), lying on the NW side of Golfo di Napoli, is entered between Capo Miseno and Punta della Gaiola, 4.5 miles ENE.

Capo Miseno (40°47'N., 14°05'E.) is the S extremity of a promontory which consists of a large yellow rocky mass connected to the mainland by a low sandy isthmus. The seaward face of this cape is bare, steep, and rugged. A light is shown from a structure, 12m high, standing on the cape.



Capo Miseno Light bearing 290°

Approaching Capo Miseno, the white belfry, with a prominent cupola, at Bacoli and a large castle, standing 1.2 miles N and 2 miles N, respectively, of the cape, can easily be distinguished. Also conspicuous and readily identifiable throughout Golfo di Napoli is the convent of Camaldoli, which stands 4 miles N of Punta della Gaiola. This convent must not be confused with the convent situated at the foot of Vesuvio.

Secca della Gaiola, a shoal bank, extends up to 0.4 mile SSE of Punta della Gaiola. Several above-water rocks lie on this shoal which is marked by an articulated lighted beacon.

13.29 Miseno (40°47'N., 14°05'E.) (World Port Index No. 39920), a small harbor, lies on the N side of the Capo Miseno promontory. At the head of this harbor, a narrow canal leads into Lago Miseno. A conspicuous gray building stands on the S side of the canal. Depths of 7 to 11m lie in the outer part of the harbor, but only small craft can use the inner part which has depths of 2.3 to 5m. A range consisting of unlighted beacons leads into the port.

Baia (40°49'N., 14°04'E.), the site of ancient Roman ruins, stands at the head of a bight in the NW part of the gulf. The temple of Venus, the most conspicuous of these ruins, is formed by an octagonal structure with windows. A large yellow building stands close S of it. A small prominent church stands in the middle of the town. The small harbor, which is used by small craft, fronts the town and has a depth of 3m. Anchorage can be taken, in a depth of 29m, mud, good holding ground, off this harbor.

Caution.—Following the earthquake activity in 1986, charted depths in Golfo di Pozzuoli are unreliable and vessels should exercise great caution.

Shellfish beds may lie along the shores of Golfo di Pozzuoli. A dangerous wreck with masts exposed and a stranded wreck lie close SE of the Temple of Venus ruins.

A prohibited area, best seen on the chart, lies NNE of the ruins in the Porto de Baia estuary.

A marine farm, marked by lighted and unlighted buoys, is centered 0.8 mile NE of the ruins and is best seen on the chart.

Pozzuoli (40°49'N., 14°07'E.)

World Port Index No. 39940

13.30 Pozzuoli, a small port, lies on the NE shore of the gulf of the same name. The harbor is protected from the S by Molo Caligoliano, which extends 0.2 mile W from the city.

Winds—Weather.—Winds from the S are generally preceded and accompanied by substantial rises in the water level which sometimes inundates the quays.

Depths—Limitations.—The main facilities include Molo Caligoliano, 294m long, with depths of 4 to 5.5m alongside; Emporio Quay, with 282m of total berthing space and depths of 6.2 to 8.2m alongside; Molo Pirelli, with 445m of berthing space and a depth at its head of 7m and Banchina Villa, which has a depth of 4.5m alongside and is used by ferries. Vessels up to 6.5m draft can be handled. There are also extensive facilities for fishing vessels at the port.

Aspect.—The city stands on a small promontory. On the N side of the harbor, Monte Nuovo, covered with vegetation, stands near the coast. Farther NE, the massive and rocky Monte Barbaro is conspicuous. Within the vicinity of the city, numerous Roman ruins are prominent from seaward. On the N side of the city, the Temple of Serapide, with three columns, stands near the shore and is conspicuous. A quarry situated E of the city is also conspicuous. There are several prominent churches within the city.

Pilotage.—Pilotage is compulsory for vessels over 500 tons. The port can be contacted on VHF channel 9 or 16. Vessels must not exceed a speed of 4 knots inside the harbor.

Anchorage.—Anchorage can be taken outside the harbor, with good holding ground, mud bottom, but avoiding a sewer outfall which extends 0.7 mile SW from the S side of the town. Vessels are to anchor S of a line between the lights at Baia Fortino Tenaglia and on Molo Caligoliano. In S winds, anchorage on or to the N of this line is dangerous.

Caution.—Strong winds from the W or WSW can cause a strong undertow that makes it unsafe to remain moored at the piers.

Bagnoli (40°49'N., 14°10'E.)

World Port Index No. 39950

13.31 Bagnoli, a small port, lies on the E side of Golfo di Pozzuoli. The harbor area fronts an industrial center and is situated close SE of the city, which is noted for its hot mineral springs.

Depths—Limitations.—There are depths of over 18.5m in the approach to the piers.

Pontile Italsider Nord, used for unloading bulk cargo, is 647m long with depths of 11 to 12.6m alongside. Vessels berth on both sides of the outer 200m of this pier.

Pontile Italsider Sud, used for loading bulk cargo, is 384m long. A berth, 160m long, with a depth of 10.5m alongside is situated at head of the pier.

Pontile Montecantini, 245m long, has a depth of 5.4m alongside the berth at its head.

There are extensive facilities for the handling of bulk ores and minerals. Vessels up to 80,000 dwt and 12.5m draft can be accommodated.

Aspect.—The harbor is protected from the S by Isola di Nisida, an islet, which is conspicuous and is connected to the shore at the E end by Molo Cappellini. Two large cranes are situated in the harbor and several prominent chimneys stand close E of it.

Pilotage.—Pilotage is compulsory for vessels over 500 tons. Pilots can be contacted on VHF channel 9 or 12 and board about 1 mile W of Isola di Nisida.

Anchorage.—Vessels can anchor off the harbor as convenient good holding ground, sand. The depths decrease gradually towards the shore with no dangers.

Caution.—The shores of Isola di Nisida should be given a wide berth due to landslides. Porto Paone on the SW side of the island is for police and military craft only. Other vessels are prohibited from approaching, stopping, or landing in the port. Gaiola Underwater Park has been established in the vicinity of Secca della Gaiola E of Isola di Nisida.

Napoli (40°51'N., 14°16'E.)

World Port Index No. 39960

13.32 Napoli, at the head of Rada di Napoli, stands at the edge of a plain that extends to the foot of Vesuvio. The large port, which fronts the city, consists of an extensive harbor with several large basins which lie behind a system of breakwaters. Additional information may be found at the website below.

Portnet Home Page

<http://www.pilotina.portnet.it>

Tides—Currents.—The tidal rise is negligible, being only 0.3m at springs. The water level in the harbor is mainly influenced by the wind. With S winds, it increases by up to 0.3m and with strong N winds, it decreases by an equal amount.

A constant SW set of 1 knot has been reported (1997) outside the breakwater.

Depths—Limitations.—The port is protected on its W side by a breakwater which extends about 1 mile ESE from the shore. The remainder of the port is protected from the S by a detached breakwater which extends about 0.3 mile NE and then 1.1 miles SE. The main entrance to the port is via Bocca di Ponente, which leads between the E end of the W breakwater and the W end of the detached breakwater. It has depths of 29 to 34m. The secondary entrance, at the E end of the port, has a dredged depth of 14.8m.

The harbor contains a naval dockyard and arsenal. There are extensive facilities for repairs with several floating docks and graving yards, the largest being 349m long and 45m wide.

There is about 7 miles of total quayside. This includes 80 berths, with depths of 7.3 to 11m alongside for container, passenger, ro-ro, bulk, and general cargo vessels. Generally, vessels are only limited by their drafts.

The oil terminal is situated at the E end of the harbor and comprises three piers. There are 11 berths, with depths of 7.6 to 14.3m alongside. Tankers up to 90,000 dwt and 14.1m draft can be accommodated.

Aspect.—Approaching from the W, the following landmarks can be identified:

1. The convent of Camaldoli, previously mentioned in paragraph 13.28
2. The dark and massive Castel Sant' Elmo standing on the summit of Collinadi San Martino, 2.3 miles ESE of the convent
3. Castel dell' Ovo, which separates Rada di Mergellina and Rada di Santa Lucia
4. The white cupolas of the observatory which stands 2 miles N of Castel dell' Ovo

Approaching from the SE, Vesuvio dominates the NE shore of the gulf; an observatory, situated three-quarters of the way up its slope, and the lower station of the funicular railway, a little higher up and 1 mile ESE, can be easily identified. On the coast 1 mile SE of Torre del Greco, Torre Bassano, dark and square, can be identified and a convent, standing 1 mile ENE of it, is conspicuous. Between Torre del Greco and Napoli, the red belfry of Santa Maria Pugliano and the prism-shaped belfry of San Giovanni a Teduccio, standing 1.7 miles NNW and 3.7 miles NW, respectively, of Torre del Greco, can be easily identified.

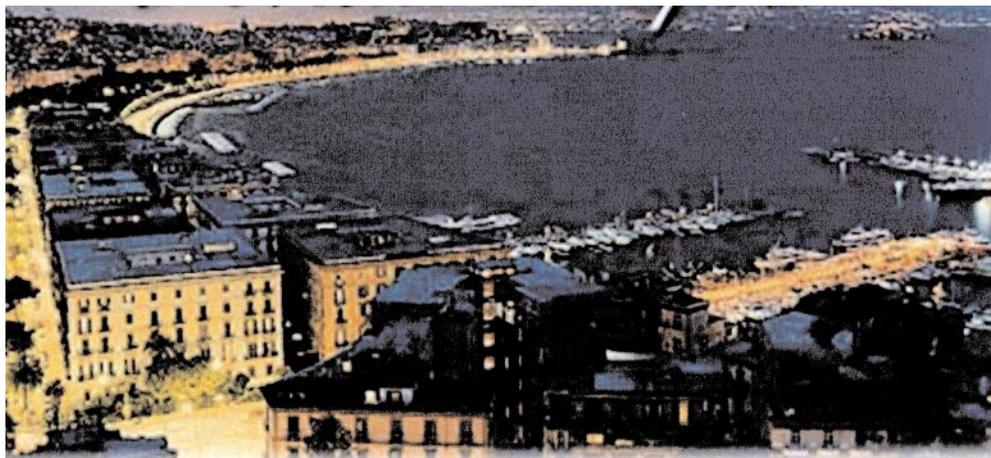
Conspicuous landmarks within the city of Napoli include the large buildings of Palazzo Reale and the iron and glass cupola situated 0.5 mile N of Castel dell' Ovo; the skyscraper standing 0.2 mile NNE of Palazzo Reale; and the belfry of a church situated close N of Pontile del Silos.

A light is shown from a prominent structure, 24m high, standing on the head of the W breakwater. A racon is situated at the light.

Pilotage.—Pilotage is compulsory for vessels of over 500 grt. Pilots can be contacted on VHF channel 12 or 16. Pilots board for the W channel (Canale di Ponente) about 1.5 miles S of the main harbor entrance. Pilots board for the E channel (Canale di Levante) about 1 mile S of the red light at the head of the Diga Duca d'Aosta. All vessels arriving or departing must proceed at a speed not exceeding 6 knots.

Regulations.—A Traffic Separation Scheme (TSS) has been established in Rada di Napoli for use in the approaches to Canale di Ponente. The scheme has a 700m separation zone with inbound and outbound lanes on either side. The initial approach is on course 350° for 1.5 miles. A turn to course 307° is then made to enter port. The inbound lane is E of the separation zone and the outbound lane is W of the separation area.

A recommended route has been established for the approach to Canale di Levante. It is a two-way route 1 mile in length. The route is oriented N-S with its origin at the entrance light beacons.



Napoli



Castel dell' Ovo

All vessels entering or leaving the harbor must report to the Operations Center at the harbormaster's office on VHF channel 14 and provide the following information:

1. Vessel name and type.
2. Destination or last port of call.
3. Description of cargo.

Anchorage.—Anchorage is available in Rada di Napoli, as follows:

1. Anchor Berths A1 to A4 are centered S of the Molo S Vincenzo in Rada di Santa Lucia. They are intended for use by vessels carrying non-dangerous cargo.

2. Anchor Berths B1 to B4 are located immediately S of the Alpha berths mentioned above and are for the use of vessels, except tankers, carrying dangerous cargo.

3. Anchor Berths C1 to C4 are located SE of the entrance to Canale di Levante and are for the use of tankers.

Rada di Santa Lucia, lying S of the W breakwater, is also the usual anchorage for naval vessels which generally anchor, in

depths of 18 to 20m, sand, good holding ground. However, this roadstead is exposed to S winds.

Anchor berths for nuclear-powered vessels, Berth X3 and Berth X4, are located S of the boundary for the Bravo berths.

Anchor Berth D1 and Anchor Berth D2, located SW of the entrance to Canale di Levante, are for use when the Alpha and Bravo berths are not available.

Anchorage E in Rada di Mergellina is for use by small craft.

While at anchor vessels must maintain a listening watch on VHF channel 14 or 16.

Caution.—Caution is necessary because numerous fishing boats are likely to be encountered in the approaches to the port.

Several unlighted and uncharted mooring buoys are situated within the confines of the harbor.

Harbor traffic is heavy, with many ferries crossing at relatively high speeds.

Torre Annunziata (40°45'N., 14°27'E.)

World Port Index No. 39990

13.33 Torre Annunziata, situated at the E end of Golfo di Napoli, stands on the NE corner of Rada di Castellammare di Stabia. The small port, which fronts the town, is protected by two moles.

Winds—Weather.—Winds from the SE are reported to cause the most swell in the harbor. During heavy SE gales, the sea often washes over the outer mole. A remarkable agitation of the water in the harbor is reported to occur an hour or two before SE winds set in. During fresh NW winds, berthing alongside is reported to be dangerous.

Tides—Currents.—The currents at night, mainly caused by the discharge of Fiume Sarno, set generally NW along the coast. Between this river and Torre Annunziata, the current normally does not exceed a velocity of 1 to 1.5 knots, but with fresh E winds, it is increased considerably and felt farther offshore.

During the day, the current, because of winds from seaward, sets E, overcoming the current from Fiume Sarno and deflecting it towards Castellammare di Stabia. The velocity of this current usually does not exceed 1 knot, but with fresh W or WSW winds, it may be considerably increased.

Depths—Limitations.—There are depths up to 10.8m in the harbor. The main commercial facilities include Molo di Levante, 247m long, with depths of 8.3 to 9m alongside; and Caleta Crocelle, 300m long, with depths of 6 to 7m alongside a usable length of 198m. The harbor is mostly used by bulk vessels and fishing boats. Vessels up to 143m in length and 8.9m draft have been handled.

Aspect.—The ruins of Pompeii, destroyed by the eruption of Vesuvio in 79 A.D., are situated 1.5 miles E of the harbor. Torre Scassata, partly in ruins, is situated 1.4 miles W of the harbor and is conspicuous from seaward. Also conspicuous from the approaches is the church, with a belfry and surmounted by a cross, standing 1 mile NNW of Torre Scassata.

The town of Torre Annunziata is dominated by the tall cupola of the church of the Carmine, which stands near the head of the harbor. A prominent tower, used for bulk cargo, stands on the SE side of the harbor.

Pilotage.—Pilotage is compulsory for vessels over 500 tons. The port can be contacted on VHF channel 15 or 16. Vessels over 80m in length may only enter during daylight hours. The pilot boards 0.5 mile S of the breakwater.

Anchorage.—Three anchorage areas, which are designated A, B, and C, are located SW and W of the port.

1. Anchorage Area A, the S of the anchorages, has two designated berths, FA1 and FA2. They are located using Molo di Ponente Light, as follows:

- FA1—bearing 196° at 0.9 mile.
- FA2—bearing 218° at 1.1 miles.

2. Anchorage Area B, the NW of the anchorages, has three designated berths, FB1, FB2, and FB3. They are located using Molo di Ponente Light, as follows:

- FB1—bearing 245° at 1 mile.
- FB2—bearing 264° at 1.1 miles.
- FB3—bearing 269° at 0.8 mile.

3. Anchorage Area C, the NE anchorage, is used for vessels carrying dangerous cargo. This anchorage has three designated berths, FC1, FC2, and FC3. They are located using Molo di Ponente Light, as follows:

- FC1—bearing 201° at 0.4 mile.
- FC2—bearing 229° at 0.7 mile.
- FC3—bearing 256° at 0.5 mile.

Caution.—A restricted area, marked by a lighted buoy, consisting of a shellfish haven, lies close W of the W mole and may best be seen on the chart.

Vessels should give the head of the W mole a wide berth.

A restricted area containing a seaplane operating area within its boundaries has been established between Torre Annunziata and Castellammare di Stabia. Anchoring and fishing are prohibited within the area.

Castellammare di Stabia (40°42'N., 14°29'E.)

World Port Index No. 40000

13.34 Castellammare di Stabia is situated in the SE corner of Rada di Castellammare di Stabia. The small port extends along the shore W of the town and is protected by a breakwater.

Winds—Weather.—Strong W and SW winds cause a heavy sea and swell in the harbor. With SE winds, strong squalls sweep down from the mountains and sometimes endanger vessels which are berthed alongside the inner side of the breakwater.

Tides—Currents.—Winds between the NE and ESE are reported to cause a weak current which sets W off the entrance to the harbor.

Depths—Limitations.—There are depths of 7 to 16m in the entrance of the harbor. The main facilities include Banchina Fontana, with 320m of berthing space; Molo Sottoflutto, with 150m of berthing space; Banchina Marinella, with 220m of berthing space; and Molo Silosi with 165m of berthing space. These quays have depths of 4 to 8.5m alongside. The harbor is mostly used by bulk vessels and fishing boats. Vessels between 130m and 150m in length, with drafts up to 8.2m, can be accommodated.

Aspect.—Several mountains stand to the S of the harbor and are conspicuous from seaward.

Scoglio di Revigliano, surmounted by a conspicuous ruined castle with a large tower, lies close offshore, 2 miles NNW of the harbor.

An industrial center, with several factories and chimneys, extends N along the coast from the town. A light is shown from a structure, 16m high, standing close S of the harbor.

A church, with a prominent bell tower, is situated 0.5 mile W of the light. Several silos stand at the head of the harbor and can be seen from seaward. Two prominent radio masts are reported to stand 2.3 miles SE of the light.

Pilotage.—Pilotage is compulsory for vessels over 500 tons. The port can be contacted on VHF channel 9 or 16. Vessels arriving must obtain an anchor berth from the Harbormaster on VHF channel 16. Vessels arriving or departing must proceed at a speed not exceeding 6 knots. The pilot boards 1 mile NW of the breakwater.

Anchorage.—Two anchorage areas designated A and B have been established to the W and NW of the harbor.

Anchorage Area A lies W of Molo Foraneo Light and contains three designated berths, FA1, FA2, and FA3. They are located using Molo Foraneo Light, as follows:

1. FA1, bearing 280° at 1 mile, is for vessels of 150-180m overall length.
2. FA2, bearing 268° at 0.5 mile, is for vessels of 100-150m overall length.
3. FA3, bearing 261° at 0.9 mile, is for vessels of 150-180m overall length.

Anchorage Brea B lies NW of Molo Foraneo. It contains one designated berth, FB1. This berth is located bearing 335° at 0.6 mile from Molo Foraneo Light and is for vessels of 180-220m overall length.

Vessels arriving with dangerous cargo are prohibited from using these anchorages. Such vessels are required to wait at least 2.5 miles from the head of Molo Foraneo to receive instructions from the Port Authorities.

Castellammare di Stabia to Bocca Piccola

13.35 Punta Campanella (40°34'N., 14°20'E.) is located 10 miles SW of Castellammare di Stabia. The coast between forms the SE side of Golfo di Napoli and is dominated by a mountain range. The shore is indented by several small bays and fringed by beaches here and there.

Good landmarks include **Monte Vico Alvano** (40°37'N., 14°26'E.), with a sharp peak surmounted by a cross; Monte Sant' Angelo, surmounted by a building conspicuous from the W, standing 1.5 miles NNW of Monte Vico Alvano; and the convent of Santo Francesco, which is situated near the coast, 1.5 miles NE of Monte Sant' Angelo. This convent is topped by a lighted cross and has a black dome and a red belfry.

Vico Equense (40°40'N., 14°26'E.) stands on the edge of a tableland. Several conspicuous belfries are situated in this town, behind which stands a castle with a wall supported by arches. A prominent red church, with a tall square belfry, stands at the E end of the town. Scoglio Santa Margherita, a group of rocks, fronts the town. Large vessels can anchor, in depths of 11 to 14m, sand, moderate holding ground, about 0.2 mile NNE of Scoglio Santa Margherita.

Sorrento (40°38'N., 14°23'E.), a tourist resort, stands in the S part of a bight which lies between Punta Gradelle and Capo di Sorrento, 2.7 miles SW. The town, with numerous hotels, is situated on a high terrace in the midst of luxurious vegetation and is fronted by a small craft harbor which is protected by a mole. It can easily be identified by the bright metal dome and belfry of the church which stands close WSW of the harbor. A conspicuous light-colored hotel also stands close W of the harbor. A prominent red church, with a cupola and a belfry, stands on Punta Gradelle.

With strong SW winds and onshore winds, a current sets NE and follows the line of the coast in this vicinity. Off Sorrento, the currents are mostly weak and set W. During the winter, large vessels can anchor, in a depth of 40m, good holding ground, about 0.2 mile N of the head of the mole at Sorrento. At this time of year, winds from the SE and SW are accompanied by intermittent rain and generally back to the NE. When

this occurs and because of the violence of the NE winds, vessels should leave this anchorage.

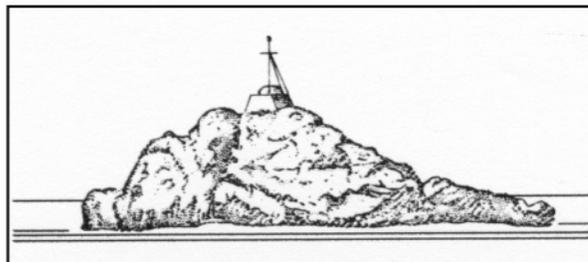
Caution.—Anchoring and fishing prohibited areas extend up to 0.5 mile seaward from the shore in the vicinity of Sorrento and may best be seen on the chart.

13.36 Capo di Sorrento (40°38'N., 14°21'E.) is located 1.2 miles WNW of the town of Sorrento. The coast between descends gradually in regular slopes, near the bottom of which are several coves. The cape is rocky and its extremity is surmounted by the ruins of a temple which consists of a few walls and arches. A ruined tower stands close SW of the cape.

Capo di Massa, located 0.8 mile SW of Capo di Sorrento, is steep and rocky. This cape is surmounted by a large and dark tower, with a prominent white building situated half way up the slope behind it.

Scoglio Vervecce lies 0.8 mile offshore, about 0.9 mile SW of Capo di Massa. It is a moderately high, prominent rock and is marked by a lighted beacon. A submarine pipeline extends NW from the coast in the vicinity of this rock and may best be seen on the chart.

Caution.—An anchoring and fishing prohibited area extends along the coast from N of Capo di Sorrento to the SW and S as best seen on the chart.



Scoglio Vervecce Light

13.37 Capo Corbo (40°36'N., 14°20'E.), located 1.2 miles SSW of Capo di Massa, can be identified by the fairly-prominent square tower standing on it. The town of Massalubrense is situated 0.5 mile ENE of the cape. A large yellow building, with a red roof and a yellow belfry, stand in this town. A prominent church, with a white facade and yellow belfry, stands at the head of the cove on the NE side of Capo Corbo. A prominent village stands 0.4 mile SE of Capo Corbo and can be identified by a tower surmounted by a smaller square tower.

Punta San Lorenzo, located 0.8 mile SSW of Capo Corbo, is formed by a high, rocky, and narrow ridge which is surmounted by a partly demolished and dark-colored tower. A prominent white pillar stands close N of the tower.

Punta di Calla Baccoli, located 0.5 mile SSW of Punta San Lorenzo, can be identified by a vertical white wall caused by excavation work. Torre Fossa, standing 0.7 mile SSE of the point, is square with heavy cornices.

Bocca Piccola (40°34'N., 14°18'E.), deep and clear of dangers, lies between Punta Campanella, the S entrance point of Golfe di Napoli and Isola di Capri.

Isola di Capri

13.38 Isola di Capri (40°33'N., 14°14'E.), separated from the mainland by Bocca Piccola, lies at the S end of Golfo di Napoli and the N end of Golfo di Salerno.

Monte Solaro, the summit of the island, stands in the SW part. It is 589m high and surmounted by the ruins of a fort. Monte Cappelletto, standing NE of it, is surmounted by a large cross.

Punta del Monaco (40°33'N., 14°16'E.) is the E extremity of the island. Capo Tiberio is located 0.3 mile NNW of Punta del Monaco and is fronted by a small rock. A light is shown from a structure, 5m high, standing on this rock.

Marina Grande (40°33'N., 14°14'E.) (World Port Index No. 40020) is situated on the N side of the island. It is the port for Capri and is fronted by a small harbor which is protected by breakwaters. The town of Capri stands 0.3 mile SE of the harbor. Anchorage can be taken in the roadstead off this harbor, keeping in mind that there are depths of over 29m at a distance of only 320m offshore. The harbor is mostly used by small craft and yachts. There are no authorized pilots, but men with local knowledge are available by request. The harbor can be contacted by VHF. It is reported that vessels should not enter or leave at a speed greater than 5 knots. Vessels leaving the harbor usually take precedence over other vessels.

The harbor is exposed to NE winds. During NE and SW winds, it is subject to a choppy sea.

When approaching the harbor, Marina Grande appears separated from Capri by a green valley of woods and vineyards which is crossed by a prominent funicular railway. Forte San Michele stands on the summit of a hill, 0.3 mile SE of the harbor. However, this fort does not show up well as its low and dark walls are the same color as the hill. Villa Torricelli is prominent and stands 0.1 mile W of the root of the NW breakwater. It consists of a white building with a turret, which resembles a belfry, and can be identified by a hotel, with conspicuous white columns and a large terrace, which stands on the slope just below it.

13.39 Punta Carena (40°32'N., 14°12'E.), the SW extremity of the island, is low and salient. It is dominated by Torre Guardia, a conspicuous tower, which stands 0.4 mile NE of the point. A light is shown from a conspicuous structure, 28m high, standing close E of the seaward extremity of the point. A radiobeacon is situated at the light.

Punta dell' Arcera (Punta di Vetereto), located 1.5 miles N of Punta Carena, is the NW extremity of Isola di Capri. The W coast of the island is rugged, bare, precipitous, and dotted with farms.

Marina Piccola is situated on the S side of the island, 1.7 miles ENE of Punta Carena. It is a beach resort and is backed by numerous white villas standing on the green slopes. To the E, the coast rises steeply to the ruins of a castle. La Certosa, situated 0.3 mile farther to the E, is a large and conspicuous building. Vessels with local knowledge can anchor, in depths of 7 to 10m, weed, off Marina Piccola.

Punta di Tragara (40°33'N., 14°15'E.), the SE extremity of the island, is steep and terminates in a high and conical bluff. Isola Faraglioni, two high and conical islets, lie close together



Punta Carena Light

S of the point. The S islet resembles Punta di Tragara and the N islet, when seen from the E, shows a large natural arch.

The E coast of Capri, between Punta di Tragara and Punta del Monaco, is high, irregular, bare, and of a wild aspect. Monte Tiberio, which stands close SW of Punta del Monaco, is 340m high and is surmounted by a conspicuous church.

Caution.—A submarine cable area extends NE between the island and the mainland and may best be seen on the chart.

An entry prohibited area lies within the submarine cable area 1.7 miles NE of the light at Capo Tiberio.

Golfo di Salerno

13.40 Punta Campanella (40°34'N., 14°20'E.) is the SW extremity of a promontory which descends gradually from the summit of Monte Santo Costanzo. This mountain is 498m high and is surmounted by a white chapel which is an excellent landmark from seaward. A high brown rock, small in diameter, lies close off the point. A light is shown from a prominent structure, 18m high, standing on the point.

Golfo di Salerno, entered S of Punta Campanella, has steep and rocky shores on its N and E shores, which are backed by mountains more than 1,000m high. The head of the gulf lies between Salerno and Agropoli and is low and sandy. The gulf is generally clear of off-lying dangers, except along its NW shore where Scoglio Vivaro and Li Galli lie within 2 miles of the coast.

Li Galli (40°38'N., 14°26'E.), a group of three rocky islets, lies 5 miles E of Punta Campanella. Gallo Lungo, the E and largest of the group, is surmounted by a tower with a prominent villa standing close SE of it. A light is shown from a structure, 12m high, standing on the N end of this islet. Casteluccia and La Rotonda lie 0.1 mile W and 0.2 mile SW, respectively, of Gallo Lungo.

Scoglio Vivaro lies 1.5 miles W of Li Galli. This rock is high and rounded.

Punta di Montalto, located 1 mile E of Punta Campanella, is steep, rocky, and terminates in twin peaks. Torre di Montalto, situated close N of this point, is square and partly in ruins. Scoglio Penna, lying close SW of the point, is a small, high, and dark rock.

Scoglio Isca (40°35'N., 14°23'E.) is rounded at the top and is covered with sparse vegetation. Although high and massive,

this rock is difficult to distinguish, even at a short distance from the coast.

The village of Santa Agata, situated 1.2 miles N of Scoglio Isca, stands in the middle of dense vegetation, on the crest of the coastal range, and is visible from seaward.

Punta Santa Elia, located 1.5 miles ENE of Scoglio Isca, is surmounted by a conspicuous white two-story house. The coast extending to the E of the point is rocky, steep, and eroded by the sea into the form of numerous caves.

Lo Scaricatore, the coastal area lying in the vicinity of Capo Scannato, 1.5 miles ENE of Punta Santa Elia, is less steep. The road to Solento, which is cut into the rocky slopes of Monte Vico Alvano, passes 0.2 mile N of Capo Scannato and is very prominent from seaward.

Caution.—Passage within 0.3 mile of the coast between Punta Campanella and Positano, 8 miles ENE, is reported to be prohibited between June and September.

Nature reserves have been established along the coast between Punta Campanella and Positano, as well as surrounding Li Galli. Anchoring and fishing are prohibited in the reserve areas which are best seen on the chart.

13.41 Positano (40°38'N., 14°29'E.) stands at the mouth of a wide valley which opens out like an amphitheater between the slopes of Monte Commune and Monte San Angelo a Tre Pizzi. This town can easily be readily recognized, since it is the only one between Punta Campanella and Capo Sottile, where the buildings extend all the way down to the sea. Anchorage can be taken by small vessels about 0.2 mile seaward of the town, over a sandy bottom and sheltered from N winds. However, vessels should leave this anchorage at the first sign of S winds, especially in winter.

Capo Sottile (40°36'N., 14°32'E.), located 2.5 miles ESE of Positano, is high, steep, and overlooked by a slender tower, partially in ruins, which has a small ruined fort at its foot.

Capo di Conca, located 2 miles farther E, is rocky and surmounted by a prominent yellow quadrangular tower. A large yellow building, with a central tower, surmounts a mountain, which stands NW of the cape, and is an excellent landmark from seaward. When seen from the E or W, it appears detached from the slope of the mountain behind it. The village of Conca dei Marini stands 0.3 mile N of the cape. It can be easily recognized by the conspicuous church, with its tall yellow belfry surmounted by a small cupola.

13.42 Amalfi (40°38'N., 14°36'E.) (World Port Index No. 40030), a small harbor, is protected from the SW by a breakwater and from the E by a jetty. Both the breakwater and jetty are quayed on their inner sides. Small vessels up to 150m in length and 4m draft can be accommodated. The harbor can be contacted on VHF channel 14 or 16.

Winds in the vicinity of the harbor, during autumn and winter, are mostly from the S and SE. They are generally violent and blow for a few days, sometimes veering to the SW. In summer, gentle land and sea breezes prevail. When Punta Licosa, located at the SE end of Golfo di Salerno, is clearly visible, N winds are likely. When Capo d'Orso is hidden by clouds or mist, E winds may be expected.

It is reported to be dangerous to enter Amalfi during strong winds from the NE to SE, or to remain there with a SE wind because of the strong backwash it causes.

Landmarks in this vicinity include Torre dello Ziro, an isolated tower, standing on a mountain ridge to the E of Amalfi; Torre di Pogerola, a tower partly in ruins, standing on a hill to the W of the town; the emerald green cupola of the prominent cathedral situated in the town; and Hotel Cappuccini, situated in a cleft of an overhanging cliff on the coastal road to the W of the town.

13.43 Atrani (40°38'N., 14°36'E.), a village, is separated from Amalfi by a steep, high, and rocky ridge which is dominated by Torre dello Ziro. This ridge terminates at the coast in Capo di Atrani, a high plateau, which is surmounted by a tower. A prominent church, with a maroon and white belfry and three small cupolas of green glazed tile, stands to the E of the town; this church faces away from the sea. Anchorage is obtainable off this village, in a depth of 15m, about 350m offshore.

The town of Minori, situated 1.5 miles NE of Atrani, stands at the mouth of a valley which is dominated by Monte Mandrino, 484m high. A dark church, with a red roof, stands on the summit of this mountain and is clearly visible from all directions. It is situated in an isolated and dominant position among green forests.

Torre Mezzacapo, a massive square building, stands on a rocky point, 0.3 mile ESE of Minori. Hotel Miramare, a yellow building with a red roof and three cylindrical spiral turrets, stands close N of this tower. A sandy beach extends between the tower and Punta Salicerchio, 0.8 mile ESE.

The town of Maiori is situated close behind the foregoing beach. It stands in the form of an amphitheater at the mouth of a valley and is overlooked by Monte dell' Avvocata, 1,002m high. A dark-colored convent, with a red roof and a square belfry, stands on the W side of this mountain, a little below its summit. It is visible from any direction and is especially prominent from the S. A prominent church, with a dome, belfry, and clock stands in the town and can be seen from seaward. Anchorage can be taken, in depths of 14 to 20m, good holding ground, not less than 0.2 mile offshore. However, it is reported to be dangerous to remain at this anchorage during S winds.

Torre Badia, light in color, stands on a high cliff, 1 mile ESE of Punta Salicerchio. Two conspicuous buildings are situated on the slopes of a hill above this tower.

Caution.—Several submarine pipelines extend up to 1 mile from the coast between Positano and Porto di Salerno. The outer ends of these pipelines are marked by buoys and anchoring is prohibited in their vicinities.

Due to alluvial deposits in the vicinity of Minori and Maiori, the beaches extend notably seaward and there may be less water than charted. Care must be taken when anchoring in these roadsteads.

Currents in the bight between Capo di Atrani and Capo d'Orso generally set W and are reported to increase in velocity when strong S winds are forecast.

13.44 Capo d'Orso (40°38'N., 14°41'E.), a short and squat promontory, is the seaward termination of the S slopes of Monte Piano, 390m high, which stands 0.5 mile N of it. A light

is shown from a structure, 5m high, standing 0.4 mile W of the cape.

Torre d'Erchie stands close NE of the E extremity of the cape. It is prominent and is situated on a small rocky projection.

Cetara, a town, stands at the entrance of a deep ravine, 0.7 mile NNE of Torre d'Erchie. It can easily be identified by a square tower, surmounted by a two-story building, standing at the E end.

Punta Fuente, located 2 miles NNE of Capo d'Orso, is barren and rocky. Punta d'Albori, located 0.5 mile farther NNE, can easily be identified by a tower, with a square base, standing on a high rocky slope close WNW of it. This tower is surmounted by a one-story battlemented house with three large arches and a sloping roof.

Scogli due Fratelli, a group of above-water rocks, lie close off the coast, about 0.5 mile ENE of Punta d'Albori. The houses of the village of Marina di Vietri are situated along the beach between the latter point and the group of rocks.

Torre Crestarella stands on a short and rocky promontory, 0.2 mile NE of Scogli due Fratelli. It is surmounted by a structure having three arches and a red roof.

Anchorage can be taken, in a depth of 11m, sand, ESE of the tower standing on Punta d'Albori. Small vessels can take temporary anchorage, in depths of 5 to 6m, off Marina di Vietri, sheltered from NW and NE winds.

Porto di Salerno (40°40'N., 14°45'E.)

World Port Index No. 40040

13.45 Salerno stands in the extreme N part of Golfo di Salerno and is built partly near the sea and partly on the slopes of the heights behind it. The port fronts the city and is protected by breakwaters.

Winds—Weather.—Winds from the N, which blow down from the mountains in violent squalls, can put a strain on the moorings of vessels. Winds from the S and SW cause a surf, impose a heavy strain on moorings, and can make entry difficult.

Tides—Currents.—Tides are almost negligible. With the approach of strong S or SW winds, the water level in the harbor is usually raised and the quays may become inundated. As weather conditions change, the water level drops rapidly and causes strong currents which make entry difficult.

Depths—Limitations.—The entrance is 260m wide and has a depth of 12m. The harbor consists of three main basins which have 1,460m of total quayage. There are twenty four berths, up to 380m in length, with depths of 6.5 to 11m alongside. There are facilities for general cargo, ro-ro, and container vessels. In addition, fishing vessels and pleasure craft use this harbor. Generally, vessels up to 220m in length and 10.8m draft can be accommodated.

Aspect.—The ruins of a prominent castle stand on the crest of a hill overlooking the town, 1.5 miles NE of Torre Crestarella. Monte San Liberatore, 462m high, stands NW of the harbor. When viewed from the SE, its peak has a profile which resembles the beak of a bird and can be recognized from a considerable distance. The white building of a disused convent, with a small belfry and cupola, can be seen on the E side of this

mountain, near its summit. A conspicuous cross, 18m high, stands near the summit and is illuminated from 1900 to 2300 during the summer and from 1700 to 2100 during the winter. The cupola of St. Giovanni Battista is conspicuous from seaward.



St. Giovanni Battista

The tall chimney of a cement works, which is situated close E of Fiume Irno, stands E of the city and is prominent. From seaward, and especially from the S, the conspicuous viaducts and the supporting walls of the panoramic road leading into the city can be seen at a great distance.

A light is shown from a structure, 5m high, standing on the elbow of the E breakwater.

Pilotage.—Pilotage is compulsory for vessels over 500 grt; national and foreign naval vessels are reported to be exempt. Local knowledge is advisable. Pilots can be contacted on VHF channel 14 or 16 and generally board close outside the harbor entrance.

Anchorage.—Vessels waiting to enter the harbor should find anchorage as convenient off Punta di Fuente.

Caution.—The entrance requires a sharp turn after passing the head of Molo di Ponente, the W breakwater.

13.46 Torre Angellara (40°39'N., 14°49'E.), situated 4 miles SE of Salerno, is a massive square building surmounted by a small house. It is easily recognized by a large red palace which stands immediately to the N of it. Monte Giovi, 299m high, stands 1 mile ENE of the tower and is characterized by a huge cliff at its summit.

The coast between this tower and Agropoli, 18 miles SSE, is mostly backed by a wide coastal plain.

An unmarked semi-submerged rubble breakwater, 100m long, has been established 0.2 mile SE of Torre Angellara.

Torre Tusciano, standing 6 miles SE of Torre Angellara, is white and surmounted by a small house. It is sometimes not visible from seaward due to the presence of tall eucalyptus trees. A group of modern buildings are situated close N of this

tower and a white factory building, with two silos shaped like towers, stands close S of it. This latter building is low and long and stands out against the green background of the trees which cover the flat area behind it.

Fiume Sele is located 6 miles SSE of Torre Tusciano. The river mouth is not easily distinguished, but it has tall trees lining the banks for some distance inland and can be identified from seaward by this characteristic.

Paestum (40°25'N., 15°00'E.), an ancient Greek city in ruins, is situated 5 miles SE of the mouth of Fiume Sele and nearly 1 mile inland from the coast. It has several temples still standing which are visible from 6 to 7 miles offshore.

A cylindrical tower is situated near the coast, SW of these ruins. This tower can be identified by the small houses which surround it, and by the vegetation which covers a large part of it and the houses.

Monte Sporano, 1,082m high, stands 4.5 miles E of Paestum. This mountain along with Monte Sottano, standing 1.5 miles SW, dominate this section of the coast.

Torre San Marco, prominent and slender, stands at the foot of a hill near the coast, 2.7 miles S of Paestum.

Caution.—It is reported that the depths off this part of the coast are irregular and are decreasing.

A wreck, with a depth of 15m, lies about 2.7 miles NW of the cylindrical tower.

13.47 Agropoli (40°21'N., 14°59'E.), a prominent town, is situated on the SW side of a short, steep, and rocky promontory of which Punta del Fortino is the W extremity. The NW side of this promontory has numerous prominent grottoes. A light is shown from a structure, 10m high, standing on Punta del Fortino.

Anchorage can be taken NNW of the town, in a depth of 13m, sand, good holding ground, about 0.7 mile NNW of the light. However, this anchorage is exposed to winds from the SW through W to NW. In winter, strong NW winds, which sometimes last for three days, raise a heavy sea in this roadstead.

A dangerous wreck lies offshore, about 0.5 mile W of the town.

Between Punta del Fortino and Punta Paglian, 3 miles SW, the coast is high, steep, and fringed with rocks. Then to the town of Santa Maria di Castellabate, located 2 miles farther S, the coast is low, sandy, and uniform. The coast extending to the S of this town comprises a sandy beach and rises gradually inland to cultivated hills, the slopes of which are dotted with houses.

Santa Maria di Castellabate consists of a long row of houses which stand along the rocky shore. From seaward, a large white building is very visible. It seems to stand above a prominent viaduct with eight large arches on each of two levels.

The town of Castellabate stands 0.5 mile SSE of Santa Maria di Castellabate and can be recognized from various directions by a castle and other houses which are situated on the summit of a hill.

The coast between Castellabate and Punta Torricella, 1.5 miles SW, is hilly and scattered with houses which form the village of San Marco di Castellabate.

A small harbor, protected by a mole, lies 1 mile SW of the castle at Castellabate. Anchorage can be taken, in a depth of

20m, sand, about 0.5 mile offshore from Santa Maria di Castellabate. However, this anchorage becomes untenable with winds from the SW and NW quadrants. Anchorage can also be taken, in a depth of 10m, good holding ground, about 250m offshore from San Marco di Castellabate.

Golfo di Salerno to Golfo di Policastro

13.48 Punta Licosa (40°15'N., 14°54'E.), a low salient point, is the S entrance point of Golfo di Salerno. From seaward, the best landmark in this vicinity is the village church of Sant' Antonio, which stands on the summit of a hill, 176m high, 0.5 mile E of the point. Torricella, a conspicuous hill, 326m high, stands 1.5 miles ESE of Punta Licosa and appears as two peaks, except from the S. It is surmounted by a ruined tower.

Isolotto di Licosa, lying 0.3 mile W of the point, is low and yellowish like the mainland and not easily distinguished from the NW. This islet lies on a rocky area, with depths of less than 5m, which extends up to about 0.5 mile W of Punta Licosa. Depths of less than 10m lie up to 1 mile W of the point. A light is shown from a structure, 9m high, standing on this islet.

Secche di Licosa, which consists of patches of rock and sand with a least depth of 6m, lies centered about 1.2 miles W of Isolotto di Licosa.

Between Punta Licosa and Punta dell' Ogliastro, 2 miles SE, the coast is rugged and fringed by rocks both awash and above-water. Punta dell' Ogliastro, low and flat, is fringed by reefs and shoals which extend up to about 0.1 mile from it. Torre dell' Ogliastro, square and in ruins, stands near the seaward extremity of the point.

13.49 Agnone (40°13'N., 15°00'E.), a village, is conspicuous from seaward. Anchorage can be taken in a suitable depth, with a good holding ground of mud and sand, in front of this village. Shelter is afforded from N and NE winds, but this roadstead becomes untenable with onshore winds.

This part of the coast is dominated by Monte Madonna della Stella, 1,130m high, which stands 3.5 miles ENE of Agnone. The light-colored summit of this mountain is surmounted by a dark-colored church. Numerous villages, all visible from seaward, are situated on the lower slopes of Monte Madonna della Stella.

The village of Acciaroli, situated 3 miles SSE of Agnone, consists of old houses which line the rocky coast. A large tower, on a square base, stands on a rocky ridge in front of this village. In addition, the white belfry and pyramidal spire of the church show up well from seaward. A small fishing harbor fronts this village.

Torre di Caleo, standing 1 mile SE of the village, is partly in ruins, but is visible in clear weather.

La Punta, a promontory, is located 1.2 miles ESE of Torre di Caleo and is fringed by rocks, awash. It is surmounted by a tower which has been almost completely demolished.

The coast in the vicinity of Acciaroli and La Punta should be given a berth of at least 1 mile. Seas break on the numerous dangers in this area.

13.50 Marina di Casal Velino (40°11'N., 15°07'E.), a prominent village, can be identified by a square tower, in ruins,

which stands on a steep ridge, near the beach. The village of Castelnuovo Cilento, situated 3.5 miles NE, can be easily distinguished from seaward as it stands on a hill which has gentle slopes and is covered with olive trees; a tower dominates the village.

The coast extending to the SE of Marina di Casal Velino is low and sandy. It is dominated by high hills that rise on either side of the wide and rich valley of the Fiume Alento. The village of Castellamare di Bruca, standing 0.5 mile E of the mouth of Fiume Alento, is situated on a rocky shrub-covered hill and is separated from the sea by a wide beach. A tower on a round base stands in the village and is conspicuous from seaward.

The village of Ascea, situated 2 miles SE of the mouth of the Fiume Alento, stands on the slopes of the hills behind the beach. It is prominent and is situated in the midst of olive groves. A church, with a red roof and cupola, stands close NW of the village and is conspicuous.

Torre del Telegrafo, square and in ruins, stands 1 mile S of Ascea on a coastal spur which descends steeply to a low and rocky point. An isolated and above-water rock lies close W of the extremity of this spur.

13.51 Marina di Pisciotta (40°06'N., 15°14'E.), situated 2.5 miles SE of Torre del Telegrafo, stands on a gravel beach. This village can be easily recognized by a square tower, with battlements, standing on a plateau at its SE end. The village of Pisciotta, situated 0.5 mile inland of the tower, stands on a conical hill covered with olive groves. The railway station at Pisciotta, a three-story red building, is situated above the village and is conspicuous. A prominent railroad bridge, with several arches, stands in this vicinity.

Anchorage is obtainable, with local knowledge, off Marina di Pisciotta. The best berth, in depths of 15 to 20m, weed and rock, lies about 700m offshore, but the use of an anchor buoy is advised. Landing from boats is possible under the lee of a ridge of rocks, awash, which extend from abreast Marina di Pisciotta.

Torre Ficaiola, square and reddish, stands 0.8 mile SE of Marina di Pisciotta. This tower is reported to be hard to distinguish from the land behind it.

Capo Palinuro (40°02'N., 15°16'E.), a flat-topped promontory, is 203m high and projects W from the lower wooded hills of the adjoining coast. Its sides are steep and rocky. A light is shown from a structure, 24m high, standing close to a low and massive tower on top of the cape near Punta del Telegrafo, its SW extremity. A disused signal station is situated on a hill, 0.3 mile E of the light.

Porto Palinuro, a small bight with sandy shores, is formed on the N side of the cape. It lies between the village of Palinuro and Punta del Fortino, 0.5 mile WSW. An ancient fort stands on the latter point, and several houses are situated along the beach at the head of the bight.

Punta della Quaglia, the NW extremity of Capo Palinuro, is surmounted by Torre Formicola, an ancient tower.

Anchorage can be taken in Porto Palinuro, in a depth of 18m, good holding ground, ENE of Torre Formicola. Good shelter from SE winds is afforded in Porto Palinuro. During SW winds, although sheltered from the wind itself, vessels are



Capo Palinuro Light

sometimes affected by the heavy seas that sweep back from the coast to the anchorage. The last phase of bad weather is particularly dangerous, when the wind veers violently W and NW before becoming calm.

The S side of Capo Palinuro is reddish and rocky. Torre Calafente stands near the edge of the coast, 0.7 mile E of the light.

Scoglio della Marina, lying 320m E of the SE extremity of the cape, is a tall rock. It is grayish in color with steep cliffy sides.

Caution.—Several dangerous wrecks lie in the vicinity of Capo Palinuro and may best be seen on the chart.

13.52 Ancoraggio della Molpa (40°01'N., 15°19'E.), a wide bight, is entered E of Scoglio della Marina. A rounded and yellowish cliff, 138m high, separates the mouths of two rivers at the head of the bight. This cliff appears to overhang a beach at its foot and is surmounted by the inconspicuous ruins of Castello di Molpa.

Monte Sant'Antonio, 510m high, stands 2.7 miles E of the E entrance point of the bight and dominates the area. A white chapel stands on the S slope of this hill, near the summit. Anchorage can be taken, in depths of 9 to 10m, in the W part of the bight.

Torre Finosa, whitish and square, stands near the edge of the cliffs, 0.9 mile SSW of the summit of Monte Sant'Antonio. Isolotto di Camerota, a large rock, lies about 150m offshore, 1 mile SE of the tower. It is low and covered with vegetation. A tower, with a square base and a large cornice, stands on the coast, close N of this islet.

13.53 Marina di Camerota (40°00'N., 15°5'E.) is situated 0.5 mile E of Isolotto di Camerota. This village stands on the E side of a rocky promontory which separates two bights. It is dominated by a prominent belfry with a terraced roof. Torre del Poggio, 10m high and light-colored, stands close inland at the E end of the village.

The village of Camerota is situated on a hill, 2 miles N of Marina di Camerota. Torre di Punta Zincalo stands on the E entrance point of the bight in which Marina di Camerota is situated. This tower is square, squat, and dark. Anchorage is obtainable off Marina di Camerota. A good berth, in a depth of 13m, sand, is W of Torre di Punta Zincalo.

The wreckage of an aircraft is reported to lie in a depth of 10m, about 200m off Marina di Camerota.

Golfo di Policastro

13.54 Golfo di Policastro (40°03'N., 15°35'E.) is entered between Punta Iscoletti, located 7 miles ESE of Capo Palinuro, and Isola Sant'Ianni, 14 miles E. This gulf is high and rocky on its W and E sides, while its head is low and sandy. The waters of the gulf are deep and the shores are generally free of dangers.

The gulf is surrounded by mountains which rise at a relatively short distance from the coast. Monte Bulgheria, 1,225m high, stands 5 miles N of Punta Iscoletti; Monte Coccovello, 1,511m high, stands 5 miles N of Isola Sant'Ianni; and Monte San Biagio, 623m high, stands 1.3 miles NNE of Isola Sant'Ianni. This latter mountain is conspicuous and is easily recognized by the belfry of Maratea standing on its N slope and by a statue of Christ surmounting its summit. This statue is reported to be illuminated at night between June 1 and September 30.

During S winds, vessels in the gulf are sometimes exposed to heavy seas which get more violent closer to the coast. However, these S winds generally do not last long. Winds from the W and NW are generally stronger and last much longer. If the slopes of Monte Bulgheria are covered with cloud, usually S winds are indicated. When Monte Coccovello can be seen amid streaks of cloud, locally known as *Secce*, it is very probable that strong S winds can be expected.

Punta Iscoletti, arid and light-colored, is high with steep rocky sides and is surmounted by a tower. Torre Mozza, standing 1.3 miles NE of the point, is light-colored, square, and partly demolished. Torre Spinosa, square with a large cornice, stands on the lower slope of a coastal hill, 2.5 miles NE of Torre Mozza. This tower is prominent from seaward and a high radio antenna rises from its base.

13.55 Scario (40°03'N., 15°29'E.), a small town, is situated on the NE shore of the gulf. This town has a prominent church, with a cylindrical belfry and a square tower, which stands near the beach at its NE end. A light is shown from a structure, 12m high, standing near the S end of the town. A small craft harbor fronts the town.

Anchorage off Scario is the best in the gulf for large vessels and is sheltered from winds from the WSW through N to NE. The best berth, in a depth of 13m, good holding ground, lies about 500 to 600m offshore, ENE of the light.

Torre dell'Oliva, standing 0.7 mile NNE of the light at Scario, is a large square structure situated low down and close to the sea. A masonry bridge, which is prominent from the SSE, stands 1 mile NE of the tower. It spans the Fiume Bussento, 0.2 mile upstream from the river mouth.

The town of Policastro del Golfo stands on the slopes of a conical hill, 87m high, 0.8 mile NE of the mouth of Fiume Bussento. An ancient square tower, with a large ruin situated close E of it, stands on the summit of this hill. The land slopes down from this hill to the valley of Fiume Bussento and is covered with olive trees. A small craft harbor fronts the shore at Policastro del Golfo.

Villamare (Marina di Vibonati), a village situated 3 miles E of Policastro del Golfo, can be identified by a prominent church with a dark and square belfry. A small hill, surmounted

by a tower on a square base, stands at the E end of this village and is surrounded by a group of houses.

13.56 Sapri (40°04'N., 15°38'E.), a small town, stands at the back of a shingle beach at the head of a cove, 1.5 miles E of Villamare. Punta del Fortino, the W entrance point of the cove, is low, rocky, and marked by a light. Capo Bianco, the E entrance point of the cove, is surmounted by a tower in ruins. A prominent church belfry is situated in the E part of the town and a conspicuous hospital building stands in the center of the town and resembles a Swiss chalet.

Anchorage can be taken, with local knowledge, in a depth of 11m, in the outer part of the cove. Small vessels can anchor, in a depth of 5m, about 0.5 mile off the head of the cove.

A breakwater extends from the E side of the cove and protects a pier which is situated at the head. This pier is used by fishing boats and small craft. The cove is completely open to the SW and sometimes winds from that quadrant render the anchorage untenable.

The coast extending SE of Capo Bianco is high, rocky, and irregular. Scoglio Scialandro, an above-water and blackish rock, lies 0.2 mile S of the cape. This rock can be easily distinguished from the SE, but from other directions, it is hardly visible because it has the same color as the coast behind it.

Torre delle Grive, standing 1.5 miles SE of Capo Bianco, is situated on Punta delle Grive, a rocky spur, which rises perpendicularly from the sea. This tower is the same color as the surrounding rock and is not easily distinguished from seaward. A dangerous wreck, with a depth of 8m, is reported to lie about 300m S of the tower.

The village of Acquafredda, consisting of a group of houses set among olive groves, is situated 1 mile ESE of Punta delle Grive. A viaduct, with high arches, can be seen to the N of the village and several other prominent arches stand in an elevated position, 1 mile SSE of the village.

13.57 Torre Santa Venere (40°00'N., 15°42'E.) stands on a small promontory fronted by rocks which extend up to 0.2 mile offshore. This tower can only be distinguished from a short distance to seaward. Maratea, standing on the N slopes of Monte San Biagio, is situated 1 mile E of Torre Santa Venere. This town is very visible from the W, and even at a great distance, can be identified by a belfry and a spire which dominate the houses. Maratea is not visible to vessels approaching from the SW quadrant.

The summit of Monte San Biagio is very sharp and is surmounted by a large statue of Christ, which differentiates it from the surrounding peaks. The statue is erected on a gray column which stands on the W slope in the center of a circular terrace with a balcony.

Porto di Maratea, a small cove, is entered 0.5 mile SE of Torre Santa Venere. Torre del Porto stands on its SE entrance point. This cove is protected by a mole and a short breakwater and has a small harbor which is used by small craft and fishing boats.

Isola Sant'Ianni (Isola Sant'Janni) lies about 0.2 mile offshore, 1 mile S of Porto di Maratea. This islet is 8m high and is surmounted by a black cross. Its lower part is jagged and covered with vegetation. A depth of 12m lies in the narrow fairway between the islet and the mainland, but this passage

should not be attempted without local knowledge. Secca della Giumenta, with a least depth of 1.3m, lies about 0.2 mile offshore, 0.4 mile SE of Isola Sant'Ianni.

Golfo di Policastro to Capo Bonifati

13.58 Torre di Caino (39°57'N., 15°44'E.), square and in ruins, stands on the summit of a rocky promontory, 1.7 miles SE of Isola Sant'Ianni. It appears conical from the NW and SE.

Fiumara di Castrocuco flows into the sea, 1.5 miles SE of Torre di Caino. This river is spanned by a bridge, with five arches, which stands 0.5 mile above its mouth. The banks of the river are bordered by tall trees and many greenhouses can be seen situated in their vicinity. The village of Praia a Mare, situated 2 miles farther SE, extends along a wide beach at the base of Serra Vingiole. The summit of this hill is 524m high and stands 0.5 mile E of the village. A long building, with a prominent chimney, stands out along the beach due to its light color. The chimney of a woolen mill nearby is also conspicuous.

Isola di Dino (39°52'N., 15°46'E.), 65m high, has bare and precipitous sides. This islet lies 1.5 miles SE of Praia a Mare and its top is flat and cultivated. The islet is joined to the mainland by a ridge of above-water rocks. A partly destroyed tower stands on the W extremity of the islet. Torre di Fiuzzo stands abreast Isola di Dino. It is squat, battlemented, and is situated close inland, on the mainland. Anchorage can be taken either N or S of Isola di Dino, but both berths are exposed to W winds. The best berth, with a bottom of sand and weed, good holding ground, is about 250m N of the E extremity of the islet. This anchorage is frequently used in winter during strong S winds.

Porto San Nicola, entered 1.5 miles SSE of Isola di Dino, is a small and sandy bight which is overlooked by a hill, 110m high, on which is situated the prominent village of San Nicola Arcella.

Caution.—Strong winds from between the ENE and N sometimes cause whirlpools off Isola di Dino, rendering the anchorage untenable.

A submarine cable extends between Isola di Dino and the mainland; the landing places of this cable are marked by lighted beacons.

13.59 Capo Scalea (39°50'N., 15°46'E.) is the W extremity of a promontory, 81m high. This promontory has steep and rocky sides and a level and cultivated top. Torre Dino stands on the summit of this promontory, near its W end.

Scalea is situated on the slopes of a small hill standing 1.5 miles SE of the cape. This hill is surmounted by medieval ruins and by a church with a red belfry. The houses of the town are arranged in terraces, rising one above the other. Several bare mountains overlook the town and it is fronted by a low and wide beach.

Secca della Giumenta, awash at LW, lies about 0.2 mile offshore, W of Scalea. This shoal reef consists of two rocky ridges which lie parallel to each other and perpendicular to the coast.

Scoglio la Torre is a prominent rock, lying at the S end of the beach, which is connected to the shore by a sandy tongue. It is surmounted by a tower and several houses. Anchorage by

small vessels, with local knowledge, can be taken a short distance off the tower. In December and January, winds from the ENE are sometimes so violent as to make this anchorage untenable.

Caution.—Two wrecks, partially covered with sand, lie approximately 50m from the coast, adjacent to Scalea. They are reported to lie in a depth of 5m and both contain unexploded ordnance.

13.60 Monte Montea (39°40'N., 15°57'E.), 1,783m high, is an excellent landmark. Cozzo Sangineto, 1,092m high, stands 2.5 miles S of Monte Montea. This mountain has a sharp peak and is also conspicuous.

The coast extending to the S of Scalea is characterized by a wide valley which is rich in trees. The village of Cirella Vecchia, situated 6 miles S of Scalea, consists of a conspicuous group of houses, in ruins. It stands on the crest of a small and bare hill, close inland. The village of Cipolina stands 2 miles NNE of Cirella Vecchia and is conspicuous.

Isola di Cirella (39°42'N., 15°48'E.) lies 1 mile SSW of Cirella Vecchia and presents a rounded outline when seen from the N or S. A tower, with a square foundation, stands on the summit of this islet. A depth of 11m lies in the fairway between the islet and the mainland, but the depths rapidly decrease towards the shores.

The village of Diamante, situated 1.5 miles SSE of Isola di Cirella, consists of several houses which are mostly white and stand on a small plateau, 25m high. Torre di Diamante, standing on a square foundation, is situated in the W part of the village and very prominent. The village of Marina, situated 3.5 miles SSE of Diamante, consists of a few prominent houses. Castello del Principe, in ruins, stands close to the coast, 5.8 miles SSE of Diamante.

Capo Tirone (39°38'N., 15°51'E.), a rocky mass, is located 3.7 miles SE of Diamante and is surmounted by a tower. This cape is fringed by rocks and shoals which extend up to about 0.2 mile offshore. An underwater ridge of rocks lies about 100m offshore and parallels the beach which fronts the village of Marina.

Belvedere Marittimo, a conspicuous little town, stands 0.7 mile ESE of Capo Tirone. It is situated on a rounded hill, 150m high, which rises from a plateau with rocky sides that slope steeply to the sea.

Numerous rivers enter the sea along this stretch of coast, the most important being Torrente Sangineto, which discharges 2.5 miles SSE of Capo Tirone. This river is spanned by a prominent bridge, 0.5 mile above its mouth.

Capo Bonifati to Golfo di Sant'Eufemia

13.61 Capo Bonifati (39°33'N., 15°52'E.), a short coastal projection, can be identified by a prominent green hill, 254m high, which rises close within the cape and is surmounted by Torre del Capo. A light is shown from a structure, 7m high, standing close to the cape. However, this light structure is not easily seen from seaward except when within about 2 miles.

A large and square tower, situated in a walled enclosure, stands on a rocky spur which extends from the cape. Another building, situated in the enclosure, obscures this tower from view when approaching from the SE.

From Capo Bonifati to Golfo di Sant'Eufemia, 39 miles SSE, the coast is quite regular, generally steep-to, and clear of dangers.

Capo Testa, located 2 miles SE of Capo Bonifati, is a dark-colored rocky spur which interrupts a long stretch of light-colored beach. Cresta la Serra, 620m high, stands 1.7 miles E of the cape and is surmounted by the Sanctuary of Santa Maria. This mountain is barren and reddish, and the Sanctuary is prominent from seaward because of its light color.

The town of Cetraro, standing 1.2 miles SW of Capo Testa, is situated on a hill, 76m high, and is bordered to the N by Torrente San Giacomo. The mouth of this latter river is spanned by a prominent bridge.

Aquapessa, situated 1.5 miles SE of Cetraro, stands on a hill, 80m high. Intavolata, another small village, is situated 1.2 miles farther SSE. This latter village consists of a group of prominent houses which is situated on a coastal hill. A conspicuous white patch, on which can be seen a stone bluff supporting a winding road, is situated about midway between these two villages.

Guardia Piemontese (39°28'N., 16°00'E.), a town, is built on the crest of a hill, 514m high, which is fairly prominent from seaward. A dark tower and a large tank stand in the N part of town. A belfry stands in the S part and dominates the whole town. Torre di Fuscaldo, standing 3 miles farther S, is white with a large cornice. The small town of Fuscaldo, situated on a hill covered with olive trees, stands 0.7 mile E of this tower. It can be identified by the compact appearance of the houses and their dark and red roofs.

13.62 Paola (39°22'N., 16°02'E.), a town, stands 3.5 miles SSE of Torre di Fuscaldo and 0.5 mile inland. It stands in the form of an amphitheater on a spur, 94m high, of the coastal range. A conspicuous arched viaduct is situated close S of the town. Another viaduct connects the town with Marina di Paola, situated close W. Torre di Paola, a large building, stands on a small hill, close N of Marina di Paola.

From Paola to Amantea, 13.5 miles S, the coast consists of a narrow beach closely backed by hills on which are situated numerous small towns and villages.

San Lucido, situated 3.2 miles S of Paola, is a picturesque village which is built on a plateau. This plateau is 60m high and drops steeply to the sea. A prominent high wall and a ruined castle surmount a rocky mass which is located in front of the village. A viaduct, with many arches, stands at the S end of the high wall and is very prominent from seaward.

Fiumefreddo Bruzio, situated 4.3 miles S of San Lucido, is built about halfway up a slope on a spur of the coastal range. The remains of a castle are situated close S of this town. Two bridges stand close N of the spur on which the town is built. A prominent group of white buildings stand on the beach at the S of the town.

The distinctive peak of Monte Cocuzzo, 1,541m high, stands 3.2 miles ESE of Fiumefreddo Bruzio and can be easily identified from seaward. Longobardi, a prominent town, stands halfway up the slopes of a mountain which stands close W of Monte Cocuzzo.

Belmonte, a village, is situated 2.8 miles S of Longobardi. It can be identified by a white tower, 30m high, which stands 0.5 mile WSW of the village and is surmounted by a large cross.

This tower stands on a battlemented terrace and is an excellent landmark.

13.63 Scoglio Isca (39°09'N., 16°04'E.), consisting of two above-water rocks, lies 0.2 mile offshore, 3.7 miles SSW of Longobardi. The larger rock is 12m high.

Amantea (39°08'N., 16°05'E.) is situated 1 mile SE of Scogli Isca. This prominent town stands partly on the coastal plain and partly on the slope of a hill that is dominated by an old tower. The remains of a conspicuous castle and the ruins of an old church are situated close S of the hill. The tower, the ruins of the castle, and the church can not be distinguished easily as they blend in with the background.

Torre di Guardia, standing 2.5 miles SSE of Amantea, is a white building which is situated on a steep hill. This hill terminates in a blackish cliff which is fringed with rocks. Several small houses stand near the base of this tower.

Scoglio Formicola, 0.6m high, lies about 0.2 mile offshore, close SW of the tower.

Fiume Oliva enters the sea, 1.2 miles S of Torre di Guardia. This river has a whitish gravel bed and two prominent bridges close above the mouth.

Fiume Savuto is located 4 miles SSE of Torre di Guardia. The mouth of this river can be recognized by its whitish color and by a bridge, with three spans, which crosses it. The S shore of the river mouth is covered with a dense clump of trees.

Torre del Casale stands 1.5 miles SE of the mouth of the Fiume Savuto. This tower is dark, cylindrical, and its top is in ruins. Torre Lupo (Torre dei Lupi), a dark and truncated building with a window facing the sea, stands on a rocky spur, 2 miles SSE of Torre del Casale.

Capo Suvero (38°57'N., 16°10'E.) rises steeply from the beach and can be easily recognized. A light is shown from a prominent structure, 25m high, standing on the cape.

Torre Spineto, standing 0.5 mile E of the light, is partly in ruins. Monte Mancuso, standing 4.5 miles NE of the cape, is surmounted by a conspicuous radar antenna. The towns of Gizzeria and Falerna are situated 3 miles NE and 3 miles NNE, respectively, of the cape. They are situated on the slopes of the mountains and dominate the cape.

A detached rocky area, with a least depth of 4.5m, lies about 0.5 mile S of the cape.

Golfo di Sant'Eufemia

13.64 Golfo di Sant'Eufemia (38°50'N., 16°00'E.) indents the coast between Capo Suvero and Capo Vaticano, 25 miles SW. The shores of the gulf are formed by a sandy beach. This beach is wide on the E side and is backed by a coastal plain, but it gradually narrows as the hills approach the coast close N of Pizzo. The beach then becomes a narrow strip and extends to Briatco. From Briatco to Capo Vaticano, the shore of the gulf is high, rocky, and interspersed with several narrow beaches. Numerous villas stand both close to the water and on the hills inland along this stretch. During favorable weather, vessels can anchor off the shores of the gulf, but are exposed to all W winds.

Sant'Eufemia Marina, situated 3 miles ESE of Capo Suvero, consists of a few houses among which the railroad station is conspicuous. Bastione di Malta is a large, square, and

battlemented tower. It stands close E of the above railroad station and is partly hidden by tall trees. Torre di Mezzapraia, a dark structure, stands 6.5 miles S of Bastione di Malta. It is situated near a low fort, in ruins, and a red two-story building with a terrace above it. Anchorage can be taken off Sant'Eufemia Marina, over a bottom of sand, good holding ground.

Caution.—The section of beach between Capo Suvero and Sant'Eufemia Marina is subject to shoaling due to progressive silting.

13.65 Pizzo (38°44'N., 16°10'E.), a beautiful town, is built on a large rock mass, 106m high, which has perpendicular NE and W sides. It interrupts a long stretch of sandy beach. The cathedral of San Francesca, with a conspicuous dome surmounted by a structure on a square base, stands close N of the town. A large tower, the remains of a castle, is situated in this vicinity and is also very prominent. Anchorage, during good weather or with moderate winds from NNE to SSE, can be taken, in depths of 10 to 20m, hard sand, poor holding ground, W of this town. However, it is dangerous to remain at this anchorage with W winds.

Vibo Valentia Marina (38°43'N., 16°08'E.)

World Port Index No. 40060

13.66 Vibo Valentia Marina, a small port, lies in the S part of Golfo di Sant'Eufemia, near the town of Bivona, and is enclosed by two breakwaters.

Winds—Weather.—Winds from the E prevail in winter and spring. In the autumn and also in winter, winds from the SSW and WNW are usually experienced. Winds from the W raise a sea in the harbor, and winds from the E, although violent, do not. Winds from the E usually cause a haze and those from the SSW and WNW are generally accompanied by fog.

Tides—Currents.—The currents follow the coast and are influenced by those in Stretto di Messina. Off the entrance of the harbor, they occasionally attain rates of 1 knot. Vessels approaching the harbor entrance will sometimes experience a W set, even with the wind and sea from between the W and WSW.

Depths—Limitations.—Vibo Valentia Marina is accessible to vessels up to 200m in length and 8.5m in draft. The harbor is subject to silting which makes dredging periodically necessary.

Aspect.—The town of Vibo Valentia, situated 3 miles S of the harbor, stands on the slope of a hill. This town is easily recognized by its massive, dark castle. The buildings of a cement factory are situated 0.5 mile SW of the harbor. These buildings, which are dominated by a high chimney, stand out against the background of green hills and form the best landmark in approach.

Villa Gagliardi is situated on the beach in front of a group of trees, 0.5 mile W of the above-mentioned tall chimney. It is a two-story yellow building, with a red roof, which is surmounted by a prominent yellow turret.

A conspicuous group of large cylindrical tanks is situated near the root of the outer breakwater and extend along its outer side. Numerous silver-colored tanks are situated near the head of this breakwater.

Pilotage.—Pilotage is compulsory for all vessels of 500 grt or more. The port can be contacted on VHF channel 14 and a local pilot will generally board close outside the harbor entrance. A speed limit of 5 knots is in force within the harbor. Vessels entering the harbor have precedence over other vessels.

Anchorage.—Vessels waiting for a berth may anchor in locations designated by the harbor master. Tankers and cargo vessels have separate designated anchor berths.

13.67 Torre di Rocchetta (38°44'N., 16°00'E.), standing 4 miles W of Vibo Valentia Marina, is a large structure, in ruins, situated on a square base and fronted by above-water rocks. Several old houses and two conspicuous buildings stand in the vicinity of this tower.

Scoglio Safo, an above-water rock, lies about 250m offshore, 0.8 mile E of Torre di Rocchetta. A spit, with depths of less than 2m, extends offshore up to 0.3 mile NE of this rock.

Briatco (38°43'N., 16°01'E.) stands on a small plateau, 30m high with vertical sides, on the W bank of the Fiumara Murria. The houses of this village are overlooked by a prominent church with two belfries surmounted by small domes. The bluish two-story building of the railroad station stands 0.5 mile W of the village and is conspicuous. The ruins of an ancient village are situated close W of Briatco.

In good weather, anchorage can be obtained, in a depth of 8m, about 0.2 mile offshore, abreast Briatco. Local knowledge is required.

Torre Galera, a ruined tower, stands 1 mile W of Briatco and is situated on a flat and rocky spur which drops steeply to the sea. A conspicuous convent, visible only from the NE, stands on the beach next to the vertical wall of this spur. Scoglio Arena, an above-water rock, lies 0.4 mile offshore, abreast Torre Galera.

Capo Cozzo, located 1.5 miles WSW of Torre Galera, has a rounded top and precipitous rocky sides. From this cape, a wide and sandy beach trends WSW for 4 miles to Tropea. Parghelia, a village, is situated 1.2 miles E of Tropea and stands along a ridge, 87m high, which slopes steeply to the sea. This village is dominated by a church, with a gray belfry, which stands at the E end.

Tropea stands on a rocky plateau, 60m high, which rises steeply from a wide beach. This town is partly surrounded by ancient walls. Two rocky masses rise from the beach in front of the town. Isola, the W rocky mass, is surmounted by a sanctuary and San Leonardo, the E rocky mass, is cultivated at its top and appears isolated.

A shoal bank, 1 mile long, lies close off Tropea. It extends roughly parallel to the coast and has depths of 2 to 3m.

From Tropea to Capo Vaticano, 5 miles SW, the coast is rocky and fringed with a narrow beach of very white sand. Several old towers stand along this beach and cultivated hills, dotted with small villages, rise behind them.

Scoglio Vadera is a small, low, and blackish rock. It lies about 0.3 mile offshore, 1.2 miles N of Capo Vaticano.

13.68 Capo Vaticano (38°37'N., 15°50'E.), one of the most distinctive promontories along this coast, is rocky, steep, and rugged. Its slopes are furrowed by water courses which are spanned by bridges. A light is shown from a prominent structure, 8m high, standing on the cape.

A disused signal station stands close NE of the light on the flattish top of the promontory. Scoglio Mantineo lies about 320m W of Capo Vaticano.

Golfo di Gioia

13.69 Golfo di Gioia (38°30'N., 15°50'E.) indents the coast between Capo Vaticano and Capo Paci, 22 miles SSW. The depths within this gulf are considerable up to within a short distance of its shores. This gulf lacks shelter and is fully exposed to winds from the W. Its N and S shores are mountainous while its head is formed by a low and sandy beach that is crossed by numerous rivers. Several towns and villages stand along the shores of the gulf and on the neighboring heights.

Monte Petto di Torre, 467m high, stands 3 miles SE of Capo Vaticano. It slopes gradually seaward and can be recognized by a conspicuous white building which stands on one of the terraces in the vicinity of a road. This building has wide balconies facing the sea and two prominent turrets.

Nicotera (38°33'N., 15°56'E.), a town, is prominent from seaward. It can be recognized by a massive palace building, with arches, and a church with a prominent spire.

San Ferdinando, standing 4 miles S of Nicotera, can be identified by the square belfry of its principal church; the latter faces seaward and overlooks the low houses of the town. Another church, standing on the beach at the S end of the town, is very prominent from seaward.

Rosarno stands at the W end of an isolated hill, 2.7 miles E of San Ferdinando. This town is also visible from a great distance offshore. A slender belfry and a reddish school building, surmounted by a tower, rise among the other buildings.

A wreck lies sunk in two sections, about 1.1 miles SSW of San Ferdinando. One section lies, with a depth of 4m, about 20m offshore and the other section lies, with a depth of 16m, about 200m offshore.

13.70 Gioia Tauro (38°26'N., 15°54'E.) extends to the coast and is visible from a considerable distance to seaward. However, to vessels within 2 miles of the coast, it is mostly hidden by trees. A church, with a yellow belfry and a red roof, stands out among the buildings of this large town and is conspicuous. The chimneys of several factories, which serve to identify this locality, stand along the beach abreast of the town.

Gioia Tauro Industrial Port (38°27'N., 15°54'E.) (World Port Index No. 40115), is protected by two breakwaters which form an entrance, 250m wide. Within the breakwaters, a channel, about 1.2 miles long, leads to a quayed basin with a ro-ro terminal. Vessels may not overtake or meet in the channel within 0.5 mile of the light on Molo Sud. Depths decrease from 20m at the entrance to 12.5m in the harbor basin.

Depths—Limitations.—The quay is 350m long and 43m wide. A maximum draft of 13.4m can be accommodated.

Pilotage.—Pilotage is compulsory for all vessels over 500 grt. Vessels intending to enter the harbor should contact the harbormastat least 24 hours in advance. The harbormaster should be contacted on VHF channel 16 at least 1 hour before arrival. Pilot boards 1 mile from the breakwater.

Anchorage.—Vessels waiting to enter port must anchor N of a line between position 38°35.1'N, 15°42.9'E and the light

on Molo Nord, at least 1.5 miles from the coast and clear of the restricted area.

Caution.—A restricted area has been established along the coast N of Porto Gioia Tauro. Anchoring, fishing or any other seabed activity is prohibited due to the presence of unexploded ordnance and obstructions.

13.71 Fiume Petrace (38°25'N., 15°53'E.) is located 1 mile SW of Gioia Tauro. This river mouth can be identified by two thickly wooded strips which line its banks, and by an iron bridge, with masonry arches at each end, which is visible from seaward. Discolored water, caused by deposits brought down by the river, can be seen off the mouth and at a considerable distance from the shore.

Monte Tezzo, 189m high, stands 1.5 miles S of the mouth of the river and can be recognized by its prominent summit.

Caution.—A submarine methane gas double pipeline, which may best be seen on the chart, extends SW from close S of the Fiume Petrace river mouth to the Sicilian coast.

Torre di Pietri Nere (38°23'N., 15°52'E.), tall and light-colored, stands 1 mile WSW of Monte Tezzo. It is situated on a rocky spur and is prominent when seen from the NW or SW. From the W, it blends with the background and cannot be recognized from more than 2 or 3 miles offshore. A small fishing harbor lies close SW of this tower and is protected by a mole which extends WSW and then S.

13.72 Capo Triari (38°22'N., 15°51'E.) is a steep cliff that marks the shore where the beach ends and the rocky coast begins. A rocky reef extends up to 0.2 mile offshore from the cape and terminates in Scoglio Agliastro, an above-water rock, which is only visible from a short distance. The coast to the S of the cape is steep and covered with vineyards and olive groves.

Capo Barbi, located 1.2 miles S of Capo Triari, is backed by cliffs that become more precipitous and rocky to the S of the cape, until they overhang the N end of the village of Marina di Palmi, 0.2 mile S of the cape.

Palmi, a town, stands 0.5 mile E of Capo Barbi. The red roofs of the buildings in the higher part of the town form a patch of bright color against the dark green of the vegetation in the background. A slender white steeple, which is very visible from a great distance, stands in the center of the town, adjacent to a large rose-colored church. The village of Marina di Palmi stands at the head of a small cove, close WSW of the town.

Monte Sant'Elia, 579m high, stands S of Palmi and when seen from the NNW, appears as a squat mass with a rounded ridge covered by sparse vegetation. A tank, surmounted by a radio antenna, stands on the summit of this hill.

Temporary anchorage can be obtained, in a depth of 20m, on a sandy patch in the N part of the cove fronting Marina di Palmi. The bottom around this sandy patch is rocky and unfit for anchoring. Local knowledge is required.

Torre Rosci (38°18'N., 15°49'E.), tall and dark with a ruined top, is prominent when seen from the SW, but it cannot be easily distinguished from the NW as it blends with the background.

Bagnara Calabria, situated 0.7 mile farther SW, is built partly on the slopes of the foothills which descend moderately to the

beach and partly on the beach. A high and conspicuous viaduct stands S of this town. The port monitors VHF channels 11 and 16.

Caution.—Submarine cables, which extend across the Stretto di Messina, are landed on the coast, 0.5 mile SW of Bagnara Calabria. They may best be seen on the chart and anchoring and fishing are prohibited in their vicinity.

13.73 Scilla (38°15'N., 15°43'E.) is built on the sides and the slopes of a rocky spur, 72m high, which has vertical slopes and is surmounted by a prominent castle. A small mole extends NE from the E side of the rocky spur and affords shelter to fishing boats and small craft. Marina della Chianalea, with a prominent group of houses, is situated on the E side of the rocky spur and is fronted with rocks.

Between the rocky spur and Capo Paci, 0.5 mile WSW, a bight opens and Marina Grande di Scilla is situated at its head. Anchorage can be taken off this small town, in a depth of 9m, sand, good holding ground, about 300m from the shore. This locality is exposed to the strong currents of Stretto di Messina and is dangerous during strong onshore winds. Anchorage can also be taken, in depths of 27 to 29m, about 0.2 mile from the shore and E of the castle at Scilla.

The bottom off Marina della Chianalea is scattered with large boulders and covered with a heavy growth of weed. Anchorage is not recommended here.

Capo Paci (38°15'N., 15°42'E.), located 0.7 mile WSW of Scilla, is the E entrance point of the N end of Stretto di Messina.

Stretto di Messina—East Side

13.74 Pilotage.—Pilotage is compulsory for vessels of 15,000 dwt and over, and for vessels of 6,000 dwt and over which are carrying pollutants.

Vessels in these categories should communicate at least 12 hours in advance, via Messina Radio and Reggio Calabria Radio, giving the following information:

1. Name.
2. Flag.
3. Call sign.
4. GRT.
5. Type and quantity of pollutant carried.
6. The ETA at Capo Peloro for vessels proceeding S and the ETA at Punta San Raineri for vessels proceeding N. Such vessels must confirm their ETA by VHF at least 1 hour in advance.

Other vessels must report at least 2 hours in advance and give the same information on VHF channel 16.

Pilots for vessels on passage through the strait usually embark about 3 miles N of Capo Peloro or 2.5 miles SE of Punta San Raineri. Pilots for vessels entering Porto di Messina embark 1.5 miles N of Punta San Raineri.

The Messina pilots will, if required, take vessels which are proceeding N as far as the vicinity of Bagnara Calabria. They will also take vessels which are proceeding S as far as a line joining Punta di Pellaro and Capo Scaletta. Pilots are available day or night and generally in any weather.

Regulations.—Navigation of the strait is prohibited for merchant ships of 50,000 dwt and above carrying pollutants.

Transiting vessels must keep to starboard of a TSS separation line which joins the following points:

- a. 38°16.5'N, 15°43.5'E.
- b. 38°14.0'N, 15°36.6'E.
- c. 38°10.8'N, 15°36.0'E.

Transiting vessels shall have their engines ready for immediate maneuver and must keep a continuous watch on VHF channel 16.

Caution.—Strong currents, eddies, and whirlpools are found throughout Stretto di Messina and off the neighboring coasts. Violent squalls also occur in and near this strait.

Numerous submarine cables lie in the strait and are marked at their landing positions by the alignment of two beacons which are surmounted by yellow and black spheres with a white letter T.

Several anchoring and fishing prohibited areas lie in the strait and may best be seen on the chart.

13.75 Punta Pezzo (38°14'N., 15°38'E.) is wide, level, low, and sandy. It projects W from the foot of an elevation on which stand the villages of Pezzo and Piale. A light is shown from a prominent tower, 23m high, standing amongst trees close E of the point.

A church, with a belfry and a spire surmounted by a cross, stands near the shore, close NE of the light.



Punta Pezzo Light

Punta Pezzo is located 3.5 miles WSW of Capo Paci. The E shore of Stretto di Messina, between the cape and the point, consists of a steep narrow beach which is intersected by the mouths of various rivers and backed by hills and cultivated plateaus.

Torre Cavallo stands about halfway up a rocky ridge that rises 1 mile WSW of Capo Paci. This tower is circular and partly in ruins, but is clearly visible.

A conspicuous framework tower, 200m high, stands 300m SE of Torre Cavallo. This tower, along with a similar one on Sicilia, formerly supported the overhead cable which spanned the strait and has now been removed. The small town of Marina di Porticello is located near a river mouth, 0.5 mile WSW of the tower.

Anchorage, sheltered from winds between the ENE through S to WSW, can be taken, in a depth of 30m, about 300m off the river mouth at Porticello. This anchorage is excellent for large vessels. Smaller vessels can anchor, in a depth of 20m, sand and weed, closer inshore over good holding ground, but this anchorage is untenable with N winds.

Caution.—The currents are of considerable intensity near Punta Pezzo and whirlpools are frequently formed. The phenomenon known as Taglio exists in this vicinity and consists of a strong surface agitation of the water accompanied by a characteristic rustling noise that is caused by the meeting of opposing currents.

13.76 Villa San Giovanni (38°13'N., 15°38'E.) (World Port Index No. 40070), a small town, stands 0.7 mile S of Punta Pezzo. The harbor, which fronts the town, is formed by a quayed outer mole. This mole extends NNW and has ferry slips situated at its base. The E side of the harbor is quayed. Due to the constricted area and the necessity of keeping the outer mole and the approaches to the ferry slips clear, the harbor is restricted to vessels of limited size and draft. The harbor is generally accessible to vessels up to 100m in length and 4.6m draft. A depth of 6.7m is maintained in the ferry basin, lying E of the mole, by dredging. The ferry berths on the mole have an average depth of 5.2m alongside. The harbor can be contacted on VHF channel 15 or 16.

Winds from the WNW prevail at Villa San Giovanni. Those between the W and NW are stormy and troublesome, especially between February and March, and frequently create a heavy sea that sweeps into the harbor. During NW winds, entering or remaining in this harbor is reported to be dangerous. Winds from the SE usually bring a haze. Winds from the NE are frequent in autumn.

Winds from the SE are forecast by the clouding over of the heights in the vicinity of Scilla. Winds from the SW or NW are preceded, respectively, by the clouding over of the mountains of Messina and Etna.

Prominent features in the vicinity of the harbor include a factory, with a tall chimney, standing close N of the town and a cathedral, with three large arches flanked by two towers, standing in the center of the town.

Caution.—The depths in the harbor are subject to shoaling.

The current, which sets S in the strait, sometimes sets against the mole and into the harbor, making vessel movements difficult. This occurs particularly during the spring when the current is strongest.

It is advisable not to anchor outside the harbor, because of the strong currents and the rocky bottom that does not hold well.

13.77 Acciarello (38°13'N., 15°39'E.), a small village situated close S of Villa San Giovanni, stands along the coast and appears as a continuation of the town.

Catona, a small town, is situated 2 miles S of Villa San Giovanni and dominated by a prominent church with a yellow belfry and pyramidal spire. The conspicuous church of San Francesco, with a red roof and a belfry surmounted by five spires, stands close S of the town.

Gallico, a small town, is situated 1 mile S of Catona and consists of a long line of houses extending along the beach. Behind

the town, a church, with a red roof and a low belfry, is prominent. Anchorage in front of this town is tenable only during moderate winds and is not recommended.

Reggio di Calabria (38°07'N., 15°39'E.)

World Port Index No. 40080

13.78 Reggio di Calabria is a large city and an important commercial and fishing port. The harbor fronts the city and is enclosed on its W side by Molodi Ponente, which is completely quayed and has a high sea wall along the outer side, and a breakwater which extends NNE from its N end.

Winds—Weather.—In autumn and winter, winds from the SE and SW quadrants are prevalent. In spring and summer, winds from the NE and NW quadrants are the most frequent. The strongest winds are usually those from the NW, W, and SW. During March and April, very violent gusty winds from between the WSW and WNW sometimes make navigation difficult along the coast in this vicinity, but they do not last long.

Tides—Currents.—Tides are almost negligible, being 0.3m at springs. When augmented by onshore winds, the tidal rise does not exceed 0.6m.

The Carrobio, a sudden periodic rise and fall in the water level occurs occasionally along this part of the coast. It has a range of about 1m. These changes in the level are ascribed to fluctuations in atmospheric pressure. This phenomenon is usually preceded by a calm, a black and blue sky, and a low barometric pressure.

The currents in the strait off the port sometimes have rates up to 5 knots, particularly during the equinoctial periods. These currents, in combination with SW winds, can cause difficulties for vessels attempting to enter the harbor.

Depths—Limitations.—The main quays include Banchina Margottini, 120m long, with a depth of 10m alongside; Banchina Levante, 280m long, with a depth of 11.5m alongside; Banchina Levante Nuova, 410m long, with a depth of 12m alongside; Banchina Ponente Tratto No. 1, 30m long, with a depth of 7.5m alongside; and Banchina Ponente Tratto No. 2, 400m long, with a depth of 12m alongside.

There are facilities for fishing, ro-ro, bulk, ferry, and container vessels. In addition, there is a basin for yachts and a hydrofoil terminal. Vessels up to 50,000 dwt, 180m in length, and 10m draft have been accommodated.

Aspect.—Monte Pentimele, a precipitous hill, stands N of the port and is surmounted by an old fort. Casa Cantoniera, a red two-story customhouse with a turret, is situated at the foot of this hill and is conspicuous. The prominent church of Santa Caterina, with a belfry and a spire, stands in the N part of the city. A conspicuous monument, consisting of two tall columns surmounted by connecting architecture, is situated on the beach, 1 mile SSW of the harbor entrance.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 12 or 16 and generally board about 0.5 mile NW of the harbor entrance. Vessels should send advance notice of their arrival 48 hours, 24 hours, and 12 hours prior to entry.

Regulations.—The following are extracts from the harbor regulations:

1. Vessels must proceed with care and are forbidden to exceed a speed of 5 knots or to pass through the harbor entrance at the same time as another vessel.
2. Small craft, within 1 mile of the harbor entrance, must give way to vessels entering or leaving. Vessels impeded by small craft should sound at least 4 blasts.
3. Vessels are forbidden to stop or anchor within 0.5 mile of the harbor entrance.
4. Vessels leaving have precedence over vessels arriving, but vessels should not begin to leave if another vessel is already entering.
5. Naval vessels have precedence over merchant vessels.
6. Ferries have precedence over naval and merchant vessels, but ferries which reverse direction must do so outside the harbor.
7. Fishing, including fishing for sport, is prohibited within 1 mile of the harbor entrance.

Anchorage.—Rada di Pentimele, lying 0.5 mile N of the harbor, is one of the safest anchorage roadsteads in Stretto di Messina. The bottom forms a good holding ground, the current is less violent here, and the SW winds are moderate within this bight. Anchorage can be taken, in depths of 46 to 49m, about 400m offshore.

Caution.—Vessels should use caution when entering or leaving as the currents close outside the entrance may affect the maneuvering of vessels. In general, the current setting S in the strait forms a current which sets W off the entrance.

13.79 Punta Calamizzi (38°06'N., 15°38'E.) is located 1.5 miles S of Reggio di Calabria and a prominent radio mast stands 1.2 miles ENE of it.

The coast from Punta Calamizzi to Capo dell'Armi is composed of short terraces of varying elevations which rise in gentle slopes to a range of coastal hills. These hills recede gradually from the coast, then approach it again at Capo dell'Armi.

Fiumara di Sant'Agata, lying 1.6 miles S of Punta Calamizzi, has a broad whitish bed and can be recognized by a long bridge which spans the river mouth.

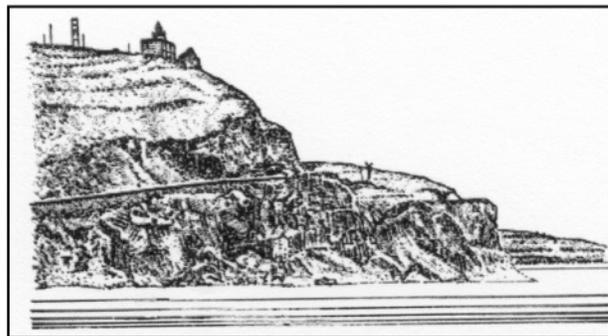
Punta di Pellaro (38°01'N., 15°38'E.), located 4.8 miles S of Punta Calamizzi, is wide, sandy, and forms the S entrance point of the Stretto di Messina on the E side. A radio mast stands on the point. A sandy shoal, with a depth of 3m, fronts the seaward extremity of the point. A bright-red church, with a prominent belfry, stands close S of the point. The large and conspicuous building of a beverage plant, with a low tank on cement columns situated close NW of it, is reported to stand in the vicinity of the point.

Between Punta di Pellaro and Capo dell'Armi, 4.5 miles SSE, the vegetation gradually diminishes until it disappears in the immediate vicinity of the cape. Short and steep streams wind down from the mountains along this stretch of the coast and are clearly visible due to the alluvial deposits which they bring down.

The village of Motta San Giovanni, situated 3 miles ESE of Punta di Pellaro, overlooks this stretch of coast. A conspicuous church, with a belfry and a spire, stands in the lower part of this village and is visible from the NW and SW; from other directions, the church is hidden by the surrounding hills.

Punta di Pellaro to Capo Spartivento

13.80 Capo dell'Armi (37°57'N., 15°41'E.) is located 4.5 miles SSE of Punta di Pellaro. This cape is high, rounded, bare, and rises perpendicularly from the sea in whitish and rocky cliffs. A light is shown from a prominent tower, 12m high, standing on the cape.



Capo dell'Armi Light bearing 104°

The village of Saline, situated at the mouth of Fiumara di Molara, stands 1.5 miles ESE of Capo dell'Armi and is dominated by a conspicuous reddish church. A conspicuous chimney, 176m high, stands in the vicinity of an oil refinery which is situated close to the coast, 1 mile SE of the village.

Porto Saline di Montebello Joniche (37°56'N., 15°43'E.), a small harbor, lies 1 mile S of Saline and is protected by breakwaters. There is a turning basin, dredged to a depth of 12m, a dock basin, dredged to a depth of 8m, and a marina within this harbor.

A water intake terminal, marked by a light, lies close E of this harbor.

Pentedattilo, a prominent rocky cliff, stands 2 miles inland, 4 miles E of Capo dell'Armi. It is shaped like a monstrous hand and lies between two rivers, the Fiumara di Sant'Elia to the N and the Fiumara Anna to the S. This cliff rises 150m from the slope of a hill. The village of Pentedattilo is situated at the foot of this strange formation, but is not visible from most directions. A prominent peak stands close E of the cliff.

Melito di Porto Salvo, a small town, stands 5.5 miles ESE of Capo dell'Armi. It is situated among citrus groves on the slopes of a hill on the W bank of Fiumara di Melito. The mouth of this river is spanned by a bridge with two arches. A small church, with a prominent yellow cupola, stands near the beach, SW of this town.

The wreck of a vessel, with the main mast showing, lies in depths of 25 to 28m, about 400m W of the mouth of Fiumara di Melito.

Fiumara di Amendolea enters the sea through a wide valley, 5 miles E of Melito di Porto Salvo. This river has a very wide bed and is spanned near its mouth by a long bridge, supported by seven piers. Monte Papagallo, 95m high, stands on the E bank of the river mouth. This hill is conspicuous, when seen from the W, because of its whitish color and a large clump of trees on its summit.

13.81 Bova Marina (37°55'N., 15°55'E.), a village, is situated 2 miles E of the mouth of the Fiumara di Amendolea. It consists of a prominent group of houses intersected by the Fiumera Sideroni, which flows through a verdant valley.

The village of Bova, situated 4 miles N of Bova Marina, stands on the summit of a mountain, 827m high. This village is dominated by Monte Porticella di Bova, standing 0.7 mile N, which can be identified by its flattish top and a prominent notch on its W side. The seaward side of this mountain is furrowed by deep valleys.

Large vessels can anchor off Bova Marina, in a depth of 29m, about 0.4 mile from the shore; small vessels can anchor, in depths of 6 to 7m, about 0.2 mile from shore. With N winds, this anchorage is considered to be one of the safest along this part of the coast.

Punta San Giovanni, located 0.5 mile ESE of Bova Marina, is formed by a steep cliff and is fringed by rocks. A tower, half in ruins and poorly visible, stands on the point. A light-colored tower and a conspicuous statue of the Madonna stand near the tower. The village of Palizzi Marin is situated 2.5 miles E of the point.

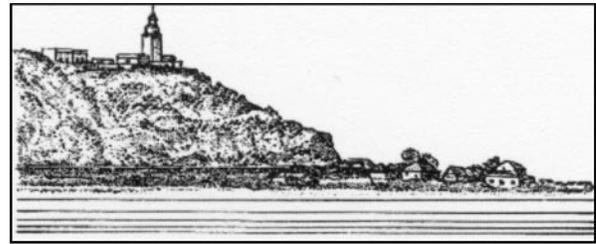
13.82 Torre Mozza (37°55'N., 16°00'E.), almost completely in ruins, stands on a cliff at the E side of a small valley, 0.5 mile E of Palizzi Marina. The ruins are only visible from the E or W.

A rocky shoal bank, with a least depth of 0.5m, fronts the coast abreast Torre Mozza and extends up to about 0.3 mile offshore. A dangerous wreck, covered by a depth of less than 18m, lies about 0.8 mile offshore, 2 miles WSW of Torre Mozza.

Capo Spartivento (37°55'N., 16°04'E.) is located 3 miles E of Torre Mozza. The coastal slopes between the tower and this cape become less steep and descend towards the sea in spurs, which because of their whitish color, resemble huge sand

dunes. The summits of several of these spurs are covered with sparse vegetation.

Capo Spartivento is rugged, rocky, and fringed by a narrow sandy beach on which stand some houses. This cape can be easily identified from some distance by its whitish appearance. A light is shown from a prominent structure, 15m high, standing on the cape. A disused signal station is situated close NW of the light.



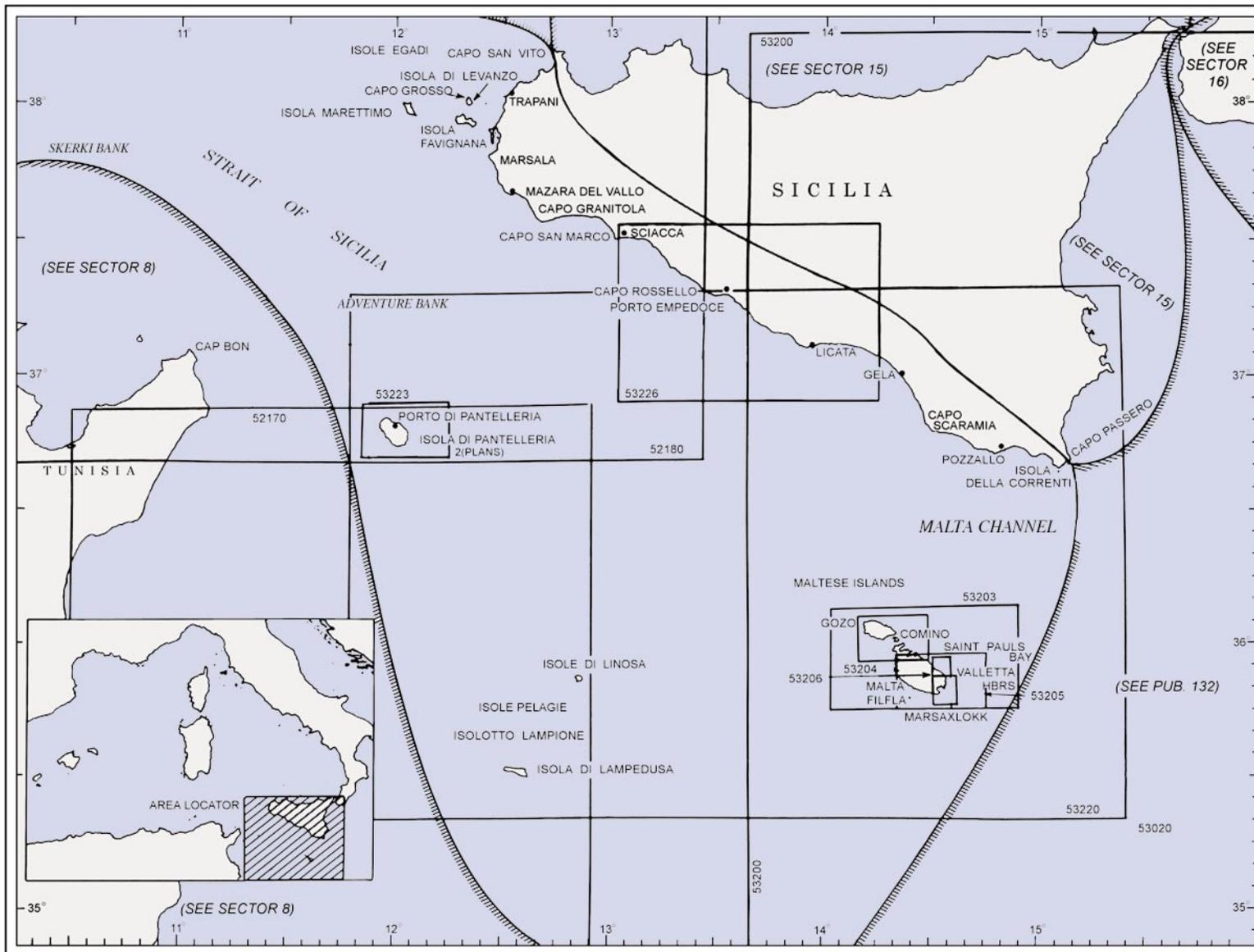
Capo Spartivento bearing 045°

Due to rocky patches, the cape should not be approached within 0.5 mile.

Caution.—A circular prohibited area with a radius of 2,000m is centered on position 37°53.8'N, 16°00.7'E.

Fiumara Spropoli enters the sea on the W side of Punta di Spropoli, 1 mile W of the cape. Several houses stand in the vicinity of the river mouth.

Anchorage, sheltered from N winds, can be taken off the coast between Torre Mozza and Punta di Spropoli. There are berths, in a depth of 10m, about 500m from the shore, or in depths of 15 to 20m, about 0.5 mile offshore. The beach fronting this stretch of coast is slowly extending seaward.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 14 — CHART INFORMATION

SECTOR 14

ITALY—THE STRAIT OF SICILIA AND MALTA CHANNEL

Plan.—This sector describes the W and S coasts of Sicilia (Sicily), the Strait of Sicilia, and Malta Channel including the islands and banks S of Sicilia. The descriptive sequence is SE from Skerki Bank to the Maltese Islands, S from Capo San Vito to Capo Granitola, and then SE to Capo Passero. The other islands and banks are described with their adjacent coasts.

Off-lying Banks

14.1 Skerki Bank (37°50'N., 10°55'E.) is centered about 35 miles NNW of Ras at Tib (Cap Bon), which is described in paragraph 8.14, and extends for about 35 miles in a general NE-SW direction. The bottom of this extensive bank consists of coral, rock, sand, and shells.

Sylvia Knoll, lying at the NE end of Skerki Bank, has a least depth of 12m. Biddlecombe Reef, with a depth of 6.7m, lies about 7 miles SW of Sylvia Bank.

Locust Patch, with a depth of 12m, lies 5 miles W of Keith Reef. Hecate Patch, with a depth of 7m, lies about 2 miles S of Locust Patch.

Keith Reef is the shallowest patch on the bank. It lies nearly 2 miles SSE of Biddlecombe Reef and is composed of compact limestone. A small rock, covered with weed, lies at the center of this reef and has a depth of 0.3m. It is usually marked by breakers. It is reported that the remains of a stranded wreck lie in the vicinity of this rock. In addition, two dangerous wrecks lie at the NE end of the rock.

Caution.—The currents in the vicinity of Skerki Bank are irregular in both rate and direction. The shoal patches are not always marked by breakers. Vessels should exercise caution and give the dangers on this bank a wide berth.

Isola di Pantellaria

14.2 Isola di Pantellaria (36°48'N., 12°00'E.), a mountainous and volcanic island, lies 46 miles ESE of Ras at Tib (Cap Bon). Montagna Grande, 834m high, dominates this island. The coastal currents in the vicinity of the island vary in direction and velocity with the wind force and direction.

Pantellaria (36°50'N., 11°56'E.) (World Port Index No. 40360), a small craft harbor, lies at the NW end of Isola di Pantellaria and is protected by breakwaters. Vessels may only anchor in one of the six designated anchorage areas after obtaining permission from the harbor master on VHF channel 16. The harbor is used mainly by yachts and fishing boats.

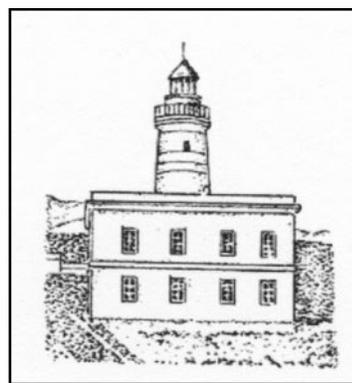
Punta San Leonardo (36°50'N., 11°55'E.), a low point, is located at the NW end of the island, close E of Pantellaria. A light is shown from a structure, 3m high, standing on this point. A cemetery, situated 0.5 mile SE of this point, is conspicuous.

Punta Bue Marino, low and dark, is located 0.5 mile ENE of Punta San Leonardo. Two coves lie close E of this point.

Punta Caruscia is located 1 mile ESE of Punta Bue Marino. Ancoraggio di Campobello lies between Punta Caruscia and

Punta Pozzolana, 0.8 mile ESE, and affords anchorage, sheltered from W winds. Small vessels can obtain anchorage between these two points, in a depth of 29m, rock and weed. Local knowledge is required.

14.3 Punta Spadillo (36°48'N., 12°00'E.), located 1.2 miles E of Punta Pozzolana, is the rocky NE extremity of a promontory on the W side of which is a cove. A light is shown from a structure, 21m high, standing on this point.



Punta Spadillo Light

Punta Tracino, marked by a light, is located 2.5 miles SE of Punta Spadillo. It is high and rocky. A small islet, almost as high as the point itself, lies close off the point and is surmounted by a small pillar. Anchorage can be obtained, in depths of 20 to 22m, sand with patches of rock, about 300m S of this small islet, but local knowledge is required.

Punta Limarsi, located 4 miles SSW of Punta Tracino, is rugged and rocky. A light is shown from a structure, 6m high, standing on this point. Anchorage can be obtained by small vessels in Porto Dietro Isola, a slight indentation, close NE of Punta Limarsi. A good berth, in depths of 22 to 27m, coarse sand with some rock, lies about 320m NE of Punta Limarsi, but local knowledge is required.

Punta Polacca is located 2.3 miles W of Punta Limarsi. The coast between is high and rocky.

Punta Tre Pietre, located 2.5 miles NW of Punta Polacca, is the SW extremity of a promontory which is fronted by three small above-water rocks. A light is shown from the W entrance point of Porto di Scauri, which lies 0.3 mile E of Punta Tre Pietre. Anchorage can be obtained, in a depth of 16m, coarse sand and rock, about 200m S of the light.

Caution.—A fishing and anchoring prohibited area extends up to 6 miles seaward from the vicinity of Punta Bue Mario Point and may best be seen on the chart.

A prohibited area, best seen on the chart, is located close off Punta del Gadir about 1 mile SE of Punta Spadillo.

A storage tanker (Tazerka) is moored in the vicinity of (36°36'N., 11°41'E.), which is situated about 17 miles SW of Punta Tre Pietre.

Isole Pelagie

14.4 Isole Pelagie (35°52'N., 12°52'E.), a group of three volcanic islands, consists of Isola di Linosa, Isola di Lampedusa, and Isola Lampione. The group is Italian and lies on the African continental shelf, SSE of Isola di Pantellaria.

Isola di Linosa (35°52'N., 12°52'E.), the NE island of the group, lies 66 miles SE of Isola di Pantellaria. Monte Vulcano, 195m high, stands on the S side of the island; Monte Rosso, 186m high, stands 0.5 mile N of Monte Vulcano; and Monte di Ponente, 107m high, stands on the W side of the island.

A rocky patch, with a least depth of 3.9m, lies about 0.2 mile E of Punta Calcarella, the SE extremity of the island, and is the only off-lying danger. A depth of 14m lies about 0.2 mile off-shore, on the N side of the island.

A light is shown from a prominent structure, 17m high, standing on Punta Beppe Tuccio, the NE extremity of the island. Another light is shown from a structure, 6m high, standing close NE of Punta Arena Bianca, the SW extremity of the island.



Punta Beppe Tuccio Light

14.5 Isolotto Lampione (Scoglio Lampione) (35°33'N., 12°19'E.), a small island, lies 32 miles SW of Isola di Linosa. It is uninhabited, 40m high, and has a flat top with cliffy sides. When seen from the NW, this island appears like a wall rising from the sea. A light is shown from a structure, 6m high, standing on the W side of the island.

Isola Lampedusa (35°30'N., 12°36'E.), the largest and S island of the group, lies 10 miles ESE of Isola di Lampione. This island is flat-topped and barren. Monte Albero Sole, 133m high, stands on its NW side and is prominent. There are no close off-lying dangers.

A light is shown from a structure, 19m high, standing on Capo Grecale, the NE extremity of the island. Two large masts are situated close W of the light. A marine farm, marked by a lighted buoy, has been established off the entrance to Cala Creta about 1 mile S of Capo Grecale.

A light is also shown from a structure, 6m high, standing on Capo Ponente, the SW extremity of the island. A prominent radio mast stands on a hill, 0.4 mile E of the light.



Capo Grecale Light

14.6 Lampedusa (35°30'N., 12°36'E.) (World Port Index No. 40380), the capital of the island, is situated on its SE side. This small town is fronted by a harbor which consists of three coves. It is open to the S and is entered between Punta Guitgia and Punta Maccaferri, 0.2 mile E. Both of these entrance points are marked by lights. A mole protects the inner harbor which is only suitable for small craft with lengths less than 30m and drafts up to 3m. Small coasters and fishing vessels, up to 80m in length, can anchor and moor, stern-to-shore, off Punta Maccaferri. The harbor can be contacted on VHF channel 14 or 16. Vessels can anchor, in a depth of 14m, sand and weed, off the harbor entrance.

The Maltese Islands

14.7 The Maltese Islands, an extensive group, consist of three main islands, Ghawdex (Gozo), Kemmuna (Comino), and Malta, and several islets which lie centered 90 miles ENE of Lampedusa.

Caution.—Oil drilling rigs may frequently be encountered between this group of islands and the S coast of Sicilia.

14.8 Ghawdex (Gozo) (36°03'N., 14°15'E.), the NW island in the group, rises in high cliffs to a plateau. Several villages stand around the island and Victoria (Rabat), the largest town, is situated near its center.

Ras San Dimitri (36°04'N., 14°11'E.), a high and steep-to promontory, forms the NW extremity of the island. A light is shown from a structure, 21m high, standing 1.7 miles E of Ras San Dimitri. This light structure surmounts Gordan, 161m high, a prominent hill.

From Ras San Dimitri, the coast trends generally SE for 8 miles to Ras il Qala, the SE extremity of the island. The N coast is generally free of off-lying dangers.

From Ras il Qala, the coast trends SW for 4 miles to Ras il Newhela, the S extremity of the island. Gebel tal Halfa, an islet, lies 0.3 mile WSW of Ras il Qala and is 22m high. Numerous above-water rocks encumber this stretch of the coast and depths of 18m or less extend S across North Comino Channel to Comino (Kemmuna).

Temporary anchorage can be taken, in a depth of 18m, sand, off the small harbor of Mgarr, which lies 1.5 miles WSW of Ras il

Qala. This anchorage is exposed to E winds which blow through North Comino Channel and is also open to the S and SW.

From Ras il Newhela, the coast trends NW for 4 miles to Ras il Wardija, and then 2 miles N to Ras San Dimitri. This part of the coast rises in high cliffs from the sea, is steep-to, and is mostly free of dangers.

Caution.—A former explosive dumping area, 2 miles in diameter, lies about 3 miles N of Gozo.

A submarine cable area extends S from Gozo to Comino.

14.9 Comino (Kemmuna) (36°01'N., 14°20'E.) a small island, lies nearly midway between Gozo and Malta and divides the channel into the North Comino Channel (Il Fliegu ta Ghawdex) and the South Comino Channel (Il Fliegu ta Malta). Passage through these two channels is restricted to non-commercial vessels and other vessels of 50m or less in length.

Kemmunnett, a small rocky islet, is located close W of Comino (Kemmuna), and several above-water rocks lie between them. The NW extension of shoal water surrounding the islet is marked by a lighted beacon.

The currents in the passages on both sides of Comino are irregular in direction, sometimes setting against a strong wind, but their rates are usually less than 1 knot.

Sultan Rock, with a depth of 6m, is the E rock of Skoll tal-Abjad tal-Prosha, a group of dangers with a least depth of 5.5m, which lie about 0.2 mile E of the SE end of Comino.

Anchorage, with local knowledge, can be taken, in depths of 16 to 21m, in Il Mats, a small bay, lying on the W side of the island.

Caution.—A submarine cable area extends S from Comino to Malta.

14.10 Malta (35°55'N., 14°25'E.), the S and largest island of the group, lies close S of Comino and 2.5 miles SE of Gozo. Valletta, the largest port and capital, is situated on the E side of the island and is also a tourist resort.

Ponta tal Cirkewwa (Ponta tal Marfa) (35°59'N., 14°20'E.), the NW extremity of Malta, is a low point backed by high and sloping land. Shoals and above-water rocks extend up to about 0.2 mile N of this point.

A breakwater extends about 300m from Ponta tal Marfa. A ro-ro ferry terminal berth, with a depth of 5m alongside, is situated at the head of this breakwater. A conspicuous hotel, visible from all sides of the promontory, stands 0.2 mile E of Ponta tal Marfa.

The coast from Ponta tal Marfa slopes NE for 2 miles to Ponta ta l'Ahrax, the N extremity of the island, and is indented by several small bays.

From Ponta ta l'Ahrax, the coast then trends SE for 13 miles to Ponta taz Zonqor, the NE extremity of island. From N to S, this stretch of coast is broken by Mellieha Bay, St. Pauls Bay, Salina Bay, St. Georges Bay, St. Julians Bay, and Valletta Harbor.

14.11 Sikka il-Bajda (Balls Bank) (36°00'N., 14°24'E.), with depths of 10.4 to 20m, lies 2 miles E of Ponta ta l'Ahrax. This shoal should be avoided.

From Ponta ta l'Ahrax to Dahlet ix-Xilep, 0.7 mile SE, the coast consists of high broken cliffs with rocks below them,

especially near the latter point. Dahlet ix-Xilep is a high bluff surmounted by a conspicuous church. A prominent statue stands close to the edge of the cliff.

Mellieha Bay is entered between Dahlet ix-Xilep and Ras il-Griebeg, 1 mile SSE. There are submerged rocks and shoals in the bay, but it affords good anchorage during offshore winds to vessels with local knowledge.

Gzejjer Selmunet (St. Pauls island), an islet, lies close inshore, about 0.9 mile ESE of Ras il-Griebeg. This islet is divided into two parts which are joined by a low and narrow isthmus. A remarkable statue of Saint Paul stands on the summit, 40m high, of the higher and W part.

Saint Pauls Bay (Il Bajja ta' San-Pawl il-Bahar) is entered between Gzejjer Selmunet and Ras il-Qawra, 1 mile SE. Selmun Palace, 23m high, stands on a hill, 1 mile WSW of the statue of Saint Paul. Several prominent oil tanks, painted silver, stand 0.4 mile SE of the palace. A concrete quay, 53m long, with depths of 2.1 to 3.4m alongside, is situated 0.6 mile SE of the palace.

A designated approach channel has been established in St. Paul's Bay and may best be seen on the chart. Anchoring and fishing are prohibited in this channel. Marine farms, best seen on the chart, lie on the N side of the channel.

Anchorage, sheltered from offshore winds, can be obtained within the bay, in depths of over 18m. The holding ground is good, except on a rocky patch lying near the entrance. However, in depths of less than 20m, care should be taken to select a sandy spot.

A spit, with a least depth of 9.4m, extends about 0.5 mile ENE from Ras il-Qawra. A lighted buoy lies 0.2 mile NE of the extremity of the spit. Diving takes place in the vicinity of the buoy and it should be given a wide berth.

Salina Bay is entered between Ras il-Qawra and Ras-il Ghallis, 0.4 mile SSE. A salt works and a hotel stand at the head of this bay. A prominent tower stands close SE of Ras-il Ghallis.

The coast from Ras il-Qawra to Valletta, 5 miles SE, is indented by numerous bays which are suitable only for small craft with local knowledge. Above-water rocks and shallow shoal patches extend up to 0.3 mile seaward of the coast.

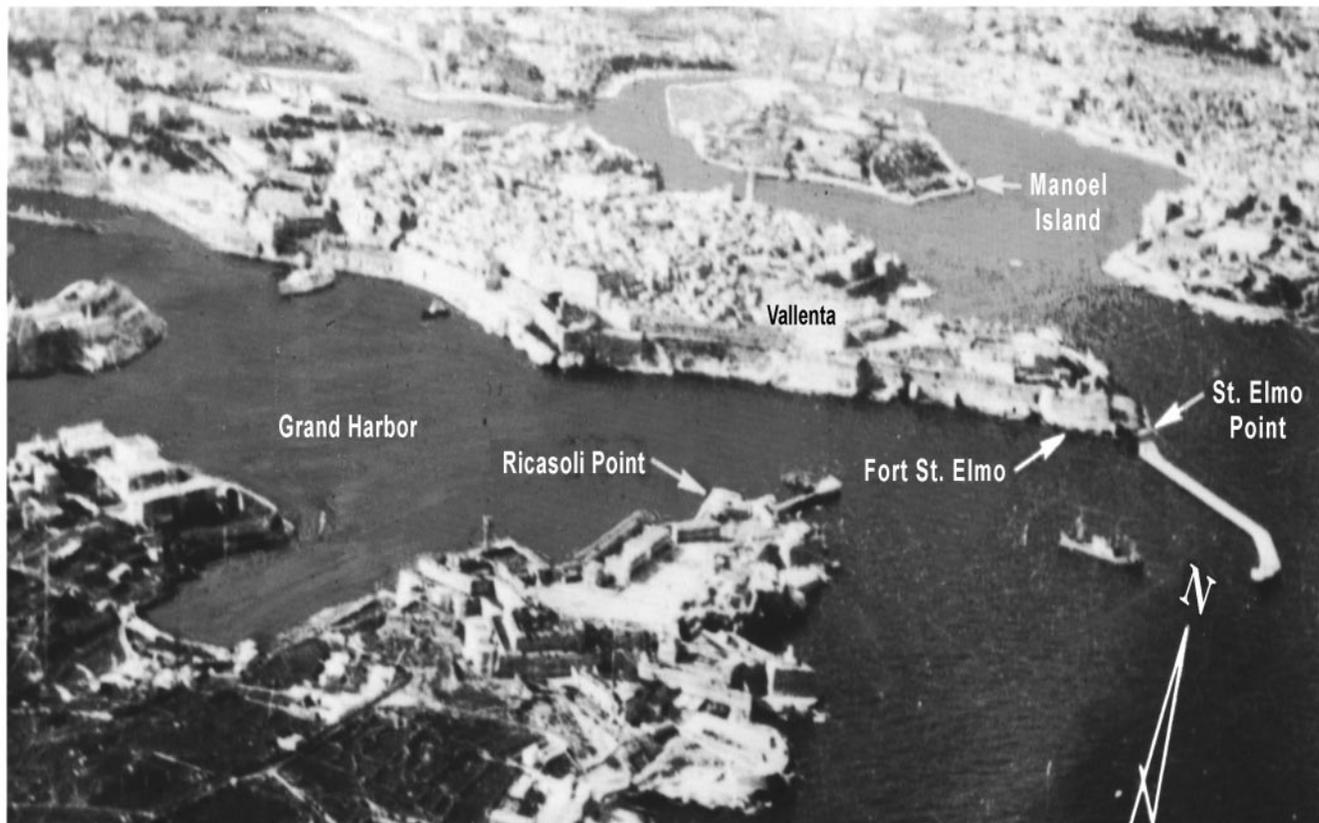
14.12 Saint George's Point (36°56'N., 14°29'E.), surmounted by a prominent tower, is the N entrance point of Saint George's Bay. A radio mast stands 0.4 mile SW of the tower.

Outer St. George Rock, with a depth of 9.1m, is the N of several rocks lying on a spit which extends 0.7 mile NNE from the vicinity of St. George's Point. Spinola Rock, with a depth of less than 1.8m, lies near the extremity of the spit.

St. Julian's Point, located 0.7 mile SSE of Saint George's Point, is the SE entrance point of St. Julians Bay.

Caution.—Anchoring and fishing prohibited areas lie in the approaches to Saint George's Bay and Saint Julian's Bay and may best be seen on the chart.

Vessels should exercise caution when off the coast between St. Paul's Bay and Valletta Harbors due to the Pembroke Rifle Range areas. A red flag will be displayed from the tower on Saint George's Point when firing is taking place on the range.



Valletta from ESE

Valletta Harbors (35°54'N., 14°31'E.)

World Port Index No. 40330

14.13 Valletta Harbors consists of two natural bays, each of which is comprised of several smaller bays or creeks.

Marsamxett, the N harbor, is entered between Tigne Point and St. Elmo Point (Il-Ponta Sant' Jiermu) and consists of Sliema Creek (Id-Dahla Ta' Tas-Sliema), Lazaretto Creek, Msida Creek, and Pieta Creek. It serves as a quarantine anchorage and a mooring area for naval vessels. The naval installations consist mainly of small craft repair facilities. Alongside berthing space is limited and there is little or no commercial activity in Marsamxett, except for an extensive yacht harbor and an oil service base.

Grand Harbor, the S bay and main harbor, is entered between breakwaters which extend from St. Elmo Point and Ricasoli Point. It consists of Bighi Bay, Kalkara Creek, Dockyard Creek (Id-Dahla Tad Dockyard), French Creek, and Newport. This harbor contains the major naval facilities and the commercial port. Most of the commercial facilities are concentrated in Newport. Within this harbor, vessels work cargo into lighters from Mediterranean moorings. Dockyard Creek and French Creek are mostly reserved for naval vessels. The approaches to Grand Harbor present no navigational difficulties.

Winds—Weather.—The Grecale, a strong NE wind, frequently sets up a rough sea and swell in the harbor entrance and approaches, and may make entry hazardous.

Tides—Currents.—The tidal range is almost negligible, being only 0.3m at springs.

Marrobbio surges or waves occur along this coast and may cause the water level in Valletta to fall rapidly as much as 0.3m with no warning. These surges may also cause destructive currents in the harbor.

Depths—Limitations.—The outer entrance has depths of 21 to 23m. The harbor fairway has depths of 9 to 23m.

Grand Harbor is the principal port of entry and handles practically all traffic, except tankers carrying petroleum with a flashpoint below 22.5°C. All other petroleum products including LPG and explosives are handled at Marsaxlokk Bay.

Parlatorio Wharf (Navy) can accommodate tankers up to 198m in length and 10.7m draft.

Deep Water Wharf is 490m long, with a depth of 10m alongside.

Flagstone Wharf is 217m long, with a depth of 12m alongside.

Crucifix Wharf, an extension of Deep Water Wharf, is 240m long with a depth of 10m alongside. It is used by passenger and cruise vessels.

Gun Wharf is 92m long with a depth of 7.4m alongside. It is used by ferries.

Laboratory Wharf and Magazine Wharf have a combined length of 440m with depths of 12.2 to 15m alongside. Bulk vessels up to 80,000 dwt and 13m draft can be accommodated.

There are also facilities for container and ro-ro vessels. A quay, with 240m of berthing space, is situated in Marsaxlokk and is used by oil exploration service vessels.

In addition, there are extensive repair facilities and drydocks which can accommodate vessels up to 300,000 dwt.

Aspect.—A light is shown from a structure standing on St. Elmo Point (Il-Ponta Sant' Jiermu). An outer approach lighted buoy is moored about 1.2 miles NE of the light.

Lights mark the seaward ends of the breakwaters which protect the entrance to Grand Harbor.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 12, 14, or 16 and generally board in the vicinity of the outer approach lighted buoy in good weather and near the harbor entrance in bad weather.

Vessels should send an ETA at least 2 hours in advance and when 5 miles from the outer approach lighted buoy. Vessels should also send their ETA to the Port Operations Manager 48 hours in advance through Malta (9HD).

Signals.—The following traffic signals, shown from the Palace Tower and Fort Saint Angelo, do not apply to small craft or to vessels of less than 500 grt plying exclusively in the waters of Malta, providing such vessels or craft do not obstruct other vessels maneuvering in accordance with these signals:

1. A red square flag by day or four red lights, shown vertically, at night indicate that no vessels can enter, leave, or obstruct the entrance channel to Grand Harbor.
2. A red diamond shape by day or a red light over a white light at night indicate that vessels may enter but not leave Grand Harbor.
3. Two red diamond shapes, shown vertically, by day or two red lights, shown vertically, at night indicate that vessels may leave but not enter Grand Harbor.
4. A blue triangular flag indicates that it is unsafe for boats and low powered craft to leave Grand Harbor or Marsamxett Harbor.

Vessels underway, with a pilot aboard, shall display International Code Flag H, by day, or a white light above a red light at night.

Vessels maneuvering, with a pilot aboard, will also display the following additional signals:

1. International Code numeral pennant 2 by day, or two white lights, shown vertically, at night indicate that the vessel is maneuvering to anchor or berth and must not be obstructed or passed closely.
2. International Code Flag G at the dip by day or three lights (red, white, red), shown vertically, at night indicate that the vessel is getting underway to proceed to sea and must not be overtaken or passed closely.
3. International Code numeral pennant 2 over the answering pennant by day or three lights (white, red, white), shown vertically, at night indicate that the vessel has stopped maneuvering and may be passed or overtaken.

Vessels carrying explosives and awaiting berthing instructions in or near the approaches to a harbor shall display a black ball above International Code Flag B by day, or three lights (white, red, red), shown vertically, at night.

A storm signal, consisting of a single black ball by day or a red light by night, may be shown from the palace and Fort Saint Angelo. This storm warning indicates a wind of force 5 or greater is expected between 010° and 120° in Valletta Harbor.

A scend warning is issued subsequent to a gale warning and is promulgated until the sea has fallen to a less than 1.5m increase.

Anchorage.—There are numerous mooring berths for naval vessels in both harbors. Merchant vessels usually moor in Marsa Creek, Grand Harbor.

Caution.—Several anchorage prohibited areas lie within Valletta Harbors and may best be seen on the chart.

Several submarine cables, which may best be seen on the chart, extend seaward from the vicinity of St. Elmo Point (Il-Ponta Sant' Jiermu) and extend N along the coast of the island.

Several submarine pipelines lie within the harbors and may best be seen on the chart.

14.14 Ponta taz Zonqor (35°52'N., 14°35'E.), the low-lying NE point of Malta, is located 3 miles SE of Ricasoli Point, the SE entrance point of Valletta Harbors. It is marked by a stone beacon that has been reported to be difficult to identify. Several prominent radio masts are reported to stand close SE of Ricasoli Point.

Della Larga Forca, a detached bank with a depth of 9.1m, lies about 0.4 mile offshore, 1 mile NNW of Ponta taz Zonqor.

The coast extends S for 3 miles from Ponta taz Zonqor to Ponta ta Delimara and is indented by several shallow bays.

Sikka Zonqor, a detached 8.5m patch, lies about 0.4 mile ESE of Ponta taz Zonqor. Outer Munxar Rock, with a depth of 9.7m, is the E danger in this vicinity and lies about 1 mile offshore, 1.5 miles ESE of Ponta taz Zonqor.

Ponta ta Delimara (35°49'N., 14°34'E.), the NE entrance point of Marsaxlokk, is located at the S end of a peninsula which terminates in a yellow cliff, 15m high. A light is shown from a tower, 24m high, standing close N of the S extremity of the peninsula. Two prominent radio masts stand close SSE of the light. An islet, 4m high, lies close S of the point. Several rocks lie on the shore bank which extends S of this islet and is marked by a lighted buoy moored about 0.2 mile SSE of Ponta ta Delimara.

Hurd Bank (35°53'N., 14°45'E.), formed of coral and sand, lies 10 miles ENE of Ponta taz Zonqor and has depths of 35 and 44m.

Caution.—A dumping ground, 0.4 mile in diameter, lies close N of Della Larga Forca and may best be seen on the chart.

A submarine pipeline extends 0.5 mile NE from a point on the shore, 1 mile SE of Ricasoli Point. Anchoring is prohibited in the vicinity of this pipeline.

Commercial vessels may not enter the restricted area, which may best be seen on the chart, lying adjacent to the coast, 2 miles N of Ponta ta Delimara. This area extends up to 1.5 miles from the shore.

A current setting S has often been observed off the E end of Malta. During N winds, its rate increases and on occasion, it has been experienced as far off as Hurd Bank.

Marsaxlokk (Marsa Scirocco) (35°49'N., 14°33'E.)

World Port Index No. 40340

14.15 Marsaxlokk is formed by an extensive bay which is entered between Ponta ta Delimara and Ponta ta Benghajsa, 1 mile WSW. The small towns of Marsaxlokk and Birzebbuga are situated, respectively, on the N and W sides of the bay.

Tides—Currents.—The tidal rise is negligible, being only 0.3m at springs.

A very strong current sometimes sets NE about 1 mile off the entrance to the bay. It is caused apparently when the SE winds last several days, but usually ceases after two days of W winds.

Depths—Limitations.—Saint Lucien Oil Terminal, lying close SE of Fort Saint Lucien, consists of a fueling dolphin and several mooring buoys. Tankers are generally limited to 177m in length and 9.6m draft.

A new container facility includes Terminal 1 South Quay, 200m long, with a depth of 8m alongside; Terminal 1 West Quay, 168m long, with a depth of 9.8m alongside; Terminal 1 North Quay, 640m long, with a depth of 13.8m alongside; Terminal 2 West Quay, 460m long, with a depth of 16.5m alongside; Terminal 2 North Quay, 500m long, with a depth of 17m alongside; and Terminal 2 East Quay, 435m long, with a depth of 12.8m alongside.

The inner side of the breakwater, with depths of 14 to 18m alongside, can accommodate bulk vessels and tankers up to 80,000 dwt.

A bulk terminal is being constructed (1994) within the port which will accommodate vessels up to 200,000 dwt.

Aspect.—A breakwater extends 0.4 mile NE from Ponta ta Benghajsa and is marked by a light at its head. A lighted buoy is moored about 0.3 mile NE of the head of this breakwater.

Benghajsa Reef, with a least depth of 5.5m, lies near the SE end of a spit which extends 1 mile SE from Ponta ta Benghajsa. The extremity of this spit is marked by a lighted buoy moored about 1.2 miles S of Ponta ta Delimara. Benghisa Patch, with a least depth of 5.2m, lies on the spit, about 0.3 mile offshore.

Fort St. Lucien, a prominent building, stands 1.2 miles NW of Ponta ta Delimara. A conspicuous church is situated 0.9 mile NNE of this fort. Hajaro Rock lies close SE of the fort and is marked by a beacon.

A conspicuous water tower stands close to Fort Benghajsa, which stands on the S side of Ponta ta Benghajsa, the W entrance point. Another conspicuous water tower stands 0.5 mile N of Fort Benghajsa and a prominent church is situated 0.7 mile NNW of it. Several radio masts stand NNW of Fort Benghajsa.

A signal station is situated at Fort Tas-Silg, which stands 1.3 miles N of Ponta ta Delimara.

Capuchin Convent, a large building with a conspicuous white house standing 0.2 mile WSW of it, is situated on a ridge, 0.8 mile NNW of Fort Saint Lucien. However, this convent cannot be seen from the approaches to the bay.

Zetjun Church, with a conspicuous red dome, stands 0.7 mile N of the convent.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. The pilot boards 0.7 mile S of Ponta ta Delimara Light.

Vessels should contact Valletta Port Control on VHF channel 12 or 16 at least 2 hours before arrival at the pilot boarding position, stating:

1. ETA at pilot boarding position.
2. Last port of call
3. LOA.
4. Breadth.
5. Gross tonnage.
6. Net tonnage.
7. Draft.
8. Freeboard.
9. Agent.
10. Cargo.
11. Vessel flag.

Vessels should call Valletta Port Control again when within 5 miles of the pilot boarding position.

Anchorage.—The bay, protected from all but S winds, affords good holding ground. The bottom consists of fine sand and mud lying between hard patches which are covered with weeds. Vessels unable to enter Valletta Harbors during periods of strong NE winds, shelter here to await favorable weather.

Small vessels usually anchor off the E shore, ESE of Fort Saint Lucien.

Large vessels sometimes anchor outside the port at Hurd Bank, about 11 miles E of Marsaxlokk. There are depths of 35 to 40m, but this anchorage is not sheltered, although contact with the harbor may be maintained.

Caution.—A wave recorder buoy is moored close S of Ponta ta Delimara. Vessels should move with great caution when in the vicinity of this buoy and should avoid contact with it at all times.

Several unlighted mooring buoys are situated within the bay.

14.16 Ponta ta Benghajsa (35°49'N., 14°33'E.), the SW entrance point of Marsaxlokk bay, is the SE point of Malta. From here, the coast curves generally NW for 12 miles to Ras ir Raheb, then N for 5 miles to Ponta tal Marfa. Deep water extends close inshore along most of this rugged section of coast, which is mostly formed of abrupt rock and sheer, steep cliffs.

Il-Minkba is located 3.2 miles W of Ponta ta Benghajsa. The coast between is clifty, but these cliffs are more precipitous and lighter in color than those farther to the W. Several prominent radio masts stand 0.5 mile N and 0.7 mile E of Il-Minkba. Torri tal Wied Zurrieg, a square tower 12m high, stands on the coast, 1 mile W of Il-Minkba.

Hamrija Bank, with depths of 5.5 to 18.6m, extends up to 0.5 mile from the shore, 2 miles W of Il-Minkba.

Ix-Xaqqa, a small cove, is entered 3 miles WNW of Il-Minkba. A continuous wall of steep cliffs, above which stands the highest part of the island, extends 6 miles NW from this cove to Ras ir-Raheb. A disused signal station, with several conspicuous radio masts standing 0.5 mile SE, is situated on the coast, 2.3 miles NW of Ix-Xaqqa.

Fomm-ir-Rih, a bay, is entered close N of Ras ir-Raheb. Its S side is faced with a prominent perpendicular cliff, 37 to 52m high.

Ghajn Tuffieha, a bay, is entered 1.5 miles N of Ras ir-Raheb. Il Qarraba, a prominent rocky promontory, forms the S entrance point. A watch tower stands at the head of this bay,

and several conspicuous hotel buildings stand close E and 0.2 mile N of it.

14.17 Filfla (35°47'N., 14°25'E.), a rocky islet, lies 2.5 miles offshore, 7 miles WSW of Punta ta Benghajsja. This islet is surrounded by above and below-water rocks and its sides are formed by cliffs up to 59m high.

Stork Rock, with a least depth of 6.7m, lies about 0.5 mile S of Filfla.

Small craft, seeking shelter from E winds, can find indifferent anchorage within the bays along the W coast of the island, but these bays are too small to afford any protection for ocean-going vessels.

Caution.—A prohibited area, with a radius of 1 mile, is centered on Filfla.

A countercurrent, which sets W at 0.5 to 1 knot, exists up to about 0.5 mile offshore along the S coast of Malta with fresh W or NW winds.

West Coast of Sicilia and Isole Egadi

14.18 Capo San Vito (38°11'N., 12°44'E.), low and flat, is the NW extremity of Sicilia and is frequently used as a landfall by vessels approaching from the W. The cape is the E extremity of a flat projection, of which the W side is almost vertical and the N side is formed by a steep slope. A light is shown from a structure, 40m high, standing on the cape. Torre Roccazzo, a prominent single story building, is situated 0.5 mile SSW of the light. During bad weather, heavy breakers are experienced to the N of the cape and large vessels should not approach within 1.5 miles.

Anchorage can be obtained, in a depth of 12m, sand, SE of the light and NE of Torre Roccazzo. The holding ground is good and the anchorage is safe, except during NE winds.

The W part of Sicilia is generally mountainous with short stretches of flat land and coastal plains. Extensive dunes frequently flank the coastal plains and rise gradually to regions of wide plateaus.

From Capo San Vito, the coast trends SW for 15 miles to Trapani, then 14 miles S to Marsala, and then 17 miles SE to Capo Granitola.

Between Sicilia and Isole Egadi, the currents are strong at times and set NE or SW with the NE current predominating during the summer.

Punta del Saraceno, the NW extremity of a rounded promontory, is located 6 miles SW of Capo San Vito.

Punta Pizzolungo is located 5.5 miles SW of Punta del Saraceno. Secca Bonangia, a shoal with a depth of 1.8m, extends up to about 1.3 miles NE from a point, 0.4 mile N of Punta Pizzolungo.

Isolotto Asinelli (38°04'N., 12°32'E.), a low and black rock, lies 1.5 miles W of Punta Pizzolungo. A light is shown from a structure, 6m high, standing on this rock.

14.19 Trapani (38°01'N., 12°30'E.) (World Port Index No. 40150), a harbor protected by breakwaters, is the principal port on the W coast of Sicilia.

Winds—Weather.—The harbor is exposed to all winds and is open to the W. In the spring, strong seasonal SE winds can make entry hazardous.

Tides—Currents.—The tidal rise is very slight. Currents are very weak, but the Marrobbio surges can cause sudden fluctuations up to 0.6 to 0.9m in the water level, but they are not considered dangerous.

Depths—Limitations.—The approach to Trapani is deep, with depths gradually shoaling to 14m off the W breakwater. A fairway, 90m wide, leads into the inner harbor. The harbor is subject to silting and a depth of 8.8m is maintained by frequent dredging. The main quay has 800m of total berthing space with a depth of 7.9m alongside. There are facilities for bulk vessels and pleasure craft. Vessels up to 202m in length and 7.8m draft can be accommodated.

Aspect.—The harbor is protected by a breakwater on its S side. A monument, illuminated at night, stands close E of this breakwater. A hospital is situated 0.5 mile S of the monument and consists of several low buildings, with red roofs and a tall chimney.

Scolio Palumbo, marked by a light, is the E of two small islets which lie in the approaches to the harbor and may best be seen on the chart. The N side of the fairway channel is marked by buoys.

Isola Egadi is described below in paragraph 14.24.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 12 or 16 and generally board about 1 mile W of the W breakwater.

Regulations.—Departing vessels have the right of way over vessels entering the port.

Vessels must not stop within 0.3 mile of the harbor entrance.

A Traffic Separation Scheme (TSS) has been established in the approaches to the port. The scheme is not IMO adopted.

Anchorage.—The roadstead is only free of strong winds during the summer.

Vessels may anchor only in the charted anchorage areas. Circular Anchorage Area A1 through A4 are located in the area between Torre Nubla and Tramontana Point on Lunga Island. Anchorage Area A3 is for use by ships carrying dangerous cargo.

Vessels must contact the pilot station on VHF channel 16 prior to anchoring to request assignment of an anchorage berth. Vessels at anchor must maintain a listening watch on VHF channels 12 and 16.

Caution.—It is dangerous to attempt to enter the harbor, during S and W winds, without local knowledge.

Vessels not bound for Trapani must remain at least 6 miles off the coast.

An area on the sea floor NE of Trapani should be avoided due to the presence of unexploded ordnance.

14.20 Punta Tramontana (37°54'N., 12°27'E.), located 7 miles SW of Trapani, is the N extremity of Isola Grande. This island has many salt pans on it and a marsh lies between it and the mainland. Punta Scario, the NW extremity of Isola Grande, is located 1.2 miles WSW of Punta Tramontana. A bank, with depths of less than 9m, extends from Punta Scario, and a lighted buoy marks its NW extremity.

Between Trapani and Marsala, the coast is low and level with numerous and extensive salt pans.

Windmills, used for grinding salt and pumping water, are a common characteristic of this area.

Capo Boeo (Capo Lilibeo) (37°48'N., 12°25'E.), located 5.5 miles S of Punta Scario, is low and surmounted by several prominent buildings.

14.21 Marsala (37°47'N., 12°26'E.) (World Port Index No. 40170), a small harbor, is located on the SW coast of Sicily. It is protected by three breakwaters.

Depths—Limitations.—The entrance is 200m wide. There is 490m of total commercial berthing space with depths of 4.5 to 6.5m alongside. Vessels up to 140m in length and 5.6m draft can be accommodated. There are facilities for small craft and yachts.

Aspect.—Prominent landmarks in the town include the gray dome of the cathedral and a 14-story building standing close NW of it. Lights are shown from the heads of the breakwaters.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 12, 14, or 16 and board about 1 mile from the harbor entrance.

Anchorage.—Anchorage can be obtained, in a depth of 11m, clay and weed, close outside the harbor, but local knowledge is required.

Caution.—The Marrobbio surges sometimes cause sudden and violent currents in this harbor.

It is dangerous to enter the harbor during a SE gale.

Vessels carrying noxious substances or dangerous or polluting cargo must maintain a minimum distance of 3 miles off the coast between Marsala and Capo Granitola

14.22 Capo Feto (37°40'N., 12°31'E.), located 9 miles SE of Marsala, is very low. The intervening coast and the cape are fringed with shoals, but they are mostly free of off-lying dangers. A light is shown from a prominent structure, 10m high, standing on the cape.

Caution.—Submarine gas pipelines, which extend SW to the coast of Tunisia, are landed at a point on the coast, 1 mile SE of Capo Feto. These pipelines may best be seen on the chart, and anchoring and fishing are prohibited in their vicinity.

14.23 Mazara del Vallo (37°39'N., 12°35'E.) (World Port Index No. 40180) lies 3 miles E of Capo Feto and is the only river port in Sicilia. Two moles and a detached breakwater protect the entrance of this small harbor.

Depths—Limitations.—The harbor is mainly used by fishing vessels. There is 580m of total commercial quayside with depths up to 5.6m. Vessels up to 90m in length and 5.5m draft can be accommodated. A yacht marina lies 0.7 mile E of the harbor and is protected by breakwaters.

Aspect.—The town is easily identified by the numerous and prominent cupolas and belfries of its churches. The most noticeable are the cupola of the cathedral which is 46m high and has a grayish-red belfry, 48m high, standing close to it; a church, with twin belfries, standing in the NW part of the town; and the belfry of a second church standing in the NW part of town which is isolated and surmounted by a pyramid.

A prominent white statue stands on the W side of the mouth of the river which flows through the town.

Pilotage.—Pilotage is compulsory for vessels of more than 500 grt. The port can be contacted on VHF channel 11 or 16.

Anchorage.—Anchorage, in a depth of 10m, rock and weed, is available, with local knowledge, SW of the harbor entrance.

Caution.—Due to the existence of submarine cables, an anchoring and fishing prohibited area extends up to 6 miles SW from a point on the shore, 1 mile SE of the harbor.

Isole Egadi and Off-lying Banks and Shoals

14.24 Isole Egadi (37°58'N., 12°10'E.) is a group of islands, islets, and rocks which lie off the W coast of Sicilia. This group consists of three principal islands, Isola Favignana, Isola di Levanzo, and Isola Marettimo; the islets of Maraone and Formica; and the rocks Porcelli and Asinelli. The islands lie on the insular shelf which extends W from the coast between Trapani and Marsala.

The currents in the vicinity of the islands are mostly caused by the wind. In the channel lying between the islands and the coast of Sicilia, the currents are strong and set NE and SW; the NE current predominates in the summer.

Strong W winds are sometimes preceded by a dense fog around Monte Falcone, which stands on Isola Marettimo, and sometimes raise a rough sea even close to the islet.

Caution.—A restricted area surrounds Isole Egadi. Due to the residual danger from obstructions and explosive ordnance, vessels are warned not to anchor, dredge, trawl, or carry out any bottom operations within this area.

The sea area surrounding the archipelago has been declared a marine nature reserve. Within the perimeter of the reserve several zones have been established each with varying restrictions. Contact local authorities for details.

14.25 Isola Marettimo (37°58'N., 12°03'E.), the W and most mountainous island of the group, lies 18 miles W of Sicilia. Monte Falcone, 686m, stands 1.2 miles SE of its NW extremity. Marettimo, the only village, is situated on the E side of the island and is fronted by a small boat harbor protected by two moles.

The waters around Isola Marettimo have been declared a marine nature reserve and numerous restrictions apply. The local authorities should be contacted for more information.

A light is shown from a prominent structure, 24m high, standing near the SW extremity of the island.

Secca Cretazzo, with a depth of 5.7m, lies about 0.3 mile S of the light and is usually marked by breakers.

Caution.—A prohibited area, with a radius of 1 mile, lies centered 5 miles SSW of Punta Bassano, the SE extremity of Isola Marettimo.

Another prohibited area is reported (1998) to lie centered in position 37°46.5'N, 11°58.5'E, with a radius of 1 mile, due to the presence of unexploded ordnance.

14.26 Isola di Levanzo (38°01'N., 12°20'E.), steep and rugged, lies 12 miles E of Isola Marettimo. Except at its NW and SE ends, the coasts of this island consist of steep cliffs. A light is shown from a prominent structure, 12m high, standing on Capo Grosso, the N extremity of the island.

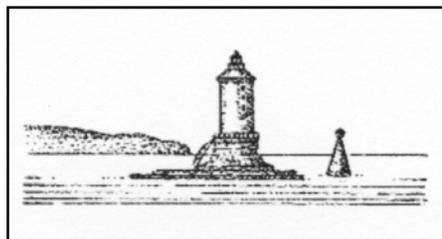
Banco del Pesci, with a depth of 23m, lies about 5 miles NW of Capo Grosso. An isolated shoal, with a depth of 19.1m, lies about 1.5 miles E of Capo Grosso.

Caution.—It is reported that unexploded ordnance lies in the waters close to Isola di Levanzo.

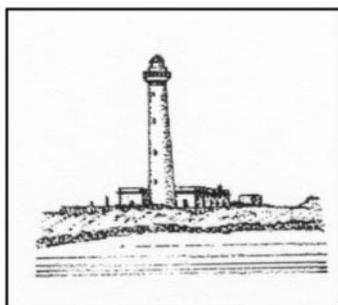
14.27 Isola Favignana (37°57'N., 12°19'E.), the largest island of the group, is located with Punta Faraglione, its N extremity, lying 2 miles SSW of Isola di Levanzo. A chain of hills extends S across the island from this point. The summit of this chain, 302m high, is surmounted by a fort with a signal station.

Favignana (37°56'N., 12°20'E.) (World Port Index No. 40160), a small harbor, lies on the N side of the island at the head of a bay. This harbor is mostly used by fishing vessels. However, it was reported (1994) that hydrofoils and small automobile ferries use a quay which is situated on the inner side of the breakwater.

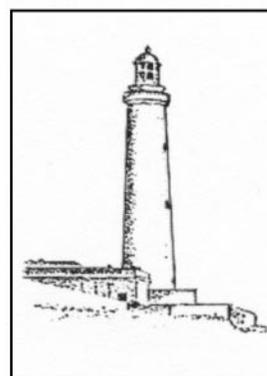
A light is shown from a prominent structure, 14m high, standing on Punta di Marsala, the SE extremity of the island. Another light is shown from a prominent tower, 38m high, standing on Punta Sottile, the W extremity of the island.



Scoglio Porcelli Light



Punta Sottile Light



Capo Granitola Light

14.28 Secca del Toro (37°53'N., 12°19'E.), an isolated rocky shoal, lies 2 miles S of Isola Favignana and has a least depth of 6.2m.

Isolotto Maraone, a low and barren islet, lies midway between Isola di Levanzo and the coast of Sicilia. A rocky bank, with depths of less than 5.5m, extends about 0.1 mile NW from the NW end of this islet and a dangerous wreck lies close SE of its SE end.

Isolotto Formica lies close E of Isolotto Maraone. A light is shown from a prominent tower, 20m high, standing on this islet. A large tower and a tunny factory are also situated on the islet. A small boat harbor lies at its S end.

A detached shoal, with a depth of 4.8m, lies about 0.3 mile E of the islet and several shoal patches, with depths of 16m and 17m, lie about 1 mile S and SE of the islet.

Scogli Porcelli is a group of rocks, awash, which lies about 3 miles N of Isolotto Formica. A light is shown from a tower, 25m high, standing on the rocks.

Banco San Giovanni, a detached shoal patch, lies about 1 mile SE of Scogli Porcelli and has a depth of 11m.

South Coast of Sicilia and Off-lying Banks

14.29 Capo Granitola (37°34'N., 12°40'E.) is wide, low, and fronted by rocks. A light is shown from a prominent tower, 35m high, standing on the cape.

From here, the coast trends ESE for 18 miles to Capo San Marco and then 24 miles SE to Capo Rossello. From Capo Granitola, the S coast of Sicilia extends 167 miles SE to Capo Passero, the SE extremity of the island. Generally, the low land fronting the sea is backed by low cliffs, hills, and low mountains. The coast is relatively free of off-lying dangers.

Caution.—Oil exploration is being carried out in the waters between the S coast of Sicilia and Malta; associated marks and structures may be encountered by vessels navigating in this area.

Unexploded ordnance is reported lie close to the S coast of Sicilia in many places.

14.30 Capo San Marco (37°30'N., 13°01'E.) is an irregular, red-dish projection on the summit of which, at an elevation of 95m, stands a prominent round white tower with some cottages near it. A depth of 9m lies within 1 mile of the tower on Capo San Marco.

The town of Marinella stands 10 miles WNW of Capo San Marco and is fronted by a small craft harbor.

Sciacca (37°30'N., 13°05'E.) (World Port Index No. 40190), a small harbor, lies 2.7 miles E of Capo San Marco and is protected by breakwaters. There are depths of 4.5 to 10m in the harbor basins, and they are mostly used by yachts and fishing vessels. The harbor can be contacted on VHF channel 16 and local pilots are available for vessels without local knowledge.

Caution.—A prohibited anchorage area, best seen on the chart, lies off Sciacca.

Capo Rossello (37°18'N., 13°27'E.) is a clifty and dark-reddish colored promontory. A light is shown from a structure, 7m high, standing on the cape.

Torre di Monte Rosso stands on a hill, 1 mile NW of the light. This tower is dark-colored with a rectangular superstructure.

14.31 Porto Empedocle (37°17'N., 13°32'E.) (World Port Index No. 40200), a small port, lies 4 miles E of Capo Rossello and is protected by breakwaters. It is the only harbor on the S coast of Sicilia which is sheltered from S winds.

Winds—Weather.—Strong SW and SE winds make entry into this harbor hazardous at times. Strong winds from the S to W sometimes cause a heavy scend to set into the harbor.

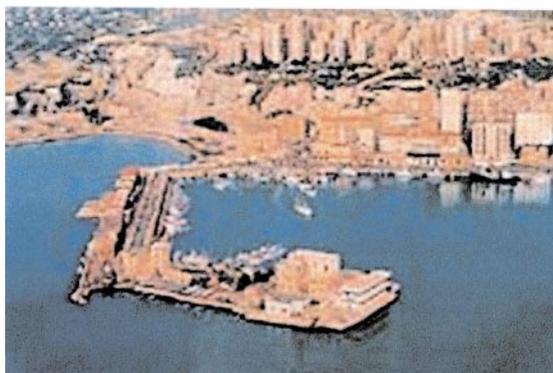
Depths—Limitations.—La Secca, a rocky shoal with a depth of 5.5m, lies 3 miles offshore, 5 miles SE of the harbor entrance.

The entrance channel has been dredged to a depth of 10.3m.

The N part of the outer harbor is shallow, but the S and SE part are dredged to a depth of 9.8m. The main commercial facilities include a quay, 500m long, with a depth of 7m alongside; and a quay, 600m long, with depths of 8.5 to 11.5m alongside. The harbor is mostly used by bulk vessels, ferries, and fishing boats. Vessels up to 132,285 dwt, 276m in length, and 8.5m draft can be accommodated.

Aspect.—Two conspicuous chimneys, 80m high, stand close W of the root of W breakwater.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. The port can be contacted on VHF channel 12 or 16. The pilot boards close outside the entrance.



Porto Empedocle

Anchorage.—Exposed anchorage can be obtained, in a depth of 12m, mud, good holding ground, about 0.4 mile SE of the harbor entrance.

Anchor Berth B1 (dangerous cargo and tankers) and Anchor Berth B2 (non-dangerous mixed cargo) lie, respectively, 1 mile WSW and 1 mile SE of the head of Molo di Ponente.

Caution.—Due to the existence of cables, anchoring and fishing are prohibited in an area, which may best be seen on the chart, extending 6 miles seaward in the vicinity of La Secca.

Numerous fish havens, best seen on the chart, have been established along the coast between Sciacca and Porto Empedocle.

An outfall extends S from the shore 1.1 miles W of Porto Empedocle.

An anchoring and fishing prohibited area is established 12.2 miles WSW of Porto Empedocle due to the presence of unexploded ordnance on the sea floor. The area is a circle, with a radius 1 mile, centered on position 37°12.4'N, 13°17.1'E.

14.32 Licata (37°06'N., 13°56'E.) (World Port Index No. 40210), a small port, lies close W of the Fiume Salso, 23 miles SE of Porto Empedocle.

Winds—Weather.—In this vicinity, the most dangerous winds are from the SE. During spring, fall, and winter, such winds are often accompanied by mist and rain or sand and dust. During winter, the strongest prevailing W winds frequently bring snowstorms.

Tides—Currents.—The currents vary with wind force and direction. In the outer harbor, the prevailing NW wind can cause a current which may set E at a rate of up to 3 knots.

Depths—Limitations.—The harbor is protected by two moles and a breakwater. A training wall extends E of the harbor and prevents silting in the berthing area. There is a depth of 6.4m across the bar. A main commercial quay, 190m long, has a depth of 6.1m alongside. Bulk vessels up to 110m in length and 6m draft have been accommodated alongside. In addition, there is 230m of berthing space for fishing vessels.

Aspect.—Conspicuous landmarks include several chimneys standing close N of the W mole; Castel Sant Angelo and a disused signal station, standing at the W end of the town; and the cupola of the Church of Sant Angelo, standing in the E part of the town.

San Giacomo Light is shown from a tower, 37m high, standing 0.5 mile SE of Castel Sant Angelo, near the root of the E mole.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. The pilot can be contacted on VHF channel 12. The pilot boards 0.7 mile S of the outer breakwater.

Anchorage.—Vessels can anchor, in a depth of 13m, mud and sand, good holding ground, SE of the E end of the breakwater. This anchorage is not recommended with SE and SW winds, due to the heavy seas raised.

Caution.—At night and during periods of strong W winds, the E entrance should be used. With SE winds and when leaving the harbor, the narrower W entrance should be used.

Silting is a problem in the vicinity of the harbor.

Fish havens, best seen on the chart, have been established SE and SW of the port.

14.33 Torre de Manfria (37°06'N., 14°08'E.), standing 9 miles ESE of Licata, is gray, quadrangular, prominent, and has windows on its SE side. A plateau, 67m high, is located between this tower and Gela, 5 miles ESE, and its seaward side falls steeply to a beach. The plateau is backed by hills, up to 300m high, which stand 1 mile inland.

Capo Soprano, located 1 mile W of Gela, lies at the NW end of a plateau, 47m high. Monte Formaggio, 640m high, stands 12 miles N of the cape and is conspicuous. A prominent water tank stands 1.2 mile NW of the cape.

Gela (Porto Isola) (37°04'N., 14°15'E.)

World Port Index No. 40220

14.34 Gela consists of a small craft harbor which is protected by breakwaters.

Porto Isola, an oil terminal, lies 1 mile SE of this small harbor and consists of a jetty, with two dry cargo berths; a detached breakwater, with six tanker berths; a pier, with two chemical berths; and an offshore buoy berth for tankers.

Depth—Limitations.—A jetty, 2,800m long, extends SW from the shore and has two dry cargo berths at its head. The berths are 180m long and have depths of 8.5m and 9.6m alongside. Vessels up to 41,000 dwt, 180m in length, and 9.4m draft can be accommodated.

The jetty is protected by a detached breakwater, 1,200m long, with six tanker and LPG berths. These berths are 70 to 250m long and vessels up to 88,000 dwt and 9.6m draft can be accommodated alongside.

A pier, 350m long, has two berths at its head and can accommodate chemical vessels up to 100m in length and 6.1m draft.

The offshore buoy berth lies about 1 mile S of the detached breakwater, and a submarine pipeline extends NE from it to the shore. Tankers up to 70,000 dwt and 12.8m draft can be accommodated.

Aspect.—A conspicuous oil refinery, with several flares, is situated close E of Gela. A church, with a prominent dome, stands in the W part of the town.

Pilotage.—Pilotage is compulsory for tankers and all vessels of more than 500 grt. Pilots can be contacted on VHF channel 6, 12, or 16. Vessels must send a request for pilotage at least 24 hours and again 2 hours prior to arrival. Vessels generally berth during daylight hours only, but can unberth by day and at night. The pilot boards 1 mile WSW of the W end of the breakwater or 1 mile SSE of its E end.

Anchorage.—Designated anchorages are, as follows:

1. Area A—Vessels less than 2,000 gross tons.
2. Area B—Vessels less than 2,000 gross tons
3. Area C—Vessels over 5,000 gross tons.
4. Area D—Vessels over 5,000 gross tons.
5. Area E—Vessels over 30,000 gross tons and bound for the ANIC Sea Berth.
6. Area F—Vessels less than 5,000 gross tons.
7. Area G—Vessels less than 5,000 gross tons.

Caution.—Two lighted oil production platforms, connected by a walkway, are situated 0.6 mile ENE of the detached breakwater.

The lighted oil production platform Perla is situated 7 miles S of Gela. A submarine pipeline extends NE from this platform to the shore. The lighted oil production platform Prezioso is situated 9 miles NW of platform Perla and is connected to it by a submarine pipeline.

Dangerous wrecks lie about 0.5 mile N of the W end of the detached breakwater and about 2.5 miles NE of platform Prezioso.

Anchoring and fishing are prohibited within areas extending up to 1.5 miles SW of the detached breakwater, extending up to 2 miles seaward of the oil refinery, and in the vicinity of any of the pipelines.

14.35 Scoglitti (36°53'N., 14°26'E.), a small town, is situated 14 miles SSE of Gela and is fronted by a small craft harbor, protected by two moles. A light is shown from a prominent structure, 13m high, standing in the town.

Capo Scaramia (Scalambri) (36°47'N., 14°30'E.), located 7 miles SSE of Scoglitti, is low, rocky, and fringed with rocks, some awash. A light is shown from a tower, 34m high, standing on the cape. A group of houses and a tower are situated close W of the light.

This cape should be given a wide berth. A stranded wreck is reported (1990) to lie about 1.5 miles W of the cape.

Punta Secca, a small craft harbor, lies close E of the cape.

Marina di Ragusa is situated 3 miles E of Capo Scaramia. This village is marked by a light and is fronted by a small pier.

Punta Religione, a rocky point with sandy shores, is located 5 miles ESE of Capo Scaramia and is surmounted by two prominent white buildings.

14.36 Pozzallo (36°43'N., 14°51'E.) (World Port Index No. 40230), a small town, is situated 3.2 miles ENE of Punta Religione and can be identified by a large tower, 30m high, and a tall chimney which stands close NE of it. A small harbor lies close SW of the town. It is protected by breakwaters and mostly used by fishing vessels.

A new harbor, consisting of an outer breakwater and an inner jetty, with 600m of berthing space, is situated close W of the town. The quay can accommodate vessels with a maximum draft of 9.3m. Pilotage is available and is compulsory for vessels of more than 500 grt. The pilot may be contacted on VHF channel 10.

Caution.—Due to the existence of submarine cables, an anchoring and fishing prohibited area, which may best be seen on the chart, extends up to 6 miles seaward of Pozzallo.

14.37 Vega Oil Field (36°33'N., 14°38'E.) lies centered 14.5 miles SW of Pozzallo. It consists of a lighted production platform, an SPM, a storage tanker, and interconnecting submarine pipelines. A racon is situated at the platform.

Isolotto Porri (36°41'N., 14°56'E.), marked by a light, lies 1.2 miles offshore, 4.8 miles SE of Pozzallo. It is the largest of a group of above and below-water rocks. Reefs, with depths of 7 to 11m, lie up to 0.8 mile SW, 0.7 mile S, and 1.3 miles SSE of the rock. A detached shoal patch, with a depth of 13.7m, lies about 1.7 miles S of the rock.

Caution.—A lighted target buoy, moored about 3.5 miles SSE of Isolotto Porri, marks a firing exercise area.

14.38 Isola delle Correnti (36°39'N., 15°05'E.) lies close offshore, 7.5 miles ESE of Isolotto Porri. A light is shown from a structure, 11m high, standing on this islet. It is connected to the mainland coast by a low and narrow isthmus which covers in bad weather. This islet shows up well from the E or W. Several detached shoal areas, with depths of less than 18m, lie 4.5 miles W and 3.5 miles S.

A dangerous wreck, in 12m of water, lies 0.6 mile SSW of the light; a rock, awash, lies 1.6 miles WNW of the light.

Capo Passero (36°41'N., 15°10'E.), located 4 miles NE of Isola delle Correnti, is the SE extremity of Sicily. It is marked by a light and is fully described in paragraph 15.62.

Caution.—Drill rigs are frequently encountered in Malta Channel between Capo Passaro and the Maltese Islands and are generally established over the width of its expanse.

Off-lying Banks

14.39 Adventure Bank (37°30'N., 12°00'E.) extends from a position lying 9 miles SW of Marsala, on the W coast of Sicilia, to a position lying 14 miles N of Isola di Pantelleria. It has general depths of less than 90m.

Talbot Shoal (37°30'N., 11°41'E.), a small shoal area, lies 48 miles W of Capo Granitola and has a least depth of 8.8m. A patch, with a depth of 44m, lies 5 miles S of Talbot Shoal. A small bank, with numerous pinnacles rising to depths of from 17.5 to 22m, lies about 4 miles E of Talbot Shoal.

Uncharted shoals have been reported (1986) and may exist in the vicinity of Talbot Shoal.

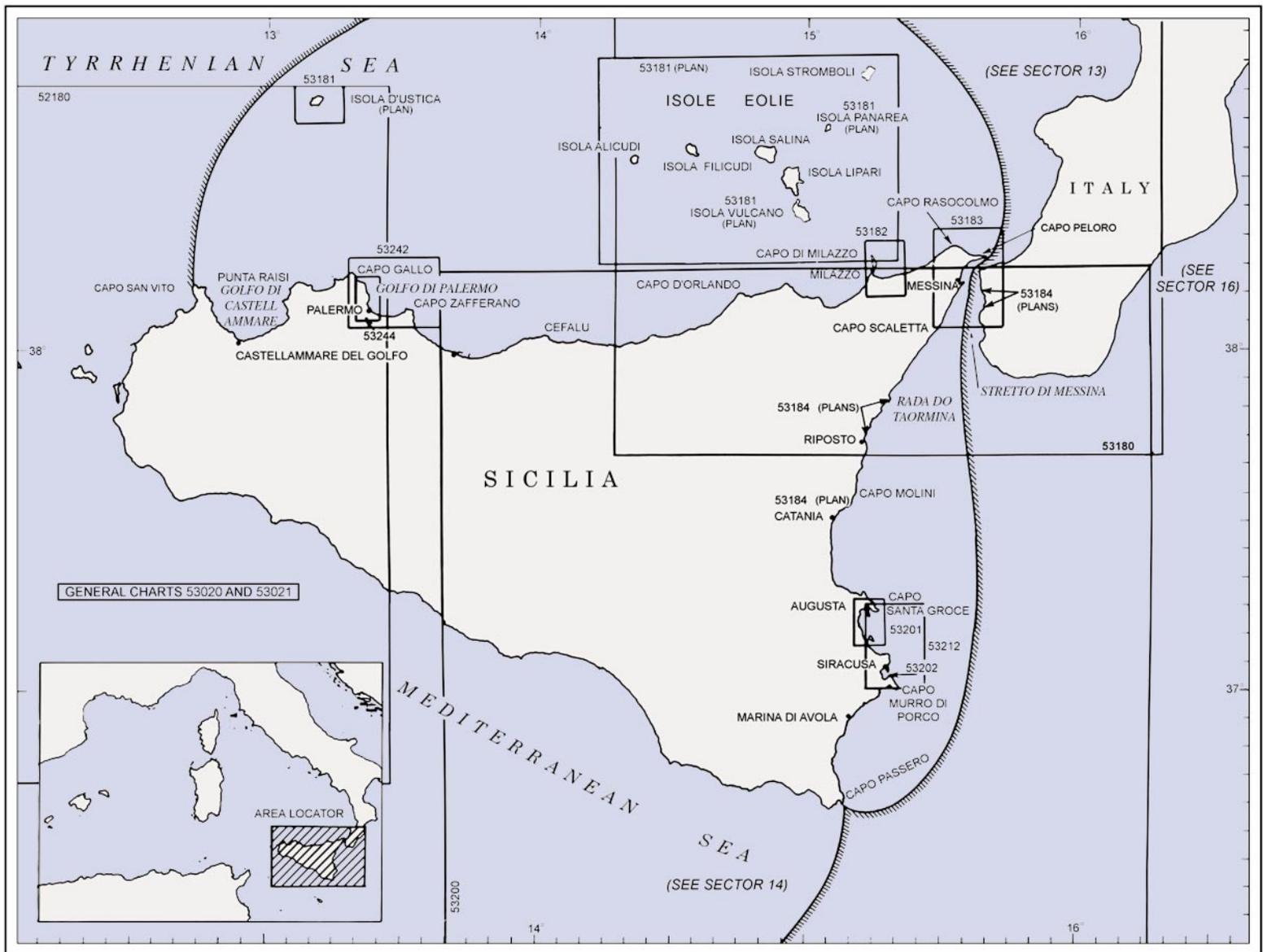
Pantelleria Shoal (37°10'N., 12°07'E.), with a least depth of 12m, lies on the S part of Adventure Bank, 25 miles SW of

Capo Granitola. It consists of rock and gravel. An isolated patch, with a least depth of 13m, lies about 9 miles NE of this shoal.

14.40 Graham Shoal (37°10'N., 12°43'E.), with a least depth of 6.9m, lies 24 miles S of Capo Granitola. It consists of coral and cinder and is the remains of a volcanic islet. The currents in the vicinity of this shoal are irregular both in direction and rate. They usually set SE, but a NE current, with a rate of 3 knots, has sometimes been experienced.

Terrible Bank (37°09'N., 12°53'E.), with a least depth of 20m, lies 8 miles E of Graham Shoal and 27 miles SSE of Capo Granitola.

Depths of 29 to 33m lie within 2 miles S of the shallowest part of this bank. A depth of 28m was reported (1980) to lie about 14 miles N of the shallowest part of Terrible Bank. A depth of 16.5m was reported (1977) to lie about 7 miles NNE of Terrible Bank, but its existence is doubtful.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 15 — CHART INFORMATION

SECTOR 15

ITALY—SICILIA (SICILY) AND STRETTO DI MESSINA

Plan.—This sector describes the N coast of Sicilia (Sicily) and its off-lying islands, from W to E; the NE coast of Sicilia and Stretto di Messina; and then the SE coast of Sicilia, from N to S.

General Remarks

15.1 Winds—Weather.—The Marrobbio, a phenomenon experienced most frequently along the SW coast of Sicilia, is common throughout this whole area. It usually occurs during undisturbed weather and produces waves or surges, sometimes isolated or sometimes in a series. These waves or surges cause sudden fluctuations of the water level, up to 1m, and set up dangerous currents in confined bays or harbors.

During the winter, between October and March, SW winds predominate off the N coast of Sicilia. These winds often blow with moderate gale force or they may be of a squally nature. During September and April, the winds usually blow from the NE or SE with approximately the same frequency. Winds from the NE prevail more frequently during the summer months. These winds are less constant than the S winter winds.

Land and sea breezes are well developed in summer. The sea breeze, known as Imbattu, springs up in the morning after 1000. It freshens during the day, reaches a maximum at 1400, and calms at sunset. The sea breeze freshens somewhat when it swings to the NW. If the sea breeze continues until about 2200, calms or light winds will generally prevail on the following day.

Squalls can be expected off the mouth of Fiumara d'Agro, on the E coast of Sicilia, during W or SW winds. Violent N or NW winds sometimes blow down from the valley located off the N side of Monte Etna. Storms from the NE, of a long duration, occur in the vicinity of Capo Schiso, especially during spring. Winds from the E and SE, often violent, predominate in the vicinity of Capo Molini. Winds from SE or NW, lasting for 2 or 3 days, usually occur in the vicinity of Golfo di Catania during winter. Winds from the NE and NW are more frequent during spring and summer. In September, violent SW winds, of a short duration, occur quite frequently. Strong SE winds, accompanied by heavy swells, frequently occur in October and November. Winds from the ENE and ESE prevail in winter in the vicinity of Siracusa and W or SW winds sometimes blow with violence.

Tides—Currents.—The currents in the vicinity of Sicilia are irregular and are generally influenced by the prevailing wind. Along the N coast, the current almost always sets W at a rate of 0.5 knot. Further offshore, the current flows E and then NW along the W coast of Italy. The inshore current appears to be stronger than the offshore one.

Strong currents are sometimes found among the islands of Isole Eolie. These currents are greatly influenced by the winds. During summer, with variable breezes, a general S set has been observed. This set is particularly noticeable in the vicinity of the W islands of the group. Currents of variable rates, up to a

maximum of 3 knots, have been observed setting E or W in the channel lying between the S island of the group and the N coast of Sicilia.

The currents off the E side of Sicilia usually follow the coast and set SW in the vicinity of Capo Schiso. Along the coast to the S of Monte Etna, a current sets S in summer and autumn at a rate of about 0.3 knot. This current is quite noticeable near the coast and extends from 1 to 1.8 miles offshore. Weak currents, mostly influenced by the winds, are found in Golfo di Catania and similar currents are found off Augusta and Siracusa.

Regulations.—Tanker vessels of 1,600 grt and over entering or leaving Italian ports and carrying, or with uncleaned tanks which last carried, petroleum, gas, or chemical products should report to a shore station before entering Italian territorial waters off Italian ports. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Caution.—Tunny nets are laid out annually between March and November close off many places along the N coast of Sicilia.

Sicilia—North Coast

15.2 Sicilia (Sicily) (37°50'N., 13°30'E.) is the largest and one of the most important islands in the Mediterranean. It is separated from the W side of the toe of the boot of Italy by the deep Stretto di Messina.

Capo San Vito (38°11'N., 12°44'E.), marked by a light, is the NW extremity of the island. It is fully described in paragraph 14.18.

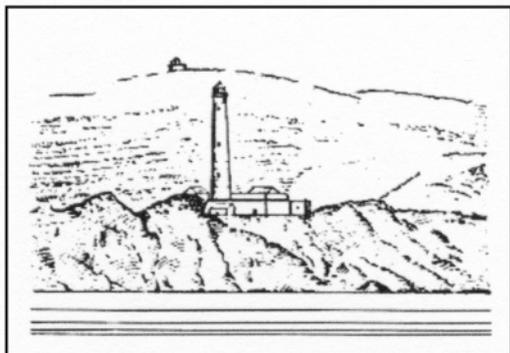
A small bay, with a sandy beach, indents the N side of the peninsula which stands between Capo San Vito and Punta di Solanto, 1.7 miles ESE. San Vito Lo Capo, a village, is situated at the head of this bay and is a fishing boat harbor, protected by breakwaters, lies close NW of it. The square structure of a fortress-like shrine, with a bell tower, is situated in front of the village and is prominent. An ancient and massive red-colored tower, partly in ruins, stands on the beach, close N of the village. However, it can only be seen from the W side of the peninsula.

Monte Monaco (38°10'N., 12°35'E.), 532m high with steep and rocky sides, stands 1.7 miles SE of Capo San Vito. It is located at the N end of a ridge that descends from Monte Sparagio, 1,110m high, which stands 7 miles further S.

15.3 Isola d'Ustica (38°42'N., 13°10'E.), lying 30 miles N of Punta Raisi, is of volcanic formation, fertile, and cultivated. A hilly ridge crosses the N central part of the island and rises to Monte Guardia dei Turchi, summit, which is 248m high. A radar station, consisting of a brown building topped by a large white sphere, stands on the summit and is visible from all directions.

The N slope of Monte Guardia dei Turchi descends steeply towards a wide level plain, 20m high, which trends towards the N coast. The S slope is less steep and several hills stand between the mountain and the S coast of the island. From a distance E or W, Isola d'Ustica appears as two islets lying close together.

Punta Cavazzi (38°41'N., 13°10'E.), a rocky point, is the SW extremity of Isola d'Ustica. A light is shown from a tower, 28m high, standing on the point.



Punta Cavazzi Light

The W coast of the island between Punta Cavazzi and Punta Gorgo Salato, 2 miles NE, is fringed by shoals. Punta dello Spalmatore, a long and sharp rocky tongue, extends about 0.3 mile N of Punta Cavazzi and its outer part is bordered by above-water rocks. A large and prominent tower stands at the inner end of this rocky tongue. During E or NE winds, small vessels, with local knowledge, can anchor, in a depth of 38m, rocky bottom, between Punta dello Spalmatore and Punta Cavazzi, and about 300m offshore.

Punta di Megna, a rounded projection, is located 0.7 mile NNE of Punta dello Spalmatore and is fringed by above-water rocks. A rocky patch, with a depth of 4.6m, lies about 0.2 mile W of this point. Scoglio del Medico, a large above-water rock, lies about 0.3 mile NNW of the Punta di Megna. The channel leading between this rock and the rocks fringing the point is deep and about 250m wide. During SE winds, small vessels, with local knowledge, can anchor, in a depth of 20m, off the NW side of the island in 20m, E of Scoglio del Medico, but the bottom is rocky.

15.4 Punta Gorgo Salato (38°43'N., 13°11'E.) is the N extremity of the island. Secca Colombara, a rock, lies about 0.4 mile N of this point and has a depth of 1.5m. Scoglio Colombara, a high rock resembling a tower, lies close inshore, 1 mile SE of Punta Gorgo Salato.

The NE coast of the island between Punta Gorgo Salato and Capo Falconara, 1.2 miles SE, is rugged and steep-to.

Punta Omo Morto is located 1 mile SE of Punta Gorgo Salato. A light and an auxiliary light are shown from a structure, 10m high, standing on this point. The coast in the vicinity of this point rises in a vertical, rocky wall to a height of 101m.

Capo Falconara (38°43'N., 13°12'E.), the E extremity of the island, is located 0.2 mile SE of Punta Omo Morto. Above this cape, at an elevation of 156m, stand the ruins of an old fort.

The SE coast of the island between Capo Falconara and Punta Licciardolo, 1.7 miles SW, is indented by several very small coves and is rather steep-to. Cala Santa Maria, a small cove, lies close SW of Capo Falconara. Ustica, a village with a number of prominent white houses, stands on a slope, at the head of this cove. A harbor for small craft, protected by a mole, fronts the village. A prominent tower is situated on a hill, 81m high, which stands close above the S entrance point of the cove. The tall and circular tower of a disused windmill is situated on a hill, 0.2 mile SSW of the tower. Anchorage can be obtained by small vessels, in a depth of 7m, sand and weed, within Cala Santa Maria, about 90m offshore. Larger vessels can obtain anchorage, in a depth of 37m, at the entrance to the cove. Local knowledge is required.

Punta Licciardolo (38°41'N., 13°10'E.), the S extremity of the island, is formed by a gently sloping point. The S coast of the island between this point and Punta Gavazzi, 1 mile WNW, is steep and clear of known off-lying dangers.

Caution.—The waters around Isola d'Ustica have been declared a marine nature reserve and special regulations apply. The local authorities should be contacted for further information.

An anchoring and fishing prohibited area, best seen on the chart, is located in the Cala Santa Maria.

A historic wreck lies close SE of the breakwater light in Ustica.

15.5 Golfo di Castellammare (35°05'N., 12°55'E.) lies between Punta di Solanto and Punta di Raisi, 16 miles E. Several villages are situated on the slopes of the mountains overlooking this gulf. In summer, the gulf is usually crowded with fishing boats and there are no offshore dangers. A prominent railroad runs along the S and E shores of the gulf.

Punta di Solanto (38°11'N., 12°46'E.) is low and flat. A light is shown from a structure, 5m high, standing 0.2 mile SSE of the point. A prominent tower, partly in ruins, stands close SE of the point. A tunny factory, consisting of a group of prominent white buildings dominated by a tall chimney, is situated 0.5 mile S of the tower. Tunny nets are laid annually from March to November in the vicinity of this factory.

The coast to the S of these buildings is very rocky, steep, and high. A square tower, partly in ruins, stands about halfway up the slope of a small promontory, 2.5 miles SSE of Punta Solanto. A tourist resort village is situated close N of the tower. The craggy coastline is interrupted, 1 mile S of the tower, by the short tip of a rocky spur which forms a sandy beach.

Torre Scopello (38°04'N., 12°49'E.), a white structure, stands on top of a rocky knoll. Two high rocks lie close off this knoll. A white tower is situated 0.5 mile inland and stands on a hill which shows prominently against the mountains in the background. A group of white buildings at a tunny factory stand close S of Torre Scopello. Tunny nets are laid out annually in the vicinity of Torre Scopello and off a small cove lying 3 miles N.

Puntazzo, a yellow and salient point, is located 1 mile SE of Torre Scopello. It is covered with olive trees and vineyards. A gray square tower, with a small gallery, stands among some

houses on the shores of an inlet, close SE of Puntazzo. A prominent white bridge stands at the head of this inlet.

Punta La Porta, a rocky point with a hole in it, is located 1.5 miles ESE of Puntazzo. An above-water rock lies close off this point. Tunney nets are laid out annually close SE of Punta La Porta.

Castellammare del Golfo (38°02'N., 12°52'E.) stands at the foot of Monte Inice. An ancient castle, shaped like a massive tower, stands on a rocky point in front of the town. A large cathedral is situated close inland and close S of the castle. Farther inland and at a higher elevation, a prominent church, which is flanked by two bell towers, faces the sea. A small craft harbor, protected by a breakwater, fronts the town.

Secca Cernia, with a depth of 6.9m, lies about 0.3 mile N of the head of the breakwater. Anchorage can be taken, in a depth of 11m, good holding ground, W of Secca Cernia or, in a depth of 16m, E of Secca Cernia. Local knowledge is required.

Caution.—A marine farm, marked by a lighted buoy, is located 2 miles NE of the town.

15.6 Between Castellammare del Golfo and Balestrate, a town 6 miles E, the coast is low, sandy, and backed by low hills. Alcamo Marina, a prominent beach resort, is situated 3 miles E of Castellammare del Golfo. Tunny nets are laid out annually between March and November off Alcamo Marina.

Balestrate (38°03'N., 13°00'E.) stands on a short rocky projection of the coast. A prominent bell tower, with a pyramid-shaped roof, is situated in the center of the town.

A chain of above and below-water rocks fronts the town. However, anchorage can be taken, in a depth of 11m, sand, about 1 mile seaward of these rocks.

Trappeto, a village, stands 2 miles ENE of Balestrate. The coast between is steep, rugged, and fringed by rocks, awash. A rocky area, with a least depth of 5.5m, lies about 0.3 mile offshore, abreast Trappeto.

15.7 Capo di Rama (38°08'N., 13°03'E.), 30m high and level, is surmounted by a tower, partly in ruins. A small cove lies between this cape and a small point, 2.3 miles NE, and is used by fishing boats.

Terrasini is situated 1.5 miles NE of Capo di Rama. It stands on a rocky shore which is broken in several places by short, steep beaches. A tall tower stands on a small promontory, close W of this town. A prominent and large church, facing seaward and flanked by two bell towers, stands in the center of the town. The town is fronted by a small craft harbor which is protected by a mole. Anchorage can be obtained outside the harbor where the depths are deep and regular, sand and weed, good holding ground. Small vessels can remain at anchor sheltered from all but NW winds.

Cinisi, a village, is situated close E of Terrasini. It stands on a lower slope of Monte Pizzo di Mezzo, which is 850m high. A large yellow church stands near the center of the village and is conspicuous from seaward.

Punta Molinazzo (38°10'N., 13°05'E.), located 1 mile N of Terrasini, is low, rocky, and fringed by rocks. A large, isolated, and rectangular tower stands on the SW end of this point.

Between Punta Molinazzo and Punta di Raisi, 1.7 miles NE, the coast is low and rocky. Several rocky shoal areas, with



Punta Molinazzo

depths of 3 to 5.5m, lie up to 0.5 mile offshore along this stretch of shore.

Punta di Raisi (38°11'N., 13°07'E.), the E entrance point of Golfo di Castellammare, is low and rocky. An airport, with a control tower, is situated in the vicinity of the point and is conspicuous. It is reported (1994) that an aeronautical light is shown from the control tower. A tall tower, in ruins, stands close E of the point. Several ancient walls and a few houses are situated near this tower, and a shallow inlet indents the coast close E of it. A tower, similar to the above tower, stands near the head of this inlet. Torre Muzza, partly in ruins and reddish, stands on the end of a small and rocky promontory, 2.5 miles E of Punta di Raisi.

Punta del Passagio (38°12'N., 13°14'E.) is located 6.4 miles ENE of Punta Raisi. A tower, dark reddish, stands on a hill, 191m high, near the point.

Between Punta di Raisi and Capo Gallo, 10 miles ENE, the coast is mostly steep-to, slightly indented, and backed by high, rugged mountains.

Isola delle Femmine, 35m high, lies on a shoal spit which extends about 1 mile NNW from Punta del Passagio. This small island is surmounted by a prominent square tower.

15.8 Baia di Carini (38°11'N., 13°11'E.) is entered between Torre Muzza and Isola delle Femmine, 4 miles ENE. This bay is clear of dangers and is quite deep in its outer part. The shores are level and covered with citrus groves. Several tall and brick-colored chimneys stand among the groves.

Carini is situated 2 miles inland, 3 miles SSE of Torre Muzza. The town stands at the back of a small hill which is joined to the mountains of the interior by a saddle. Capaci, a small town, is situated 0.7 mile inland, 2 miles S of Punta del Passagio. A tower, surrounded by a high wall, stands 0.2 mile inland, 3 miles E of Torre Muzza.

Anchorage can be taken, according to the direction of the wind, either SE of Torre Muzza or in the E part of Baia di Carini. The holding ground of sand is good in both anchorages. The bottom in the middle of the bay is rocky.

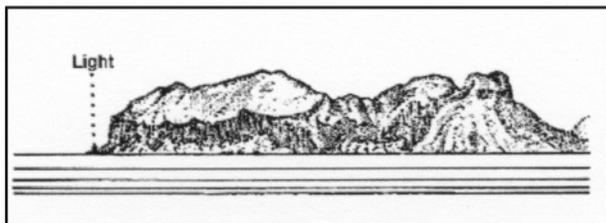
A light-colored smokestack, topped by a pole with a weather vane, identifies the village of Isola delle Femmine, which is situated close S of Punta del Passagio. A small shipyard stands on the W side of Punta del Passagio. A small harbor, used only

by fishing boats, lies on the E side of the point and is protected by a jetty which is partly in ruins.

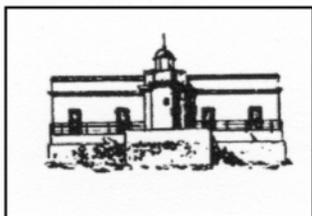
Sferracavallo (38°12'N., 13°16'E.), a resort town, is situated 2 miles SE of the village of Isola delle Femmine. It is built along the rocky shores of a small cove and is conspicuous. A sandy beach lies at the head of the cove.

15.9 Capo Gallo (38°13'N., 13°19'E.) is the N extremity of a mountainous promontory. From a distance it appears as an island. A light is shown from a tower, 7m high, standing in front of a low building on the cape. A disused signal station stands 0.5 mile SW of the light.

A dangerous wreck lies about 1.8 miles E of Capo Gallo.



Capo Gallo bearing SE



Capo Gallo Light

Between Capo Gallo and Punta di Mondello, 1 mile SSE, the coast is formed by the steep side of a mountain. A small breakwater, partly in ruins, extends 100m ESE from a point located about midway between the cape and Punta di Mondello. An old and cylindrical tower stands on Punta di Mondello.

La Barra (38°17'N., 13°23'E.), a sand and coral bank, lies 4.5 miles NNE of Capo Gallo and has a least depth of 65m.

Baia di Mondello is entered between Punta di Mondello and Punta Celesi, 1 mile SSE. A wide beach, backed by a plain, forms the shores of this bay. A tower, partly in ruins, stands in the village of Mondello, which is situated on the NW shore of the bay. A small pier fronts the village. A prominent building, with a roof of many gables, stands at the head of the bay. There is a mole, 100m long, extending N from Punta Celesi and a prominent crane stands on it.

Punta Priola is located 1 mile ESE of Punta Celesi. An old and disused shipyard, with several large symmetrical buildings and four slipways, lies 0.3 mile W of Punta Priola and is now

used as a marina. A long jetty, partly in ruins, projects from the coast in the vicinity of this marina.

Caution.—Due to the existence of submarine cables, an anchoring and fishing prohibited area, which may best be seen on the chart, extends seaward from the shore between Punta Priola and Capo Gallo.

15.10 Golfo di Palermo (38°08'N., 13°25'E.) lies between Punta Priola and Capo Mongerbino, 8.3 miles SE. The shores of the gulf are backed by rugged mountains with fertile and cultivated valleys.

Monte Pellegrino (38°10'N., 13°21'E.), 600m high, rises S of Punta Priola and dominates the coast in this vicinity. The mountain is steep, barren, dark reddish, and surmounted by a disused signal station. A small tower, in ruins, stands on the shore, 1 mile SSE of Punta Priola.

Punta Arenella (38°09'N., 13°23'E.) is a rocky point surmounted by a round and orange-colored tower, 18m high. A prominent group of buildings stands behind the tower and a prominent establishment, with a black-colored chimney, is situated close N of it. A pier, with a depth of 5m alongside its head, extends from this establishment and a prominent crane stands on it.

Castello Utveglio, a conspicuous red building, stands 1 mile W of Punta Arenella. A pleasure craft basin, protected by a mole, lies close SSW of Punta Arenella and an extensive yacht harbor lies 0.6 mile S of the point.

Monte Cuccio, 1,050m high, stands 4 miles W of Palermo and is surmounted by a small church. A large fortress is situated, at an elevation of 762m, on a flat mountain ridge, 2 miles S of Monte Cuccio.

Porto di Palermo (38°08'N., 13°22'E.)

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15.11 Porto di Palermo lies in the SW corner of Golfo di Palermo, 1 mile S of Punta Arenella. The main commercial harbor is protected by breakwaters and Porto Industriale, with repair facilities, a shipyard, and drydocks, lies immediately to the N.

Winds—Weather.—During the winter between October and March, winds from the SW and NW are dominant in the gulf. However, storms from the NE sometimes occur in these months. Squalls from the SE occur occasionally during the spring months. Fog is not prevalent but does occur sometimes during the spring.

Tides—Currents.—The tides are negligible, being only 0.3m at springs. The mean sea level in this gulf may fall as much as 0.5m below normal during February, March, and April.

The currents in the gulf are weak and are influenced mostly by the winds. There is very little current within the harbor.

Depths—Limitations.—The outer harbor has depths of 14 to 30m. The main commercial facilities include Puntone Quay, 400m long, with a depth of 14m alongside; Quattroventi Quay, 235m long, with a depth of 8m alongside; St. Lucia Pier, with 230m of total berthing space and depths of 8 to 10m alongside; Marinai Quay 1, 115m long, with a depth of 11m alongside; Marinai Quay 2, 110m long, with a depth of 12m alongside;

Piave Pier, with 737m of total berthing space with a depth of 12m alongside; Veneto Pier, with 717m of total berthing space with depths of 8 to 12m alongside; and Sammuzzo Quay, 350m long, with a depth of 8m alongside.

There are facilities for ro-ro, bulk, and container vessels. Generally, vessels up to 250m in length and 13.4m draft can be accommodated.

In addition, there are extensive repair facilities and several drydocks which can handle vessels up to 400,000 dwt.

The port is being developed (1994) in order to be able to handle vessels up to 16.4m draft. There are reports (2002) of container terminal expansion plans.

Aspect.—Palermo can be identified by the prominent mountains surrounding it. Prominent landmarks include the dark dome of the theater standing in the center of the city; the cathedral, with a black dome, situated close S of the theater; the astronomical observatory, standing near the cathedral which consists of a massive, light-colored building topped by a small white dome; and a red tower which stands close W of the theater and rises above the firehouse.

A long, vertical row of conspicuous lights mark an aqueduct which is situated in the hills, in the SE part of the city. It is reported that the loom of the city lights can be seen from a distance of about 8 miles, but at midnight many of these lights are turned off.

It is reported (1990) that the cranes at the shipyard in the N part of the port are conspicuous from seaward.

A light is shown from a structure standing on the elbow of the outer breakwater. A racon is situated at the light.

Pilotage.—Pilotage is compulsory for vessels of 500 grt or over. Pilots can be contacted on VHF channel 11, 12, or 16 and generally board about 1 mile from the harbor entrance. In bad weather the pilot boat leads vessels into the harbor.

Regulations.—No vessel is permitted to enter, leave, or move within the port during the 30 minutes preceding the arrival or departure of the mail steamers. The normal times of this prohibition are 0645, 0830, and 2030 daily, but these times are approximate and others may occur.

Anchorage.—Vessels can anchor, in depths of 46 to 64m, between 0.5 and 1 mile off the harbor entrance. The holding ground is good, but this roadstead is open to N and E winds.

Caution.—Two prohibited areas, best seen on the chart, are located along the S side of the Golfo di Palermo. Both enclose outfalls marked by lighted buoys.

15.12 Punta del Corsaro (38°06'N., 13°26'E.), a rocky projection, is located 3.2 miles SE of Palermo and is surmounted by a prominent tower with a white vertical stripe on its N side.

AGIP-Esso Oil Terminal (38°06'N., 13°25'E.) lies in the vicinity of Punta del Corsaro and is formed by two offshore berths. These berths consist of several mooring buoys, are marked by lighted buoys, and are connected to the shore by submarine pipelines. Vessels moor with their sterns to the buoys. The AGIP Berth, situated 1 mile W of the point, can accommodate vessels up to 25,000 dwt, 185m in length, and 9.7m draft. The Esso Berth, situated close E of the point, can accommodate vessels up to 15m draft with no limitation of length.

Bagheria (38°05'N., 13°30'E.) is situated 4 miles ESE of Punta del Corsaro. This town can be easily identified by several

conspicuous buildings and tall chimneys. A short tower stands close SE of Bagheria. Aspra, a small village, is situated on the coast close N of Bagheria. It is dominated by a tall and pointed bell tower. Anchorage can be obtained, in depths of 16 to 18m, good holding ground, anywhere between the oil terminal at Punta del Corsaro and the village of Aspra remaining clear of the charted sewer.

Capo Mongerbino (38°07'N., 13°31'E.), the E entrance point of the gulf, is the NW extremity of the promontory formed by Monte Montalfano, 376m high, which stands 1.2 miles SE of the cape. It is fronted by two above-water rocks.

15.13 Capo Zafferano (38°07'N., 13°32'E.), located 1.5 miles ESE of Capo Mongerbino, rises to a rocky and conical hill, 223m high. This cape appears as an island when seen from the NW or SE, as the land between it and Monte Catalfano is low. A light is shown from a structure, 11m high, standing on the cape. A small tower, in ruins, is situated near the summit of the cape. An islet, 6m high, lies close N of the N extremity of the cape.

Between Capo Zafferano and Capo Grosso, 5.8 miles SSE, the coast is rocky and indented by two small coves.

Porticello, a prominent village, stands 1.5 miles S of Capo Zafferano and is fronted by a small craft harbor which is protected by two moles.

Secca di Chianca, a rocky area, lies about 1 mile SE of Capo Zafferano and has a depth of 11m. Scoglio Formica, a rock awash, lies on a small shoal about 1 mile E of Porticello.

Caution.—An area prohibited to anchoring and fishing lies centered in position 38°05.3'N, 13°33.6'E and has a radius of 150m.

15.14 Torre Solanto, formed by a prominent castle, stands on an unnamed cape, 1 mile S of Porticello. Porto di Spagna, a small bay, is entered close S of this cape. Anchorage, sheltered from W winds, can be taken, in depths of 12 to 14m, mud and sand, in the middle of the entrance of this bay. Anchorage berths, designated A1, A2, A3, B1, and B2, are located E and SE of the tower and are positioned, as follows:

Berth	Position
A1	38°04'20"N, 13°33'21"E.
A2	38°03'56"N, 13°33'39"E.
A3	38°03'38"N, 13°34'03"E.
B1	38°02'56"N, 13°34'33"E.
B2	38°02'38"N, 13°34'51"E.

Casteldaccia (38°03'N., 13°32'E.), a small town, stands 1.5 miles SSW of Torre Solanto and is prominent from seaward. A large, gray church is situated in this town. Altavilla Milicia, a village with a prominent church, stands on the brow of a flat-topped hill, 1 mile SE of the town. The hill is covered with olive trees. Torre Colonna, low and square, stands near the coast, 2 miles ESE of Altavilla Milicia.

Capo Grosso is surmounted by a square tower and a prominent tourist resort is situated in this vicinity.



Capo Zefferano Light

San Nicolo l'arena (38°01'N., 13°37'E.), a small village, is situated 1 mile SE of Capo Grosso. A prominent castle, with a tower, stands in front of this village, and a conspicuous cemetery is situated 0.6 mile ESE of the tower. The village is fronted by a small craft harbor which is protected by moles.

15.15 Termini Imerese (37°59'N., 13°42'E.) (World Port Index No. 40120), a small harbor, is protected by a breakwater and a rubble jetty.

Winds—Weather.—The harbor is sheltered from N and W winds. At times, strong SW squalls descend from the mount-

ains, but these do not raise heavy seas in the harbor. The harbor is open to the E and is sometimes unsafe during strong SE and E winds.

Tides—Currents.—Currents in this vicinity usually set W at varying rates. Strong W winds may cause an E set and strong currents have been reported to set SE along the outer side of the breakwater and then enter the harbor.

Depths—Limitations.—The harbor is protected on its N side by a breakwater which extends 0.7 mile E from the coast at the N end of the town. It is protected on the S side by Molo Sottoflutto, which extends 0.3 mile ENE from the shore. A



Capo Zefferano Harbor

depths of 7m lies in the entrance channel, but the harbor is liable to silt up. There is over 800m of total quayage within the harbor and small vessels up to 80m in length and 6m draft can enter.

Aspect.—Termini Imerese is prominent and is built on terraces on the side of a rather steep slope. Monte Santo Calogero stands 3 miles SSE of the town and its slopes are covered with olive groves. Its summit, 1,325m high, appears as two peaks when seen from some directions. A cathedral, with a conspicuous bell tower, is situated near the N end of the town. Another bell tower stands in the NW part of the town near some steep cliffs.

Other prominent landmarks include the large building of the hot baths standing below and E of the cathedral; the red-roofed yellow buildings of the prison standing in the mountains to the S of the town; a low hospital building, with a small bell tower, situated in front of the prison; the two tall chimneys of a sulfur refinery situated at the root of the breakwater; and the low railroad station, with a big shed in front of it, standing on the beach near the SE end of the town.

A circular-shaped conspicuous church, with a red dome-like roof, stands SE of the town. Another conspicuous church, hexagonal-shaped with a pointed roof, stands farther to the E at a point where the coastal road leads to the mountains. The white supporting wall of this road is also conspicuous from seaward.

Pilotage.—Pilotage is compulsory for vessels berthing at the ENEL pier. There is a local pilot at Termini Imerese and vessels without local knowledge are advised to make use of his services. Vessels of more than 500 get must employ the berthing assistance offered. The port can be contacted on VHF channel 14 or 16.

Vessels must contact the port on VHF channel 16 prior to anchoring.

The bottom is formed of soft mud, but the roadstead is fully exposed to E winds.

Anchorage.—Anchorage berths have been designated from NE to NNW of the port, as follows:

Berth	Position
A1	38°01'06"N, 13°46'12"E.
A2	38°00'00"N, 13°44'49"E.
A3	38°01'24"N, 13°44'06"E.
A4	38°00'54"N, 13°41'24"E.
B1	38°01'48"N, 13°40'00"E.

Caution.—Anchoring prohibited areas, which may best be seen on the chart, extend up to about 2 miles N from the coast in the vicinity of Termini Imerese.

15.16 Fiume Torto (37°58'N., 13°46'E.) enters the sea 3.1 miles E of Termini Imerese. The shore between is fronted by a sandy beach. The mouth of the river can be easily recognized by a bridge and two large buildings.

Pontile ENEL oil pier extends 1 mile N from a point on the shore, 0.8 mile W of the river mouth. Three conspicuous chimneys, 70m high, stand near the root of this pier. Three high buildings and two large tanks are situated in this vicinity and are also conspicuous.

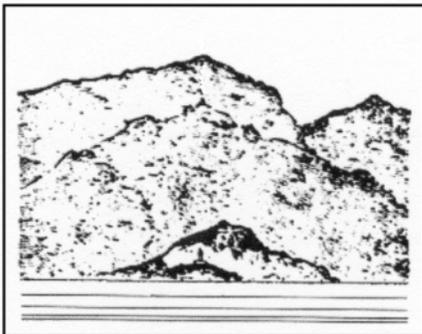
Between Torre Battilamano and Capo Plaia, 7.5 miles ENE, the coast is low and sandy. Torre Roccella, a high structure with ruins in front of it, is situated 3.5 miles SW of Capo Plaia. The village of Campofelice stands on a flat and green spur of the mountains, close S of the tower.

Torre Battilamano (37°59'N., 13°49'E.), a low tower which is attached to the W side of a building, stands on the beach, 2 miles E of Fiume Torto. The mouth of Fiume Grande, which is spanned by a prominent masonry bridge, lies close E of this tower.

Capo Plaia is low, flat, and covered with olive trees. A small village, standing in a valley just SW of the cape, is very prominent. A prominent hotel and another white building are situated near the village.

A tower, in ruins, stands on a rocky knoll that juts out from the coast, 2.5 miles E of Capo Plaia. A small church, with a red roof, stands isolated on the shore, close E of the cape.

15.17 Capo Cefalu (38°02'N., 14°02'E.) is the low and rocky extremity of a slight projection which rises to a prominent hill, 269m high. This hill is conical in shape and is surmounted by the ruins of a castle. A wide and low saddle separates this hill from the mountains close inland. A light is shown from a structure, 26m high, standing on the cape.



Capo Cefalu from N

Cefalu, a small town, stands on the W side of the prominent and conical hill. A cathedral, flanked by two bell towers ending in pyramidal tops, dominates the town. A small craft harbor lies on the E side of the cape and has a pier which is used as a hydrofoil terminal.

A submarine pipeline, 0.8 mile in length, extends NE from the end of Capo Cefalu. It is marked at its extremity by a lighted buoy.

Between Capo Cefalu and Punta Finale, 5.5 miles E, the coast is indented by an exposed bay. Heavy squalls blow down from the mountains which back this bay. A tower, partly in ruins, stands on a rocky point, 0.5 mile SE of the cape. A small inlet, which affords shelter to small craft during SW winds, lies between the cape and the tower.

Between Punta Finale and Punta Caronia, 13 miles E, the coast is rocky and steep-to. Punta Finale is a small and rocky promontory with reddish sides. Three towers, partly in ruins, stand on this point. Pollina, a prominent mountain village, stands 2.5 miles S of the point. A prominent tower is situated in the W part of this village. The village of Finale, with a partly-ruined tower in front of it, is situated close SE of the point and is conspicuous from seaward.

The opening of a wide valley, in which Fiume di Pollina flows, lies close E of Finale. The mouth of this river is crossed by a bridge with five arches. Three rocks, one of which is high and prominent, lie close to the coast, 3 miles ESE of Punta Finale. A conspicuous tower stands on the shore, close W of these rocks.

Castel di Tusa (38°00'N., 14°15'E.), a village fronted by the ruins of a castle, stands on a rocky projection, 5 miles E of Punta Finale. Tusa, a small town, is situated 1.8 miles S of the village. A bell tower, with a pointed top, stands in the middle of the town.

Fiume di Tusa, the mouth of which is spanned by a many-arched bridge, flows into the sea, 1 mile E of Castel di Tusa. A tower, with a group of houses close to it, stands 2.5 miles E of the river mouth. A factory, with a very tall chimney, is situated close E of the tower and a tract of sandy beach lies near it.

Fiume di Santo Stefano (38°01'N., 14°19'E.) flows into the sea, 4.5 miles WSW of Punta Caronia. Its mouth is spanned by two prominent bridges. Santo Stefano di Camastra is situated close E of the river mouth and stands on a small hill which is covered with olive trees and vineyards. A conspicuous refinery, with a square chimney, is situated 1 mile E of the town.

15.18 Punta Caronia (38°02'N., 14°25'E.) is low, rounded, and backed by a deep valley. The point is covered with white gravel and is intersected by the mouth of Torrente di Caronia. Caronia stands on the slopes of a hill, 302m high, 1 mile SE of the point. A prominent castle stands in this town.

Between Punta Caronia and the mouth of Torrente Furiano, 6.5 miles E, the coast is formed by a stony beach. Rocks, some of which are large, front this stretch of shore. A small tower, attached to the N side of a building, is situated 1.8 miles SW of the river mouth.

A stony beach extends between the mouth of Torrente Furiano and the town of Torrenova, 6 miles ENE, and is backed by a series of narrow valleys through which mountain streams flow. Monte San Fratello, 718m high, rises behind the coastal hills. It appears as a large and cylindrical tower. The town of San Fratello stands at a height of 675m behind the summit of this mountain. A cathedral, with a prominent bell tower, is situated in the middle of the town which is visible from the W, but from some directions is hidden by the mountains.

Aquedolci, a village, stands on the coast, 1.5 miles E of the mouth of Torrente Furiano. A large church, with a bell tower, dominates this village. A conspicuous tower, with a square tower at its E side, stands at the E end of the village.

15.19 Santa Agata di Militella (38°04'N., 14°39'E.) is dominated by a conspicuous church with a pointed and reddish bell tower. A long building, with a slender chimney, stands close W of this town and is conspicuous. A cone-shaped rocky peak rises close ESE of Santa Agata di Militella. San Marco d'Alunzio, a village with several bell towers, surmounts a round-topped mountain, 548m high, 3 miles E of the town.

A dangerous wreck lies about 1 mile offshore in the vicinity of Santa Agata di Militella.

Torrenova, a small village, stands at the foot of the mountain on which the village of San Marco d'Alunzio is situated. The railroad station and the bell tower of this village are prominent. Between Torrenova and Capo d'Orlando, 5.5 miles NE, the coast is formed by a sandy beach which is backed by high mountains.

Caution.—Submarine cables extend seaward from the vicinity of Santa Agata di Militella and may best be seen on the chart.

Isole Eolie (Isole Lipari)

15.20 Isole Eolie (Isole Lipari) (38°30'N., 14°55'E.) is a group of seven main islands and a number of smaller islets and rocks which lie within 35 miles of the E part of the N coast of Sicilia. All of these islands are of volcanic origin, with Isola Vulcano and Isola Stromboli still active. The islands are high, steep-sided, and rocky. They are also fertile, but a large part of the soil is too rocky to be cultivated.

The islands are steep-to and the dangers in the vicinity are described with each particular island.

Caution.—Extensive fishing operations are carried out in the vicinity of Isole Eolie. Each boat carries a light at night, but often these lights are not shown until the near approach of a vessel. During April, May, and June long-net fishing takes place E of Isola Lipari, Isola Salina, and Isola Vulcano, between 38°22'N and 38°32'N, and within 5 miles of the coasts of these islands. Vessels should avoid this area during the fishing season. From the middle of April to the middle of July, fishing takes place on a large scale in the area to the NE of Isola Stromboli. During this period, vessels should pass not less than 5 miles to the E of the island.

15.21 Isola Alicudi (38°33'N., 14°21'E.), the W island of the group, is a rounded cone, and at the summit of Montagnola, attains a height of 625m. The volcano is no longer active and its crater is almost inaccessible. The W side of the island is steep, rugged, and uninhabited. The E side slopes and consists of cultivated plateaus and rounded hills on which stand some houses and a church. A light marks the SE side of the island.

15.22 Isola Filicudi (38°35'N., 14°33'E.) has a summit that appears conical in shape from offshore. The W and N sides of the island are steep, rocky, and barren. The S and E sides are less steep and have cultivated areas with scattered farm houses. Monte Fossa Felci, the summit of the island, is 774m high.

The depths around this island are deep, except off the NE side and off a point located on the W coast where rocks and shoals lie very close inshore. Scoglio Galera, a low and black rock, lies close off the middle of the W side of the island. There are no suitable anchorages for large vessels off the island.

Capo Graziano, the SE extremity of the island, is formed by a small peninsula. Its outer end consists of a rounded summit, 174m high, and its inner part is low and cultivated. From seaward, the extremity of this cape appears as a large rock which is separated from the island. A concrete pier, 50m long, is situated near the cape and has a depth of 5m at its head.

Punta Stimpagnato, the SW extremity of the island, is located 2 miles W of Capo Graziano. The coast between is cultivated. This point is formed of steep rocks which are cut in vertical prisms and topped by sharp pinnacles. A village stands close E of the point, on the sides of a deep-walled valley which descends from the summit of the island. A church, with a pointed bell tower, stands in the village and is prominent.

Punta di Perciato, located 0.7 mile W of the summit of the island, has several natural arches on it. The NW and N sides of the island are high and are fronted by above-water rocks, some of which are prominent. Punta del Zucco Grande, the NE point of the island, is high and rocky. Vineyards are situated on the slope above this point.

A group of rocks lies about 0.7 mile off the NW coast of the island. La Canna, the most prominent rock, is 70m high and is shaped like an obelisk. The channel leading between this group of rocks and the island is 0.5 mile wide and clear of dangers. There are no suitable anchorages for large vessels in the vicinity of the island. A light is shown from a 20m tower on the NW coast of the island.

15.23 Isola Santo (Salina) (38°34'N., 14°51'E.) is formed by two extinct volcanoes. There is a flat saddle between the peaks of these volcanoes from which two valleys descend towards the coasts. One valley descends towards the N coast and the other descends towards the S coast. The village of Pollara stands in an amphitheater-like crater, NW of the W volcano. A large church dominates this village.

The volcanic activity has ceased, but on the N coast, E of Malfa, the land is heated and emits vapors. Gaseous bubbles rise from the sea close off the S side of the island and 200m off the village of Rinella. These bubbles emit hydrogen sulfide gas, which can be smelled from quite a distance.

Punta Valle la Spina, the W extremity of the island, is steep and rocky. The coast to the N of this point consists of high, vertical, and rocky cliffs.

Punta del Perciato, the NW extremity of the island, is formed by a promontory which has vertical sides. It is pierced by a large arch under which the seas break amidst the rocks. This opening is prominent from the NE or SW. A building, topped by a turret and a signal mast, stands high up on the point. This structure is reported to be painted an orange yellow color.

Between Punta del Perciato and Capo Faro, 3 miles E, the N coast of the island is cultivated.

Malfa (38°35'N., 14°50'E.), a village, is situated about midway between the point and the cape. In front of this village, the land descends to the sea in the form of terraces with supporting walls which are prominent. A conspicuous church, with a small bell tower, is situated in this village. A jetty, 80m long, fronts the village and projects seaward from the front of a five-stepped retaining wall. This jetty has a depth 5m at its head and gives shelter to small craft and fishing boats.

Capo Faro (38°35'N., 14°52'E.), the NE extremity of the island, is rocky and steep. A light is shown from a tower, 12m

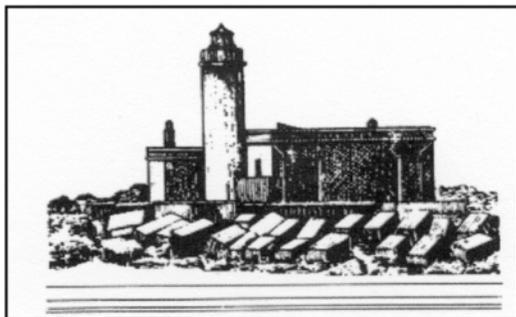
high, standing on the cape. A low building, painted yellow, is situated behind the light.

Between Malfa and Capo Faro, the coast is steep, rocky, and fronted by above-water rocks. A large church, with a bell tower and a two-story building attached to its E side, dominates this part of the coast. A smaller church, with a pointed bell tower, is situated nearer to the cape.

Secca del Capo, an isolated shoal, lies about 3.2 miles NE of Capo Faro. This shoal has a depth of 8m and fishing boats are often found in its vicinity.

15.24 Santa Mariana Salina (38°33'N., 14°22'E.), the principal village, is situated 1.2 miles S of Capo Faro. This village stands on gently sloping ground along the seashore. A large church, with a huge dome, stands in the village. A smaller church, with two spired bell towers, stands near the shore, close S of the larger church. A small mole, with a depth of 4m alongside, fronts the village and is protected by a breakwater.

Punta Lingua (38°32'N., 14°52'E.), the SE extremity of the island, is formed by the end of a low promontory and has a gravel beach. The village of Lingua, with a prominent church, is situated near the point. A light is shown from a structure, 11m high, standing on the point.



Punta Lingua Light

Punta Grottazzo, the S extremity of the island, ends in a vertical wall of rock. Between Punta Grottazzo and Punta Valle La Spina, 3.5 miles NW, there is a wide, cultivated valley which lies between the steep slopes of the two main summits. Rinella, a village, stands near the middle of this stretch of coast and is situated at the seaward end of the valley. This village is fronted by a main quay which is backed by high walls. A mole, quayed on its E side, projects 120m SSE from the W end of the main quay and has depths of 13m at its head and 4.5m at its root.

The village of Leni lies close inland of Rinella. A prominent church, with a bell tower, is situated in this village. A large church, with a bell tower topped by a small dome, is located close W of Rinella.

Isola Santo offers no safe anchorage to large vessels, nor any shelter that can be recommended in bad weather. Vessels, with local knowledge, can anchor, in a depth of 29m, sand and rock, abreast the S church in Santa Mariana Salina and about 180m from the shore.

Caution.—Due to the existence of submarine cables, an anchoring and fishing prohibited area lies off the W side of Isola Santo and may best be seen on the chart.

15.25 Isola Lipari (38°29'N., 14°56'E.) is the largest island of the Isole Eolie. Its W side is cliffy, broken by ravines, and is barren. Punta della Crapazza, the S extremity of the island, is formed by a prominent and rocky cliff that is joined to the main part of the island by a low, rocky isthmus. From the E or W, this point appears as a detached rock. The coast on either side of this point is high, cliffy, and steep.

Punta del Perciato, located 0.7 mile WNW of Punta Crapazza, consists of a rocky mass with a hole in it which is conspicuous from the NE and SW. Between Punta del Perciato and Punta di Iacopo (Punta di Jacopo), 0.7 mile NNW, the coast is steep and rugged. Pietra Lunga and Pietra Menalda are two high rocks which lie 0.2 SSE and 0.1 mile WSW, respectively, of Punta del Perciato. Le Formiche, a group of rocks, lies on a detached shoal, close NW of Punta del Perciato. These rocks are mostly low or awash, but one is high and prominent.

Punta delle Grotticelle (38°28'N., 14°55'E.) can be identified by several small caves at sea level and by the pink and yellow color of the rocks in its vicinity. Between this point and Punta del Legno Nero, the NW extremity of Isola Lipari, the coast is high, rugged, and steep.

All dangers, except Banco del Bagno, lie within 0.5 mile of the coast. Banco del Bagno, which is small in extent and steep-to, has a least depth of 12.5m and lies about 1.7 miles W of Punta delle Grotticelle.

Pietra del Bagno, which is high on its E and low on its W side, is a prominent rock lying about 0.2 mile offshore, 1.2 miles NW of Punta delle Grotticelle. The narrow channel leading between this rock and the shore is foul.

Scoglio Imerata, a prominent tall rock, lies close to the shore, 0.8 mile SW of Punta del Legno Nero.

Between Punta del Legno Nero and Punta della Castagna, 2 miles E, the coast is slightly indented and steep-to. The village of Acquacalda stands close E of Punta del Legno Nero. A T-head pier, with a conveyor belt and loading chute, is situated close E of this village and local pilots are available.

15.26 Punta della Castagna (38°31'N., 14°58'E.) is a rocky projection of a brownish-red color. A reef, with rocks awash, extends up to about 100m from the point. Campo Bianco, a prominent hill, stands close SW of the point and is covered with white pumice stone.

Capo Rosso, located 1 mile S of Punta della Castagna, is a short, steep, and rocky prominence. Because of its reddish color, this cape stands out against the white background of the slopes of Campo Bianco. A building, with a chimney, stands close S of the cape.

Porticello (38°31'N., 14°58'E.), a village, is situated close S of Punta della Castagna. It can be easily be identified by the wooden chutes used in the excavation of pumice stone. Three small piers, used by coasters and lighters, and one large pier, with a conveyor belt for loading pumice, front the village. The large pier is 265m long and has a depth of 11m alongside. Vessels up to 20,000 dwt can be handled. Pilotage is com-

pulsory for vessels over 500 tons and local pilots can be embarked at Rada di Lipari.

Monte Rosa (38°29'N., 14°59'E.) is surmounted by a prominent iron cross, 15m high. It is the summit of Sciarra di Monte Rosa, a promontory, which extends 1 mile E from the coast. Canneto di Lipari, a small village, stands near a beach, close N of Monte Rosa. A red chimney stands near the village which is fronted by a small pier, in ruins. Anchorage can be obtained by small vessels with local knowledge off Canneto di Lipari. A good berth, in depths of 20 to 29m, sand and weed, lies about 180m offshore. This roadstead, known as Rada di Lipari, is partially protected and is bounded on the N side by the S side of Sciarra di Monte Rosa, and on the S side by Punta San Giuseppe, 2 miles SSE.

Caution.—Due to the existence of submarine cables, an anchorage and fishing prohibited area, which may best be seen on the chart, lies off the E coast of Isola Lipari, N of Sciarra di Monte Rosa.

15.27 Lipari (38°29'N., 14°58'E.) (World Port Index No. 40300), a village, stands along the W shore of the roadstead. The walls of an ancient castle stand in the middle of the front part of the village on a high and steep volcanic projection. These walls, which are partly in ruins, encompass the cathedral, several churches, and a number of houses. City Hall, a large, rectangular building is situated close N of the castle. The coast to the S of the castle consists of a beach and then rises steeply to form the promontory which terminates in Punta San Giuseppe.

A prominent church, flanked on its S side by a bell tower with a flat roof, is situated in the N part of the village. A small islet is connected to the shore by a short and quayed breakwater. A church, with a pointed bell tower, stands on this islet. A prominent building stands on Punta Scaliddi, at the N end of the village.

A quay, 46m long, is situated close W of Punta Scaliddi and is used by ferries. It has depths of 0.6 to 7m alongside. A short mole, with a depth of 5m at its head, is situated close N of the quay.

A disused light structure, consisting of a turret surmounting a red house, stands about 300m WNW of the head of a mole extending from the N side of the roadstead. It is reported that a yacht harbor is under construction in this vicinity. Pilotage is compulsory for vessels of more than 500 grt. The pilots monitor VHF channels 11 and 16. Anchorage can be taken, in depths of 29 to 40m, sand, about 200m off the middle of the S slope of Sciarra di Monte Rosa. Vessels can also anchor, in depths of 20 to 26m, sand, off the prominent church standing 0.3 mile NNE of Punta Scaliddi and about 200m offshore.

15.28 Isola Vulcano (38°23'N., 14°58'E.) is barren and rugged, especially on its W side. The slopes of the S part of the island are partly cultivated. Gran Cratere (Fossa di Vulcano) dominates the N part of the island and is still active. It is of characteristic volcanic shape, but is of unusual color, especially near its summit, which is 382m high. Monte Vulcanello, inactive, forms the N end of the island. A low, sandy isthmus separates this crater from the N slopes of Gran Cratere. The crater is cone-shaped and appears as an island when seen from the W or E. Isola Vulcano is mostly steep-to.

Punta dei Porci (38°22'N., 15°00'E.), the S extremity of the island, is high, steep, and fringed by rocks. A light is shown from a prominent structure, 31m high, standing on the point. This light is obscured from some directions.

Capo Secco is located 2 miles NW of the light and can be identified by a large, reddish, and perpendicular rock which fronts it.

Testa Grossa is a long and rocky promontory, with vertical reddish sides, which forms the W extremity of the island. It is located 1 mile NW of Capo Secco. This entire part of the coast is steep, rugged, barren, and fringed with rocks.

Punta del Monaco and Capo Grosso are located 0.5 mile N and 1 mile N, respectively, of Testa Grossa. To the N of Testa Grossa, the coast is high, rocky, perpendicular, and very jagged. Cala di Mastro Minico, a small cove, lies between Punta del Monaco and Capo Grosso. A low light-colored rock lies in the middle of this cove. Capo Grosso is a slender, rocky promontory with a jagged profile. Punta Cala Formaggio, a similar promontory, is located close NE of the cape.

Porto di Levante (38°25'N., 14°58'E.), a small cove, has a mole, quayed on its S side, which extends 85m E from the shore. It has depths of 13m at the head and 4m at the root. This mole is suitable for small craft, but the head is reserved for use by the local ferry service. A short pier extends NE from close S of the root of the ferry mole and a quay fronts the foreshore between them. This short pier is used as a hydrofoil terminal and vessels with drafts up to 3.5m can berth alongside.

Faraglione della Fabrica, two prominent and various colored rocks, stand on the shore at the head of this cove. Several houses, one of which is battlemented and has a prominent red roof, stand near the head of the cove. The sea water close to the shore in the S part of the cove is warm and sulfurous because of volcanic action. This cove affords anchorage, in a depth of 29m, sand, about 100m from the shore. Local knowledge is required. Vessels should not anchor off the S shore of the cove, as the bottom is rocky.

15.29 Cala Rossa (38°25'N., 14°59'E.), a small cove with rocky shores, is entered between Punta Nere and Punta Luccia, 0.5 mile ESE. Punta Nere is a small, black, and rocky prominence which forms the S entrance point of Porto di Levante. The coast to the S of Punta Luccia is steep, barren, and reddish. A short beach of dark sand lies between Punta Molo di Femmina, located 1.8 miles SSE of Punta Luccia, and Punta Bandiera, 0.5 mile SSE. Punta Bandiera, the SE extremity of the island, is formed by a spur projecting from Monte Aria. A small shrine stands on the point and a prominent white house is situated on a slope above it. The S slope of Monte Aria is verdant and partly cultivated.

Insenatura di Cannitello, a very small inlet, lies between Punta Bandiera and Punta Cannitello, 0.2 mile SW. It has a short beach of dark sand at the head and the hillsides above the beach are cultivated.

Caution.—Due to the existence of submarine cables, an anchoring and fishing prohibited area, which may best be seen on the chart, extends seaward from the N end of Isola Vulcano.

15.30 Isola Panaria (38°38'N., 15°04'E.) is divided along its main axis by a high ridge. Picco del Corvo, 465m high, is the summit of this ridge and is surmounted by a small iron

cross. The W slope of this ridge is rocky, barren, steep, and cliffy. The E slope is less steep, verdant, and partly cultivated. On the spur that descends S from the summit, Picco Tribunale stands halfway down and consists of a spire-shaped mass of rock. A smaller rocky spire rises a little farther down the spur.

Capo Milazzese (38°37'N., 15°04'E.) is a low and narrow projection. Cala di Iunco, a small inlet, is entered close E of this cape and is encumbered with rocks. The cape terminates in a steep projection which is fringed by several small rocks.

The W and N sides of the island are rocky, barren, steep, and fronted by rocks. Scoglio la Nave, a high and prominent rock, lies close W of the N extremity of the island.

Punta Briglia, the NE extremity of the island, has a rocky overhanging cliff of reddish color and is fringed by rocks.

15.31 Punta Peppemaria (38°38'N., 15°05'E.), the E extremity of the island, is located 0.5 mile SSE of Punta Briglia and is topped by a small tabernacle. A light is shown from a structure surrounded by a wall, 9m high, standing on the point.

A pebble beach lies on the N side of the point and a short mole, with a depth of 5m at the head, extends E from it and is used by fishing vessels and ferries. A mooring buoy situated close off this mole is used by hydrofoils. A local pilot is available to aid with berthing.

Santo Pietro, a small village, is situated close W of the point and has two prominent churches with bell towers.

Large vessels can anchor, in depths of 22 to 24m, sand, about 500m NE of Punta Peppemaria. Small vessels can anchor, in depths of 8 to 9m to the N of the point and about 150m offshore. Anchorage can also be taken, in depths of 15 to 26m, good holding ground, sand and weed, about 500m SE of the point.

Between Punta Peppemaria and Punta di Drauto, 0.5 mile SSW, the coast is steep and rocky. Le Formiche, a steep-to group of rocks almost awash, lies 0.5 mile SSE of Punta Peppemaria. An isolated shoal depth of 5.9m lies about 180m W of Le Formiche.

Caution.—Due to the existence of submarine cables, an anchoring and fishing prohibited area, which may best be seen on the chart, extends from the S and SE sides of Isola Panaria.

An obstruction, with a least depth of 17.9m, lies 1 mile NE of Punta Briglia.

15.32 Dattilo (38°38'N., 15°06'E.), a small islet, is 103m high, reddish, and pyramidal. Panarelli, a group of low rocks, lies within 0.3 mile N of this islet. These rocks are formed of very hard, pungent, and vitreous lava.

Isola Lisca Nera, low and black; Bottaro; and Isola Lisca Bianca are three small volcanic islets which lie close E of Panarelli. The latter two are white in color with incrustations of aluminum sulfate. Occasionally, emissions of hydrogen sulfide gas occur and large bubbles rise to the surface of the sea in this vicinity.

Isola Basiluzzo (38°40'N., 15°07'E.) has coasts that are high, cliffy, and jagged. The summit of this islet is 165m high, flat, and has a gentle slope to the S. Scoglio Spinazzola, a high and steep-sided rock, lies close off the W extremity of this islet.

15.33 Isola Stromboli (38°47'N., 15°13'E.) consists of a single volcanic cone. The volcano is still active, the red reflec-

tion of the crater being almost always visible at night. The stream of lava, stones, and cinders, which descend steeply to the sea on its NW side, is in marked contrast to the green slopes on the NE side of the island. The coasts of the island are mostly rocky, rugged, and cliffy. There are short tracts of dark beach on the NE side of the island.

Punta del Monaco (38°46'N., 15°13'E.), the S extremity of the island, is rounded and steep. Punta delle Chiappe, located 2 miles NW of Punta del Monaco, is a round point. Its rocky sides descend steeply to the sea and are fringed with rocks. Ginostra, a small village, is situated between these points and can be easily identified by its white houses and church. A prominent, winding stairway leads from the village to the rocky coast.

The NW side of the island between Punta delle Chiappe and Punta Labronzo, 1.5 miles NW, is occupied by Sciarra del Fuoco, a blackish wall, which descends from the new crater to the sea. Dense white vapors are often seen along this wall. Punta Labronzo is fringed by rocks, some of which are above water. A solitary white cottage stands on this point.

Punta della Lena (38°48'N., 15°15'E.), the NE extremity of the island, is located 1.5 miles ESE of Punta Labronzo. A building, with a tall and red chimney, stands near the point. A sandy beach, fronted by a small jetty, lies close W of the point. Insenatura di Ficogrande, a small and sandy bight, lies close W of the beach.

Scari, San Vincenzo, Piscita, and San Bartolomeo are small villages which extend, almost without a break, from close S of Punta della Lena to close W of Insenatura di Ficogrande. The church at San Vincenzo is white and has a large dome. The church at San Bartolomeo has a prominent bell tower.

The E side of the island between Punta della Lena and Punta del Monaco, 2.3 miles SW, is steep and barren with some reddish crags. Punta dell'Olmo, located 0.8 mile NE of Punta del Monaco, is formed by a spur that descends from the summit of the old crater. A large, truncated, and cone-shaped pillar stands on this spur. A low rock, which is joined to the shore by a short isthmus, lies close off Punta dell'Olmo and is surrounded by other rocks.

There are no safe anchorages in the vicinity of Isola Stromboli due to the great depths surrounding it.

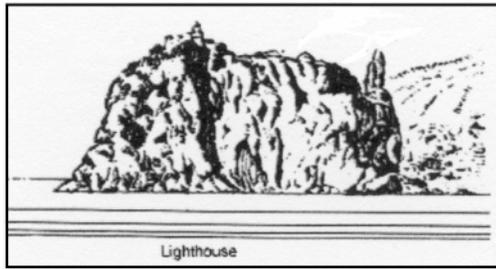
Caution.—Due to the existence of submarine cables, an anchoring and fishing prohibited area, which may best be seen on the chart, extends NE and SE of Punta della Lena.

15.34 Strombolicchio (38°49'N., 15°15'E.), 50m high, lies 1 mile NNE of Punta della Lena and is a large rock with steep sides and irregular spires. Its E side is light-colored and has some reddish crags. A prominent flight of steps has been cut in the rock on its NW side. A light is shown from a tower, 8m high, standing on the summit of the rock.

Extensive fishing operations are carried out in the vicinity of Isola Stromboli.

Sicilia—North Coast (Continued)

15.35 Capo d'Orlando (38°10'N., 14°45'E.) is a rocky promontory, 100m high. It appears conical in shape when viewed from the NW. A church, surrounded by an old wall,



Strombolicchio from NNE

stands on the summit of the cape. A light is shown from a structure, 10m high, standing on the cape.

A signal station, consisting of a low building surrounded by a wall, stands on a hill almost the same height as the cape, which rises close S of the cape. This hill is separated from the cape by a saddle.

Reefs extend up to about 0.5 mile seaward of the cape and sudden squalls and heavy seas are encountered off it. Explosive devices are also present on the sea floor in the vicinity of the reefs.

Between Capo d'Orlando and Capo Calava, 8 miles ENE, the coast is steep, rugged, and slightly indented. Scoglio di Brolo, 14m high, is a prominent rock which lies 0.3 mile offshore, 3.7 miles E of Capo d'Orlando.

Brolo (38°09'N., 14°50'E.), a village, stands on a rocky hill, 45m high. A tall, square, and battlemented tower, partly in ruins, stands in this village. Heavy squalls from the mountains are sometimes experienced off this village.

Capo Piraino, located 1.5 miles E of Scoglio di Brolo, is high, steep, and surrounded by a narrow beach. Several rocks, awash, lie close offshore in this vicinity. A large tower, partly covered by a red roof, stands on a rocky projection at the foot of this cape. The prominent village of Piraino stands on the steep side of a mountain, 0.5 mile S of Capo Piraino. A prominent tower is situated close W of the village and a prominent church, with a low bell tower, stands 0.2 mile SW of it.

Gioiosa Marea stands on a slight slope, 2 miles E of Capo Piraino. This prominent town is situated at the end of a narrow valley and has three conspicuous steeples.

15.36 Golfo di Patti (38°10'N., 15°05'E.) is a large and open bay which is entered between Capo Calava and Capo di Milazzo, 15.5 miles ENE. Its shores are mostly steep-to.

Capo Calava (38°11'N., 14°55'E.), high and rugged, is steep on its N and E sides. Several rocks lie close off the E side of the cape and a sandy beach fronts the W side.

San Giorgio, a village, is situated 1.7 miles SE of the cape and stands near the mouth of a small stream. A large red building and a church are situated in this village and are prominent.

The town of Patti stands in a green valley at the head of the gulf. A large church, with a prominent bell tower, stands in the town. The village of Marina di Patti stands on the shore of the gulf, close N of Patti. A red building, with a tall chimney,

stands near the W end of this village. A large battlement building is situated close E of the red building.

Capo Tindari (38°09'N., 15°03'E.) is 279m high and steep with vertical cliffs on its E side. A red church, with two pointed bell towers, stands on the summit of this cape. It is prominent from the E, but cannot be seen from W.

Secca di Tindari, a shifting sandbank, fringes the cape. Pietra di Patti, a brown rock, is 14m high and lies 2.7 miles W of the cape. A low rock lies close E of this brown rock.

Falcone, a village, stands near the beach, 1 mile ESE of Oliveri. A factory, with a tall chimney, and a red-roofed church, with a pointed bell tower, stand in the village and are prominent. Porto Rosa, a small harbor, lies 1.7 miles E of Falcone and is protected by inner and outer breakwaters.

Oliveri, a small village, is situated 2 miles SSE of Capo Tindari and is partially hidden by a railroad embankment. Its red-roofed houses are prominent and a castle, partly hidden by trees, stands on a mound at the SW end of the village. A fish factory, with two tall chimneys, is situated on the beach in front of the village.

Barcellona, a village, is situated 1 mile inland, 7 miles E of Falcone. It stands among some citrus groves and can be easily identified by the large church with a prominent dome and a peaked bell tower. Small vessels can anchor about 0.2 mile off the coast near this village.

Caution.—Due to the existence of submarine cables, an anchoring and fishing prohibited area, which may best be seen on the chart, extends up to 3 miles ESE of Capo Calava.

15.37 Capo Milazzo (38°16'N., 15°14'E.) is the rocky N extremity of a low and narrow peninsula. This peninsula is fronted by rocks and shoals and is covered with olive trees. It appears as an island when seen from the W or E. Monte Trinita, 135m high and surmounted by a church and a tower, stands on the W side of the peninsula, 1 mile S of its extremity. The N part of the E side of the peninsula is high and steep. A light is shown from a prominent structure, 10m high, standing on the cape.

A red building, surmounted by a turret, and a flagstaff are situated close E of the light.

The coast between Capo Milazzo and Capo Peloro, 20 miles E, is low, sandy, and cultivated.

Caution.—Winds and stormy weather from the SE, which last from 3 to 6 days, often prevail in the vicinity of Capo Milazzo.

Due to the existence of submarine cables, an anchoring and fishing prohibited area, which may best be seen on the chart, extends seaward from E of the Capo Milazzo peninsula.

Milazzo (38°13'N., 15°15'E.)

World Port Index No. 40110

15.38 The port of Milazzo lies at the base of the Capo Milazzo peninsula. It has a basin, protected by two moles, and facilities for tankers and LPG vessels.

Winds—Weather.—In summer, strong SE winds sometimes interfere with vessels moored at the port. Winds from the NE, usually of a short duration, sometimes endanger vessels in the anchorage.

Depths—Limitations.—The main cargo facilities include Molo Ludovico, 340m long, with a depth of 6.7m alongside, and Pontile Eolie, 65m long, with a depth of 7m alongside. Both of these quays handle general cargo.

There are three offshore tanker and LPG jetties situated close ESE of the harbor basin. These have a total of ten berths, with alongside depths of 6.1 to 25.3m, and can accommodate tankers up to 350,000 dwt.

Aspect.—Milazzo is divided into an old and a new city. The old city stands on the slope which descends from a prominent citadel. A disused church, with a conspicuous dome, stands within the walls of the citadel. A large two-story building, with a wide terrace, stands near the citadel and is prominent.

The new city is built on flat ground on the low isthmus that joins the peninsula of Capo Milazzo to the main part of Sicilia. A church, with a prominent silver dome, stands in the center of the new city. A bell tower, with a red pointed roof, stands alongside this church. A red chimney, 50m high and enclosed in an iron framework, stands 0.5 mile S of the head of the N mole. A large brick building stands near the root of the N mole.

Croce di Mare, a group of rocks up to 1.3m high, lie close to the coast, 1 mile N of the N mole. A small chapel stands on one of these rocks.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 12 and generally board about 1.5 miles off the harbor. Vessels should send an ETA at least 24 hours in advance of arrival.

Regulations.—All vessels entering or leaving the port must proceed with caution and are prohibited from exceeding 5 knots, crossing the harbor entrance in any direction simultaneously with other vessels, or from using ships whistle or siren except in cases to prevent collisions.

Vessels must have visibility of the port basin or outer harbor so as not to impede vessels entering or departing the harbor. Departing ships have precedence over arriving vessels but are prohibited from getting underway when other vessels are inbound.

Within a 0.5 mile radius of the harbor entrance, rowboats, sailboats, mechanically-powered fishing boats or pleasure craft must keep clear of other vessels entering or departing the harbor.

Fishing of any kind, including recreational fishing, is prohibited within a 0.5 mile radius of the harbor entrance.

Anchorage.—Anchorage can be taken, in a depth of 29m, mud, about 300m E of the head of the N mole. However, this anchorage is exposed to NE and E winds. Small vessels can anchor within the harbor.

Vessels over 1000 grt are required to contact the pilot station and anchor in one of the designated offshore berths.

Caution.—A submarine cable, not charted, lies between the head of the N mole and Croce di Mare, described above.

The quayed sections of the moles and the berths on the W side of the harbor have underwater projections that extend up to 18m from them in places.

A navigation, stopping and fishing prohibited area lies in the vicinity of the offshore oil jetties and may best be seen on the chart.

15.39 Spadafora (38°13'N., 15°23'E.), a town, is situated 6 miles E of Milazzo and can easily be identified by two tall

chimneys. A high building, with a red roof and surrounded by a wall, stands on the beach, close W of the town.

Rometta, a village, is situated 1.8 miles ENE of Spadafora and can easily be identified by its factories and by the reddish crags of the hills in the background. A church, with a red roof and a small pointed bell tower, stands in the village. A large building, with two tall chimneys, also stands in this vicinity. A long and low reddish-colored building is situated in the W part of the village.

Fiumara Saponara flows into the sea, close E of Rometta. A prominent bridge, with many arches, spans this river, close within its mouth.

Gesso, a town, stands on a hill, 265m high. It is situated 1.5 miles inland, 2 miles E of the mouth of the river. A large church, with a bell tower, dominates this town.

Between Gesso and Capo Rasocolmo, 4.2 miles NE, the coast is steep and precipitous.

Capo Rasocolmo (38°18'N., 15°32'E.) is the termination of a cultivated tableland which descends in a steep and rocky slope. A sandy beach stretches along the foot of the cape. A light is shown from a dwelling, 13m high, standing on the cape.

A church, with a spired belfry, stands close SE of the light.

Between Capo Rasocolmo and Capo Peloro, 6.5 miles ESE, the coast is fronted by a sandy beach and backed by hills.

15.40 Capo Peloro (38°16'N., 15°39'E.), the NE extremity of Sicilia, is low and sandy. A prominent fortress, topped by a turret and a signal mast, stands on the E side of the cape. Torre Faro, a village, stands on the S side of the cape and can be identified by its prominent church with a pointed bell tower. A light and an auxiliary light are shown from a conspicuous structure, 37m high, standing on the cape. A racon is situated at the light.

Secca Rasocolmo, an extensive shoal, fronts the shore between Capo Rasocolmo and Capo Peloro. It has depths of less than 11m and extends up to 1.3 miles offshore in places. When the sea is calm, numerous fishing boats, with drift nets, may be seen near this shoal.

A disused light tower, 39m high, stands on Punta Mazzone, which is located 0.5 mile WNW of the E end of the cape. The E end of Capo Peloro is low, but the hills that back the N coast of the island commence 1 mile W of it.

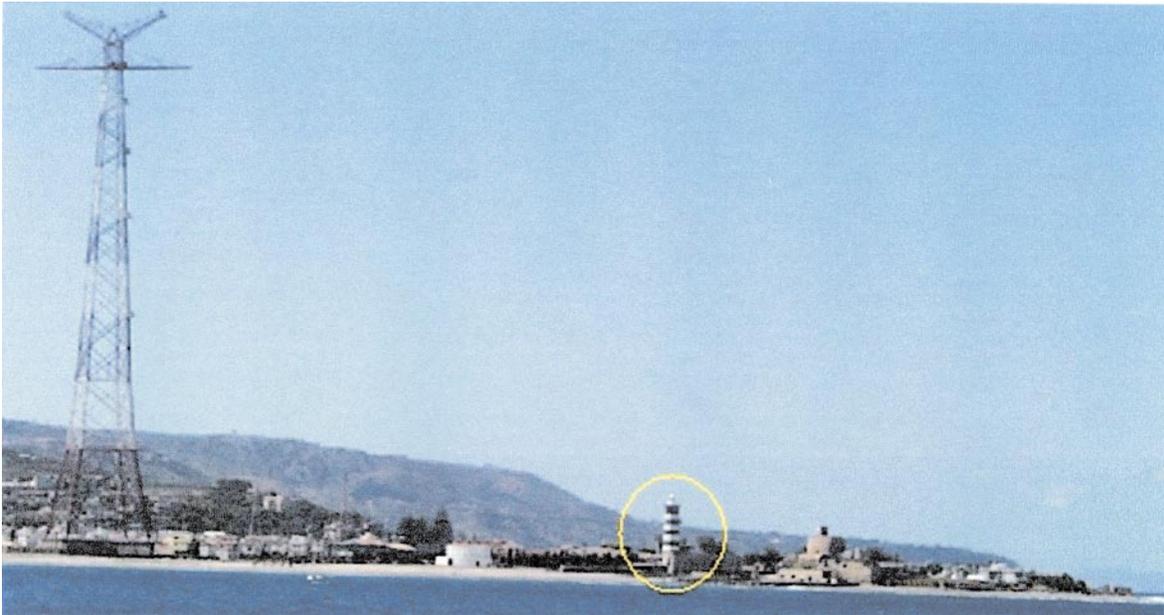
The cape is subject to erosion and shoal ground extends up to about 0.2 mile NE and 0.3 mile E of it. Vessels should pass at least 0.5 mile off when entering the Stretto di Messina.

Caution.—Several submarine gas pipelines, which extend across the N end of the Stretto di Messina, are landed on the coast, about 2 miles W of Capo Peloro. These pipelines may best be seen on the chart.

An anchoring and fishing prohibited area, the limits of which are shown on the chart, lies in the vicinity of these pipelines and extends across the strait.

Stretto di Messina—Sicilia—East Coast

15.41 Stretto di Messina (38°12'N., 15°36'E.) connects the Tyrrhenian Sea to the N with the Ionian Sea to the S. Its W side is formed by the N part of the E coast of Sicilia. The Italian government has announced plans to construct a suspension



Capo Peloro Light

bridge across the straits. This project could take three to five years to complete.

Caution.—In winter, N and NE winds prevail in the strait and are especially violent when the mountains in S part of Italy are snow-covered. Gales from the S and SE often occur and clash with the above winds, producing heavy and confused seas. In March, strong W or WSW winds prevail and these usually begin in the form of very violent squalls. During June, E and SW winds sometimes clash in the strait and violent squalls occur when either predominate.

Violent squalls, which come down from the valleys of the mountains on either side of the strait, occur frequently.

Strong currents, eddies, and whirlpools are found throughout the Stretto di Messina.

Fishing by nets is carried out to a considerable extent along the shores on either side of the strait.

Numerous ferries cross the strait and it is not unusual to see five such vessels crossing simultaneously at speeds up to 22 knots.

For information concerning pilotage and regulations in Stretto di Messina, see paragraph 13.74.

15.42 Capo Peloro (38°16'N., 15°39'E.), the NW entrance point of Stretto di Messina, has been previously described in paragraph 15.40.

Torre Faro, a village, stands on the S side of the cape, close W of Punta Sottile. This village can easily be identified by its prominent church with a pointed bell tower. Between this village and Messina, the coast is formed by a steep-to sandy beach. Ganzirri is situated 1.5 miles WSW of Torre Faro. A church, with a red roof and a bell tower, stands on the W side of this prominent village.

Pace (38°14'N., 15°35'E.), a village, is situated 4 miles SW of Capo Peloro. It is marked by a prominent cylindrical building which has a colonnade at the base and a green hemispherical dome. Fiumara dell Annunziata, a small stream, enters the sea 1.5 miles SSW of this village. A prominent convent stands on the S side of the mouth of the stream.

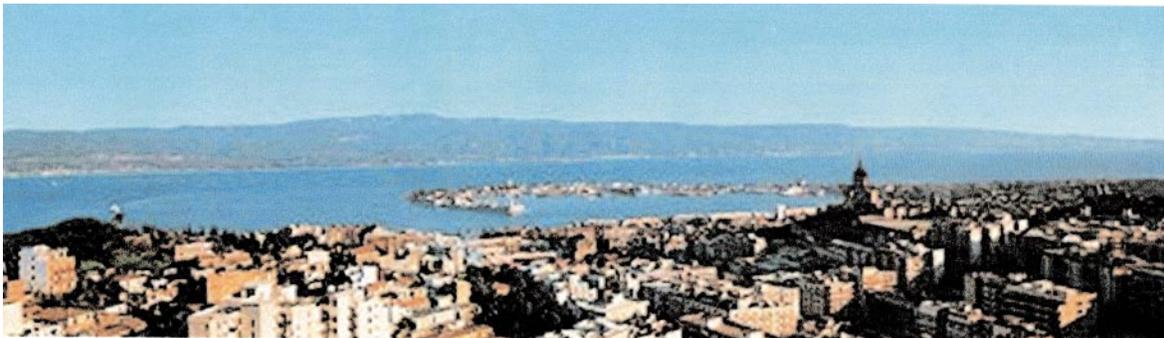
Small vessels can anchor, in a depth of 11m, sand, off the village of Ganzirri. This anchorage is exposed to strong SE and SSE winds which raise a heavy sea. Small vessels can also anchor, in depths of 20 to 29m, sand, NE of the building with the green dome in Pace. Care must be taken to avoid two groups of rocks, with depths of 4m, which lie close offshore in this vicinity. These anchorages are open roadsteads and cannot be considered as safe during periods of inclement weather.

15.43 Ancoraggio di Paradiso (38°13'N., 15°34'E.), a roadstead, lies 1 mile S of Pace and 1.6 miles N of the entrance of the port of Messina. Vessels can anchor, in depths of 50 to 70m, good holding ground, as charted offshore. Anchor berths are designated in this area. The charted berth SW is designated Bravo. The two berths to the NE of the anchorage and fishing prohibited area offshore are designated Berth Delta and Berth Echo, from closest to the area to the NE. Berth Charlie is not available due to the presence of a wreck. The outer part of this anchorage is exposed to the full force of the tidal currents.

Messina (38°12'N., 15°34'E.)

World Port Index No. 40100

15.44 The port of Messina lies between the E coast of Sicilia and an encircling peninsula which curves NE, N, and W. It



Messina

connects Sicilia to the Italian mainland and is used by several ferries.

Winds—Weather.—The harbor is open to the N, and strong N and NE winds cause a swell to occur within it. The harbor is protected from winds from other directions.

Tides—Currents.—The tidal current setting N at springs raises a heavy sea off the E side of the encircling peninsula. At such times, vessels approaching the harbor from the S should give the E side of the peninsula a wide berth.

Depth—Limitations.—There is deep water in the harbor and 550m of total berthing space, with depths of 7.6 to 9.2m alongside. Large passenger vessels up to 300m in length and 10m draft can enter the harbor. Tankers up to 100m in length and 8.2m draft can be accommodated alongside. There are extensive repair facilities, with a drydock, 263m long and 38m wide.

A berth, consisting of eight dolphins and joined to the shore, is situated 0.2 mile SW of Punta San Raineri.

Aspect.—An octagonal column, topped by a large statue and illuminated at night by green floodlights, stands on Forte San Salvatore at the W end of the encircling peninsula. The Meteorological Observatory, consisting of a building with a turret and a high reddish iron trellis, is situated 0.5 mile WNW of the above column. The Mausoleum of the War Dead, which has a very prominent dome, stands 0.5 mile W of the same column; a conspicuous cross, 122m high, surmounts the dome.

Other prominent objects in the town include the tower and spire of the cathedral standing 0.5 mile SSW of the column and a chimney standing 0.5 mile S of the column.

Forte Castellaccio, situated 1 mile W of Forte San Salvatore, is prominent from seaward.

A light is shown from a prominent tower, 42m high, standing on Punta San Raineri, the E extremity of the encircling peninsula. Several oil tanks are situated near the light.

Pilotage.—Pilotage is compulsory for all vessels of more than 15,000 gt and for vessels of more than 6,000 gt carrying pollutants. Pilots generally board about 1.5 miles N of Punta San Raineri and are available 24 hours.

Technical difficulties require vessels to contact the pilots at the following e-mail address until further notice:

pilotime@tin.it

Pilots are also available for the passage through the Stretto di Messina. Vessels must request pilot services at least 24 hours prior to arrival.

Vessels exempt from compulsory pilotage: vessels less than 500 gross tons, naval or military craft, and ferry boat lines operating at usual terminals.

During special traffic situations or marine weather, if necessary, the marine authority can demand a pilot be on board.

Regulations.—The simultaneous passage or the crossing of two or more vessels across the entrance of the port is forbidden.

All vessels entering or leaving port must not exceed a speed of 7 knots.

Priority for entry is established by vessel arrival at a point 0.5 mile from the entrance. Vessels must keep one another advised of intentions on VHF channel 16.

Naval vessels have precedence over all merchant vessels both in entering and leaving the port.

Merchant vessels leaving the port have precedence over those entering. Ferries have precedence over all other merchant vessels.

National Railway ships transporting trains have the right-of-way over other ships should they arrive at the harbor at the same time.

A continuous listening watch on VHF channel 16 is required for all ships in harbor.

Caution.—An area within the harbor is used as a seaplane landing area.

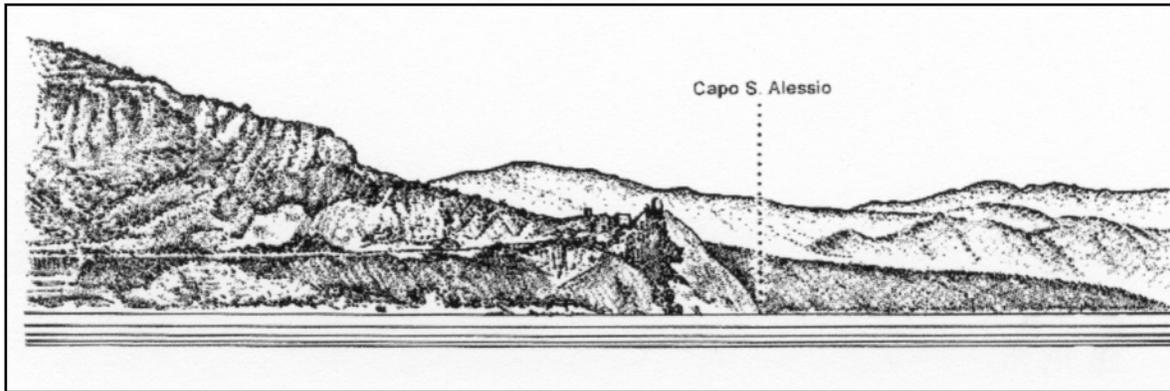
An area in the NE part of the harbor is restricted to only naval vessels.

Anchoring, fishing, and underwater activities are prohibited in the approaches to and within the port.

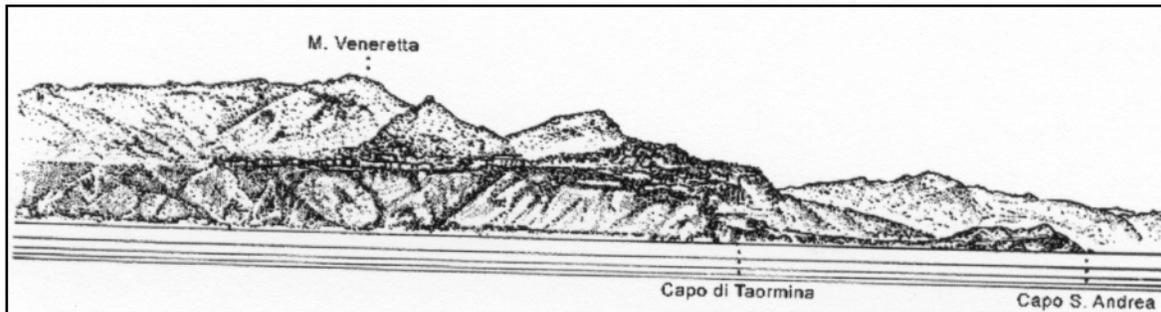
An area N of the port near the village of Porticatello contains an anchoring and fishing prohibited area best seen on the chart.

15.45 Capo Scaletta (38°03'N., 15°29'E.) is located 9 miles SSW of Punta San Raineri. The coast between consists of a narrow sandy beach backed by a mountain range. Monte Antennamare, 1,124m high, stands 5.5 miles WSW of Punta San Raineri and is prominent. It has a flat summit, but from certain directions it appears conical.

Fuimara di San Filippo, a stream with a wide white bed, enters the sea, 3 miles SW of Punta San Raineri. A church,



Capo Santo Alessio bearing NW



Capo di Taormina bearing NW

with a bell tower, stands on the SW side of the mouth of this stream.

Galati Marina, a village, is situated 2.9 miles SSW of the mouth of Fiumara di San Filippo. It can be easily identified by a church with a red roof and a low bell tower. Fiumara di San Stefano flows in to the sea, 0.5 mile S of this village. Its mouth is crossed by a prominent bridge with three spans.

A large and conspicuous two-story building stands on a hill, 1.5 miles S of the mouth of the river.

San Paolo, a village, is situated 0.5 mile S of the large building and stands on the S side of the mouth of Fiumara di Pezzolo. A prominent building, with two turrets, stands on a hill in the back of this village. A small church, with a bell tower, is situated in the village.

Capo Scaletta can be identified by the village of Scaletta Superiore, which stands at a rather high elevation on its SW side. A large tower is situated in this village. Monte Scuderi, 1,253m high, stands 3.5 miles WNW of the cape and is prominent. The summit appears rounded from the N or S, but from the E it appears to have a trapezoidal shape.

Between Capo Scaletta, the SW entrance point of Stretto di Messina, and Capo di Ali, 3 miles SW, the coast is rocky, steep-to, and clear of dangers.

Sicilia—East Coast

15.46 Capo di Ali (38°01'N., 15°26'E.) is a conspicuous headland of light color and its sides are cut by crevices. The cape is fronted by rocks and backed by mountains. The coastal highway passes near the cape and is conspicuous from seaward. Monte Belvedere, 743m high, stands 3 miles WSW of the cape. The dark ruins of a castle surmount the summit of this mountain.

Between Capo d'Ali and Capo Santo Alessio, 8 miles SW, the coast is fronted by a sandy beach along which is situated an almost continuous line of villages.

Capo Santo Alessio is rugged, steep, and surmounted by an old fort. From the N, the cape appears to slope regularly towards the sea, and some light-colored streaks are located near its extremity. From the E, the cape appears to be faced with rock cliffs on its S side.

Fiumara d' Agro enters the sea, 1 mile NW of the cape. Squalls from the W and SW frequently blow down from the valley of this river.

Capo San Andre is located 4.5 miles SW of Capo Santo Alessio. This cape is the E extremity of a promontory and a long and low building stands on it.

Between Capo di San Andrea and Capo di Taormina, 0.8 mile SW, is a small bay which is divided into two parts by Isola

Bella, an islet. This islet is prominent and is connected to the shore by a shoal flat.

Rada di Taormina is entered between Capo di Taormina and Capo Schiso, 1.7 miles SW. This bay is fully exposed to SE winds. Capo di Taormina is surmounted by a five-story building and Scoglio Agonia, a rocky islet, lies close SE of it. This islet is 18m high and a white cross stands on its highest point. The cape is fronted by cliffs and fringed with rocks.

The shores of the bay consist of a steep beach of coarse gravel. Castello Schiso, a conspicuous castle surmounted by a tower, stands on the N part of a promontory of which Capo Schiso is the E extremity. A conspicuous two-story hotel is situated near the castle. A mole extends about 300m from the cape and is used by yachts. Naxos, a small craft harbor, lies at the SE corner of the bay near the castle and is formed by moles. Vessels can anchor, in depths of 15 to 20m, sand, good holding ground, about 0.5 mile WSW of Scoglio Agonia. Another anchorage, with similar depths, lies in the S part of the bay and about 0.4 mile N of Capo Schiso. These anchorages are fully exposed to E and SE winds. Local knowledge is required.

15.47 Giardini (37°50'N., 15°16'E.) is situated on the W shore of the bay, 1 mile WSW of the Capo di Taormina. This town can be identified by a prominent church, with a green roof and a green spire, which stands near the shore, 0.8 mile NNW of Capo Schiso.

Capo Schiso (37°49'N., 15°17'E.), the S entrance point of the bay, is low, black, and is the extremity of one of the oldest and longest streams of lava erupted by Monte Etna. A light is shown from the end of rocks on the N side of the cape.

Between Capo Schiso and Riposto, 6 miles SW, the coast is formed by a shingle beach, backed by woods.

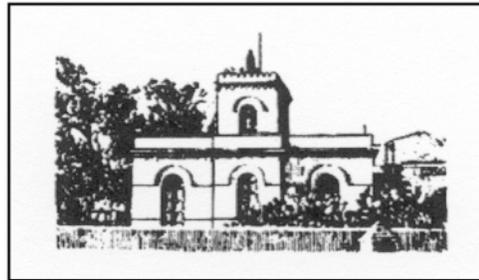
Caution.—In the summer, nocturnal fishing is carried out with nets in the sea area between Capo Schiso and Capo Murro di Porco, 50 miles S. These nets may be placed up to 30 miles from the coast, with a length of white lights marking the surface. Particular attention should be paid to the presence of small vessels, which are difficult to see against the illuminated background of the net markings.

An outfall is located 1.2 miles SW of Capo Schiso.

15.48 Monte Etna (37°45'N., 15°00'E.) is a conspicuous and truncated, volcanic mountain, 3,274m high. Like all volcanoes, its elevation varies from time to time. The volcano rises directly from the sea on its E side, down which flow several streams of lava. The regular slope of the volcano is broken by many secondary cones which are formed along the fissures of the lateral eruptions. The hot vapors discharged and the heat of the rocks prevent the summit from being perpetually covered with snow.

Monte Etna dominates the coast and is visible from a great distance. An observatory, with a dome, stands at a height of 2,932m on a level plain, 0.5 mile from the S rim of the crater.

Riposto (37°44'N., 15°13'E.) (World Port Index No. 40280), a small harbor, is formed by two breakwaters. The town can be identified by its cathedral with a prominent dome, and by its customs house which is surmounted by a tower on the SE corner. A light is shown from a structure, 10m high, standing on Punta del Chiancore, at the S end of the town.



Riposto Light

The harbor can be contacted on VHF channel 14, 16, or 68; the services of a local pilot are available. A quay situated on the inner face of the outer breakwater has 280m of berthing space with depths of 3.8 to 8m alongside. Vessels up to 75m in length and 7m draft can be handled.

Small vessels can anchor, in depths of 3 to 10m, in the center of the harbor. Larger vessels can anchor off the harbor in convenient depths. Local knowledge is required. The harbor and the outer anchorage are exposed to E winds and heavy seas roll in at such times. It has been reported (2001) that extensive construction is in progress in the harbor and that the entrance is closed.

15.49 Pozzillo (37°39'N., 15°12'E.), a town, stands on the N side of a low, dark, and prominent projection which is fronted by rocks. A church, with a prominent bell tower, is situated in the center of this town. Several villages stand along the coast to the N and S of the town.

Santa Tecla (38°38'N., 15°11'E.), a village, stands on a rather high projection, 1.5 miles SSW of Pozzillo. A dark-colored tower stands close N of the village and is conspicuous. A small boat harbor, protected by a breakwater, fronts the shore near the village. To the S of the village, the coast becomes high and consists of mainly cliffs of black lava.

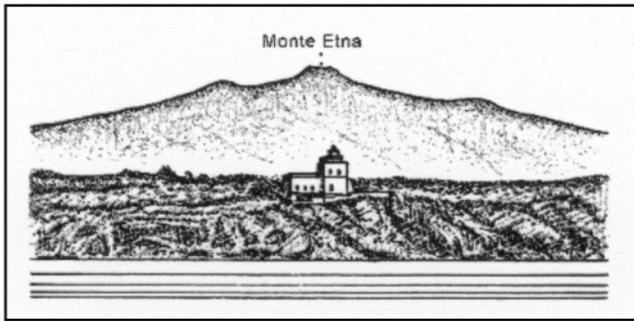
Santa Marie La Scala, a small fishing harbor, lies 1 mile S of Santa Tecla. A prominent bell tower is situated near the harbor.

Two small shoals, with depths of 2.7m and 5m, lie close together about 0.2 mile offshore, 0.7 mile S of Santa Marie La Scala.

Capo Molini (37°35'N., 15°11'E.) is formed of lava. From seaward, it appears as a black wall dominated by hills which are covered with fruit groves and orchards. A light is shown from a prominent structure, 20m high, standing on the NE side of the cape.

Aci Trezza, a small fishing village, is situated 1 mile SSW of Capo Molini. This village can be identified by its red houses and by a prominent small church. A small fishing harbor, protected by breakwaters, fronts the village.

15.50 Iso Ciclopi (37°34'N., 15°10'E.), a group of four basaltic rocks, lies close SE of Aci Trezza. These rocks are of a prismatic columnar formation and are very prominent, being a darker color than the land behind them. Isola di Aci, the largest and N rock, lies 0.2 mile offshore and is surmounted by a



Capo Molini Light bearing NW

building with a tower. Isola Faraglione, 43m high, lies close S of the above rock.

Aci Castello, a village, stands close to the beach, 1 mile SW of Aci Trezza. A prominent cliff, surmounted by some ruins, juts out in front of this village. During offshore winds, temporary anchorage can be obtained, in depths of 20 to 29m, off Aci Castello, but local knowledge is required.

Between Aci Castello and Catania, 4 miles SW, the coast consists of lava cliffs fringed with rocks. Porto Ulisse (Ognina), a small fishing harbor protected by moles, lies on the S shore of a small creek, 2 miles SW of Aci Castello. A village is situated near the harbor and a prominent chimney stands 0.3 mile S of it.

Caution.—The waters in the vicinity of Iso Ciclopi have been declared a marine nature reserve; special regulations apply.

Catania (37°30'N., 15°06'E.)

World Port Index No. 40270

15.51 The port of Catania lies in the NW corner of Golfo di Catania. The harbor is protected by breakwaters and divided into two basins. The city stands on the edge of a plain and has often been partially destroyed by the eruptions of Mount Etna, the last being in 1969 when lava reached the sea.

Winds—Weather.—Winds from the SE cause a considerable swell in the harbor. Violent storms from seaward sometimes cause a considerable disturbance of the waters in the harbor.

Tides—Currents.—The currents are weak and usually follow the direction of the wind. However, strong currents have been reported in the harbor entrance.

Depths—Limitations.—Molo di Levante, the outer breakwater, extends 1 mile S and forms an entrance about 200m wide. There are depths of 10.3 to 12.1m in the entrance, but this depth can vary due to the effect of the swells.

Molo Mezzogiorno, the oil berth, has 361m of total berthing space, with depths of 7.9 to 9.3m alongside.

Porto Peschereccio has 861m of total berthing space, with depths of 5.5 to 9m alongside.

Molo Centrale has 1,325m of total berthing space, with depths of 5.5 to 9.1m alongside.

Molo di Levante has 290m of total berthing space, with depths of 4.9 to 6.3m alongside.

There are facilities for bulk, ro-ro, container, and tank vessels, as well as ferries. Vessels up to 9.1m draft can be accommodated and there are no restrictions with regard to length or breadth.

Aspect.—Monte Etna is the dominating feature in the approach to the port. Several domes are visible above the city, the most conspicuous of which include the dome of the Astronomical Observatory cupola; the dome of Piazza del Duomo, in the center of the E part of the city; and the dome of the cathedral in the middle of the city.

Casa del Sole is situated 1 mile SW of the head of Molo di Levante. This prominent building is a gray-green color with a turret and two pavilions standing N and S of it. A conspicuous factory, with a high chimney, stands in this vicinity and is enclosed by a red fence. Several prominent silos stand in the vicinity of the harbor.

A light is shown from a structure, 28m high, standing 0.7 mile W of the head of Molo di Levante.

Pilotage.—Pilotage is compulsory for all vessels over 500 grt. Pilots can be contacted on VHF channel 12, 14, or 16 and board about 1 mile from the harbor entrance. Vessels should send their ETA 72 hours in advance.

Anchorage.—Small vessels can anchor close S, but clear of the harbor entrance.

Caution.—An anchoring and trawling prohibited area, which may best be seen on the chart, lies close S of the harbor entrance and extends up to 12 miles seaward.

Less depths than charted are reported to lie close off the S side of Molo Mezzogiorno.

It is reported that entering the harbor during SE gales can be dangerous.

A wreck, with least depth 9m, lies close SW of the light at the head of the E breakwater.

15.52 Brucoli (37°17'N., 15°11'E.), a village, stands on the SW side of a small and steep-sided cove, 13 miles SSE of Catania. An ancient castle, with four towers, is situated close N of the village and a prominent lime kiln stands 0.2 mile W of it. Fishing boats and small craft use the cove. A light is shown from a structure, 12m high, standing close N of the castle.

Between Catania and Brucoli, the coast consists of a stretch of sandy beach.

Capo Campolato, low and flat, is located 0.9 mile NE of Brucoli and is the S entrance point of Golfo di Catania. This cape has projections of whitish rock and uneven sides. It rises vertically above the sea and is fringed with rocks.

Vessels can anchor, in depths of 11m to 14m, close off the SW corner of Golfo di Catania. However, this roadstead is fully exposed to N and E winds. Anchorage, sheltered from all but N winds, can also be taken, in a depth of 18m, rock and weed, about 500m NE of the castle at Brucoli.

Between Capo Campolato and Capo Santa Croce, 4.5 miles SE, the coast is rocky and jagged.

Capo Santa Croce (37°15'N., 15°15'E.) is low, rocky, and surmounted by several buildings. Rocks front this cape and extend up to about 300m offshore. A light is shown from a prominent structure, 27m high, standing on the cape.

Between Capo Santa Croce and Capo Santa Panagia, 8.5 miles SSE, there is a large bight which is divided into two parts by Penisola Magnisi. The N part of the bight is known as Baia di Augusta and the S part as Baia di Santa Panagia. Several large and conspicuous oil refineries stand on the W side of Baia di Augusta.

Augusta (37°13'N., 15°14'E.)

World Port Index No. 40250

15.53 The extensive port of Augusta lies in the NW part of Baia di Augusta and is divided into three parts, namely Porto Xifonio, Porto Megarese, and Seno del Priolo.

Winds—Weather.—Winds from the NE and SE, of lasting duration, prevail. These winds are weak in summer and strong in winter. Winds from the W also prevail during the winter months. Fresh WSW winds produce a heavy sea and may be dangerous to vessels in the roadstead.

Depths—Limitations.—The N breakwater extends 1.1 miles SSE from the S end of Isolotto di Augusta. The S breakwater extends 0.6 mile ENE from the SW side of the bay. A detached breakwater, 1.4 miles long, extends between the heads of the N and S breakwaters and forms two entrances. Passo di Levante, the main entrance, leads N of the N end of the detached breakwater into Porto Megarese and has a depth of 37m.

Porto Megarese is the central part of the port and lies W of the breakwaters and Isolotto di Augusta. An extensive area, close inside the main entrance, is dredged to a depth of 21.8m, although caution is necessary as depths of from 11.5 to 20.7m, which are best seen on the chart, are located within the limits of the dredged area.

Porto Xifonio, an inlet, lies outside the main harbor and NE of Isolotto di Augusta.

Seno del Priolo, a bight, lies in the S part of the bay and is fringed by a shoal bank with depths of less than 10m extending up to 0.6 mile offshore.

A new ro-ro terminal is situated in the NW part of the main harbor, 1 mile W of the N end of Isolotto di Augusta. It has 761m of total berthing space, with a depth of 12m alongside, and a jetty, 738m long, with depths up to 12.2m alongside the outer end. Vessels up to 10.8m draft can be accommodated.

Macet Jetty is situated in the NE part of the main harbor, NNW of the N end of Isolotto di Augusta. It has depths up to 8.5m alongside and can accommodate vessels up to 25,000 dwt, stern-to.

Enichem Augusta, situated S of the ro-ro terminal, is used for loading and discharging chemical products. The N jetty has a depth of 5.4m alongside and can accommodate vessels up to 3,000 dwt. The S jetty has a depth of 9.1m alongside and can accommodate vessels up to 30,000 dwt. A platform, situated close SE of the S jetty, has a depth of 6.4m alongside and can handle vessels up to 5,000 dwt, moored stern-to.

Pontile Consortile extends 0.4 mile SE from the reclaimed land, 0.4 mile S of Enichem Augusta. It has dredged depths of 5.8m alongside the inner half and 13.3m alongside the outer half.

Pontile Esso No. 1 extends 1,050m from the shore, 0.5 mile SSW of Pontile Consortile. The berths at the head have depths

of 11.3m alongside, and vessels up to 38,000 dwt and 250m in length can be accommodated.

Pontile Esso No. 2, situated close S of Pontile Esso No. 1, extends 1,150m from the shore and has four berths with depths of 7.9 to 16.4m alongside. Vessels up to 140,000 dwt and 297m in length can be accommodated.

A pier, supporting a sea-water intake, extends from the shore close S of Pontile Esso No. 2.

Unicem Pier, which is used to handle bulk cement, extends 640m from shore, 0.9 mile S of Pontile Esso No. 2. It has a depth of 7m alongside the berth.

Pontile Marina Militare, a naval pier, extends 0.2 mile NE from the shore, 0.4 mile SE of the cement pier. It has depths up to 11m alongside.

Pontile Superpetroliere, for deep-draft tankers, extends 0.6 mile ENE from the shore, close SSE of the naval pier. It has depths of 12.2 to 20.4m alongside and can accommodate tankers up to 450,000 dwt and 20.1m draft.

Liquids Pier is situated close SE of the root of Pontile Superpetroliere and has depths of 12.9m alongside the N side and 11.4m alongside the S side.

The oil platform, situated close S of Liquids Pier, has a depth of 10.1m alongside and can accommodate vessels up to 20,000 dwt, stern-to.

Other piers in this area have depths of 4 to 9.5m alongside and can accommodate vessels up to 20,000 dwt.

Montecatini Pier, used for chemical products, is situated outside the main harbor and close S of the S breakwater. It has depths of 5.5 to 8.2m alongside and can accommodate vessels up to 20,000 dwt.

VLCC tankers with drafts up to 21m have entered the harbor and anchored within Porto Megarese.

Aspect.—The prominent city of Augusta is situated on Isolotto di Augusta, which extends 1.2 miles S from the N shore of the bay to which it is connected by bridges. A conspicuous cathedral, with a bell tower, stands in the N part of the city. However, due to the high buildings which have been constructed around it, this cathedral is no longer a good landmark.

Torre Avolos, a tower, is 18m high and stands on a prominent ancient fort situated on a small islet, 0.2 mile S of the S extremity of Isolotto di Augusta. An iron framework mast, 37m high, stands close S of the tower.

A prominent chimney, 70m high, stands 2.5 miles W of Torre Avolos and another chimney, with a flare, stands close ENE of it.

Forte Garzia and Forte Vittoria are situated on a shoal which lies 0.7 mile W of the N end of Isolotto di Augusta. A prominent framework mast, 27m high, stands on the latter fort. Punta Pila is located 0.3 mile NNW of these forts and can be identified by a prominent hangar, 74m high, standing 0.3 mile NW of it.

Priolo, a prominent village, is situated 3.7 miles SSW of Torre Avolos. The refinery standing close N of this village is marked by numerous chimneys and flares.

A signal station is situated on the summit of a rocky hill, 187m high, standing 4.5 miles W of Capo Santa Panagia. It serves as a prominent landmark for vessels approaching either Augusta or Siracusa.

A racon is situated at the beacon which lies close W of the head of the N breakwater.

A lighted range, which may best be seen on the chart, indicates the entrance fairway through Passo di Levante. Disused light structures stand close N of the existing entrance range and should not be mistaken for it.

Pilotage.—Pilotage is compulsory for all vessels over 500 grt. Pilots can be contacted on VHF channel 11 or 16 and generally board between 1 and 2 miles E of the harbor entrance. Large vessels may be boarded about 3 miles E of the entrance.

Vessels should send an ETA 24 hours in advance to the harbor master at Augusta via telex. The message should include the following information:

1. Request for a pilot.
2. Name of agent.
3. Reason for call.
4. Last port of call and sailing date.
5. Cargo details.

Vessels must also send the following information 12 hours before entering Italian territorial waters:

1. Name and nationality.
2. Call sign.
3. GRT and dwt.
4. Length and draft.
5. ETA at pilot station.
6. Information relating to certificates (IMO, etc.).
7. Any mechanical defects, if applicable.

Vessels should then confirm their ETA 1 hour in advance of arrival.

Regulations.—All vessels and boats, except naval craft, are prohibited from approaching the military piers, military installations, or any wrecks in the harbor.

Vessels are prohibited from stopping within a radius of 1 mile seaward of the entrance to Porto Megarese, or within 0.5 mile of the entrances when inside the harbor.

A vessel leaving the harbor has precedence over a vessel entering the harbor. Vessels are prohibited from entering or leaving the harbor at the same time.

Anchorage.—Vessels can anchor, in depths of 16 to 27m, mud, sand, and weed, anywhere in the middle part of Porto Megarese. Porto Xifonio and Seno del Priolo offer protected anchorage to small vessels. Vessels intending to remain at anchor in Porto Megarese should moor clear of the entrance range.

Caution.—Several red aircraft buoys are moored in the NW part of Porto Megarese.

Vessels entering and leaving the harbor should stay close to the entrance range.

Caution is necessary when entering the harbor in bad weather, as seas sometimes break heavily over the breakwater.

Several anchoring and fishing prohibited areas lie within the harbor and may best be seen on the chart.

Several prohibited areas lie in the NE part of the harbor and may best be seen on the chart.

It is reported (1990) that the lights of the city and refineries make identification of the navigational entry lights difficult.

15.54 Penisola Magnisi (37°09'N., 15°14'E.), less than 30m high, is joined to the mainland by a narrow, sandy isthmus. A large tower stands on the W side of this peninsula above the isthmus. A light is shown from a tower, 6m high, standing on the NE extremity of the peninsula.

Punta Magnisi (37°09'N., 15°15'E.), the SE extremity of Penisola Magnisi, is steep-to on its S side. A T-head oil pier, which can accommodate tankers up to 22,000 dwt, is situated 0.3 mile W of the point and has a depth of 11m alongside.

Caution.—A seawater intake is situated 0.7 mile SW of the T-head pier and is marked by a light.

A submarine pipeline extends 0.9 mile ENE from the N end of Penisola Magnisi. Anchoring and fishing are prohibited in its vicinity.

An anchoring and fishing prohibited area, the limits of which are shown on the chart, lies centered 2 miles E of Punta Magnisi.

15.55 Baia di Santa Panagia (37°08'N., 15°16'E.), open to the E and NE, indents the coast between Punta Magnisi and Capo Santa Panagia, 3.2 miles SE. Cala Canaletto, the NW part of this bay, has sandy shores. The shores of the bay to the S of Cala Canaletto are fringed by rocks. Vessels can anchor, in depths of 10 to 11m, sand and rock, moderately good holding ground, in the middle of the outer part of Cala Canaletto.

15.56 Melilli Oil Terminal (37°07'N., 15°16'E.) (World Port Index No. 40245) lies 2.3 miles SSE of Punta Magnisi in the S part of Baia di Santa Panagia. It consists of a main pier which extends 0.7 mile NE from shore and has five berths.

Depths—Limitations.—The five berths have depths of 18 to 74m alongside. One berth can accommodate LNG vessels up to 3,000 dwt and 100m in length; three berths can accommodate tankers of 30,000 to 250,000 dwt; and one berth can accommodate VLCCs up to 400,000 dwt, 366m in length, and 23.7m draft.

Aspect.—Lighted ranges indicate the approaches to the berths and may best be seen on the chart.

Pilotage.—Pilotage is compulsory for all vessels bound for the oil terminal pier. Pilots can be contacted on VHF channel 14 and generally board vessels approaching from the S off Porto di Siracusa. Vessels approaching from the N are boarded about 1 mile E of Punta Magnisi.

Vessels should send an ETA at least 72 hours in advance to the harbor master in Siracusa. Vessels berth during daytime only and must arrange for a floating boom to be rigged all around in order to prevent oil pollution.

Anchorage.—VLCCs can anchor, in depths of 54 to 56m, sand, good holding ground, within an area centered about 1 mile NNE of the head of the pier.

15.57 Capo Santa Panagia (37°06'N., 15°18'E.), terminating in steep sides, is the NE extremity of a hilly promontory, the sides of which slope gently to the sea. The coast of this promontory is rocky. Between Capo Santa Panagia and Punta Spuntone, 1.5 miles S, the coast is rocky and rather steep-to.

Punta Spuntone (37°05'N., 15°18'E.) can be identified by its yellowish cliffs and by its numerous grottoes. Two latticework masts, 59m high, stand on the cape.

Between Punta Spuntone and Porto Marmorea (Porto Piccolo), 0.7 mile SSW, the coast is rocky and very irregular. Porto Marmorea is a small harbor, with a depth of 3m, which is enclosed by two breakwaters and protected by two outer breakwaters. A prominent war memorial stands 0.4 mile W of

the harbor entrance. Two prominent towers stand on the S side of the harbor, close SW of the root of the S breakwater.

Siracusa (37°03'N., 15°17'E.)

World Port Index No. 40240

15.58 The port of Siracusa, also known as Porto Grande, consists of a large bay which is entered between the S end of Isola Ortigia and Punta Castelluccio, 0.6 mile S. The commercial facilities are situated in the NE part of the bay which forms a natural harbor.

Winds—Weather.—Winds from the ENE and ESE prevail during the winter. Winds from the SW and WSW sometimes blow with violence and may endanger vessels alongside the quays. Winds from the NE and E sometimes produce a swell within the harbor.

Tides—Currents.—The tidal rise is negligible. Outside the harbor, the currents along the coast are mostly weak and are influenced by the winds.

The joining of the current from Fiume Anapo, which flows out of the W shore of the harbor, with the current flowing out from La Darsena, in the NE part, sometimes causes a considerable current. This current follows the W side of Isola Ortigia and discharges through the entrance. Its rate varies between 1 and 3 knots, depending upon whether the wind is favorable or contrary.

Depths—Limitations.—The main commercial facilities include Molo San Antonio, which extends from the N side of the harbor and is used by general cargo, passenger, and ferry vessels. It has 555m of total berthing space with depths of 6.1 to 8m alongside. The harbor also has 900m of berthing space, with depths of 3.6 to 4.6m alongside, which is used by fishing vessels, yachts, and small craft. Vessels up to 30,000 dwt and 8.3m have been handled.

Aspect.—The city of Siracusa is built on Isola Ortigia, which extends 0.8 mile from the S part of Port Marmorea. La Darsena is a narrow channel, spanned by bridges, which separates Isola Ortigia from the mainland.

The E side of Isola Ortigia is fronted by rocks and Secca dei Cani, awash, lies about 0.2 mile E of the middle of this side.

A light is shown from a prominent structure, 8m high, standing on Punta Castelluccio which is fronted by rocks. A spit, with a depth of 7m near its outer end, extends up to about 0.3 mile NW of the light. Secca Galera, with a least depth of 6m, lies close W of the N end of this spit.

Castello Maniace, marked by a light, stands on a high rampart at the S end of Isola Ortigia. This castle consists of a square-based structure with a circular tower at each corner. A monastery, topped by a dome, and a cathedral, decorated by numerous statues, stand out prominently above the other buildings of the city. Palazzo del Poste, a high structure with two towers, stands near the N end of the city, and a high brick-colored tower stands close N of it.

A prominent war memorial, consisting of a tall structure with columns, stands 0.2 mile N of the root of Molo San Antonio. The airport, with several hangars, is situated close W of Molo San Antonio and is also prominent.

A lighted range, situated on the W shore of the harbor, indicates the entrance fairway and may best be seen on the chart.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 14 and board about 1 mile NNE or 1 mile ESE of Castello Maniace Light.

Regulations.—A prohibited area, reserved for aircraft, lies in the NW part of the harbor and may best be seen on the chart. A red flag is hoisted at the seaplane base when aircraft are about to maneuver.

Anchorage.—The harbor can accommodate a large number of vessels. Anchorage can be taken, in depths of 7 to 14m, mud, but the holding ground is not good. The S part of the harbor is deeper and the holding ground is better than in the N part.

Caution.—Vessels approaching Siracusa from the N should give Isola Ortigia a wide berth in order to clear Scoglio del Cani.

It has been reported that the lights on motor vehicles, which are proceeding along the main road to the W of the lighted range, are intermittently obscured by foliage and can, at times, be mistaken for the navigation lights.

Obstructions have been reported (1987) to lie in the vicinity of Secca Galera.

An area of foul ground lies about 0.9 mile SSW of Castello Maniace.

15.59 Capo Murro di Porco (37°00'N., 15°20'E.) is located 3 miles SE of Punta Castelluccio. The coast between is rocky and steep. The cape consists of rocky and vertical cliffs, up to 15m high. A light is shown from a prominent structure, 20m high, standing on the cape.

Baia di Ognina (37°00'N., 15°18'E.) is entered between Capo Murro di Porco and Capo Ognina, 4 miles WSW. Capo Ognina is faced with cliffs and surmounted by the inconspicuous ruins of a tower. A tower, which is visible from the S, stands 1 mile WNW of these ruins.

The shores of the bay are rocky and there is a sandy cove in its innermost part. The bay offers shelter from N and W winds, but tunny nets are laid out annually within it. Anchorage can be obtained, in a depth of 24m, good holding ground, mud and sand, in the N part of the bay.

Caution.—Due to the existence of submarine cables, an anchoring prohibited area, which can best be seen on the chart, extends seaward from the S part of Baia di Ognina.

15.60 Punta del Cane (36°57'N., 15°13'E.) is located 2.7 miles WSW of Capo Ognina. The coast between is rocky and somewhat irregular. A sandy beach lies near the point and a small cove is entered close N of it. Several rocks, awash, lie close inshore within 1 mile SW of the point.

Capo Negro, located 2.5 miles SW of Punta del Cane, is low, narrow, and surmounted by a small house. A shoal bank, with a least depth of 49m, extends up to 0.5 mile SE of the cape and the seas break over it in bad weather.

Avola, a town, is situated on a wooded hill, 40m high, 2 miles WSW of Capo Negro. A tall chimney stands in the S part of the town. A prominent dark-colored cathedral, which has a square bell tower, stands in the center of the town.

Marina di Avola, a small harbor, fronts the coast, close SE of Avola. A fish processing plant, topped by a square chimney, is situated near the harbor. The harbor is formed by a mole and is only used by fishing boats and small craft with local know-

ledge. Anchorage can be taken, in depths of 8 to 10m, about 0.4 mile off Marina di Avola. This is an open roadstead and can only be used during offshore winds.

15.61 Punta Calabernado (36°52'N., 15°08'E.), a small projection, is located 1.8 miles S of Marina di Avola. A small inlet lies near the point and serves as a harbor for the town of Noto, which is situated 3 miles W. A jetty extends 30m NE from the shore and affords shelter to small craft. A tower stands near the E end of the inlet and is prominent from the N.

Between Punta Calabernado and Capo Passero, 10.8 miles S, numerous dangers lie close off the coast.

Torre Vendicari, a large roofless tower, stands on the coast, 4.5 miles SSW of Punta Calabernado. This tower is prominent and salt pans lie on either side of it. A fish factory, with a tall chimney, is also situated near the tower.

Isola Vendicari, small and low, lies 0.6 mile SSE of the tower. This islet is surmounted by two wooden buildings and a narrow tongue of sand connects it to the mainland. Anchorage can be obtained by small vessels between Torre Vendicari and Isolotto Vendicari, but local knowledge is required.

Marzamemi, a town, is situated on a small rocky point, 3 miles S of Isola Vendicari. The coast between is fronted by shoals which extend up to 1 mile offshore. Several detached

shoals, with depths of 11m, lie about 1 mile ESE of Isola Vendicari and about 1 mile NE of the town.

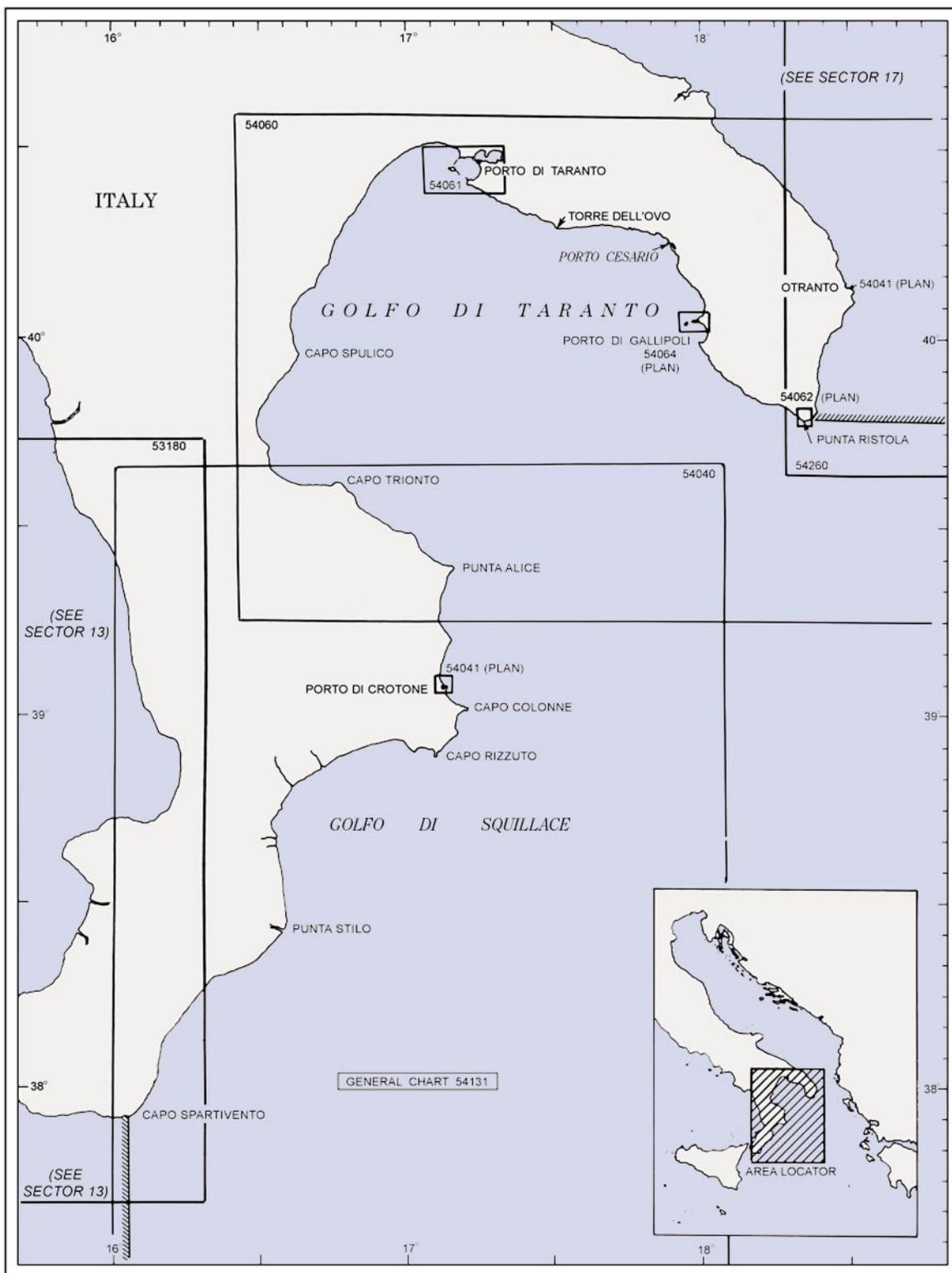
Isola Piccola and Isola Grande, two small islets, lie in a shallow bay which is entered close S of Marzamemi. Fossa dell Isola Grande, a small craft harbor, lies in the S part of this bay and is protected by a mole.

The coast between Isola Grande and Capo Passero is arid and barren. Pachino, a prominent town, stands on a hill, 2 miles SW of Marzamemi.

15.62 Capo Passero (36°41'N., 15°10'E.) is the E extremity of Isola di Capo Passero, a small island, which lies close offshore. This island forms the SE extremity of Sicilia. It is steep-sided, except on its W side, where it is connected to the mainland by shoal ground. A castle is situated on the cape. Capo Passero Light is shown from a structure, 19m high, standing on the NE corner of the castle. Anchorage, sheltered from W winds, can be obtained, in depths of 16 to 18m, about 1.5 miles NNW of Isola di Capo Passero.

Cozzo Spandaro Light is shown from a conspicuous structure, 36m high, standing on a hill, close W of Isola di Capo Passero. A signal station is situated close S of the light and the prominent village of Porto Palo stands 0.2 mile SSE of it.

A stranded wreck lies 0.4 mile SSE of Capo Passero Light.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.
SECTOR 16 — CHART INFORMATION

SECTOR 16

ITALY—SOUTHEAST COAST—CAPO SPARTIVENTO TO CAPO SANTA MARIA DE LEUCA

Plan.—This sector describes the SE coast of Italy from Capo Spartivento NE to Porto di Taranto, and then SE to Capo Santa Maria di Leuca (39°48'N., 18°22'E.).

General Remarks

16.1 Regulations.—Tanker vessels of 1,600 grt and over entering or leaving Italian ports and carrying, or with uncleaned tanks which last carried, petroleum, gas, or chemical products should report to a shore station before entering Italian territorial waters off Italian ports. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Caution.—Tunny nets are laid out annually between March and November close off many places along the shores of Italy.

Submarines frequently exercise within the waters described in this sector and a good lookout should be kept for them.

Capo Spartivento to Porto di Crotona

16.2 Capo Spartivento (37°55'N., 16°04'E.), marked by a light, is fully described in paragraph 13.82.

Capo Bruzzano (38°02'N., 16°09'E.), a whitish and steep rocky point, is located 8 miles NNE of Capo Spartivento. Monte Scapparone, 1,056m high, stands 6 miles W of the cape and has a conspicuous, sparsely wooded, and rounded summit.

Scoglio Monistili, an inconspicuous above-water rock, lies close inshore, 3 miles SSW of Capo Bruzzano.

Brancaleone Marina is situated midway between Capo Spartivento and Capo Bruzzano and consists of a several houses and a prominent church with a bell tower. A three-arch bridge crosses a stream close NE of this village and is prominent. A dangerous wreck lies close NE of the village.

The village of Brancaleone, dominated by a large church, stands on a hill, 1.2 miles NW of Brancaleone Marina.

The large village of Bianco, standing 3 miles N of Capo Bruzzano, is surrounded to the N and S by light-colored hills and is conspicuous.

A sand bank lies close off the coast, 1.5 miles NE of Bianco. This bank is probably caused by silt from nearby streams and presents a danger to navigation. A bridge crosses the mouth of each of two rivers which lie 2.3 and 2.8 miles N of Bianco. The N bridge is the larger and more conspicuous of the two.

Anchorage may be taken, in a depth of 20m, sand, about 0.7 mile offshore, in front of the village of Bianco. However, this anchorage is dangerous in SE winds, which if strong, cause heavy seas and are often accompanied by mist.

Bovalino Marina, a town, is situated 3.5 miles NNE of Bianco. A conspicuous railroad station and a steeple, topped by four small spires, stand in the center of the town. A large castle stands 1.5 miles NW of the town and is conspicuous from the NE. Ardore Marina, a town, stands 2 miles NE of Bovalino Marina and has a conspicuous church, with a white steeple, in its center.

16.3 Siderno Marina (38°16'N., 16°18'E.) (World Port Index No. 40400), a small town, is dominated by the quadrangular steeple of the church. A pier situated 0.7 mile NE of the town is used to handle cement. Vessels up to 110m in length and 7m draft can be accommodated. Anchorage is available, in depths of 20m to 26m, about 0.3 mile off Siderno Marina. This anchorage is sheltered from winds between W and NW, but is completely exposed to those between E and SE.

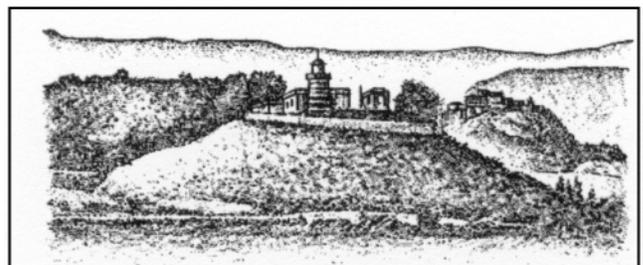
Marina di Gioiosa Ionica, a small town, stands near the mouth of Fiumara Turbido, 2.5 miles NE of Siderno Marina. The river mouth is spanned by a bridge supported on five piers. The waters in front of this town are very deep and not suitable for anchorage.

Roccella Ionica (38°19'N., 16°24'E.), a small town, is built partly on a plain and partly on a hill which is surmounted by a large citadel. A prominent tower stands close N of the citadel. From the NE or SW, this citadel and tower appear like two great castles. A dangerous wreck lies close offshore, SW of the town. Anchorage is available with good holding ground off the town. The bottom is mud, but the beach is continuously extending seaward and local knowledge is necessary. In winter, any anchorage in this area may be dangerous because of bad weather.

16.4 Punta Stilo (38°27'N., 16°35'E.), low and sandy, is overlooked by a hill. A light is shown from a prominent structure, 15m high, standing on the hill.

Monasterace is situated 1.5 miles W of Punta Stilo. This village is built on a semiconical hill which is surrounded by a wall and gives the appearance of a large castle from a distance. Monte Stella, 1,046m high, stands 7.5 miles W of Punta Stilo and has a sharp peak which may be readily identified from the NE. A conspicuous water tank stands 1.5 miles WNW of the light on Punta Stilo.

A dangerous wreck lies about 0.5 mile SSW of the light. Another dangerous wreck lies about 0.7 mile offshore, 4.7 miles N of the light.



Punta Stilo bearing 284°

Golfo di Squillace lies between Punta Stilo and Capo Rizzuto (38°53'N., 17°06'E.), 36 miles NE. This gulf has low and sandy shores which are backed by the high green slopes of

Appennino Calabrese. Numerous streams, most of which are short and torrential, flow into the gulf. Winds are almost always present in the gulf even when it is calm outside.

Marina di Badolato (Badolato Stazione), situated 7.5 miles N of Punta Stilo, is not easily seen from seaward. Two dark isolated houses surmount two hills which stand S of this village and are the best landmarks in this vicinity. Badolato, situated 2 miles W of Marina di Badolato, can be seen only in the early morning hours. The most conspicuous object in this village being the church on top of a hill.

Marina di Badolato offers the best anchorage off this part of the coast. Small vessels can anchor, in a depth of 9m, about 0.4 mile off the beach which fronts the village. This anchorage is dangerous in W winds as it has a whirling characteristic. Large vessels can anchor, in a depth of 80m, about 2.5 miles offshore.

16.5 Soverato Marina (38°42'N., 16°33'E.) (World Port Index No. 40420), a small town, is situated 7 miles N of Marina di Badolato and is conspicuous from seaward. A church, with a red roof, stands on a hill which dominates the town. A large brick-colored building stands next to the church.

A wreck lies about 1.5 miles offshore, 3.2 miles SE of the town. The depths in this area are reported to be shallower because of silt from the nearby river.

Soverato Marina provides one of the safest anchorages along this coast. Vessels can anchor, in a depth of 29m, sand, about 0.1 mile offshore and ENE of the church. Local knowledge is advisable. This roadstead is partially protected by a sandspit which extends about 300m from the coast. It is dangerous with winds from between the N and SE. Large vessels can anchor, in depth of 160m, about 1.5 miles N of Soverato Marina.

Punta di Staletti (38°45'N., 16°34'E.) is the extremity of a rocky and steep-sided promontory which is partially covered with vegetation. A red-roofed castle, with a crenellated turret, stands on the summit of the promontory. A conspicuous viaduct, with twelve arches, is situated near this point.

The village of Squillace, situated 3 miles NW of Punta di Staletti, stands on a conspicuous isolated hill, 345m high, which is covered with dark vegetation. A prominent castle overlooks this village.

Caution.—A submarine cable, which may best be seen on the chart, extends SE from the shore, 1 mile NE of Punta di Staletti.

16.6 Marina di Catanzaro (38°49'N., 16°37'E.) (World Port Index No. 40430), a sprawling town, is situated 4.5 miles NE of Punta di Staletti. Numerous conspicuous chimneys and various tall factories stand in the town. A long steel railway bridge, standing close S of the town, and a ruined tower, surmounting a hill close NW of the town, are prominent. A small craft harbor, protected by moles, lies close E of the town and vessels work their cargo in the roadstead. In winter, with fresh offshore winds, vessels usually anchor close inshore where the depths are great and the holding ground is good. Local pilots are available.

Catanzaro, a large town, is situated 5 miles N of Marina di Catanzaro. This town is easily identified, as it appears as a large white patch against the mountains. At night, the lights of the town are very conspicuous.

Torre del Crocchio (38°55'N., 16°50'E.) is conspicuous, although it is in ruins and of a dark aspect. This tower stands on the W bank of a river and several conspicuous buildings are situated 0.7 mile NW of it; the most conspicuous is the railway station of Cropani. The houses of Botricello are also conspicuous and are situated on a slight rise of ground 2 miles NNE of the tower. Marina di Botricello, a village, stands on the wooded shore and consists of low dwellings and a prominent church.

16.7 Barco Vercillo (38°55'N., 16°59'E.), a cove, is entered 7 miles E of Torre del Crocchio and provides anchorage, in a depth of 12m, sand, about 0.3 mile offshore. A sandy shoal lies in the E part of this cove.

Le Castella, a conspicuous group of ruined bastions, is surmounted by a prominent tower. This group stands on a low peninsula 3 miles W of Capo Rizzuto and is almost surrounded by the sea.

Secca Le Castella, lying about 0.5 mile SSW of Le Castella, consists of a reef with two rocky heads. A least depth of 6.1m lies in the channel leading between this reef and the shore.

16.8 Capo Rizzuto (38°53'N., 17°06'E.), located 3.5 miles ESE of Le Castella, is the extremity of a low, rocky, and steep-sided promontory. A light and an auxiliary light are shown from a structure, 17m high, standing on the cape.

Two conspicuous towers, in addition to the light structure, stand on the cape. One, a cylindrical tower, stands on the E side and the other, a square one, stands on the W side.

From off this cape, the large town of Catanzaro is visible and appears as a large white patch against the mountains.

Vessels can anchor, in depths of 14 to 20m, over a rocky and irregular bottom in the bay lying between Le Castella and Capo Rizzuto. Local knowledge is advisable.

Caution.—A nature reserve has been established in the vicinity of Capo Rizzuto.



Capo Rizzuto Light

Between Capo Rizzuto and Capo Colonne, 10 miles NE, the coast is generally flat and rocky with many cliffy points up to 20m high. Le Arene Rosse, formed by two reddish bluffs, is located 3.2 miles NE of Capo Rizzuto.

Two shoals, known as Secche di Capo Rizzuto, have least depths of 4m and 8m and lie 1.5 miles and 2.3 miles ENE, respectively, of Capo Rizzuto.

Capo Cimiti, located 5.4 miles NE of Capo Rizzuto, is the extremity of a low and rocky promontory. Several prominent white silos stand close SW of this cape.

16.9 Capo Colonne (39°02'N., 17°12'E.), 20m high, is the N extremity of a flat promontory. A light is shown from a prominent structure, 22m high, standing 0.2 mile S of the extremity of the cape.

Several houses, a large quadrangular tower, and a chapel, all prominent, are situated on the cape. The ruins of an ancient temple and a large column stand close seaward of the light. A prominent viaduct, with numerous arches, is situated 1.5 miles WSW of the light and is conspicuous. A disused signal station, consisting of a building surmounted by a tower, stands at a height of 144m, 2 miles W of the light.

A shoal, with a depth of less than 1.8m, extends up to 0.2 mile E from the cape.

Vessels can anchor, in a depth of 20m, about 1 mile SW of the light, but local knowledge is required.

Numerous shoals and submerged reefs, dangerous to navigation, lie up to about 0.4 mile offshore between Capo Colonne and Porto di Crotone, 4.5 miles NW.

Porto di Crotone (39°05'N., 17°08'E.)

World Port Index No. 40440

16.10 Porto di Crotone, a small port, consists of two harbors which are protected by breakwaters. Porto Vecchio, the smaller harbor, is entered from the S and Porto Nuovo, the larger harbor, is entered from the NW.

Winds—Weather.—Winds from the NE through SE prevail during the winter. In spring, mostly NE winds prevail.

Depths—Limitations.—Porto Vecchio, in the S part of the port, affords good shelter and can accommodate vessels up to 61m in length and 4.2m draft. It is used mostly by fishing boats.

Porto Nuovo, in the N part of the port, contains the main commercial facilities. Molo Guinti, 299m long, has a depth of 8.5m alongside and can accommodate a vessel with a maximum draft of 7m. Molo Foraneo, 427m long, has depths of 5.5 to 7.2m alongside. Banchina di Riva, 428m long, has depths up to 8.6m alongside and can accommodate a vessel with a maximum draft of 8m. There are facilities for chemical, ro-ro, bulk, and tanker vessels. Vessels up to 35,000 dwt, 198m in length, and 8.7m draft can be accommodated.

Aspect.—A conspicuous fort, with high bastions, stands on a point, 43m high, between the two harbors. The town extends W and S from this fort. Two large factories and a cemetery, surrounded by a low wall, are situated in an isolated position, 1 mile S of the town. A chimney, 90m high, stands 1 mile W of the entrance to Porto Nuovo.

Pilotage.—Pilotage is compulsory for vessels over 500 grt and for tankers of any size. Pilots may be contacted on VHF channel 14 or 16 and board 1 mile from Molo Foraneo Light.

Regulations.—Power-driven vessels entering and leaving the port have the right-of-way over sailing vessels and small craft within 1 mile of the entrances.

Vessels departing either harbor have the right-of-way over vessels entering.

Anchorage.—Vessels can anchor, in a depth of 14m, good holding ground, about midway between Capo Colonne and the port. Vessels can also anchor SE of Crotone, in a depth of 13m, ENE of the cemetery.

Caution.—The heads of the breakwaters should be given a wide berth.

Recognition of the navigation lights shown from the heads of the breakwaters is, at times, very difficult because of the illumination of the port and several bluish lights situated to the NW of the port.

Several oil production platforms, wells, and associated submarine pipelines, are situated in the approaches to Crotone and may best be seen on the chart

A stranded wreck, marked by a buoy, lies 0.5 mile N of the head of Molo Foraneo. A second wreck lies approximately 0.5 mile NW of the mole head.

Porto di Crotone to Porto di Taranto

16.11 Golfo di Taranto (40°00'N., 17°00'E.) is entered between Capo Colonne and Capo Santa Maria di Leuca, 72 miles NE. The W side of the gulf is backed by the mountains of the Appennino Calabrese, which have some remarkable summits and can be seen from a great distance. The NE side of the gulf is low and flat. All the shores of the gulf are bordered by sandy beaches, which in general, are fringed by marshy ground.

Caution.—Italian submarines frequently exercise in an area indicated on the chart within Golfo di Taranto. A good lookout should be kept for them by vessels passing through the area.

16.12 Punta Alice (39°24'N., 17°09'E.) is low and steep-to. A light is shown from a prominent structure, 27m high, standing 0.3 mile SW of the extremity of the point.



Punta Alice Light

The coast between Crotone and Punta Alice consists of a beach alternating between sand and gravel. Fiume Neto, located 7 miles N of Crotone, enters the sea through a densely-wooded mouth that extends several miles E of the general coast line. A steel railway bridge and two red silos are situated 1.5 miles W of the mouth of this river and are conspicuous from the SE. The conspicuous railway station of Strongoli, sur-

rounded by lower buildings, stands 0.5 mile N of the wooded area.

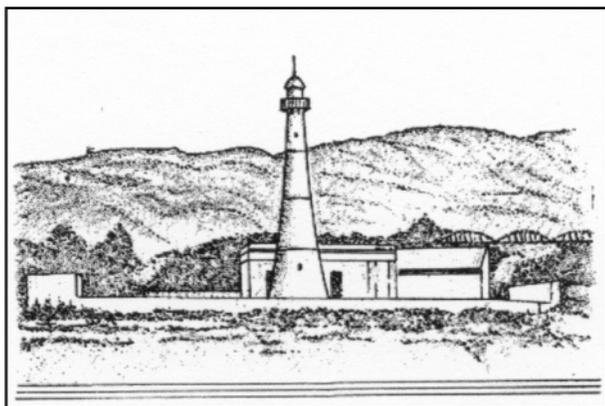
The most prominent landmark to be seen from any direction is the church of San Nicola dell Alto, which stands on a saddle in the mountains between a pointed and a rounded summit, 10 miles NW of the mouth of Fiume Neto.

The town of Ciro is situated on a green hill, 4 miles WSW of Punta Alice. It is distinctly visible at a great distance from all directions. A white signal station stands on the summit of Serra Sanguigna, a bare cupola-shaped hill, standing 0.5 mile WNW of Ciro. Madonna di Mare, a small and conspicuous church, is situated 1.5 miles WNW of Punta Alice.

A prominent building, with an industrial plant nearby, stands 0.5 mile W of Punta Alice. A T-head pier, with off-lying dolphins, lies on the N side of Punta Alice and is connected with the industrial plant. The head, 140m long, has a depth of 10m alongside and is used for loading mineral salt. Local pilots are available and may be ordered in advance through Porto di Crotone.

16.13 Torre Policaretto (39°29'N., 17°01'E.), standing on Punta Fiumenica, is conspicuous from a great distance and consists of two entirely separated and ruined fragments. In fair weather or with offshore winds, anchorage is available about 1 mile SE of this tower.

Capo Trionto (39°37'N., 16°46'E.) is low, steep-to, and covered with vegetation. A light is shown from a prominent structure, 18m high, standing close W of the mouth of Fiume Trionto, which enters the sea through the cape. A marine farm, marked by lighted buoys, is located 1.7 miles W of the cape.



Capo Trionto bearing 156°

16.14 San Angelo di Rossano (39°37'N., 16°38'E.) (World Port Index No. 40450) is situated 5.5 miles W of Capo Trionto. The houses of this town are obscured by trees, but several factory chimneys are prominent from a short distance offshore. Sometimes the smoke from these factory chimneys may be used as a guide when approaching. Anchorage can be taken, in good weather, in front of the town. A good berth, in a depth of 37m, lies about 140m offshore, with the stern secured to mooring posts on the beach. Local knowledge is advisable and vessels should leave on the first indication of onshore winds.

16.15 Shiavonia (39°39'N., 16°32'E.), a village, stands 5 miles WNW of San Angelo di Rossano and serves as the port for Corigliano Calabro. A large tower is situated amongst the houses of this village and is prominent. In summer, this village is a popular resort.

Corigliano Calabro, a town, is situated on a hill, 3.5 miles SSW of the village. It is dominated by a castle. Pilotage is compulsory for vessels of more than 500 gt. Vessels waiting to carry out operations must anchor in one of the designated berths. Vessels can anchor, in depths of 15 to 20m, off the village, in a good holding ground of mud and sand. Vessels must contact the harbormaster on VHF channel 14 or 16 prior to anchoring.

Punta Coscio (39°43'N., 16°31'E.) is a flat, heavily-wooded point through which Fiume Crati discharges into the sea by two mouths. After heavy rain, the sea is discolored for up to about 1 mile offshore in this vicinity.

Porto di Sibari Marina (39°44'N., 16°31'E.), an extensive yacht harbor, lies close N of the mouth of Fiume Crati, 5 miles NNW of Shiavonia. It is entered through a canal, with a depth of 4m, which is protected by two moles. A light is shown at Sibari, situated in the vicinity of the harbor entrance; a lighted range indicates the approach channel.

The beach between Capo Trionto and the mouth of Fiume Saraceno, lying 7.5 miles N of Punta Coscio, is undulating and composed of alluvial deposit from the numerous torrents. The character of the shore alters to the NE of Fiume Saraceno and hills stand closer to the beach. When dry, the river bed of Fiume Saraceno is visible from a great distance offshore.

The village of Trebisacce, situated 1 mile NE of the mouth of Fiume Saraceno, stands on a spur, 73m high, that slopes steeply towards the sea.

16.16 Trebisacce Marina (39°52'N., 16°32'E.) (World Port Index No. 40460), fronted by a short pier, is built on the beach, close SE of Trebisacce. A high chimney, a long wall with arches, and a steel bridge, are situated in the vicinity of this prominent village. Anchorage can be obtained off Trebisacce Marina. The bottom is sandy and the holding ground is good. Large vessels can anchor, in a depth of 20m, about 1 mile offshore. The depths decrease rapidly towards the beach.

Secca Amendolara, an off-lying bank, lies 7 miles SE of Capo Spulico and has a least depth of 26m.

Capo Spulico (39°58'N., 16°38'E.) is very low and partially covered with bushes. Fiume Ferro flows out to the sea through this cape. A steel railway bridge crosses the river, 0.2 mile from its mouth, and is prominent. Anchorage, sheltered from winds between W and NNE, can be obtained by small vessels close S of this cape, but local knowledge is required. The bottom is sand.

The coast between Capo Spulico and the mouth of Torrente Canna, 8.5 miles N, is high, but from the latter river to Punta Rondinella, 34 miles NE, it is low, marshy, wooded in places, and intersected by many torrents and rivers. The river mouths, which are hidden by low scrub, are mostly difficult to distinguish.

Montegiordana Marina, a village, is situated 4.7 miles NNW of Capo Spulico. Two pairs of low chimneys and a shed, situated near a factory cableway, stand in the vicinity of this village and are prominent.

16.17 Scoglio Cervaro (40°04'N., 16°36'E.) is a low, black rock which lies close to the coast. It is visible against the light-colored beach for a distance of up to 6 miles offshore.

Marina di Rocca Imperiale, a village, stands near the S mouth of Torrente Canna and consists of several red and white buildings. A tank, the railway station, and Torre Lizzana, surmounted by two sentry boxes and a tall column, are situated in the village and are prominent from seaward. Anchorage is available off this village, in a depth of 14m, sand and mud, good holding ground, near Torre Lizzana.

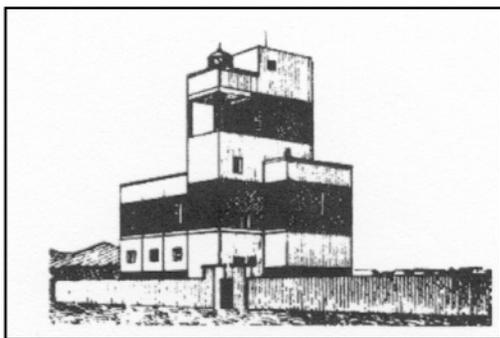
Fiume Sinni (40°09'N., 16°41'E.) enters the sea through a sandy point and prominent muddy river water sometimes extends as far as 2 miles offshore in this area. Between this river and Fiume Agri, lying 4 miles NNE, there are several lagoons and marshes which are backed by extensive woods.

16.18 Torre Scanzano (40°15'N., 16°45'E.) stands in an isolated position near the beach. It is a dark-colored pyramid-shaped structure surmounted by a small building. Anchorage can be obtained, in a depth of 13m, about 1.5 miles offshore E of this tower. Local knowledge is required and in winter it is advisable to anchor farther offshore. It is dangerous to remain at this anchorage with ESE or S winds.

Torre Mattoni, half in ruins, stands near the edge of the beach, 10.5 miles NNE of Torre Scanzano. A conspicuous two-story building stands 0.7 mile WSW of the tower. The conspicuous railway station of Metaponto, with a large water tank in its vicinity, stands 3 miles SW of Torre Mattoni.

The railway station of Ginosa, surrounded by red and yellow houses, is situated 2 miles NE of Torre Mattoni and is prominent. A conspicuous disused light structure, consisting of a square tower standing on a two-story building, is situated close SE of this railway station. Anchorage can be obtained off the coast and ESE of the disused light structure, but local knowledge is required.

Three prominent cylindrical pillars stand along the coast between the railway station of Ginosa and Taranto.



Ginosa Disused Light

16.19 Torre Lato (40°30'N., 16°59'E.) is situated on the beach, on the SW side of the mouth of Fiume Lato. It is low, preserved, and stands out prominently against the trees. A bridge spans the river close inside its mouth.

Secca Armeleia, with a least depth of 8m, lies between 2 and 4 miles E of Torre Lato. This reef consists of rock and weed,

and seas break over it during strong S winds. Several isolated shoal depths lie close E and SE of this reef.

Caution.—A torpedo range lies along a line joining Torre Lato and Torre Montello, 9.5 miles E, and is marked by buoys moored either singly or in pairs.

16.20 Punta Rondinella (40°29'N., 17°11'E.) is low, narrow, and forms the NW point of Mar Grande at Taranto. Torre Montello, thin with three rows of windows, stands 1 mile NE of the point and is conspicuous from seaward. A conspicuous chimney, with a continuously burning flare, stands 320m NE of Torre Montello.

Porto Industriale Esterno lies 1.5 miles NNW of Punta Rondinella. The port consists of a basin, dredged to 12.5m, extending 0.5 mile SW from the coast, with a turning basin situated at the seaward end. Four berths are located on the NW and SE sides of the basin.

Porto di Taranto (40°27'N., 17°12'E.)

World Port Index No. 40470

16.21 The extensive port of Taranto consists of Mare Grande, an outer harbor, which is protected by breakwaters; Mare Piccolo, an inner harbor, which consists of two bays; Porto Mercantile, a quayed basin, which lies in the NE part of Mare Grande and is protected by two moles; and Porto Industriale, which extends along the N shore of Mare Grande. The port is primarily a naval base.

Winds—Weather.—From September to March, winds alternate usually between the NW and NE. The NE winds blow sometimes with such force as to cause a sea in Mare Piccolo. Winds from the SW raise a lively sea and cause high water in Mare Grande. Winds from the SE, especially in winter, are strong and may disturb cargo handling by vessels berthed in Porto Mercantile. These winds usually also bring mist and rain, especially during May and June. In spring, strong W gusts of wind blow over the roadstead. They are generally of a brief duration and slacken towards sunset. Winds from the E and S usually bring fog.

Tides—Currents.—The current off the port sets W, but is usually weak and is felt only during strong E winds.

Depths—Limitations.—Porto Mercantile has 1,180m of total berthing space with depths of 7.7 to 12m alongside. A channel dredged to a depth of 25m leads to Porto Industriale.

The main facilities include a petroleum pier, 900m long, which has four berths, with depths of 6 to 9.6m alongside, and can handle vessels up to 34,000 dwt and 9.5m draft; two cement piers, which have 340m of total berthing space, with a depth of 12m alongside; and a bulk-steel pier, which has 925m of total berthing space, with depths of 15.6 to 24m alongside, and can handle vessels up to 300,000 dwt and 23m draft.

An offshore sea terminal lies in the center of Mare Grande and consists of several mooring buoys. The berth can accommodate tankers up to 230,000 dwt, 350m in length, and 22m draft.

In Mare Piccolo, the shipyard pier at the head of the W bay has a berth with a dredged depth of 10.4m alongside. The aviation gas jetty has a depth of 7.5m alongside and can handle vessels up to 160m in length and 6.5m draft.

Passagio Piccolo, providing navigable passage between Mare Piccolo and Mare Grande, is 375m long and 73m wide, with a depth of 12m. It is 57m wide between the abutments of a two-leaf swing bridge which has a clearance of 12m above mean sea level.

This canal is regulated exclusively by the Italian naval authorities and traffic is limited to merchant vessels carrying government cargo and naval vessels. The speed of transit for moderate-sized vessels is limited to 6 knots, which is considered also to be the most desirable maneuvering speed. Large vessels exceeding 150m in length are permitted to pass through at a speed of 10 knots provided their propeller revolutions are reduced when actually in the canal. Vessels up to 235m length, 32.6m beam, and 8.8m draft can pass through the canal, but passage of such large vessels is difficult. The maximum recommended beam is 38m, but vessels with a beam exceeding 32m must:

1. Transit the canal during daylight hours.
2. Give precedence to other vessels and take two pilots and two tugs having at least 2,000 hp.

Detailed regulations of the canal should be obtained from the port authorities.



Port of Taranto

Aspect.—The city is built on a rocky tongue of land which separates Mare Piccolo, on its NE side, from Mar Grande, on its SW side. Mare Grande and Mare Piccolo are connected by a narrow canal known as Passagio Piccolo. A bridge connects the E part of Taranto with the peninsula which extends S and separates the W and E bays of Mare Piccolo.

The heights containing several prominent villages extend NW from the city and are conspicuous from a considerable distance offshore.

Isola San Pietro, the larger of the two islets fronting Mare Grande, lies 2 miles SW of Punta Rondinella. It is low, rocky, and irregular in shape. Numerous structures and buildings stand on this islet. Torre Vedetta, the most conspicuous, is situated 0.8 mile E of Punta La Forca, the W extremity of the islet. A framework television mast stands near the W extremity and several red sheds are situated near the E extremity. Breakwaters, which protect Mare Grande from the W, extend between Punta Rondinella and Isola San Piero and ESE from the SE side of the islet.

Lighted buoys are moored about 1 mile SSW and 1.5 miles E of Punta La Forca and mark the coastal shoal bank.

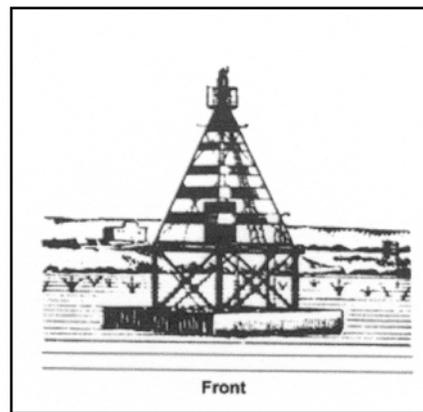
Capo San Vito, marked by a light, is located 2 miles SE of Isola San Pietro and is the S entrance point of Mare Grande. A radiobeacon is located at the light. A breakwater extends NW from a point on the shore, 0.7 mile NNE of the cape. A racon is situated at the light structure standing on the head of this breakwater. A lighted beacon is situated 1 mile SW of the head of this breakwater and marks the shoals on the E side of the entrance channel. Casa Gigante Beacon, marked by a light, stands 0.4 mile E of the root of this breakwater and consists of a conspicuous square tower, 20m high, surmounted by a mast.

Secca della Sirena lies in the N part of Mare Grande, 1.6 miles SE of Punta Rondinella. It has a least depth of 7.2m and is marked by lighted beacons. A detached breakwater lies close NNW of this shoal. Secca della Tarantola lies in the SE part of Mar Grande, 2.5 miles NE of Capo San Vito. It has a least depth of 2.9m and a breakwater extends SE from its N part to the shore.

A lighted range and a reverse lighted range are necessary for the transit of Passagio Piccolo and may best be seen on the chart. Lights at the rear range structures are shown only when vessels are passing through the canal at night.

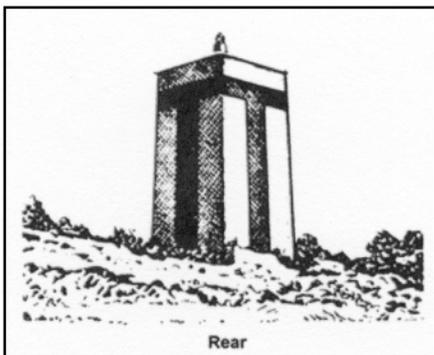
The most conspicuous objects visible in Mare Grande are the campanile of San Cataldo, rising above all the buildings of Taranto; Castel San Angelo, standing on the W point of the entrance to Mare Piccolo; and Palazzo del Governo, standing to the E of the entrance.

Pilotage.—Pilotage is compulsory for merchant vessels over 500 grt entering or leaving Mare Grande and for all vessels authorized to enter or leave Mare Piccolo. Pilots board vessels with drafts greater than 16m about 4 miles WSW of Capo San Vito Light. Vessels with drafts of 16m or less are boarded 1 mile from the beginning of the channel.



Passagio Piccolo Front Range Light Structure

Cargo vessels should send an ETA at least 6 hours in advance and tankers should send an ETA at least 36 hours in advance giving their SOLAS and CLC (Civil Liability Convention) requirements. All vessels at anchor must maintain a listening watch on VHF channel 12 from H+15 until H+20 every hour so instructions and information can be relayed. Vessels entering and departing port must maintain a listening



Passaggio Piccolo Rear Range Light Structure

watch on VHF channel 67 in order to maintain contact with the Castello Signal Station.

Regulations.—A Traffic Separation Scheme, best seen on the chart, is located in the approaches to Taranto.

Outbound vessels with drafts greater than 16m have precedence over inbound vessels.

Vessels anchoring should follow the directions of the pilot.

Anchorage is prohibited in the entrances to Porto Mercantile and Porto Industriale, and on or near the range lines of Passaggio Piccolo. Anchorage is prohibited in the E part of the W basin of Mare Piccolo.

Anchoring and stopping are prohibited within 0.1 mile of Isola San Paolo, Isolotto San Pietro and any military installation, and within 90m of any of the breakwaters surrounding Mare Grande.

Vessels must not stop in the entrance fairway or obstruct other vessels entering or leaving.

Vessels which are carrying, or which have carried, dangerous or polluting cargo in a liquid or gaseous state, are prohibited from navigating within the coastal zone extending 6 miles from the coast between the mouth of Fiume Sunni and Punta Prosciutto (40°17'N., 17°46'E.), unless entering or leaving the port of Taranto.

Anchorage.—Mare Grande provides a spacious roadstead anchorage. The anchorage for merchant vessels lies in the area to the NE of Isola San Paolo. There are also numerous mooring buoys within Mare Grande, some of which have telephone connections.

Anchorage can also be taken in the W part of the W basin of Mare Piccolo.

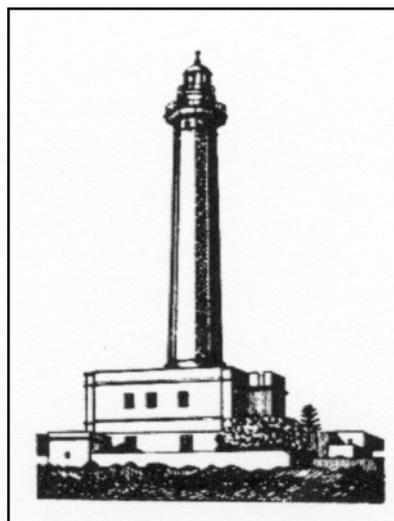
Caution.—A prohibited area lies in the SE part of Mare Grande and may best be seen on the chart.

A dangerous for navigation and fishing area, the limits of which are shown on the chart, lies centered 2.3 miles WNW of Punta La Forca and is marked by a lighted buoy. Underwater obstructions are placed within this area from time to time. Such obstructions are usually marked by buoys of different shapes and constitute navigational hazards.

Several torpedo rafts and a searchlight float are moored in the E part of Mare Piccolo.

Porto di Taranto to Porto di Gallipoli

16.22 Capo San Vito (40°24'N., 17°12'E.), the S entrance point of Mare Grande, is low. A light is shown from a prominent tower, 43m high, standing 0.2 mile N of the SW extremity of the cape.



Capo San Vito Light

Torre San Vito, large and light-colored, and a disused signal station are situated near the light. Several airplane hangers stand 0.6 mile ENE of the light and are particularly conspicuous.

Between the cape and Torre dell Ovo, 15 miles ESE, the coast is mostly low, rocky, and irregular. The village of Roccaforzata, situated 8.7 miles ENE of Capo San Vito and 5 miles inland, appears prominent from seaward. This village stands on a hill, 144m high, and is dominated by a conspicuous castle.

Torre dell Ovo (40°18'N., 17°30'E.), 17m high, is surmounted by a hut and stands on a small and rocky point which is flanked closely on either side by similar points. Torre Colimena stands on a point, 11 miles E of Torre dell Ovo. It is the tallest of several conspicuous towers situated along this stretch of coast.

16.23 Porto Cesario (40°15'N., 17°54'E.), a small craft harbor, lies on the SE side of a point which is surmounted by Torre Cesario, a large quadrangular building.

Torre Squillace stands 1.5 miles SE of Torre Cesario and a narrow tongue of land extends 1.2 miles NW from its vicinity and protects the above harbor. The coast between this tower and Gallipoli is wooded in places, sandy, and rocky at intervals. Torre dell Inserraglio, situated 3.2 miles S of Torre Squillace, is white and appears to rise from the sea.

Caution.—Numerous wrecks, some dangerous, lie offshore between Porto Cesario and Gallipoli and may best be seen on the chart.

Porto di Gallipoli (40°03'N., 17°59'E.)

World Port Index No. 40480

16.24 The port of Gallipoli consists of a harbor which lies on the N side of a low promontory and is protected by moles.

Depths—Limitations.—The main facilities of the harbor include Molo Foraneo, 356m long, with a depth of 7 to 11m alongside; Tramontana Quay, 169m long, with a depth of 12m alongside; Sottoflutto Quay, 110m long, with a depth of 6.5m alongside; Banchina Quay, 145m long, with a depth of 4.5m; Ferrovia Quay, 175m long, with 7.5m alongside; and Lido Quay, 200m long, with a depth of 6.5m alongside. Vessels up to 26,000 dwt, 150m in length, 18.2m beam, and 10.5m draft can be accommodated.

Sena del Canneto, a small craft harbor, lies S of the bridge which connects the island to the promontory and is protected by breakwaters.

Aspect.—The town of Gallipoli stands partly on the promontory and partly on a rocky island which lies close W of it. A masonry bridge, 137m long, connects the island to the E extremity of the promontory.

The town has an oriental aspect and is surmounted by several ancient bastions. The village of Grosso di Racale stands 3 miles inland, 8 miles SE of the town. It is situated on an olive tree-covered ridge and is conspicuous from seaward.

The main outer mole extends 0.4 mile ENE from the N side of the rocky island. Secca del Rafo, a detached shoal, lies about 0.3 mile WNW of the head of the mole. It has a least depth of 2.6m and is marked by a lighted buoy.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Local pilots can be contacted on VHF channel 16 and board near the entrance to the harbor.

Regulations.—The harbormaster has established anchorage berths for the use of vessels waiting to carry out commercial operations in the port. Vessels must contact the harbormaster on VHF channel 16 for authorization to use these anchorage berths.

Anchorage.—Anchorage can be obtained, in a depth of 15m, about 300m NW of the head of the mole or on the S side of the promontory in a depth of 16m, about 0.3 mile SSE of the rocky island.

Caution.—Tunny nets are laid out in the vicinity of Gallipoli. These nets are set in February and are removed in November. Fish traps may be set throughout the whole year along the coast to the NE of the harbor.

Vessels approaching from the S and W may pass between the mole and Secca del Rafo, but it is not recommended. Passage to the N of Secca del Rafo is preferred.

Strong NW and NE winds may make entering the harbor difficult.

Less depths than charted (1995) may be found in the harbor.

Porto di Gallipoli to Capo Santa Maria di Leuca

16.25 Isola Sant Andrea (40°03'N., 17°57'E.) lies 0.8 mile WSW of the W end of the rocky island on which part of the

town of Gallipoli stands. It is low and is almost completely inundated by the sea during strong SE winds. A light is shown from a conspicuous tower, 43m high, standing on the SW extremity of the island.

Punta del Pizzo (40°00'N., 18°00'E.), located 3 miles S of Gallipoli, lies at the S end of a sandy bay and is surmounted by a small turret with windows. Torre Suda, standing 3.5 miles SE of Punta del Pizzo, is a cylindrical tower with a rectangular superstructure. A basin for small boats lies close S of this tower.

From Punta del Pizzo to Torre San Giovanni, 9.5 miles SE, the coast is low and rocky. The hillsides are dotted with buildings which become more numerous as the tower is approached.

Caution.—A circular prohibited area, best seen on the chart, lies midway between Punta del Pizzo and Torre San Giovanni. A dangerous wreck with a depth of 8m lies 1.5 miles N of the N extremity of the prohibited area.

16.26 Torre San Giovanni (39°53'N., 18°07'E.), surrounded by fishermen's huts, stands on a rocky point. A light is shown from this tower which is 24m high.

About 250m SE of Torre San Giovanni, a ridge of rocks, about 0.7 mile long, lies parallel with the coast and about 0.1 mile offshore. From seaward, this ridge appears to have seven distinct rocks. The largest of these rocks, known as Scoglio Tondo, has a rounded top.

The coast between Torre San Giovanni and Torre I Pali, 5 miles SE, is fronted by Secche d'Ugenta, a reef with depths of less than 5.5m. This reef extends up to 2 miles offshore in places and is marked by a lighted buoy.

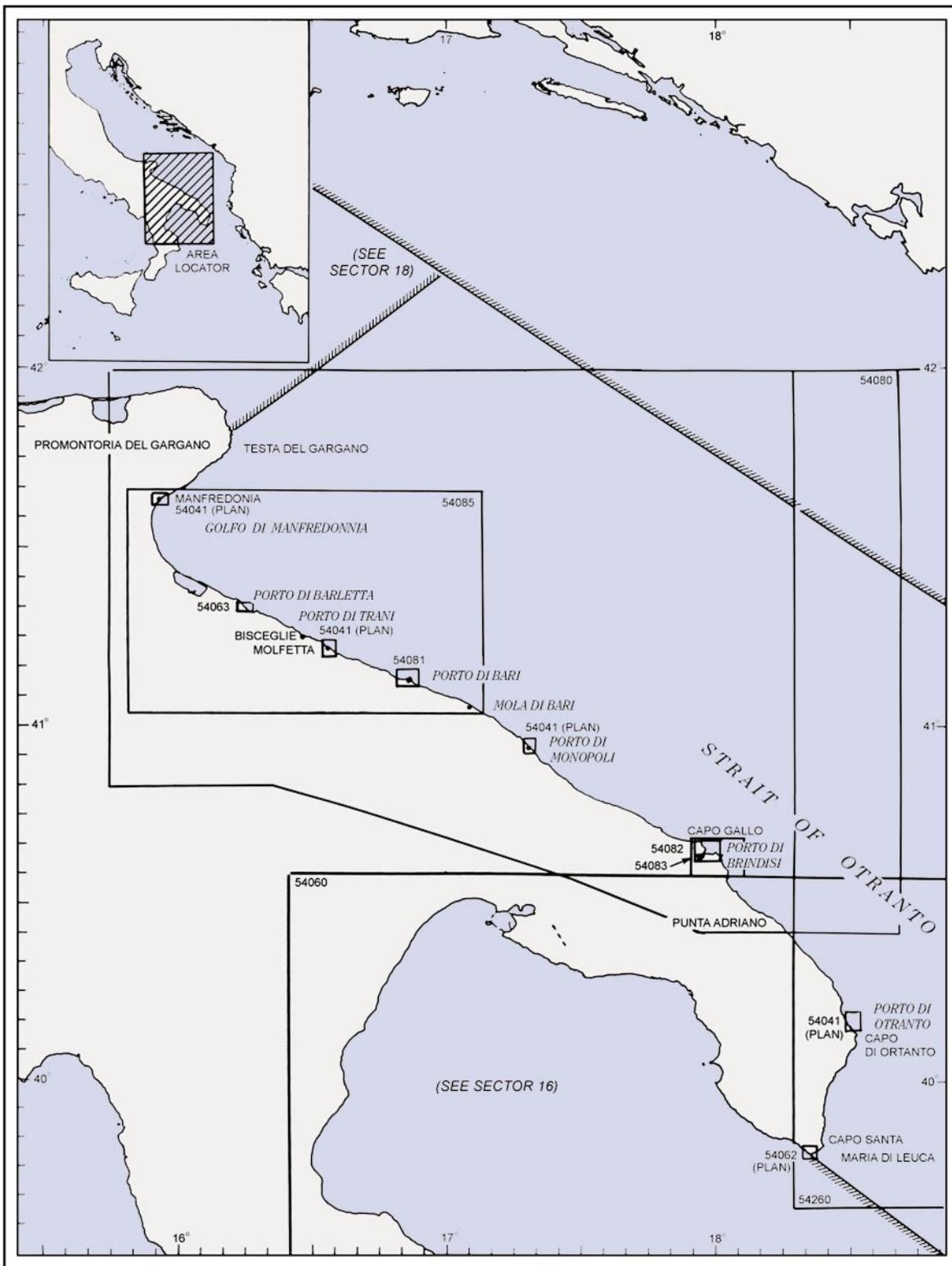
Torre I Pali stands on the SE extremity of a low tongue of land and is almost completely in ruins. Torre Vado, standing 3.2 miles E of Torre I Pali, is cylindrical and well preserved.

16.27 Punta Ristola (39°47'N., 18°21'E.) is the W entrance point of a small bay which lies between this point and Punta Meliso, 1 mile ENE. Banco la Scala, with depths of 11 to 18m, fronts this bay and extends up to 1.7 miles SSE of Punta Ristola. Leuca, a town, stands at the head of the small bay. It is a resort and has numerous prominent villas. Anchorage can be obtained, in a depth of 12m, off the town. This roadstead affords shelter from NE winds, but it is dangerous with S winds.

Punta Meliso, the SW extremity of **Capo Santa Maria di Leuca** (39°48'N., 18°22'E.), is marked by a light and is described in paragraph 17.2.

Caution.—During reduced visibility in the vicinity of Secche d'Ugenta and Banco la Scala, vessels are advised to keep offshore and in depths of over 30m.

Tunny nets are set within a radius of 3.2 miles of Torre San Giovanni. The area is not restricted as the nets are set at the risk of the owner. These nets are set in February and are removed in November. Nets are also set 10 miles SE of Torre San Giovanni and extend up to about 1 mile SW from the shore.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.
SECTOR 17 — CHART INFORMATION

SECTOR 17

ITALY—EAST COAST—CAPO SANTA MARIA DI LEUCA TO TESTA DEL GARGANO

Plan.—This sector describes the S part of the Italian Adriatic coast from Capo Santa Maria di Leuca (39°48'N., 18°22'E.) N to Testa del Gargano (41°50'N., 16°12'E.) on the E side of Promontorio del Gargano.

General Remarks

17.1 Regulations.—Tanker vessels of 1,600 grt and over entering or leaving Italian ports and carrying, or with uncleaned tanks which last carried, petroleum, gas, or chemical products should report to a shore station before entering Italian territorial waters off Italian ports. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Caution.—Tunny nets are laid out annually between March and November close off many places along the E coast of Italy.

Landslides may occur along the section of coast described in this sector.

Numerous offshore oil and gas installations and associated pipelines and service craft may be encountered off the coast described in this sector.

Capo Santa Maria di Leuca to Porto di Brindisi

17.2 Capo Santa Maria di Leuca (39°48'N., 18°22'E.) forms the heel of the Italian boot. This cape is 140m high and appears rocky and precipitous from the S, but from other directions, it presents a more gradually sloping appearance. A light, with an auxiliary light, are shown from a prominent structure, 48m high, standing 0.2 mile NNE of Punta Meliso, the SW extremity of the cape.

A conspicuous signal station, consisting of a tower with arched windows, stands 1.5 miles NW of the light. The old signal station, which stands 1.5 miles NE of the light, is visible only from a short distance. A high-rise building and the bell tower of the cathedral at the town of Leuca, standing W of the cape, are very conspicuous.

Between Capo Santa Maria di Leuca and Capo d' Otranto, the coast consists of a cultivated and rocky plateau. From Capo d' Otranto to Capo Gallo, the coast is low and is indented by numerous coves.

Porto di Tricase (39°56'N., 18°24'E.) is a small inlet protected by a breakwater which forms a small craft harbor. Several buildings and villas and an arched stone viaduct stand in the vicinity of the harbor. The port monitors VHF channels 14 and 16. Gagliano del Capo, a village, is 3 miles N of Capo Santa Maria di Leuca and can be seen conspicuously above the headland of the cape from a few miles offshore. The campanile in this village is prominent.

17.3 Porto di Castro (40°00'N., 18°26'E.), a small bay, lies 4 miles NNE of Porto di Tricase and is dominated by the village of Castro which stands on a hill, 99m high. A conspicuous castle is situated in this village. A small harbor lies at

the NE head of the bay and is suitable for small boats only. Anchorage is available, in a depth of 13m, mud, about 700m SW of Punta Mocarone, the NE entrance point of the bay.

From Porto di Castro to Porto Miggiano, 2 miles NNE, the coast is high and indented by fissures and coves. Porto Miggiano is a small boat harbor. Terme di Santa Cesarea, a spa, contains several prominent ornamental buildings. It stands on a high and rocky part of the coast, 1 mile NE of Porto Miggiano. The coast to the S of this spa is marked by several stone quarries.

Porto Badisco, located 3 miles N of Porto Miggiano, is a narrow and deep inlet with high and rocky sides. A gray building and a red house stand close W of the entrance and are prominent. This inlet is only frequented by local small craft.

Capo d' Otranto (40°06'N., 18°31'E.) is the E extremity of a high, precipitous, and steep-to tableland. A light is shown from a structure, 8m high, standing on the cape. A disused light tower stands near the base of the cape and a disused signal station surmounts the cape.

Punta Posta delle Fasci is located 1.7 miles N of Capo d' Otranto. It is low, rocky, and flat but is easily recognized. Punta dell'Orto is located 0.3 mile NNW of the point and is overlooked by a conspicuous tower which is surrounded by houses. Torre del Serpe, standing 0.3 mile NW of Punta dell'Orto, is situated on a hill, 34m high. It is formed by a slender pile of masonry ruins, but is still prominent from seaward.

17.4 Porto di Otranto (40°09'N., 18°30'E.) (World Port Index No. 40490), a small port, lies in a bay which is entered between Punta San Nicola, located 2.5 miles NW of Capo d' Otranto, and Punta Craul (La Punta), 0.5 mile NW. A breakwater extends NW from Punta San Nicola and encloses the SE part of the bay. The town of Otranto stands on the SW side of the bay.

Winds—Weather.—The harbor is protected from all winds except those from the N. The bora, a strong and dry NE to N wind, can be violent here, especially in winter, and usually lasts for a few days.

Tides—Currents.—The current generally follows the coast and sets S, even with SE winds. In summer, this current sometimes attains a rate of 1.5 knots.

Depths—Limitations.—The main commercial facility is Molo San Nicola, which is 260 long and has depths of 6 to 7m alongside. Vessels up to 5,300 dwt, 102m in length, and 5.3m draft have been accommodated alongside.

Aspect.—The town of Otranto is built on relatively high and yellowish rock stratum. A conspicuous castle stands in its SE part and the bell tower of the cathedral is prominent. A conspicuous war memorial, 24m high, stands 0.3 mile W of the town.

Range beacons indicate the entrance channel and may best be seen on the chart. A lighted buoy, moored about 140m SW of the breakwater head, marks the N extremity of the shallow water in the SE part of the harbor.

Secca delle Casse fronts the breakwater and extends ESE to Punta San Nicola. A lighted buoy is moored at the SW edge of this shoal.

Secca La Scala, with a least depth of 9.4m, lies about 0.5 mile NE of Punta Craul; the sea breaks on this shoal during strong winds.

Pilotage.—Local pilots are available. The port can be contacted on VHF channel 11 or 16.

Caution.—Due to the existence of submarine cables, an anchoring and fishing prohibited area, which may best be seen on the chart, extends NE from Punta Craul.

Vessels intending to enter the inner harbor should close the NW shore as closely as possible to allow sufficient room to line up on the range.

17.5 Baia di Alimini (40°12'N., 18°28'E.) lies 3 miles N of Otranto and has an inlet at its head which leads to a large lagoon. A conspicuous masonry bridge, with seven arches, crosses this inlet and is prominent from seaward. Small vessels can anchor, in depths of 14 to 18m within the bay.

The coast to the N of this inlet consists of a sandy beach backed by groups of irregular sand dunes which are sparsely covered with bushes.

Secca Missipezza, a rocky and steep-to reef, extends about 0.5 mile offshore, close N of Baia di Alimini. It is advisable to always pass to the E of this reef.

Torre San Andrea (40°15'N., 18°27'E.) stands on a coastal elevation and is surmounted by a disused signal station. A light is shown from this checkered tower. A large white building and a prominent farm house are situated near the tower.

Punta San Cataldo (40°23'N., 18°18'E.) is low and sandy; a conspicuous white bathing pavilion stands on the beach, close W of it. A light is shown from a structure, 23m high, standing on the point.

A pumping station, with a tall chimney, stands on the coast, 3.2 miles NW of the light.

A rocky ledge, with depths of 0.9 to 4m, extends up to 0.3 mile E of the point. Anchorage may be taken, in a depth of 10m, sand, about 1 mile ESE of the point.

Caution.—A prohibited area, which can best be seen on the chart, extends up to 5 miles offshore from a section of the coast lying close N of Punta San Cataldo. This area is a firing area.

17.6 Torre Specchiolla (40°30'N., 18°07'E.) stands 11.5 mile NW of Punta San Cataldo and a prominent coast guard station is reported to be situated near it.

The coast to the N of this tower is low and generally rocky. It contains few dwellings, but there are numerous towers.

Caution.—All vessels not entering or leaving Brindisi are prohibited from navigating within the coastal zone extending 6 miles from the coast between Torre San Gennaro (40°32.4'N., 18°04.0'E.) and Torre Guaceto, standing 6.5 miles WNW of Punta Penne.

17.7 Squinzano, a town, is situated 5 miles inland, 5.5 miles SW of Torre Specchiolla. The houses are situated on the summit of a flat-topped hill and are mostly inconspicuous. The pointed bell tower of the town rises above these houses and is very conspicuous from seaward.

Torre Mattarella stands 5.5 miles NW of Torre Specchiolla and is red and rectangular. A white masonry building is situated close E of this tower.

Capo Cavallo (Capo di Torre Cavallo) (40°38'N., 18°01'E.), a low promontory, is located in the E approach to Brindisi. This cape can easily be identified by a conspicuous tower with a burn-off flare, which can be seen from a considerable distance on a clear night.

It is reported (1990) that a power station is situated 4.5 miles S of the cape and a chimney, 200m high, stands in its vicinity. An industrial complex of tanks, towers, and chimneys is situated W of the cape.

Anchorage can be obtained 4.5 miles E of the cape, in depths of 30 to 60m

Secche di Capo Cavallo, a rocky foul area, extends 0.8 mile E and about 1 mile N of the cape. It has numerous rocks with depths of 1.8 to 9.8m and is marked by a lighted buoy which is moored about 1.5 miles NE of the cape. This lighted buoy marks the edge of the deep water NE of the cape and is used as an approach buoy by vessels inbound from the E or S.

Caution.—A danger area, the limits of which are shown, lies within 3 miles of the coast and extends up to about 2 miles E and 4.5 miles SE of Capo Cavallo. Vessels are prohibited from entering this area.

Porto di Brindisi (40°39'N., 17°59'E.)

World Port Index No. 40500

17.8 The large port of Brindisi lies between Capo Bianco, located 1.2 miles WNW of Capo Cavallo, and Punta Riso, 1.5 miles NW.

It is divided into three parts. Porto Esterno is the outer harbor; Porto Medio is the middle harbor; and Porto Interno is the inner harbor, which is entered from Porto Medio through Canale Pigonati and consists of two basins. The port has commercial facilities, serves as a ferry terminal, and has extensive naval installations.

Winds—Weather.—Winds from the SE and NE predominate, but NW winds are not infrequent. The harbor is sheltered from all winds except those from the NE and E, which sometimes cause disturbances. The bora, a strong and dry NE to N wind, can also be violent here, especially in winter.

Depths—Limitations.—Canale Pigonati has a depth of 10.9m and vessels up to 9.4m draft can enter Porto Interno, the inner harbor. Costa Morena, at the S side of Porto Medio, has 500m of berthing space with depths up to 13.7m alongside. Vessels with a draft of up to 12.5m can be accommodated.

Tankers with a draft of 11.5m can be accommodated at the sea berth. For the discharging or loading of other refined products of Montedison Installations, the depth of the berths vary from 4 to 9m.

Vessels berthing at the N section of Porto Medio are restricted to maximum allowable heights, as follows:

1. Costa Morena Wharf—53m.
2. Riva Wharf—40m.
3. New Spur Wharves—36m.

These restrictions have been established due to the proximity of the port area to Brindisi Airport.

An offshore oil terminal is situated 500m SW of Isolotto Traversa and the berth consists of several mooring buoys. A submarine pipeline extends SE from the berth to the SE shore of Porto Esterno. Tankers up to 11.5m draft can be handled.

Aspect.—Isole Pedagne Grandi (Le Pedagne), a chain of low islets, lies on a shoal bank at the E side of the port, N of Capo Bianco. Isola Pedagne Grande, the largest and E islet, lies 0.3 mile NNE of the cape and is connected to it by a breakwater. Isolotto Traversa, the W islet, lies 0.6 mile NW of Capo Bianco and forms the S entrance point of the outer harbor. Le Pedagne Light is shown from a structure, 18m high, standing on this islet.

Isola Sant Andrea, an island, lies on a shoal bank at the NW side of the port. It is located 1 mile W of Isolotto Traversa and 0.3 mile E of the mainland coast. A breakwater extends between the NW end of the island and the mainland. A radio tower stands on the SE part of this island.

Forte a Mare, an island dominated by a massive stone building with a signal station, lies close S of the S end of Isola Sant Andrea and is connected to it by a bridge.

Diga di Punta Riso, a breakwater, extends 1.3 mile E from Punta Riso, the NE extremity of Isola Sant Andrea. It forms the N side of the outer harbor and a light is shown from the head.

Torre Penna, a large and prominent tower, stands on the extremity of Capo Gallo, a low tongue of land, which is located 2 miles NW of Punta Riso. The coast to the N of this cape is low, flat, and contains several towers and villages. The most conspicuous of these villages are Carovigno and Ostuni, which are situated 4 miles inland, 13 and 16 miles WNW, respectively, of Capo Gallo.

A conspicuous monument to sailors, which represents a rudder, stands close W of Canale Pigonati. Brindisi Light is shown from the top of the this monument.

An aeronautical light is shown from a structure situated 0.5 mile WNW of the monument.

Other prominent landmarks include the cathedral, standing SW of Canale Pigonati; and an ancient castle, flanked by towers, standing WSW of Canale Pigonati.

Pilotage.—Pilotage is compulsory for vessels over 500 grt and all tankers. Pilots may be contacted on VHF channel 12 and board 1 mile outside the entrance.

Regulations.—The port is a naval base and special regulations are in effect relating to the movement of vessels, berthing, and anchoring.

A speed limit of 6 knots is in force within the port.

Vessels must send a request for berthing to the harbormaster at least 24 hours prior to ETA. Prior to anchoring, vessels must contact the harbormaster, as follows:

Local time	VHF channel
0800-2000	12
All other times	16

Vessels carrying polluting or dangerous cargo must report to the harbormaster 36 hours in advance; if the vessel intends to load or unload, the notice must be given 48 hours in advance.

Vessels entering Porto Medio, contrary to normal custom, have priority over vessels leaving, except that Italian naval vessels have priority over all other vessels.

Vessels transiting Canale Pigonati must, if possible, do so with engines stopped. Movements in the passage are regulated by the harbormaster. Vessels leaving, whether commercial or military, have priority.

Vessels must not approach military installations without permission.

A traffic separation scheme (TSS) is located off the port.

Anchorage.—The recommended anchorage for small and medium-sized vessels is 2.5 miles WNW of Punta Penne, in depths of 20 to 50m.

Vessels approaching from the E or S should pass E and N of the lighted buoy moored NE of Capo Cavallo.

Caution.—Numerous anchoring prohibited areas lie in the entrance and within the port and may best be seen on the chart.

Moorings for the use of aircraft are situated along the shores of Porto Medio, which is occasionally used for flying operations.

Silting has always occurred within this port and depths may be less than shown on the chart.

Several unlighted mooring buoys are situated within the port.

The land in the vicinity of the port is low and difficult to identify, especially during S winds, when a haze is prevalent. On nearing the port, the character of the bottom can be helpful in determining position. It has weeds off Capo Cavallo to the S of the port; hard mud off Capo Gallo to the N of the port; and rock, sand, or gravel between the two.

Porto di Brindisi to Porto di Bari

17.9 Porto di Monopoli (40°57'N., 17°18'E.) (World Port Index No. 40510), a small harbor, lies 35 miles NW of Brindisi and is protected by two moles.

Tides—Currents.—Generally, the current in this vicinity follows the direction of the coast and sets SE. With N and NE winds, it may attain a rate up to 2 or 3 knots.

Depths—Limitations.—The harbor has 275m of total berthing space with depths of 4.5 to 8.5m alongside. There are facilities for general cargo, tanker, bulk, and fishing vessels. Vessels up to 110m in length and 6.7m draft can be accommodated.

Aspect.—The town of Monopoli is situated on the SW side of the harbor. The most prominent landmarks in its vicinity include a pointed bell tower; the church of San Francesco with a clock; three chimneys standing at the cement works; and a single chimney standing at the oil refinery which is situated close E of the cement works. A castle stands at the root of the S mole.

When seen from the SE, in clear weather, at a distance of 15 to 20 miles, the town appears as a narrow, low, and white strip. Numerous resort camps are situated along the coast in the vicinity of the town. The town of Conversano, situated 8 miles W of the port, is conspicuous from seaward because of its height.

Torre Canne, 32m high and conspicuous, stands on the coast, 10 miles SE of the harbor. A light, which can be seen from the approaches, is shown from this structure. A prominent high-rise building is reported to stand 0.5 mile S of the light. A small boat harbor, dominated by a prominent castle, lies at Villanova, 5.5 mile SE of the light.

Pilotage.—Pilotage is compulsory for merchant vessels over 400 grt. Pilots can be contacted on VHF channel 12 and board 1 mile from the entrance to the port.

Anchorage.—Anchorage depends on the prevailing winds. If the wind is the normal prevailing wind from the N, vessels usually anchor about 2 to 3 miles SE of the harbor entrance. If the wind is from the S, vessels anchor to the N of the entrance.

Vessels must contact the harbormaster on VHF channel 16 prior to anchoring.

Caution.—Vessels should give the mole heads a wide berth. A submarine cable extends across the entry between the breakwaters, as best seen on the chart.

17.10 Polignano a Mare (41°00'N., 17°13'E.), a town, is situated 4.5 miles NW of Monopoli and is conspicuous. It stands on a craggy coastal bluff and has numerous chimneys and sprawling whitish-colored houses. Isolotto San Paolo, a rocky islet, lies close offshore near the town and is surmounted by a ruined monastery.

Between Monopoli and Mola di Bari, 11 miles NW, the coast is low, rocky, and indented. A number of towers, coves, and scattered buildings exist along this stretch of coast. From Mola di Bari to Porto di Bari, 11 miles WNW, numerous towers and houses stand along the coast. Motel dell Agip, a seven-story building, stands isolated 3 miles WNW of Mola di Bari and is very conspicuous.

17.11 Mola di Bari (41°03'N., 17°06'E.) (World Port Index No. 40520), a small harbor, lies 11 miles ESE of Porto di Bari and is protected by moles. Prominent landmarks in the town, from E to W, include a factory chimney, standing near the beach; three bell towers; and the dome of the cathedral. The harbor is accessible to small vessels up to 50m in length and 3.5m draft. Anchorage, in good weather, can be obtained, in a depth of 10m, hard mud, about 1 mile off the harbor.

Caution.—A fish farming plant is located 1.3 miles E of Mola di Bari. It is marked by lighted and unlighted buoys. Anchoring, fishing, and stopping are prohibited within 0.3 mile of the plant.

Porto di Bari (41°08'N., 16°52'E.)

World Port Index No. 40530

17.12 The port of Bari lies 11 mile WNW of Mola di Bari and is protected by breakwaters. It is divided into two harbors. Bacino Grande, the large commercial harbor, lies on the NW side of the old city and Porto Vecchio, a small craft and fishing harbor, lies on the SE side. The city of Bari is disposed in a wide arc to the S of the port.

Porto di Bari Home Page

<http://www.porto.bari.it>

Winds—Weather.—The prevailing winds are from the NW through N to SE. Winds from the NW may cause problems for vessels in the harbor.

Tides—Currents.—The current in the vicinity of the harbor follows the coast and sets SE, changing direction with fresh SE

winds. Winds from the N may increase the rate of this current from 1 to 3 knots. A counterclockwise current, which is quite strong, may sometimes be experienced within the harbor during strong N winds.

Depths—Limitations.—The main commercial facilities include Molo St. Vito, with 550m of total berthing space and depths of 3 to 6m alongside, which is used by ferries; Banchina Capitan, with 370m of total berthing space and depths of 5 to 5.5m alongside, which is used for general cargo and passengers; Molo Ridosso, with 560m of total berthing space and depths of 7.6 to 10.3m alongside, which is used by naval vessels and ferries; and Banchina Deposito Franco, Mezzog, and Levante, with 945m of total berthing space and depths of 8.5 to 9.8m alongside, which is used by bulk and large passenger vessels.

In addition, there is 2,300m of total quayage situated along the inner sides of the breakwaters. These berths have depths of 7.3 to 14m alongside and are used by tankers. Vessels up to 300m in length and 12.2m draft can be accommodated.

Aspect.—At night, the illumination of the city has been reported to be visible from as far as 30 miles. Three greenish lights, arranged horizontally and shown at a factory, have been reported to be the first harbor lights sighted.

The old city stands between the two harbors near the root of the main outer breakwater. A castle, with a signal tower; a cathedral, with a steepled bell tower; and a basilica are situated in the old city and are prominent. Several conspicuous silos stand N of the old city and near the root of the breakwater.

A light is shown from a prominent tower, 62m high, standing on Punta San Cataldo at the W side of the main harbor.

A racon is situated at the light structure on the head of the main outer breakwater.

Pilotage.—Pilotage is compulsory for vessels over 500 grt including those anchoring off the port. Requests for pilots must be submitted 24 hours prior to arrival. Pilots may be contacted on VHF channel 12 or 16 and generally board about 1 mile outside the main harbor entrance.

Regulations.—Vessels carrying polluting or dangerous cargo must report to the harbormaster 36 hours in advance; if the vessel intends to load or unload, the notice must be given 48 hours in advance.

A traffic separation scheme, best seen on the chart, has been established in the approaches to the port.

Anchorage.—Three designated anchorage areas are located outside the harbor, as follows:

1. Anchorage Area A lies, in depths of 22 to 26m, about 0.6 mile NE of the main harbor entrance. The area is bounded by the outbound lane of the TSS and Nuovo Molo Foraneo.
2. Anchorage Area B is adjacent to and ESE of Anchorage Area A and is best seen on the chart.
3. Anchorage Area C is located about 0.5 mile NW of the entrance. Generally, the bottom is rocky and covered with a thin layer of mud and sand. Consequently, anchors often become fouled on the bottom.

Caution.—Prohibited anchorage area lie in the entrances to both harbors and may best be seen on the chart.

A rocky and shallow shoal patch, Secca del Monte, over which the sea breaks, lies close N of Porto Vecchio.

A sewage outfall extends about 750m NE from the shore about 1.6 miles W of Nuovo Molo Foraneo head, terminating about 0.5 mile SW of Anchorage Area C.

Porto di Bari to Porto di Barletta

17.13 Santo Spirito (41°10'N., 16°45'E.) (World Port Index No. 40540), a small town, is situated 4.8 miles WNW of Bari and stands on the shores of a cove which is open to the N. The town is fronted by a small harbor which is used by fishing vessels and small craft, and is protected by two breakwaters.

The town of Giovinazzo, partially surrounded by a wall on the seaward side, stands prominently on the coast, 4 miles WNW of Santo Spirito. It is fronted by a small craft harbor. A creek, used by small coastal vessels, lies close NW of the town. A shallow shoal lies close off the E entrance point of this creek. It is reported that the bell tower of the cathedral in the town is conspicuous from seaward.

17.14 Molfetta (41°12'N., 16°36'E.) (World Port Index No. 40550), a small port, lies 4 miles WNW of Giovinazzo. The harbor is formed by two moles and a detached breakwater, which lies NW of the entrance, shelters it from winds from the N and NW.

Depths—Limitations.—The main commercial facilities include 475m of total berthing space, with depths of 3.4 to 7m alongside. The harbor is used mainly by bulkers and can accommodate vessels up to 10,500 dwt, 160m in length, and 7m draft.

Aspect.—From a distance, the town presents an imposing appearance. A conspicuous church, with a bell tower, stands isolated on the shore, 0.6 mile W of the town. The prominent twin towers of the seminary are situated near the root of the E mole.

A light is shown from a prominent structure, 18m high, standing near the root of the E mole.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots are provided through the station at Bari and board about 1 mile ENE of the head of Molo Foraneo. The harbor can be contacted on VHF channel 14 or 16..

Regulations.—All vessels are prohibited to move within, enter, or depart through the harbor entrance at a speed greater than 3 knots.

Vessels are required to contact the port office on VHF channel 16 to obtain permission to anchor.

Caution.—Vessels should remain clear of the heads of the moles and the breakwater.

A fishing prohibited area lies centered 3.5 miles NE of the harbor entrance and may best be seen on the chart.

Unexploded ordnance lies on the sea bottom 7.1 miles NE of Molfetta.

A marine farm, marked by buoys, lies centered 1.8 miles NNE of Giovinazzo.

A historic wreck, with its circular restricted area, lies 4.3 miles N of Molfetta.

17.15 Torre Calderino (41°14'N., 16°33'E.) stands 2 miles WNW of Molfetta and is conspicuous. A prominent silo and a factory are situated 1 mile SW of this tower.

Bisceglie (41°15'N., 16°31'E.), a town, stands around a small inlet. The large whitish-colored dome of the cathedral, situated in the town center, is conspicuous. The inlet forms a small harbor which is protected by breakwaters and is mostly used by fishing vessels. In summer, this inlet is used by numerous yachts. Small vessels with local knowledge can anchor off the inlet.

Between Bisceglie and Trani, 4.5 miles WNW, the coast consists of rocky and broken terrain which slopes abruptly to a narrow and sandy beach. Two masonry bridges, with numerous arches, cross a stream, 2 miles NW of Bisceglie. A prominent tower stands close N of them.

Capo Punta Colonna is located 1 mile ESE of Trani and is surmounted by a large and whitish-colored convent. The point is rocky and relatively high. The village of Andria, with three large and conspicuous campaniles, is situated 6.5 miles WSW of Trani.

17.16 Porto di Trani (41°17'N., 16°25'E.) consists of a natural bay, about 300m in diameter, which forms a small harbor and is protected by three breakwaters. The harbor is mostly used by coasters, yachts, and fishing vessels. Vessels up to 60m in length and 4.3m draft can enter. The harbor is subject to silting and can be contacted on VHF channel 14 or 16. Anchorage may be taken outside the harbor with good holding ground. However, this roadstead is not recommended with winds and seas from the NE quadrant.

The town surrounds the harbor and is composed of low and bright-colored houses crowded together. A conspicuous cathedral, with a spired campanile, and a castle, with towers and arches, stand in the town.

From Trani to Porto di Barletta, the coast is low and sandy.

Castel del Monte (41°05'N., 16°16'E.), 540m high, stands 13.5 miles SSW of Trani. This peak is the highest in the vicinity and is very conspicuous from seaward.

Porto di Barletta (41°19'N., 16°17'E.)

World Port Index No. 40580

17.17 Porto di Barletta, a small port, lies 6.5 miles WNW of Trani and is formed by two breakwaters. The harbor is sheltered against heavy seas and is considered more secure than any other port along this stretch of coast.

Depths—Limitations.—There are quays on the inside of the breakwaters, with depths of 8 to 8.5m alongside. There are facilities for general cargo and bulk vessels. Vessels up to 23,000 grt, with a maximum length of 100m and a maximum draft of 6.8m, can be accommodated.

Aspect.—During reduced visibility, the first landmark to be sighted in the vicinity of the port is the straight and white-colored road which leads S from the port to the town of Andria, 5.5 miles inland. A prominent cemetery is situated on the coast, 1 mile W of Barletta.

Conspicuous landmarks in the city include the whitish-colored campanile of a church standing in the E part; a large bastioned castle situated E of the campanile; the large cupola of a church standing 0.5 mile WSW of the campanile; and several chimneys standing E of the castle. Several prominent silos, 44m high, stand in the vicinity of the harbor.

The city of Barletta differs from other cities and towns in the vicinity because its houses are not whitewashed. A light is shown from a tower, 29m high, standing on an inner spur of the W breakwater.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots may be contacted on VHF channel 14 and board 1 mile N of the entrance.

Vessels with a draft greater than 7m must use a pilot to proceed to the anchorage. Vessels should send an ETA 72 hours, 48 hours, and 24 hours in advance of arrival.

Anchorage.—Anchorage may be taken offshore, either to the W or E of the harbor. To the E of the harbor, the bottom contains patches of rock; to the W, mud and sand, with good holding properties, can be found. A good berth is found in a depth of 8m, about 1 mile NW of the W breakwater.

Two designated anchorage areas, best seen on the chart, lie NE of Barletta; each is 1 mile in radius. Anchorage Area A is for all cargo vessels, except for tankers carrying dangerous cargo. Anchorage Area B is for tankers carrying dangerous cargo.

Caution.—An anchoring, stopping, and fishing prohibited area, which may best be seen on the chart, extends up to 1.5 miles N of the entrance.

An outfall pipeline extends up to 1.5 miles NNE from a point on the shore, 1.5 miles W of the harbor.

A dangerous wreck lies about 2.2 miles N of the harbor entrance.

A submarine power cable, best seen on the chart, extends across the entrance between breakwaters.

Golfo di Manfredonia

17.18 Golfo di Manfredonia (41°30'N., 16°10'E.) is entered between Barletta and Testa del Gargano, a headland, 30 miles N. The SW coast of the gulf, to within 3 miles of Manfredonia, is low and marshy. Several lakes and salt marshes lie inland and are backed by an undulating and cultivated plain. From Manfredonia, the NE coast becomes high, steep, and is backed by the mountainous terrain of Promontorio del Gargano. This gulf is frequently used by numerous fishing vessels.

Fiume Ofanto discharges through a mouth located 4.3 miles WNW of Barletta. Sediment from this river is carried SE and contributes to the silting of many harbors in that direction. Torre d'Ofanto, prominent and white, rises above the trees, 0.7 mile S of the river mouth.

17.19 Margherita di Savoia (41°23'N., 16°08'E.), a small town, appears as a line of light-colored buildings rising from the sea. Two short moles extend N from the shore fronting the town and protect the entrance to a canal which is used by small craft. Three steel bridges span the canal and are prominent. The harbor authority monitors VHF channel 16. Anchorage can be obtained, in good weather, in depths of 11 to 13m, mud, about 1 mile off the canal entrance.

Caution.—A fish farm, marked by lighted and unlighted buoys, is located 2.5 miles NE of the town.

A dangerous wreck is reported to lie about 3 miles NE of the canal entrance.

17.20 The conspicuous village of Trinitapoli, with a prominent cupola, is situated 3 miles W of Margherita di Savoia and

the more elevated village of San Ferdinando stands 6 miles SW of the town.

The village of Zapponeta stands 9 miles NW of Margherita di Savoia; its houses, with some red-roofed sheds, appear prominently near the beach.

This entire stretch of coast is recognizable by the conspicuous aerial cableway pylons which carry salt from Margherita di Savoia to Barletta.

Manfredonia (41°37'N., 15°55'E.)

World Port Index No. 40590

17.21 Manfredonia, a small port, is divided into two harbors. The old harbor is formed by two converging breakwaters. The industrial harbor is situated at the head of a breakwater jetty which extends 1.2 miles SE from the shore at the NE side of the old harbor; piers at the head form a sheltered harbor basin.

Winds—Weather.—Winds from the SW sometimes blow briefly in heavy squalls and make entering and leaving dangerous. Although the roadstead offers little protection from sirocco winds, which blow from the SE and S, these seldom blow hard near the land and the sea is never very heavy in the roadstead. The bora, locally called monterese, which blows from the NE and N, sometimes arrives in violent squalls flowing down the gorges of Promontorio del Gargano.

Depths—Limitations.—The old harbor has 700m of total berthing space with depths of 2 to 7.5m alongside. It is used by small general cargo vessels, passenger ferries, fishing vessels, and naval craft with drafts up to 6.6m.

The industrial harbor, which has 5 berths, is mainly used for chemicals and bulk cargoes. It has 1,765m of total berthing space, with a depth of 10m alongside, and can accommodate vessels up to 9.9m draft with no restriction in length.

Aspect.—Monte Calvo, 1,055m high, stands 9 miles NW of Manfredonia and is the highest and most prominent peak in the area. Also prominent is Monte degli Angeli, 886m high, which stands 5 miles N of the town and has a village, with conspicuous tower, situated near its summit.

Prominent landmarks in the town include a castle, floodlighted at night, standing at the E side; the cupola of the church standing close SW of the castle; and a keep, formed by a truncated cone, situated near the root of the S breakwater of the old harbor.

An industrial complex extends NE of the town and is brightly lighted at night. It includes large buildings, tanks, and chimneys. A tourist resort complex extends SW of the town.

A light is shown from a structure, 18m high, standing near the root of the E breakwater of the old harbor.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 12. Vessels should send a request for a pilot at least 1 hour before arrival. The pilot boards 1 mile outside the breakwater.

Anchorage.—Designated anchorage areas, which may best be seen on the chart, lie in the approaches to the port. Anchorage Area A1, Anchorage Area A2, Anchorage Area A3, Anchorage Area A4, and Anchorage Area A5 are for vessels carrying general cargo. Anchorage Area A6 and Anchorage Area A7 are for vessels carrying dangerous cargo.

Vessels must contact the maritime authority on VHF channel 16 for permission to anchor.

Manfredonia to Testa del Gargano

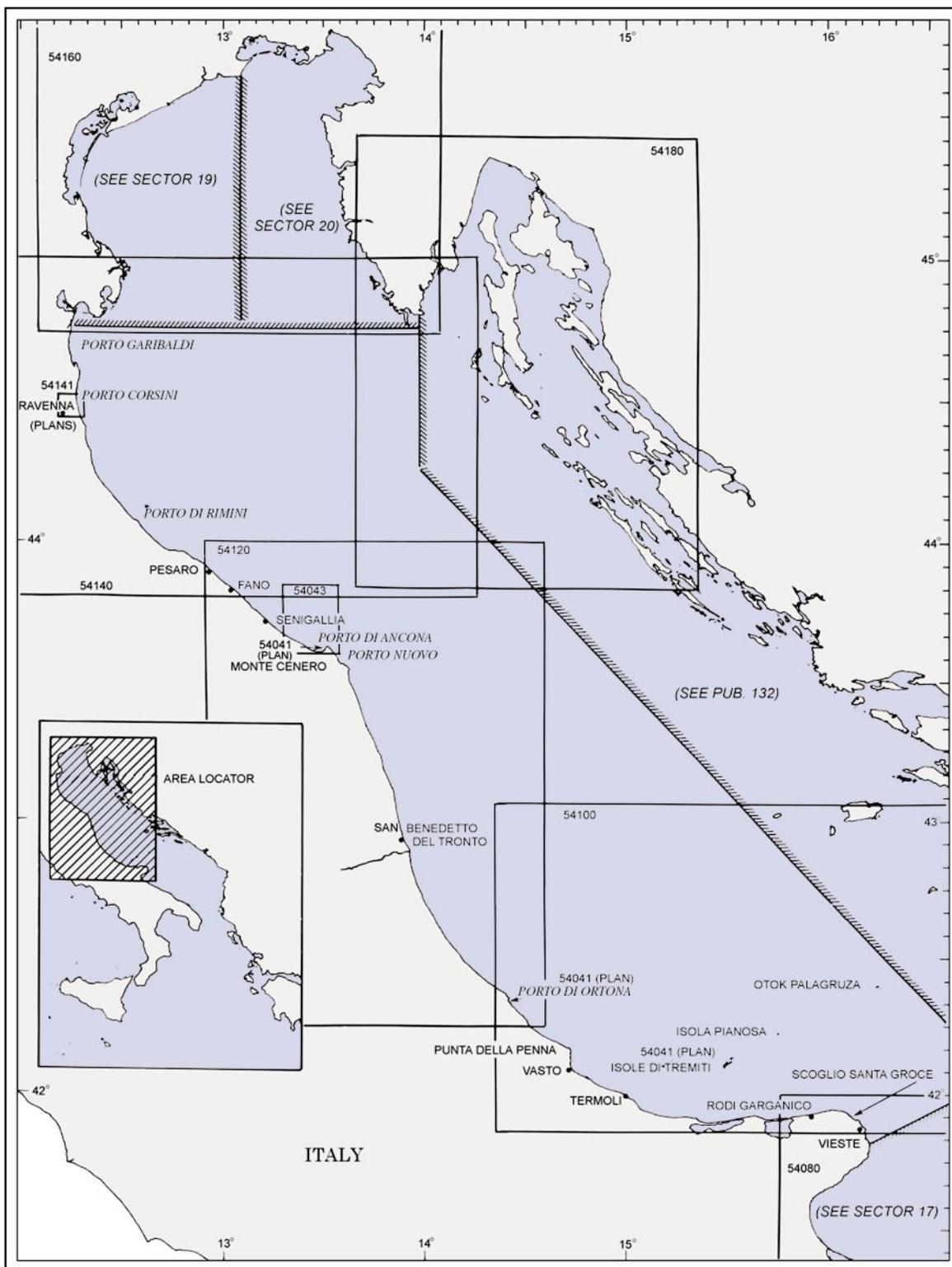
17.22 Punta Grugno (41°42'N., 16°04'E.) is located 7.5 miles NE of Manfredonia and slopes steeply to the sea. A small fishing and pleasure boat harbor fronts the coast 1 mile NNE of the point. A unused light tower and an isolated building stand on Punta Agnuli, close NE of the harbor.

Torre Proposti (41°47'N., 16°12'E.), consisting of a white structure with a squat tower at one corner, stands on a steep

headland, 7.8 miles NE of Punta Grugno. It is 22m high and is situated on a massive reddish-colored base. A light is shown from the top of this tower. A prominent hotel complex is reported to be situated 3 miles SW of this tower.

Between this tower and Testa del Gargano, 2.5 miles N, the coast is indented by numerous coves which contain underwater rocks and close off-lying islets.

Testa del Gargano (41°50'N., 16°12'E.), the NE extremity of Golfo di Manfredonia, is steep, rocky, and fronted by several rocks. The remains of an old tower stand on this headland. Several prominent towers stand on the coast, which is fronted by rocks, N of this headland.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.
SECTOR 18 — CHART INFORMATION

SECTOR 18

ITALY—EAST COAST—TESTA DEL GARGANO TO FIUME PO DELTA (INCLUDING OFF-LYING ISLANDS)

Plan.—This sector describes the coast NE part of the Italian Adriatic coast from Testa del Gargano, at the E side of Promontorio del Gargano, N to Porto Garibaldi in the S approaches of the Fiume Po delta. The off-lying islands of Isola Pianosa, Isole di Tremiti, and Otok Palagruza are also included.

General Remarks

18.1 Regulations.—Tanker vessels of 1,600 grt and over entering or leaving Italian ports and carrying, or with uncleaned tanks which last carried, petroleum, gas, or chemical products should report to a shore station before entering Italian territorial waters off Italian ports. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Caution.—Numerous offshore oil and gas installations and associated pipelines and service craft may be encountered off the coast described in this sector.

The coastlines of Promontorio del Gargano and Isole Tremiti consist of high and rocky sections which stand sheer above the sea with natural caves and grottoes surrounded in places by rocks. Regulations are in force prohibiting the passage and stopping of vessels through areas in these vicinities which are considered dangerous due to rock falls and landslips.

Promontorio del Gargano should be rounded at a distance of at least 1 mile.

Testa del Gargano to Vieste

18.2 Testa del Gargano (41°50'N., 16°12'E.), the NE extremity of Golfe di Manfredonia, is fully described in paragraph 17.22.

Scogliodi Porto Nuovo, a small islet, lies 0.3 mile offshore, 1 mile NNW of Tests del Gargano. It is surrounded by reefs and this area should be given a wide berth.

Isola Santa Eufemia (41°53'N., 16°11'E.), an island, lies close ENE of Punta Santa Croce in the approaches to Vieste. An overhead cable, with a vertical clearance of about 20m, spans the channel lying between this island and the point. Vessels with a masthead or rigging height of more than 18m are prohibited from using this passage. A light is shown from a prominent structure, 27m high, standing on the island.

Vieste (41°53'N., 16°11'E.), a small town, stands on the slopes around a small bay which is entered between Punta San Francesco and Punta Santa Croce, 0.3 mile NW. A prominent fort, on which is situated a checkered signal station, stands at the SW end of the town. A cathedral, with a high bell tower, stands close E of the fort.

The town is fronted on the N side by a small harbor which is protected by moles. It is mostly used by fishing vessels and is accessible to vessels up to 30m in length and 2.5m draft. The harbor monitors VHF channels 14 and 16. Vessels can anchor,

in a depth of 11m, about 0.3 mile E of the S extremity of Isola Sant Eufemia. Large vessels should anchor farther offshore.

Off-lying Islands and Dangers

18.3 Isola Pianosa (42°13'N., 15°45'E.) is 3m high and rocky. The N shore of this islet is rather steep-to, but its other shores are fringed by reefs with depths of less than 10m. A light is shown from a structure, 17m high, standing on the N side of the islet.

Isole Tremiti (42°07'N., 15°30'E.), a group of four islands, consists of Isola San Domino, Isola San Nicola, Isola Caprara, and Il Cretaccio. These islands are all low by comparison with the mainland.

Isola San Domino, the largest and S of the group, is the most fertile and cultivated island. It has rocky and broken coasts which contain a number of grottoes. The E end of the island is formed by a short yellowish-colored peninsula which terminates in a beach. Punta Secca, the W extremity of the island, is formed by a low, blackish, and narrow peninsula. A hill, 116m high, stands at the S end of the island. A light is shown from a structure, 16m high, standing on the SW extremity of the island.

Isola San Nicola is connected to the E end of Isola San Domino by a reef with a depth of less than 5m. The village of Tremiti contains several buildings including a church and a signal station, and stands at the SW end of the island. It is fronted by a small boat harbor. A light is shown from a structure, 15m high, standing near the N end of the island.

A submerged obstruction, dangerous to navigation, lies about 250m N of the SW extremity of this island and is marked by a buoy.

Il Cretaccio, yellowish and extremely irregular, lies on a reef 0.7 mile NE of the E end of Isola San Domino. This island is the smallest of the group and the passages lying between it and the two larger islands can be used only by shallow-draft craft.

Isola Caprara, the NE island of the group, is separated from the NW side of Isola San Nicola by a narrow passage with a least depth of 8.2m in the fairway. The coasts of this island are rather steep-to and all dangers lie close inshore. A narrow peninsula forms the NE side of the island. A light is shown from a structure standing on this peninsula.

This group of islands affords good shelter from winds between the W and ENE and adequate shelter from bora, strong NE gales. Vessels can anchor, in depths of 31 to 35m, good holding ground, mud, about 0.3 mile off the SE shore of Isola San Domino. Anchorage, in convenient depths, can also be taken SE of the SW part of Isola Caprara.

Otok Palagruza (42°24'N., 16°16'E.), a Croatian island, is high, rocky, and rises to a height of 103m near its W end. Above-water rocks, some of which are sharp peaked, lie up to 0.2 mile W of the W end of the island. A light is shown from a

structure, 22m high, standing on the SW coast of the island. Another light is shown a tower standing close E of the light.

Otocic Palagruza Mali, 51m high, is connected to the SE end of the above island by shoal ground and is surrounded by rocks and shoals.

Otocic Galijula, 8m high, lies 3 miles ESE of Otok Palagruza and is surrounded by reefs extending up to about 0.5 offshore.

Caution.—Navigation is prohibited within 300m of Otok Palagruza.

Overhead power cables, which may obstruct the passage of vessels with masts, span the channels leading between Isola San Domino and Il Cretaccio, and between Il Cretaccio and Isola San Nicola.

A marine nature reserve area has been reported (1991) to have been established around Isole Tremiti and special regulations apply. The Italian authorities should be contacted for further details.

A Traffic Separation Scheme (TSS) (42°18'N., 16°06'E.) lies about midway between Isola Pianosa and Otok Palagruza. This TSS is not IMO-adopted but the national authorities advise that use of this scheme is compulsory for all foreign naval vessels, tankers, nuclear powered vessels, and vessels carrying nuclear or dangerous substances.

Vieste to Termoli

18.4 Peschici (41°56'N., 15°53'E.), a village, stands 8.5 miles WSW of Vieste. The coast between is indented by sandy beaches and small coves, and surmounted by a number of towers. This village is situated on the top of a barren promontory that appears as a rocky wall descending vertically into the sea. Monte Pucci, standing 1 mile W of the village, is tree-covered and prominent. A small boat harbor fronts the village at the foot of the promontory.

A long wall, with arched openings for the protection of the citrus groves, extends almost from Peschici to Rodi Garganico, 6 miles W, and appears as an arched viaduct.

Rodi Garganico (41°56'N., 15°53'E.), a small town, stands on a sloping hill which is surrounded by citrus and olive groves. A conspicuous yellow-colored church cupola is situated in the extreme W part of the town. A mole, 230m long, extends NE from the E part of the town and is for shelter by small craft. Anchorage can be taken, in a depth of 6m, about 0.5 mile N of the head of the mole. Local knowledge is required.

Promontorio di Monte d'Elio (41°55'N., 14°38'E.) is formed by a spur from the mountains of the headland of Gargano. Torre Mileto, a prominent structure, and a few white buildings stand on the N point of this promontory. A conspicuous radio mast stands in the middle of the E slope. Lago di Varano and Lago di Lesina lie E and W, respectively, of the promontory. These lakes are separated from the sea by a sandy strip of land which consists of dunes covered by sparse growth.

Between the mouth of Fiume Fortore, located 15 miles W of Torre Mileto, and Termoli, the shore consists of a low, sandy beach, backed by wooded groves. Torre Fantina, a pyramid structure, stands 5.8 miles W of the river mouth and is prominent. A red railway station, with a larger yellow building standing close by, is situated near this tower.

San Martino Pensilis, situated 7.5 miles SW of the tower, is recognizable by a prominent steeple standing in the center of the town and by a white reservoir situated nearby.

Anchorage can be taken, in depths of 16 to 18m, sand, N of the mouth of Fiume Fortore and about 1.5 miles offshore.

18.5 Termoli (42°00'N., 15°00'E.), a moderate-sized town, is situated on a flat and rocky peninsula, 21m high. The old part of the town stands on the extremity of the peninsula and is enclosed by a prominent wall. The new part of the town stands to the S on a small and flat-topped hill. A light is shown from a structure, 19m high, standing on the fortress at the N end of the town.

Depths—Limitations.—A small harbor lies to the E of the peninsula and is formed by two moles. There are depths of 4 to 4.3m in the entrance and depths of 3 to 3.3m in the center of the harbor. A ferry service operates from here to Isole Tremiti.

Aspect.—Conspicuous landmarks in the vicinity of the town include a low and brown-colored tower standing at the W side of the root of the peninsula; a church with a low campanile; and a cemetery, with several white buildings, standing W of the town and enclosed by a wall.

Numerous modern buildings, some quite large, are situated in the S part of the town.

Pilotage.—The harbor can be contacted on VHF channel 14 or 16 and is accessible to vessels up to 80m in length and 3m draft. Vessels may enter or leave the port during daylight hours only. Before entering the port, and when at least 1 mile from the entrance, vessels should contact the harbormaster on VHF channel 16 for authorization.

Anchorage.—Anchorage for vessels bound for Tremoli or for Rospo Mare Oil Field, 12 miles NNW of Tremoli, is situated within a radius of 0.6 mile of position 42°02.7'N, 15°01.9'E. The bottom is sand, good holding ground, but this anchorage is not recommended in N, E, or SE winds.

Caution.—A submerged rock, with a depth of 3.4m, lies 270m E of the head of Molo Sud.

Termoli to Ortona

18.6 Torre Petacciato (42°01'N., 14°53'E.), a square tower, stands on a slope above the beach, 5 miles WNW of Termoli. Anchorage can be taken, in a depth 13m, good holding ground, sand, about 1.5 miles N of this tower.

Between Termoli and Vasto, the coast consists of a low and sandy beach backed by mountains. The coast between Vasto and Punta della Penna, consists of a rocky bluff which is partially covered with olive groves and vineyards and closely bordered by rocks.

Vasto (42°07'N., 14°43'E.) (World Port Index No. 40615), a town, stands on a hill and was formerly known as Istonio. Vasto Marina and the surrounding village is situated on the coast and adjacent to the town. Two high and prominent chimneys stand in the S part of the village.

Punta della Penna (42°10'N., 14°43'E.) is 23m high, dark, flat-topped, and rocky. A tower and a small building, with a flagstaff close S of it, stand on the point. A light is shown from a prominent structure, 70m high, standing on the point.

Caution.—Several oil production platforms and associated pipelines and mooring buoys are situated within a prohibited

area, which may best be seen on the chart, lying 11 miles ENE of Punta della Penna.

18.7 Porto di Vasto (Porto di Punta Penna) (42°10'N., 14°43'E.), a small harbor, lies close W of the point and is enclosed by two moles. There is 720m of total berthing space, with depths up to 7m alongside.

Vessels up to 165m long, with a draft of 6m, can be accommodated during favorable weather conditions.

Pilotage.—Pilotage is compulsory for vessels of more than 500 gt or more than 60m in length. Vessels must contact the harbor master on VHF channel 16 before entering port. The pilot boards 1 mile NE of Punta della Penna Light.

Anchorage.—Vessels must anchor within a radius of 0.5 mile of position 42°10.6'N, 14°45.1'E keeping clear of the wreck lying 2.3 miles ESE of Punta Penne; this anchorage is not recommended during E winds.

Caution.—Several production platforms lie in a restricted area, which extends up to 1.5 miles offshore, between Punta della Penna and Punta di Cavalluccio. This area, which may best be seen on the chart, also contains the associated wells and submarine pipelines, and anchoring and fishing are prohibited within it.

18.8 Punta Lotta, located close W of Porto di Vasto, is surmounted by a small and conspicuous pillar. Between this point and Punta di Cavalluccio, 10 miles NW, the sandy coast is intersected by several rivers, the mouths of which are spanned by prominent bridges and viaducts.

Punta di Acquabella (Punta del Moro) (42°20'N., 14°26'E.), a rocky point, is located 1.5 miles ESE of Ortona and is pierced by a railway tunnel. San Vito Chietino stands on the top of a hill which slopes steeply to the beach near this point. A conspicuous church, with a surrounding balustraded balcony, stands at the edge of this town and overlooks the sea.

18.9 Ortona (42°21'N., 14°25'E.) (World Port Index No. 40620), a small port, lies 1 mile NW of Punta di Acquabella and is formed by two moles. The town, a resort, stands on a small peninsula at the W side of the harbor.

Depths—Limitations.—The NW part of the harbor can be entered through a buoyed channel which has a depth of 5.5m. There is 680m of total berthing space for general cargo with a depth of 7.6m. There is 1,530m of total berthing space for general cargo with alongside depths of 5.8 to 7.5m. There is a tank-er berth, 160m long, with a depth of 6.1m alongside. There are extensive facilities for yachts and fishing vessels. Vessels up to 220m in length can be accommodated. The maximum draft allowed is 6.5m in daylight and 6.3m at night.

Aspect.—The S part of the town stands behind an arched retaining wall. The cathedral, with a prominent cupola, stands in the N part of the town. A church, with a prominent belfry, stands 0.5 mile S of the cathedral. A prominent chimney stands in a small valley close SE of the town. A light is shown from a tower, 24m high, standing near the root of the N mole.

A conspicuous reddish-colored bridge, with five arches, crosses the mouth of Fiume Arielli, 3 miles NW of the harbor.

Pilotage.—Pilotage is not compulsory, but is available and is recommended for large vessels. The harbor may be contacted on VHF channel 15 or 16.

Anchorage.—Vessels anchor within a radius of 0.7 mile of position 42°22.5'N, 14°26.5'E as shown on the chart. The holding ground is good, but the anchorage is dangerous during W winds.

Caution.—Vessels are cautioned to give the mole heads a wide berth as depths are noticeably reduced near them.

The entrance and approach channels are subject to shoaling due to the presence of a sandy bar.

A marine farm, marked by lighted buoys, is located 4.5 NE of Ortona and is best seen on the chart.

Ortona to San Benedetto del Tronto

18.10 Pescara (42°28'N., 14°13'W.) (World Port Index No. 40630), a small port, lies at the mouth of Fiume Pescara, 10.5 miles NW of Ortona. The small harbor is entered between two moles which project from each side of the river mouth.

Depths—Limitations.—The banks of the river, close inside the moles, are quayed and used by shallow-draft vessels. There is 300m of total berthing space with a depth of 5.2m alongside. Vessels up to 100m in length and 5m draft have allowed to enter the harbor.

Aspect.—Pescara consists of two parts. Pescara-Porto Nuova, consisting of numerous factories and white buildings, is situated on the SE bank of the river. Pescara-Riviera di Castellamare is situated on the NW bank of the river and extends along the shore. It consists of numerous residential buildings and two prominent government buildings. The two parts of the town are connected by bridges.

A prominent radio mast, 130m high, stands 2 miles SSE of the harbor. A conspicuous steel monument, floodlit at night, stands 0.5 mile SSE of the harbor. The light is shown from one of several silos, 30m high, which stand near the root of the N mole.

The conspicuous town of San Silvestro stands on the flat summit of a hill, 1.9 miles SSE of the harbor.

Pilotage.—Pilotage is compulsory for tankers with cargoes of benzene, gasoline, or petrol. For other vessels, pilotage is not compulsory, but is advisable. Pilots may be contacted on VHF channel 12. Berthing within the river is carried out by harbor berthing officers whose services are compulsory for vessels of over 500 grt.

Regulations.—Vessels carrying polluting or dangerous cargo must report to the harbor master 24 hours in advance.

Anchorage.—Vessels with drafts of 4m or over can anchor between 0.3 and 0.8 mile NNE of the heads of the moles and discharge their cargoes into barges. Larger vessels can anchor, in depths of 11 to 15m, mud, about 2 miles E of the entrance.

Caution.—The harbor is difficult to enter with NE winds. The entrance is liable to silt and requires constant dredging.

18.11 Silvi (42°34'N., 14°06'E.), a prominent town, stands on the crest of a hill, 240m high. Torre di Cerrano stands near the coast, 1.2 miles N of the town. It consists of a embattled building with a set-back addition on the top.

Fiume Vomano flows into the sea through a broad fertile valley, 14 miles NNW of Pescara. This river is spanned near its mouth by a long bridge with 19 arches, and several submarine pipelines are landed in this vicinity.

Caution.—Oil and gas production platforms and associated pipelines lie up to 20 miles seaward of the coast between Pescara and Giulianova and may best be seen on the chart; navigation, anchoring, and fishing are prohibited in their vicinity.

18.12 Giulianova (42°45'N., 13°58'E.) (World Port Index No. 40640), a small harbor, lies 6.7 miles NNW of Fiume Vomano and is enclosed by two moles. The town stands partly on the side of a hill, 61m high, and partly extends along the shore. A prominent viaduct, with thirty arches, is situated 1 mile N of the town.

The harbor is subject to silting. It has a depth of 4m and is mostly used by small craft, fishing boats, and yachts. The port monitors VHF channel 16.

Caution.—A marine farm, marked by a lighted buoy, is located about 3 miles NE of the town.

A mussel farm, marked by unlighted and lighted buoys, is located close N of the beacon marking the outfall about 2.5 miles NE of Giulianova harbor.

18.13 Fiume Tronto (42°54'N., 13°55'E.) enters the sea close N of a village, 8.7 miles NNW of Giulianova. An outfall pipeline extends 2 miles ENE from the vicinity of the river mouth. A wreck, with a depth of 3m, lies about 0.5 mile ENE of the river mouth. A prominent church, 41m high, stands in the village.

Colonnella, a prominent town, stands on the top of a hill, 303m high, 2.6 miles SW of the river mouth. It is situated on the S side of the broad valley through which Fiume Tronto flows.

Caution.—A fish haven, marked by a lighted buoy, is located about 3.7 miles SSE of the mouth of the river.

18.14 San Benedetto del Tronto (42°57'N., 13°53'E.) (World Port Index No. 40650), a small port, lies 3.7 miles NNW of Fiume Tronto and is formed by two moles. The town is a fishing center and tourist resort.

Depths—Limitations.—There are depths of 4.6m in the entrance and 3m to 5.5m in the N part of the harbor. The S part of the harbor is shoal. The port may be contacted on VHF channel 11 or 16 and is mostly used by fishing vessels and yachts. Vessels up to 80m in length and 4.5m draft can be handled.

Aspect.—Numerous villas and resort camps line the coast near the town. The belfry of the cathedral situated in the town and a water tank standing near the root of the N mole are prominent. A large black cross stands on a small hill, 1 mile SW of the town. A light is shown from a structure, 31m high, standing near the root of the S mole. A radiobeacon is situated at the light.

Pilotage.—Pilotage is compulsory. Vessels should send requests on VHF channel 16 to the harbor master.

Anchorage.—Vessels can anchor, in depths of 10 to 12m, good holding ground, sand, between 0.8 and 1 mile seaward of the harbor, but this anchorage is dangerous with winds from the NE quadrant.

San Benedetto del Tronto to Porto di Ancona

18.15 Torrente Tesino (42°59'N., 13°52'E.) flows out through a broad fertile valley, 1.5 miles NNW of San Benedetto del Tronto. The river mouth is spanned by a large and prominent bridge with five arches. Two tall and cylindrical water filters stand near this bridge.

Ripatransone, 508m high, stands 5 miles WNW of the river mouth and is prominent. This hill is surmounted by three towers which from the SE appear level, but from the NE appear uneven.

Pedaso, a village, stands amongst trees on the S bank of Fiume Aso, 7.2 miles NNW of Torrente Testino. The river mouth is crossed by a masonry bridge with six arches. A light is shown from a structure, 22m high, standing on a hillside, 0.7 mile S of the village.

Porto San Giorgio, a small town, stands 6 miles NNW of Pedaso and is a popular resort. Numerous various-colored villas stand along the beach near the town. Prominent landmarks include a fort, a square tower, several chimneys, and a large blue-colored building. A small harbor lies 0.5 mile S of the town and is used by yachts and fishing boats.

The town of Fermo stands on a partially wooded hill, 319m high, 3.5 miles inland of Porto San Giorgio and is conspicuous above the surrounding hills.

Caution.—Numerous oil and gas production platforms, well heads, submarine pipelines, and associated structures lie offshore between San Benedetto del Tronto and Ancona.

18.16 Porto Civitanova (43°19'N., 13°44'E.), a small harbor, lies 8.3 miles NNW of Porto San Giorgio and is formed by two moles. It has depths of 3 to 5m and extensive facilities for fishing vessels and yachts. The maximum recommended entry draft is 3.5m. Vessels can anchor, in a depth of 10m, sand, about 1 mile offshore, but it is dangerous to anchor here with winds from the NE or SE.

The town stands on a hill, 155m high, and can be identified by three conspicuous campaniles and a square tower. Other prominent landmarks include a large palace, a water tank, and a tall chimney. A light is shown from a tower, 46m high, standing in the town.

Monte San Vicino, with a trapezoidal-shaped peak, stands about 30 miles W of the town and is one of the best landmarks along this stretch of coast.

Porto Recanati (43°26'N., 13°40'E.), a prominent town, stands at the foot of a hill between the railway and the sea. An ancient tower, a tall chimney, a cement works, a palace, and a high-rise building are situated in the S part of the town and are prominent. A pier, 50m long, fronts the town. Vessels usually anchor about 0.4 mile off this pier in convenient depths.

The town of Loreto, with a prominent campanile, stands on a hill, 127m, high, close W of Recanati.

Caution.—Due to the existence of submarine cables, an anchoring and fishing prohibited area, which may best be seen on the chart, extends up to 6 miles NE from a point on the coast 2 miles N of Porto Recanti.

Several wrecks, some dangerous, lie off this stretch of coast and may best be seen on the chart.

18.17 Punta Mezaluna (43°33'N., 13°38'E.) is the E extremity of a prominent headland which rises steeply to Monte Conero, 572m high. It has bare and whitish-colored sides, particularly the E side. The headland is surmounted by a conspicuous disused signal station and an abandoned convent is situated at a lower height, 0.5 mile SE. Two conical rocks lie close E of the point and are prominent from the SE and NW.

A range of prominent hills extends NW from Monte Conero. The village of Numana stands 2.1 miles S of Punta Mezaluna and is fronted by a small yacht harbor. Between Porto Recanati and Numana, the large valley of Fiume Musone slopes into the sea. The latter village is divided into two parts by a small point of land on which stands a tower resembling an isolated arch.

Porto Nuovo is a slightly indented and sandy bay which lies between the headland of Monte Conero and Promontorio di Ancona. A square tower stands on the SE entrance point of this bay which is closely fronted by two detached groups of rocks. Several lighted buoys are moored up to 0.5 mile NE of the tower and mark a fish breeding and obstruction area. Scogliera I Trave, a rocky ledge, forms the NW entrance point of the bay. It extends about 0.6 mile ESE from the coast and forms a natural breakwater. Vessels can find good anchorage, sheltered from S winds, in the SE part of the bay; local knowledge is advised.

Promontorio di Ancona (43°38'N., 13°31'E.), located 4 miles NW of the N entrance point of Porto Nuovo, is a headland which extends N from the general trend of the coast

Caution.—Landslides may occur along the coast between Numana and Ancona. Prohibited areas, which may extend 100m from the coast, may be established as necessary.

Porto di Ancona (43°37'N., 13°30'E.)

World Port Index No. 40660

18.18 The port of Ancona is formed by a dredged harbor which is protected by breakwaters. It is extensively quayed and a small shipyard occupies an area in the N part.

Porto di Ancona Home Page

<http://www.autoritaportuale.ancona.it>

Tides—Currents.—The tidal rise is slight, being only 0.5m at springs. The bora, a strong NE to N wind, has been reported to increase the height of the water level by as much as 0.9m at times.

Depths—Limitations.—The approach channel is dredged to a depth of 13.7m, although the port and its approaches are subject to continuous shoaling. The port has 3,204m of total quayage with berths of 80 to 295m in length and depths of 7.6 to 12.2m alongside. There are facilities for general cargo, ro-ro, passenger, bulk, and container vessels. Vessels up to 250m in length and 12.2m draft can be accommodated.

Aspect.—The city, particularly from the NW, appears to be built on sloping land in the form of an amphitheater below three hills. Monte Guasco stands to the N of the city and a domed cathedral, with a detached campanile, is situated on it; Colle dei Cappuccini stands close SE of Monte Guasco and a

disused signal station is situated on it; Monte Astagno stands 0.7 mile S of Monte Guasco and a large citadel is situated on it.

The lights along the coastal road, which connects the city with Falconara Marittima, 5.5 miles W, are very conspicuous. Several prominent silos stand on the S breakwater; a conspicuous crane is situated at the shipyard.

A light is shown from a structure, 15m high, standing on the summit of Colle dei Cappuccini. A racon is situated at the head of the N breakwater.



Porto di Ancona

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots may be contacted on VHF channel 12 or 16 and board about 1.0 mile NNE of the harbor. Pilots are also provided to the oil terminals off Falconara Marittima.

Anchorage.—Vessels can anchor, in depths of 13 to 15m, hard sand, fair holding ground, about 1.3 miles NNE of the N breakwater. Vessels can also anchor, in a depth of 8m, about 0.5 mile SW of the head of the central breakwater.

Designated anchorage areas are obligatory and are, as follows:

1. Zone 1SC—Small cargo vessels less than 100m long and with a maximum draft of 6.1m.
2. Zone 2SC—Cargo vessels less than 190m long and with a maximum draft of 9.1m.
3. Zone 3BC—Cargo vessels greater than 190m long and with a maximum draft of 9.1m.
4. Zone 4ST—Small tankers waiting to berth at Pontile A.P.I. at Falconara Marittima.
5. Zone 5T—Tankers bound for Isola Vecchia A.P.I. oil berth at off Falconara Marittima.
6. Zone 6T—Tankers bound for the A.P.I. Sea Berth SPM off Falconara Marittima.

Caution.—A Traffic Separation Scheme is established in the approaches to Ancona and Falconara Marittima. The scheme is not IMO adopted, however it is compulsory and Rule 10 of The International Regulations for Preventing Collisions at Sea (1972) applies. Mariners navigating in the traffic lanes between May 1 and September 30 must not exceed a speed of 15 knots.

Extreme caution should be exercised in the area at which the inshore traffic zone, which is 1.5 miles wide and runs parallel to the coast, crosses the traffic separation scheme.

Due to the danger from obstructions and explosive ordnance on the sea bed, anchoring and fishing prohibited areas, the limits of which are shown on the chart, lie centered 9 miles NE and 10 miles NW of Ancona.

A detached breakwater is reported (2003) under construction W of the harbor entrance.

Porto di Ancona to Pesaro

18.19 Falconara Marittima (43°38'N., 13°24'E.) extends from the sea to the top of a hill facing the beach. A conspicuous long building, surrounded by small houses, surmounts the hill. A prominent white railway station, a red church, and a tall campanile stand in this town near the foot of the hill. Two conspicuous white roads descend from the hill and straddle the town, one leading to the E and the other leading to the W. A conspicuous oil refinery stands close NW of the town.

API Oil Terminal (43°38'N., 13°23'E.) lies close NW of Falconara Marittima and consists of a pier, an island berth, and an outer sea berth. It is a sub-port of Ancona.

The pier extends 0.6 mile NE from the shore in the vicinity of the refinery. It has three berths and can accommodate tankers up to 11,000 dwt and 8.2m draft.

The island berth lies 1.4 miles NNE of the head of the refinery pier and is connected to the refinery by a submarine pipeline. It consists of a lighted platform, 11.5m high and 19m in diameter, with several mooring dolphins. Tankers up to 90,000 dwt and 12.1m draft can be accommodated.

The sea berth lies 8 miles NE of the head of the refinery pier and is connected to the refinery by a submarine pipeline. It consists of a lighted steel platform which stands in a depth of 33m and can accommodate tankers up to 300,000 dwt and 30.5m draft.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots may be contacted on VHF channel 10, 12, or 16 and are provided from Ancona. Vessels should send ETA messages 72 hours, 48 hours, and 24 hours prior to arrival. Vessels should contact the pilot for an anchor berth.

Anchorage.—Designated anchorage areas are, as follows:

1. Zone 4ST—Small tankers berthing at the API Oil Terminal.
2. Zone 5T—Tankers bound for the Isola Vecchia oil berth at the API Oil Terminal.
3. Zone 6T—Tankers bound for the outer sea berth of the API Oil Terminal.

Caution.—At times, strong currents in the vicinity of the refinery pier have made it impossible for vessels to berth or leave.

Dangerous wrecks lies about 1 mile ENE and 2.2 miles N of the head of the refinery pier.

The submarine pipelines in the vicinity of the terminal berths are marked by buoys.

Anchoring and fishing prohibited areas lie in the vicinity of the terminal berths and may best be seen on the chart.

18.20 Fiume Esino (43°39'N., 13°22'E.) discharges through a valley and its mouth is spanned by a large bridge with many arches. Montignano, a town, is situated 4 miles WNW of the river mouth and stands prominently on a hill, 99m high. Torre

Albani stands on a hill, 112m high, close NW of the town and is prominent.

Senigallia (43°43'N., 13°13'E.) (World Port Index No. 40670), a tourist resort, lies at the mouth of Fiume Misa. A large bright-colored bathing pavilion stands close SE of the town and serves as a good landmark. The conspicuous red belfry of the municipal building in the town also serves as a good landmark. It is clearly distinct from the other campaniles and towers by its quadrangular shape, cupola, large windows, and balusters of white marble. A small harbor fronts the town and is protected by two moles. Two high and conspicuous chimneys stand close NW of the harbor which is subject to violent rises of the river. A light is shown from a structure, 17m high, standing near the root of the E mole. The harbor has a depth of 3m and is mostly used by fishing vessels, yachts, and small craft. The port monitors VHF channels 11 and 16. Vessels can anchor, in a depth of 9m, sand, NE of the mole heads, but it is dangerous to remain here with winds from the NE.

Monti di Catria, 1,702m high, stands 27 miles SW of Senigallia. This mountain has a sinuous dorsal ridge and is very prominent in clear weather from seaward.

Caution.—A prohibited area, which may best be seen on the chart, lies about 1 mile offshore, centered 1.4 miles NNW of Senigallia.

Between Senigallia and Fano, the coast consists of a series of hills which are densely covered with vegetation and interspersed with small villages. Fiume Cesano, located 2.7 miles NW of Senigallia, is spanned at its mouth by a bridge with 14 arches. Fiume Metauro, located 9.8 miles NW of Senigallia, is spanned by two prominent bridges. The seaward bridge has 18 arches; the inner bridge has large and conspicuous white pilings.

18.21 Fano (43°51'N., 13°01'E.) (World Port Index No. 40680), having the aspect of a large city from seaward, stands at the mouth of Canale Albani, a canal, which is formed by the N branch of Fiume Metauro.

Monte Giove, 223m high, stands SW of the town and is dominated by a convent with a prominent campanile. A high reservoir, with a trellis, is situated in the SE part of the town. Other prominent landmarks include a white pavilion standing near the beach at the NW side of the town; a brown fort situated near the center of the town; a church, with a high belfry, situated in the town; and the silos of the sugar refinery.

The town is fronted by a small harbor formed by moles which extend from the sides of the canal entrance. A swing bridge crosses the canal about 0.2 mile S of the entrance. A light is shown from a structure, 20m high, stands near the root of the inner mole.

The harbor is subject to silting. It has a depth of 3m and is mostly used by fishing vessels, yachts, and small craft. The port monitors VHF channels 14 and 16. Vessels can anchor, in a depth of 11m, mud, about 1.5 miles offshore.

Between Fano and Pesaro, the coast is relatively high and is dominated by Monte Giove and Monte Novilara, 236m high. The latter, standing WNW of Fano, is surmounted by a dark-colored village with a prominent tower.

Monte Ardizio, 149m high, rises close to the coast, SE of Pesaro. This mountain is dark, steep-sided, and slopes steeply to the sea.

Caution.—Numerous oil and gas production platforms, well heads, submarine pipelines, and associated structures lie up to 35 miles offshore between Ancona and Pesaro and may best be seen on the chart.

18.22 Pesaro (43°55'N., 12°54'E.) (World Port Index No. 40690), a small port, lies at the mouth of Fiume Foglia and is formed by two moles.

Depths—Limitations.—The harbor has 580m of total berthing space with depths of 2 to 4m alongside. Several rocks, with depths of less than 1.8m, lie on shoals which extend up to about 400m off the harbor entrance. Vessels, with local knowledge, up to 4,000 dwt, 90m in length, and 3.4m draft can enter the harbor.

Aspect.—A church cupola, in the center of the town, and a pavilion, on the beach in the SE part of the town, are prominent. A light is shown from a structure, 25m high, standing on Monte San Bartolo, which rises 1 mile NW of the town.

Pilotage.—The port can be contacted on VHF channel 15 or 16. Local pilots are available. Pilotage is temporarily compulsory for vessels exceeding 400 grt.

Anchorage.—Five anchorage berths have been established, as follows:

1. Anchorage A—Lighting operations.
2. Anchorage B—Vessels carrying dangerous cargo.
3. Anchorage C—Vessels carrying general cargo.
4. Anchorage D—Vessels carrying general cargo.
5. Anchorage E—Vessels carrying general cargo.

Caution.—Vessels entering or leaving the harbor should not proceed at a speed greater than 5 knots, except under special circumstances.

Vessels mooring alongside the quays are cautioned that parts of the old quay wall still lie submerged adjacent to the new walls.

The harbor is subject to silting.

An anchoring and fishing prohibited area, which may best be seen on the chart, lies up to 2 miles offshore between Fano and Pesaro. A prohibited area, marked by a lighted buoy, is located within the anchorage and fishing prohibited area.

Pesaro to Porto Corsini

18.23 Cattolica (43°58'N., 12°45'E.), a small town, is fronted by a small and shallow harbor which is protected by two moles. Several rocks, with depths of less than 1.8m, lie about 0.2 mile E of the channel leading to the entrance. The harbor is used by fishing boats, yachts, and pleasure craft. A light is shown from a structure, 17m high, standing near the root of the E mole.

A church, with a prominent pointed belfry, stands in the center of the town and two chimneys are situated near the harbor. Numerous conspicuous hotels stand along the beach to the W of the harbor. Gabicce, a village, is situated on a hill, 144m high, standing 1 mile E of the town.

Caution.—Several prohibited areas lie up to 1.5 miles offshore between Pesaro and Cattolica. They are marked by lighted buoys and may best be seen on the chart.

18.24 Riccione (44°00'N., 12°40'E.), a sprawling village, lies 5 miles NW of Cattolica and is fronted by a small craft harbor which is formed by two moles. The village has a tree-hidden part and another part comprised of beach villas. A large hotel stands 0.5 mile SE of the harbor entrance and is conspicuous. A tall and isolated chimney stands near the harbor entrance.

Porto di Rimini (44°04'N., 12°35'E.) (World Port Index No. 40700), small harbor, consists of the quayed banks of Fiume Marecchia and is entered between two moles which extend N from the shore. The city of Rimini, a resort, stands on the SE bank of the river at the foot of some wooded hills.

The harbor has depths of 2.9 to 3.7m and is subject to silting. It may be contacted on VHF channel 11 or 16 and is used mostly by small craft, pleasure craft, small ferries, and yachts. Vessels with a maximum draft of 3.2m can be accommodated. Vessels can anchor, in a depth of 8m, about 1 mile NNE of the head of the E mole, but this anchorage is not recommended in strong winds which cause a heavy swell. The harbormaster must be contacted on VHF channel 16 for permission to anchor.

Monti di Carpegna, 1,415m high with a flat summit, stands 20 miles SW of the harbor entrance. Monte San Marino, 741m high, stands 9 miles SW of the city and can be distinguished by the three towers which are situated on its summit. Rocca delle Caminate, 330m high and marked by an aviation light, stands 25 miles W of the city and serves as a good landmark for vessels approaching from the N.

A light is shown from a structure, 25m high, standing on the E side of the harbor. This light structure is reported to be difficult to identify during the day. A prominent high-rise building stands 0.5 mile S of the light structure and serves as a good landmark.

Viserba, a sprawling village, is situated close NW of Rimini and extends along a beach protected by moles. It consists of many small villas. A water tank, standing 1 mile NW of the village, serves as a prominent landmark.

Caution.—Several prohibited areas lie up to 4 miles offshore between Cattolica and Rimini. They are marked by lighted buoys and may best be seen on the chart.

Numerous oil and gas production platforms, well heads, submarine pipelines, and associated structures lie up to 15 miles offshore between Pesaro and Porto Corsini and may best be seen on the chart.

18.25 Bellaria (44°09'N., 12°28'E.), a large village and resort, is situated at the mouth and close N of Fiume Uso, the Rubicon of Roman history. Numerous conspicuous hotels, villas, and bell towers serve to identify the village. A small harbor, with shallow depths, lies in the river entrance between two short moles and is used by small craft and yachts.

A large cylindrical tank, 47m high, stands in the center of the town and serves as a prominent landmark. A white skyscraper, 124m high, is situated 0.5 mile S of the harbor entrance and is conspicuous. A light is shown from a structure, 17m high, standing 0.2 mile SW of the head of the E mole. This light structure is reported to be obscured by several other buildings.

Port di Cesenatico (44°12'N., 12°24'E.) (World Port Index No. 40710) a small harbor, lies 4 miles NW of Bellaria and is protected by two moles. It has depths of 3 to 4.5m and is

mostly used by fishing vessels with local knowledge; a maximum draft of 3.4m can be accommodated. Small vessels can anchor, in convenient depths, mud and sand, good holding ground, off the harbor.

Caution.—Numerous oil and gas production platforms, well heads, submarine pipelines, and associated structures lie offshore between Cesenatico and Corsini and may best be seen on the chart.

18.26 Cervia (44°16'N., 12°21'E.), a noted resort, stands at the S end of an extensive pine forest. The main industry here is the extraction of salt from the neighboring marshes. A small harbor, with shallow depths, lies close NE of the town and is entered between two moles. The port monitors VHF channels 14 and 16. Anchorage can be taken in convenient depths, mud, good holding ground, NE of the harbor.

The bell tower of the cathedral and a large four-story hotel, with a prominent terrace, are situated in the town and serve as good landmarks. A conspicuous skyscraper building stands on the N side of the town. A light is shown from a structure, 16m high, standing on the S side of the harbor.

Between Cervia and Porto Corsini, 14 miles NNW, the coast is low, sandy, interspersed with marshes, and backed by the pine forests. Several rivers flow out into the sea along this stretch of coast and two of these form projections of land at their mouths. Deposits from these rivers form a bordering shoal, with depths of less than 5.5m, which extends up to about 1 mile offshore.

Caution.—Numerous oil and gas production platforms, well heads, submarine pipelines, and associated structures lie offshore between Cervia and Corsini and may best be seen on the chart.

Porto Corsini (44°30'N., 12°17'E.)

World Port Index No. 40720

18.27 The port of Corsini (Ravenna) is linked to Ravenna by Canale di Ravenna. The outer entrance of the port lies between two breakwaters which extend up to 1.5 miles in a general E direction from the shore.

Porto Corsini Home Page

<http://www.port.ravenna.it>

Winds—Weather.—The prevailing winds are from NE to SE and may be very strong at times. Dense fog may occur mainly from September to March.

Tides—Currents.—The tidal rise is small, normally only 0.6m at springs and 0.5m at neaps.

Depths—Limitations.—A dredged channel, about 100m wide, leads WSW into the port and between two inner moles. Canale Baiona, the shores of which are quayed and which is navigable for only a short distance, leads W as a continuation of the entrance channel. Canale di Ravenna leads SW for about 3 miles to Largo San Vitale and its banks are quayed in places. Largo San Vitale forms the new commercial harbor. Canale di Ravenna narrows and trends 2 miles SW from this harbor to

Darsena di Ravenna, a quayed basin, which is 550m long and 200m wide.

The outer harbor channel has been dredged to a depth of 10m. The inner harbor channel has been dredged to a depth of 9m over a width of 60m from the head of the inner mole to Largo San Vitale. The remaining part of the channel between Largo San Vitale and Darsena di Ravenna narrows and has a least depth of 5.3m.

The maximum draft allowed from the port entrance to Largo San Vitale is 8.5m and then to Darsena di Ravenna is 5.3m, depending on the beam of the vessel.

The port has 8,000m of total berthing space with depths of 5.5 to 9.4m alongside. There are facilities for general cargo, ro-ro, container, bulk, chemical, LPG, and tanker vessels. Vessels up to 245m in length, 33m beam, and 8.5m draft can be accommodated in the port.

In addition, there are four offshore oil terminal berths which extend up to 9 miles ESE of the port entrance. Three of these terminals consist of platform and mooring buoy berths and can handle tankers up to 100,000 dwt and 13.4m draft. One terminal consists of an SPM and can handle tankers up to 400,000 dwt and 21.3m draft.

Aspect.—The domes and towers of the churches in the vicinity of the city can be seen amidst the surrounding trees from a distance of 8 miles. A light is shown from a structure, 33m high, standing near the root of the S inner breakwater. A signal station is situated close to light.

A conspicuous skyscraper building stands 0.3 mile S of the light; several prominent cooling towers and chimneys are situated at a power station, 0.8 mile WSW of the light.

Racons are situated at the offshore terminals in the approaches to the port and may best be seen on the chart.

Pilotage.—Pilotage is compulsory for vessels with a draft greater than 4.2m and for vessels of 500 grt and over, as follows:

1. When entering and leaving the port, commencing and concluding at 1 mile from the head of the outer breakwaters.
2. During movements carried out within the port.
3. During the mooring stage at working positions within the roads, commencing at least 0.5 mile from the working position to which the vessel is bound

Pilots can be contacted on VHF channel 6, 9, 12, or 16 and board about 2 miles off the port entrance or between 0.5 and 1 mile off the offshore petroleum terminal berths. Tankers should send an ETA at least 36 hours in advance.

Caution.—In addition to the offshore oil terminal berths, numerous oil and gas production platforms, well heads, submarine pipelines, and associated structures lie up to 15 miles offshore in the approaches to the port.

Several anchoring, stopping, and fishing prohibited areas lie in the approaches to the port may best be seen on the chart.

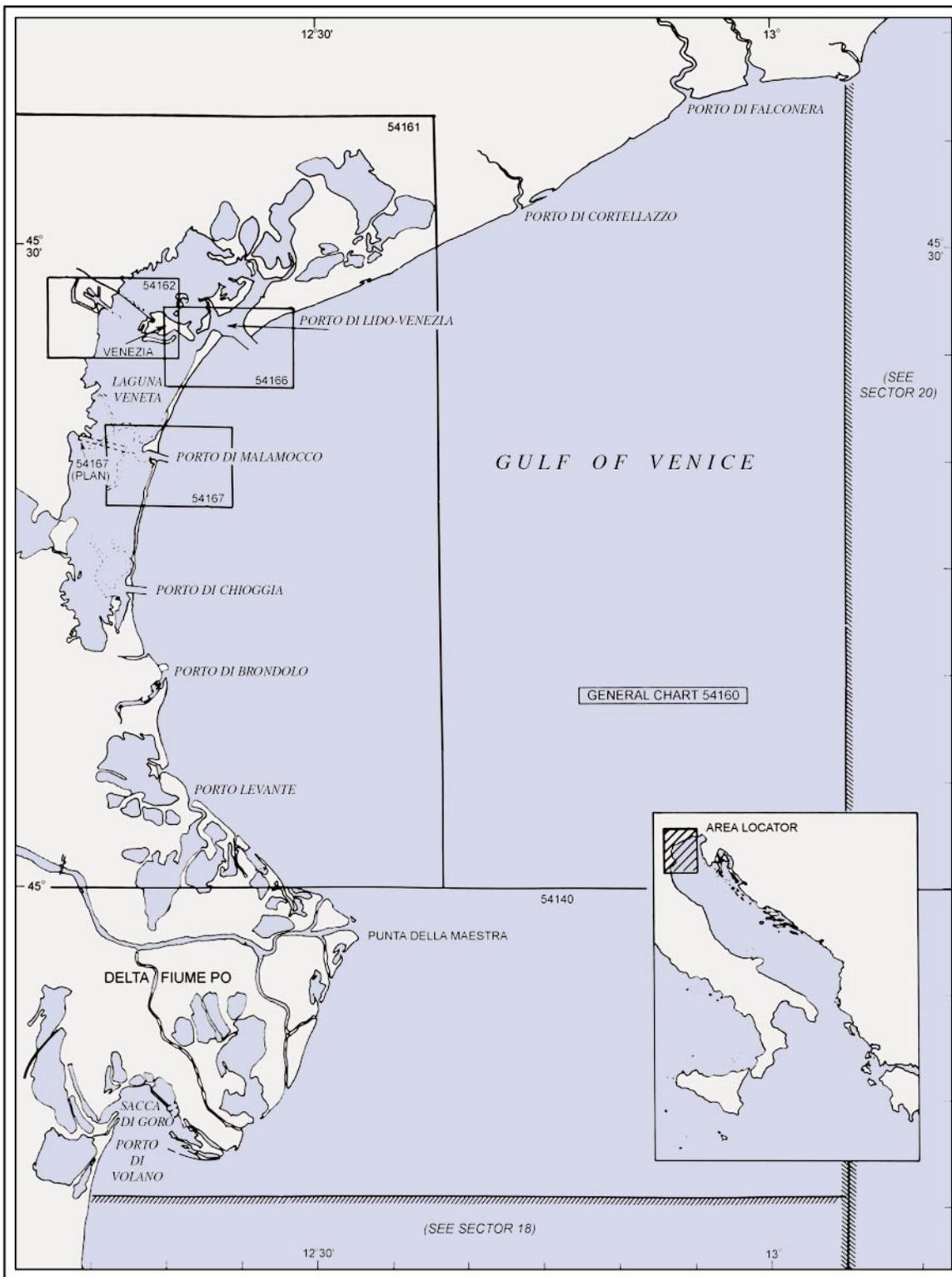
Several navigation restricted areas lie in the approaches to the port and may best be seen on the chart.

Porto Garibaldi to Fiume Po Delta

18.28 Porto Garibaldi (44°41'N., 12°15'E.) (World Port Index No. 40730), a small harbor, lies 11.4 miles N of Porto Corsini and 8 miles SW of the Fiume Po delta. This harbor is

entered at the mouth of Canale Pallotta and is protected by moles. It has depths of 3.6 to 3.9m and is mostly used by fishing vessels, yachts, and small craft. The entrance channel, about 40m wide, is subject to silting and leads between sand banks which reduce the navigable fairway to a width of about 25m. The port monitors VHF channels 11 and 16. Vessels can anchor, in a depth of 9m, about 2.5 miles off the harbor.

The village of Comacchio is situated on the canal, amidst salt marshes, 3 miles WNW of the harbor. Two prominent bellfries and two prominent towers stand in the village. The isolated campanile of Pomposa, on Fiume Po di Volano, stands 5 miles NW of the harbor and is a good landmark. A light is shown from a structure, 12m high, standing near the root of the N mole.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 19 — CHART INFORMATION

SECTOR 19

ITALY—THE GULF OF VENICE—FIUME PO DELTA TO PUNTA DEL TAGLIAMENTO

Plan.—This sector describes the Italian shore of the Gulf of Venice from Port di Volano in the S part of Fiume Po delta to Punta del Tagliamento. The descriptive sequence is N then NE.

General Remarks

19.1 Regulations.—Tanker vessels of 1,600 grt and over entering or leaving Italian ports and carrying, or with uncleaned tanks which last carried, petroleum, gas, or chemical products should report to a shore station before entering Italian territorial waters off Italian ports. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Caution.—Numerous offshore oil and gas installations and associated pipelines and service craft may be encountered off the coast described in this sector.

Porto di Volano to Laguna Veneta

19.2 Porto di Volano (44°49'N., 12°16'E.) lies at the mouth of Fiume Po di Volano. Its mouth, which is entered between two low and sandy spits, is hard to identify, but is marked by a few houses and a tower. A large forest extends to the N of the tower. This area is a tourist resort and several holiday complexes stand along the shore to the S.

Fiume Po (44°55'N., 12°25'E.) discharges into the NW Adriatic through a vast delta with eight major branches, each having numerous mouths. Identification of any part of the delta is usually difficult since all the intervening land is low, flat, and marshy.

Caution.—Vessels should not approach the delta closer than 5 miles, nor within a depth of less than 29m because of uncertain changes in depths. The soil brought down by the river and deposited into the sea has extended the delta 15 miles E of the natural coastline and it is continually extending farther E.

The yellow color of the river water discolors the sea for a considerable distance and indicates, in clear weather, proximity to the delta. However, large areas of mist spread over the delta area during a great part of the year and contribute an additional hazard to close approach.

19.3 Sacca di Goro (44°50'N., 12°18'E.), obstructed by shoals, is suitable only for small craft. Anchorage can be taken, in a depth of 8m in the entrance of the bay, about 4 miles SE of Porto di Volano.

The village of Goro stands 1 mile inland from the head of the bay and the village of Gorino stands 1 mile inland from its NE side. The campanile situated in the middle of the latter village is prominent from seaward. A channel leads N to the village of Goro and is marked by two lighted beacons. Local knowledge is advised. The port of Goro monitors VHF channel 16.

Fiume Po di Goro empties into the sea close E of the E part of Sacca di Goro. A light is shown from a structure, 24m high, standing on the SW side of the mouth. Fiume Po della Gnocca

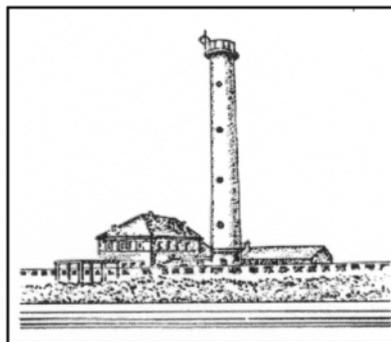
(Donzella) empties into the sea through two mouths, close NE of the mouth of the Fiume Po di Goro.

Rada di Goro, lying S of Sacco di Goro, affords good shelter from all winds except those between S and E which make this roadstead dangerous. The best anchorage, in a depth of 8m, lies about 3.5 miles SW of Po di Goro Light. The bottom is mud and clay and affords good holding ground everywhere.

19.4 Punta della Maestra (44°58'N., 12°32'E.), the E part of the delta of Fiume Po, is an ill defined low and marshy point which consists of many islets. Trees standing near this point are visible from about 5 miles seaward. Po della Pila, the E branch of Fiume Po Grande, flows out on the N side of the point. A conspicuous chimney, 250m high, stands near a white structure, 2 miles WSW of the point.

A light is shown from a prominent structure, 45m high, standing on the N bank of the middle river mouth at Punta della Maestra. A racon is situated at the light.

A lighted beacon is moored about 2.5 miles E of Punta della Maestra and marks the coastal bank.



Punta della Maestra Light

19.5 Fiume Po di Levante (45°03'N., 12°22'E.), navigable only by small craft, discharges through a narrow and constricted mouth, 9 miles NW of Punta della Maestra. The low and weathered houses and the campanile of Porto Levante, a small town, are visible near a marsh, 1 mile S of the river entrance. The port monitors VHF channel 14. Buoys, which are moved to conform to the channel changes, mark the entrance. A light is shown from a prominent water tower, 52m high, standing 0.7 mile W of the river mouth.

A roadstead anchorage, for unloading vessels into lighters, lies, in a depth of 11m, about 2.3 miles E of the entrance to the river. Vessels up to 24,000 grt, with a maximum draft of 7.8m when fully loaded, can be accommodated, provided that winds do not exceed 25 knots and wave heights do not exceed 1.2m. It is under the control of the harbor master at Porto di Chioggia.

Caution.—A submarine pipeline extends 1 mile NE from a point on the shore, 0.5 mile SE of the entrance to Fiume Po di Levante. Its seaward end is marked by a lighted beacon.

A prohibited area, which may best be seen on the chart, lies 5 miles NE of the entrance to Fiume Po di Levante and is marked by a lighted buoy.

19.6 Porto Caleri (45°12'N., 12°20'E.), situated 1.5 miles NW of Porto Levante and reached through a small lagoon opening, can be identified by a conspicuous grove of trees situated close NW of it. A prominent tank stands 2.5 miles N of Porto Caleri.

The coast between Punta della Maestra and Porto Caleri has few landmarks.

Porto Fossone, at the mouth of Fiume Adige, lies 4.2 miles N of Porto Caleri and Porto di Brondolo, at the mouth of Fiume Brenta, lies 1.3 miles farther N. These rivers are suitable only for small craft as the mouths are obstructed by shallow shoals. The coast between the mouth of Fiume Brenta and Porto di Chioggia, is composed of dunes of fine sand.

Between Punta della Maestra and Punta del Tagliamento, the coast forms a large bight and consists of a low and sandy shore intersected by marshes.

Laguna Veneta

19.7 Laguna Veneta (45°20'N., 12°20'E.), the largest of the lagoon basins along this coast, is bordered on the S side by Fiume Brenta, lying 5.5 miles N of Porto Caleri. The N boundary of this lagoon is formed by Fiume Sile (45°29'N., 12°35'E.). The lagoon forms a basin which is separated from the sea by a long and narrow strip of land. This strip, which forms a natural sea wall, is reinforced by artificial walls called Murazzi. In the vicinity of Venezia, this strip of land is named Litorale di Lido. The city of Venezia is built upon a small archipelago of 122 islets and occupies the NW part of the lagoon.

There are three main channels leading to the facilities within Laguna Veneta. The S channel leads to Porto di Chioggia; the middle channel leads to Porto di Malamocco and is connected by canal to Porto Marghera; and the N channel leads to Porto di Lido and is connected by canal to Porto di Venezia.

Caution.—A Traffic Separation Scheme (TSS), which may best be seen on the chart, lies in the approaches to Laguna Veneta and is centered about 9 miles NE of the mouth of Fiume Brenta. This TSS consists of inbound and outbound traffic lanes leading to Porto di Chioggia, Porto di Malamocco, and Porto di Lido and a traffic roundabout.

An anchoring and fishing prohibited area, which may best be seen on the chart, lies in the outer approaches to Laguna Veneta. It is centered on a wreck, with a least depth of 14.5m, which has explosive material scattered in the vicinity.

A lighted oceanographic platform is situated in the outer approaches to Laguna Veneta. It stands 10 miles NE of the entrance to Porto di Chioggia and anchoring and fishing are prohibited in its vicinity.

Several prohibited areas, which may best be seen on the chart, lie in the inner part of the approaches to Laguna Veneta. They are situated about 2.5 miles offshore, between the en-

trances to Porto di Chioggia and Porto di Malamocco, and are marked by lighted buoys.

Depths in the vicinity of Laguna Veneta are liable to change and the authorities should be consulted as necessary.

Porto di Chioggia

19.8 Porto di Chioggia (45°14'N., 12°18'E.), which consists of the Avamporto and Porto Interno, lies W of Lido di Sottomarina, on which is constructed the murazzi protecting the town of Chioggia and the inland lagoon.

The Avamporto lies at the intersection of Canale di Caroman and Canale Perognola, and leads N to Porto di Malamocco and Porto di Lido. Porto Interno consists of Bacino di Vigo, which lies N of the town of Chioggia and is protected by a breakwater.

Winds—Weather.—Winds from the NE are frequent in winter and sometimes last for more than one week. Winds from the SE usually bring rain and are most frequent in the autumn.

Tides—Currents.—The normal rise of tide is small, being 0.3 to 0.7m. However, the water level may rise by up to 1.2m during strong SE winds. The highest high tides occur in October, November, and December; the lowest low tides occur in January and February.

Currents are strong and are mostly influenced by rain, runoff, and winds. With strong winds from the NE and SE, the current between the breakwaters can attain a rate up to 4 knots.

Depths—Limitations.—There is a depth of 8.4m in the entrance. The main facilities include Canal Lombardo Esterno Quay, 650m long, with a depth of 6.3m alongside; Banchina Marittima Quay, 460m long, with a depth of 4.8m alongside; and Canal Lombardo Interno Quay, 120m long, with a depth of 4.7m alongside. There are facilities for general cargo, ro-ro, and bulk vessels. Vessels up 10,000 dwt, 150m in length, and 6.1m draft can be accommodated.

Mooring buoys are situated in Avamporto and may be used by vessels up to 220m in length and 8.3m draft.

Aspect.—The two objects usually sighted first from seaward are the conspicuous campanile standing at Pellestrina, situated 2 miles N of the entrance, and the tall reddish-colored campanile of the cathedral standing at the S end of Chioggia. On nearer approach, vessels will be able to see the two prominent forts which are situated near the inner ends of the breakwater. A light is shown from the fort which stands on the S side of the entrance. The entrance channel is marked by lighted beacons and lighted buoys.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 16 and board about 1 mile E of the entrance. Vessels should send an ETA at least 24 hours in advance.

Anchorage.—Small cargo vessels can obtain anchorage in the vicinity of position 45°14'N, 12°23'E, clear of the buoyed shellfish beds. Larger vessels can find anchorage in the vicinity of position 45°21'N, 12°25'E and position 45°22'N, 12°27'E.

There is an anchorage for vessels, unloading into lighters, in depths of 12m to 15m, about 1 mile SE of the entrance to the port. This anchorage is under the control of the harbormaster.

An offshore designated anchorage area, which may best be seen on the chart, lies centered 6.5 miles SE of the port entrance.

Caution.—A wreck, with a depth of 16m, lies about 6.7 miles ESE of the port entrance.

The heads of the breakwaters are fronted by submerged rocks.

Submarine cables lie within the harbor channels and are marked by notice boards on the shore. Anchorage is prohibited in these areas.

Porto di Malamocco (45°20'N., 12°19'E.)

World Port Index No. 40750

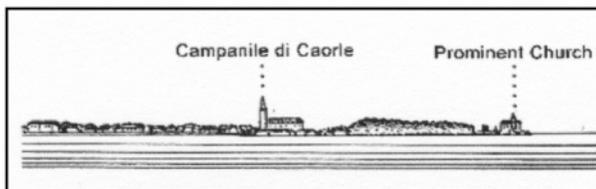
19.9 Porto di Malamocco is one of the most important of the lagoon ports. The entrance to this port lies 6.3 miles N of the entrance to Porto di Chioggia and is the S of the two main entrances leading to Porto di Venezia. It is a sub port of Venice.

Tides—Currents.—The current between the breakwaters sometimes exceeds a rate of 5 knots. The tidal currents in the vicinity of Forte San Pietro are very strong. Strong eddies occur in this vicinity and there frequently is a strong set to the N side of the channel.

Depths—Limitations.—The entrance channel, known as Canale San Leonardo, has a dredged depth of 14m. It continues WNW for 3 miles from the entrance and leads to the oil terminal at Porto San Leonardo. This channel then leads N to connect with Canale Litoraneo, which has a dredged depth of 12m and leads into Porto Marghera. Special regulations are in force within the channels leading between Porto di Malamocco and Porto Marghera. Large vessels proceeding to Porto Marghera should enter by Canale San Leonardo. Small vessels can proceed via Porto di Lido, but the canal only has a dredged depth of 9.1m.

Porto Marghera has 8,392m of total berthing space with depths of 4 to 13m alongside. There are facilities for tanker, bulk, ro-ro, reefer, gas, container, and general cargo vessels.

The San Leonardo Oil Terminal is situated on the W side of Canale Litoraneo and consists of a jetty with two berths. It can accommodate tankers up to 130,000 dwt, 300m in length, and 13.7m draft.



Campanile di Caorle, bearing 005°, 1.6 miles

Aspect.—Prominent landmarks include the slender and pointed campanile standing at San Antonio, 3.4 miles SSW of the entrance; a conspicuous church situated at Volta, 1.2 miles SSW of the entrance; and the campanile standing at Malamocco, 2.4 miles NNE of the entrance. The conspicuous belfry of San Marco, situated in Venezia, can be seen to rise above the city and all others in the lagoon.

A burn-off flare at the Marghera refinery is also visible from seaward and is situated in an industrial area, 9 miles NW of the port entrance.

From closer inshore, the prominent belfry standing on Isola Poveglia, 0.6 mile NW of Malamocco, can be identified.

Forte Rocchetta Light is shown from a prominent structure, 23m high, standing on the N side of the entrance, 1.4 miles WNW of the N breakwater head. A mushroom-shaped pilot station tower stands close N of the light.

A racon is situated at the light structure standing on the head of the N breakwater. The entrance channel is marked by articulated lighted beacons. A tower stands 0.7 mile WNW of the light and forms a range which indicates the entrance channel and may best be seen on the chart.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 12 or 13 and board about 2 miles ESE of the N breakwater head. Vessels should send an ETA and maximum draft at least 24 hours in advance. Requests for pilot services should be made at least 2 hours in advance.

Regulations.—Vessels must contact the pilot station before anchoring.

Within 2 miles of the port entrance, all other vessels are to give way to vessels which are entering or leaving the port.

Vessels must not pass in the entrance channel; vessels leaving have precedence.

Vessels are not to exceed a speed of 6 knots in Canale Litoraneo.

Anchorage.—There are five designated anchorage areas lying NE of the entrance to Porto di Malamocco. These areas, which have depths of 10 to 18m and may best be seen on the chart, are, as follows:

1. Anchorage Area No. 1, centered 1 mile NE of the N breakwater head, is for the use of general cargo vessels of less than 5,000 dwt
2. Anchorage Area No. 2, lying close E of Area No. 1, is for the use of tankers or vessels carrying dangerous substances less than 20,000 dwt.
3. Anchorage Area No. 3, lying close E of Anchorage Area No. 2, is for the use of tankers or vessels carrying dangerous substances of 20,000 dwt and over.
4. Anchorage Area No. 4, lying close N of Anchorage Area No. 3, is for the use of lightering tankers.
5. Anchorage Area No. 5, lying close N of Anchorage Area No. 2, is for the use of cargo vessels of 5,000 dwt and over.

Caution.—With strong NE winds and a very strong tidal current, entry into the port is very dangerous.

A dangerous wreck lies about 4.5 miles ENE of the port entrance.

A submarine cable lies adjacent to the N side of the entrance channel and anchoring in this vicinity is prohibited.

Submarine cables lie across the channel within the harbor and are marked by notice boards on the shore. Anchorage is prohibited in their vicinity.

A submarine pipeline extends 2 miles ESE from a point on the shore, 2 miles NNE of the port entrance. Anchoring and fishing are prohibited in its vicinity.

Shoals and foul ground lie adjacent to the sides of the entrance channel which is subject to silting.

Porto di Lido (45°25'N., 12°26'E.)

World Port Index No. 40760

19.10 Porto di Lido (Porto di Venezia), the N of the two entrances leading to Porto di Venezia, lies 7 miles NNE of the entrance to Porto di Malamocco and is protected by two breakwaters.

Tides—Currents.—The rates of the tidal currents are variable and may sometimes reach 3 knots. Strong SE winds, at springs, sometimes cause an extraordinary rise of the tide which may flood the quays.

Depths—Limitations.—The access channel to Porto di Lido is dredged to a depth of 11m. Canale di San Nicolo leads SW from the entrance to Santa Elena, the E suburb of the city of Venezia. Its SE side is formed by San Nicolo di Lido and its NW side by Le Vignole, a group of three islands. Forte San Andrea, situated on the SE end of this group, is very conspicuous.

Arsenale, a naval installation, is situated at the head of Canale delle Navi, which leads 1.8 miles NW from the W side of Canale di San Nicolo.

Canale di San Marco is entered from the W end of Canale di San Nicolo, S of Santa Elena. It leads NW and W along the S side of the city and connects with Canale della Giudecca in the vicinity of Punta della Salute. Canale di San Marco is quayed as far W as the famed Piazza San Marco, at the N entrance point of Canale Grande. Mooring buoy berths are also situated in this canal and used by large naval, passenger, and cruise vessels.

Canale Orfano, entered from Canale di San Marco SW of Santa Elena, leads to Porto di Malamocco through a network of canals.

Canale della Giudecca, a continuation of Canale di San Marco, leads W to Porto Marittima (Porto Commerciale), the commercial cargo facility at the W side of the city. A turning basin lying SW of Porto Marittima has a depth of 10.4m.

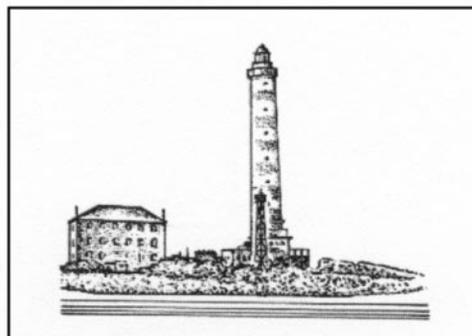
Port Marittima, the commercial harbor for Porto di Venezia, has 3,597m of total berthing space with depths of 8 to 10m alongside. There are facilities for general cargo, passenger, bulk, ro-ro, and container vessels. There are also numerous small craft harbors and marinas within the canal complex.

Aspect.—The buildings of the city of Venezia, situated 3.5 miles W of the port entrance, are mostly obscured, but the belfry of San Marco rises above the city and serves as a good landmark from seaward. The belfry is large and is surmounted by a greenish-colored spire. Also conspicuous is the large Hotel Excelsior, surmounted by two cupolas, which stands near the beach, 2 miles SSW of the port entrance.

A light is shown from a tower, 35m high, standing 3.8 miles NW of the port entrance. This light forms part of a lighted range which indicates the entrance channel and may best be seen on the chart.

A prominent disused signal station stands on the N extremity of San Nicolo di Lido, 2.1 miles WNW of the head of the N breakwater.

A light is shown from a conspicuous structure, 25m high, standing on the head of the N breakwater. A racon is situated at this light.

**Piave Vecchia Light**

The entrance channel is marked by lighted buoys; an outer approach lighted buoy is moored about 2.3 miles SE of the head of the N breakwater.

Pilotage.—Pilotage is compulsory. Pilots can be contacted on VHF channel 13. Venice Harbor Control, call sign Venice Pilot Station, monitors VHF channel 12. The pilot boards 2.3 miles SE of the N breakwater head. Vessels should send an ETA at least 2 hours in advance.

Regulations.—Entry regulations for Porto di Lido and Venezia are the same as those for Porto di Malamocco. For further information, see paragraph 19.9.

Vessels carrying inflammable or dangerous cargoes bound for Porto Marghera are required to enter through Porto di Malamocco not Porto di Lido.

Anchorage.—Two designated anchorage areas, which may best be seen on the chart, lie E of the port entrance. Anchorage Area No. 1 lies centered 2 miles E of the head of the N breakwater and is for the use of cargo vessels of less than 5,000 dwt. Anchorage Area No. 2, lying close E of Area No. 1, is for the use of cargo vessels of 5,000 dwt and over.

There is insufficient swinging room for large vessels to anchor within the port.

Caution.—The entrance to Porto di Lido is subject to silting.

A submarine pipeline extends 2.2 miles S from a point on the shore, 3 miles ENE of the port entrance. The seaward end of this pipeline is marked by a lighted buoy; anchoring is prohibited in its vicinity.

Numerous ferries ply within the port and the canals.

Porto di Lido to Punta del Tagliamento

19.11 Porto di Piave Vecchia (45°29'N., 12°35'E.) lies at the mouth of Fiume Sile, 7.3 miles ENE of the entrance to Porto di Lido. This small boat harbor is entered between rubble breakwaters and is blocked by shoals. A light is shown from a prominent structure, 48m high, standing near the river mouth. A prominent water tower stands 2.5 miles W of the light.

Caution.—A marine farm, best seen on the chart, is located 1.7 miles S of Porto di Piave Vecchia. It is marked by a lighted buoy.

19.12 The coast between this river mouth and Punta del Tagliamento is backed by two lagoons, Laguna Veneta and Laguna di Caorle. Inland waterways connect these lagoons with Venezia and other ports.

Porto di Cortellazzo lies at the mouth of Fiume Piave, 7 miles ENE of Porto di Piave Vecchia. This river is only navigable by small and light-draft craft with drafts of less than 2.5m. The houses of the village stand near the river mouth and are visible between the tall trees. Three submerged concrete columns, about 50m apart, lie 600m S of the river mouth. This river sometimes deposits a very white-colored and milky substance into the sea which, when seen from a distance, appears as a white and sandy stretch of beach.

19.13 Porto Santa Margherita di Caorle (45°35'N., 12°52'E.) lies at the mouth of Fiume Livenza and can only be entered by small boats with drafts of less than 2m. Two jetties form the entrance to the river mouth. Caorle, a conspicuous small town, is situated 1 mile NE of the mouth and is protected by a stone seawall. A prominent campanile stands in this town and another campanile surmounts a prominent church which stands on a point, close NE. A light is shown from the church. A submerged mole extends 0.3 mile SE from a point on the shore, 0.2 mile N of Caorle Light. Its outer end is marked by a red barrel-shaped marker.

Vessels can anchor, in a depth of 12m, mud and sand, about 2 miles offshore, anywhere between the mouth of Fiume Piave and Caorle.

Caution.—A circular area, with a radius of 0.2 mile, where anchoring, stopping, fishing, and all underwater activities are prohibited, lies centered on position 45°3.6'N, 12°52.9'E. This is the site of an historic wreck.

Several stranded wrecks lie along this stretch of coast.

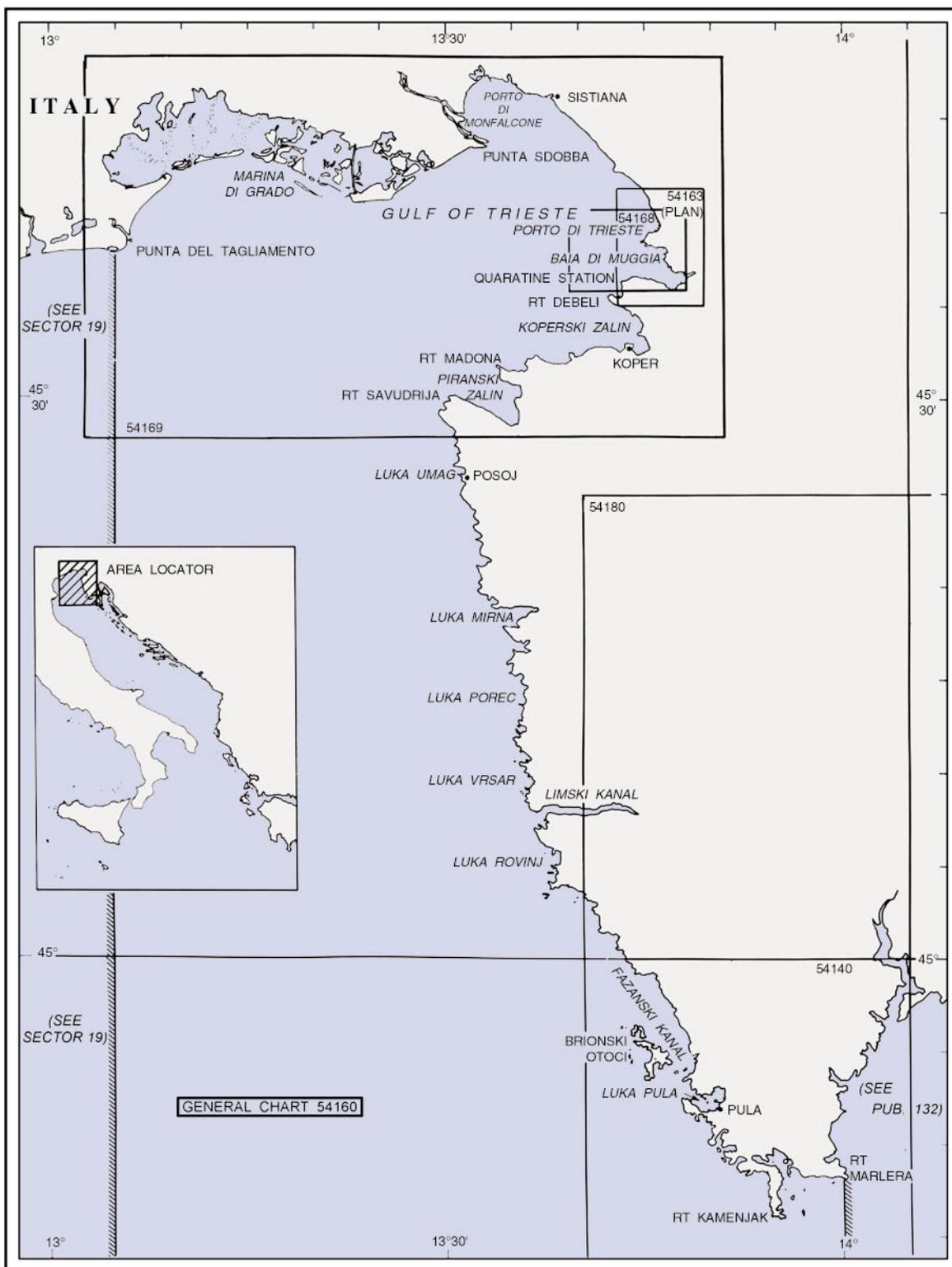
19.14 Porto di Falconera lies 1.3 miles ENE of Caorle and consists of the lower reach of Fiume Lemene and Canale Nicessolo. It provides access to Laguna di Caorle, but is obstructed by sand banks and is frequented only by small craft.

Porto di Baseleghe, an inlet at the mouth of Canale dei Lovi, lies 3 miles E of Porto di Falconera and is almost completely obstructed by shoals. It is used only by small craft with local knowledge. A prominent red frame house stands on the shore at the W side of the inlet. The coast between this inlet and Punta del Tagliamento is low and wooded.

Punta del Tagliamento (45°38'N., 13°06'E.), located 5 miles E of Porto di Baseleghe, is marked by a light and is fully described in paragraph 20.2.

Caution.—An anchoring and fishing prohibited area, which may best be seen on the chart, lies 11.5 miles S of Punta del Tagliamento.

A circular area, with a radius of 0.2 mile, where anchoring, stopping, fishing, and all underwater activities are prohibited, lies centered on position 45°33.2'N, 13°11.1'E.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.
SECTOR 20 — CHART INFORMATION

SECTOR 20

ITALY AND SLOVENIA—THE GULF OF TRIESTE AND THE ISTRIAN PENINSULA

Plan.—This sector describes the N coast of Italy on the Adriatic Sea, including that bordering the N side of the Gulf of Trieste. It also describes the coast of Slovenia (formerly Yugoslavia), which forms the E side of the Gulf of Trieste. The descriptive sequence is E and SE from Punta del Tagliamento to the NW approaches of Porto di Trieste, and then N and NE from Rt Marlera to and including Porto di Trieste.

General Remarks

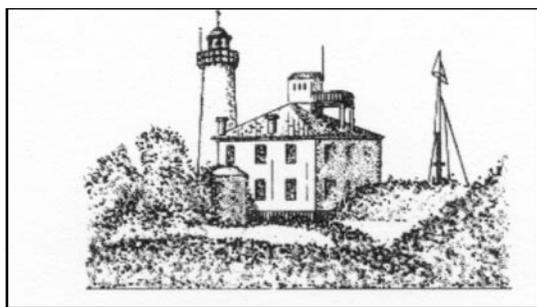
20.1 Regulations.—Tanker vessels of 1,600 grt and over entering or leaving Italian ports and carrying, or with uncleaned tanks which last carried, petroleum, gas, or chemical products should report to a shore station before entering Italian territorial waters off Italian ports. For further details, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Caution.—Vessels have been advised to avoid some of the ports and territorial waters of the former Yugoslavia. There have been reports of port blockades, vessels being fired upon, and indiscriminate minelaying.

Punta del Tagliamento to Porto di Monfalcone

20.2 Punta del Tagliamento (45°38'N., 13°06'E.) is a low point of land forming the S side of the mouth of Fiume Tagliamento which is obstructed by shoals. A light is shown from a prominent structure, 21m high, standing on the point.

A large tank and several buildings are situated 2 miles N of the light and are conspicuous from seaward. A small pier, with a depth of 2.5m at its head, is situated 2 miles NNE of the light and fronts a resort area.



Punta del Tagliamento bearing N

Porto Lignano (45°42'N., 13°09'E.), a small harbor, consists of a channel, 1 mile long, which extends N into Laguna di Marano. This harbor is fronted by a sand bar and is mostly used by light-draft vessels, small craft, and yachts. An obstruc-

tion light marks a tall building, 60m high, which stands 1.5 miles SW of the harbor. Vessels can anchor, in a depth of 10m, mud, about 2 miles SE of the entrance.

Caution.—An outfall pipeline extends 4 miles SE from a point on the shore, 1.8 miles SW of the entrance. Anchoring and fishing are prohibited in its vicinity.

An outfall extends 3.6 miles SSE from a point on the S shore of Isola di Sant'Andrea. The seaward end is marked by a lighted buoy. Anchoring and fishing are prohibited in the vicinity of the piping.

20.3 Porto Buso (45°43'N., 13°15'E.) lies at the confluence of two rivers, which form two inland waterways. The entrance is marked by lighted and unlighted beacons; the narrow channel leads between shallow shoals. The buildings of the village stand on both sides of the mouth which is protected by two small breakwaters. Small coasters, with local knowledge, use this entrance and proceed to Porto Nogaro, a small harbor basin, lying 4 miles inland. A local pilot is available; pilotage is required for vessels over 500 gross tons. The pilot may be contacted on VHF channel 12. Vessels up to 80m in length and with a maximum draft of 5m can be handled.

20.4 The Gulf of Trieste (Trscanski Zaliv) (45°40'N., 13°35'E.) is entered between Grado and Rt Gornja Savudrija, 11.5 miles SSE. The N side is low and is backed by lagoons. The NE side is high, precipitous, and is backed by mountains. The SE side is deeply indented and is backed by moderately high hills.

Grado (45°40'N., 13°23'E.) (World Port Index No. 40780), a small town and resort, stands on a low and flat islet which faces the sea. The town is connected to the mainland N of the lagoon by a causeway which carries a roadway and forms the E side of Canale di Belvedere. A bridge, with a moveable span, connects the town and the causeway. There are numerous beach villas and hotels situated in the vicinity of the town.

A dredged entrance channel leads W of the town and affords access to a small harbor at Grado and to the channels of the lagoon. This channel is marked by dolphins and masts and an outer approach lighted buoy is moored about 2 miles SW of the town. It is reported (1988) to have a least depth of 3m, but it is subject to silting. It has been reported (1994) that these dolphins no longer mark the channel, and those that remain are poorly maintained.

Winds from the S quadrant, which are predominant in fall and spring, cause a very rough sea in the entrance.

Vessels are advised to use the channel only in calm weather and to proceed with caution at a speed not exceeding 7 knots, because when exceeding this speed they may have difficulty maneuvering in the shallow and confined waters. The banks are affected by freshets from the lagoons and by strong winds from seaward and the depths are liable to change. Local pilots are available. The port monitors VHF channel 16. The channel is used by small craft, pleasure craft, and small coasters. Large

vessels can anchor offshore to the SSE of Grado. The holding ground of sand and mud is good.

The campaniles standing at Grado and at Aquileia, 5.5 miles N of Grado, are prominent from seaward.

Between Grado and Punta Sdobba, 7 miles ENE, the coast is fronted by shoals, with depths of less than 5m, which extend up to 1.8 miles offshore. Banco Mula di Muggia, most of which dries, forms the W part of these shoals and is marked by a lighted beacon situated about 2.3 miles SE of Grado. This drying shoal is reported to be extending to the E.

Caution.—An outfall extends 3 miles SE from a point on the coast about 3 miles NE of Grado. Anchoring and fishing are prohibited in the vicinity of the outfall.

A circular prohibited area is located adjacent to and SW of the outfall. This area is dangerous due to the probable presence of bottom mines.

An outfall pipeline extends 2.5 miles SE from a point on the shore at the E end of Banco Mula di Muggia.

20.5 Punta Sdobba (45°43'N., 13°33'E.), a low and sandy point, is formed at the confluence of several rivers. Drying sandbanks extend up to about 0.7 mile E from this point. A coastal bank, with depths of less than 5m, extends up to about 0.9 mile from the point and is marked by a lighted beacon situated on its SE side. It is reported that less water than charted may exist in this vicinity and vessels should give this area a wide berth. A small craft channel, marked by piles, leads through the shoals and drying flats to the river entrance.

Golfo di Panzano, the shores of which are low, lies between Punta Sdobba and Duino, 3.4 miles NE. Duino consists of a close group of yellowish-colored houses and a very conspicuous castle. This small town is fronted by a small harbor which is protected by two moles and is used by fishing boats and pleasure craft.

Porto di Monfalcone (45°47'N., 13°33'E.)

World Port Index No. 40790

20.6 The port of Monfalcone lies in the NW corner of Golfo di Panzano and is approached through a dredged channel. The harbor has commercial facilities for mostly bulk cargo and a shipyard.

Porto di Monfalcone Home Page

<http://www.porto.monfalcone.gorizia.it>

Tides—Currents.—Tides rise about 0.9m at springs and 0.6m at neaps.

Depths—Limitations.—The entrance channel, which is 4,500m long and 170m wide, was dredged to a depth of 10.5m (1993). The main commercial quays include Portorosega Quay, with 1,000m of total berthing space and depths of 7.5 to 9.5m alongside; Cereal Quay, 120m long, a depth of 10m alongside; and an ENEL power station quay, 330m long, with a depth of 9.5m alongside. There are facilities for tanker and bulk vessels. Vessels up to 180m in length and 10.2m draft have been handled at HW.

Aspect.—The town of Monfalcone, situated 1.5 miles inland, is mostly obscured by the shipyard and port installations. Prominent landmarks include the castle at Duino; several resort buildings standing on the shore of the bay to the NW of the harbor; a group of silos situated at the head of the harbor; and a tall chimney standing at the power station in Monfalcone.

The entrance channel is marked by lighted buoys and beacons. An outer approach lighted beacon is situated about 1.5 miles SSW of the castle at Duino.

Pilotage.—Pilotage is compulsory for vessels over 500 grt and is available during daylight hours only. Pilots can be contacted on VHF channel 14 and board 1 mile off the port entrance.

Regulations.—Vessels carrying polluting or dangerous cargo must report to the harbormaster 24 hours in advance.

A speed of 5 knots is not to be exceeded in the entrance channel or harbor.

Anchorage.—Large vessels may anchor, in depths of 10 to 12m, about 1.6 miles SSE of the castle at Duino.

Caution.—A submarine water pipeline, which stands 2m above the sea bottom and constitutes a permanent obstruction, extends SE between Duino and Porto di Trieste and may best be seen on the chart. Anchoring and fishing are prohibited in its vicinity.

A fishing prohibited area extends W from the pipeline and its associated restrictions and may best be seen on the chart.

A submarine pipeline extends SSE from Golfo di Panzano and is best seen on the chart.

Porti di Monfalcone to the Northwest Approaches of the Gulf of Trieste

20.7 Sistiana (45°46'N., 13°38'E.) (World Port Index No. 40800), a small town, is situated at the head of an inlet which is surrounded by a chain of hills with luxuriant vegetation. It is easily identified by the open limestone quarries situated on the surrounding hills. The town is fronted by a small harbor which is protected by two breakwaters. There are 200m of berthing space with depths of 4 to 4.9m alongside. The harbor is mostly used by small craft, pleasure craft, and local ferries.

Between Sistiana and Miramare, a rocky projection located 5.5 miles SE, the coast is high and steep. A conspicuous castle stands on Miramare and a conspicuous water tank, with bricked up window-like openings, is situated on the cliff edge, 1 mile SE of Sistiana. The prominent aqueduct of Aurisina is situated 1 mile SE of the water tank and a tower stands close inland of it. A small boat harbor, formed by a short breakwater and a mole, lies close SE of the aqueduct. The small and prominent town of Santa Croce di Trieste stands on a hill, close inland of this boat harbor.

Valle Grignano, a small craft harbor, lies in a small bay on the NW side of Miramare. It is formed by a short breakwater and a mole. There are depths of 2 to 6m in the harbor which is mostly used by pleasure craft.

Barcola, a small harbor, lies in the NW approaches to Trieste, 2.2 miles SE of Miramare. It is protected by an angled breakwater and a mole. There are depths of 2.5 to 3.5m in the two basins of the harbor and they are mostly used by pleasure craft.

Rt Marlera to the Southeast Approaches of the Gulf of Trieste

20.8 Rt Marlera (44°48'N., 14°00'E.) is the E point of the S extremity of Istria, a mountainous peninsula, which separates the Gulf of Venice from the Gulf of Kvarner. This cape is 21m high, bare, steep-to, and projects 1.7 miles SE from the peninsula. A light is shown from a structure, 9m high, standing on this cape.

The W side of Istria, extending N and NE to Trieste, has an irregular shoreline which is mostly bare except for a sprinkling of low, green bushes. The land rises gradually from the shore in undulating hills on which there are situated numerous scattered villages, vineyards, and olive and cedar groves. These hills terminate in a dominating mountainous ridge.

The W side of Istria is fronted by numerous islands, and rocks and shoals extend up to 2 miles offshore in places.

20.9 Rt Kamenjak (44°46'N., 13°55'E.), the S extremity of Istria, is a narrow and hilly point of land, 46m high. This point is not defined, except in very clear weather, and vessels approaching from the E will first sight the bell towers of several hill-top villages and the light structure at Hrid Porer. The prominent village of Premantura is situated 2.5 miles N of the extremity of the point. A signal station and a radiobeacon are situated on the point.

Hrid Porer, a rock 7m high, lies near the outer end of a reef which extends up to 1.3 miles SW from the W face of Rt Kamenjak. A light is shown from a structure, 31 high, standing on this rock. A racon is situated at the light structure.

Plicina Albanez, a rock, lies 1.5 miles SSE of Hrid Porer. It has a depth of 2.7m and is surrounded by dangers. A light is shown from a structure, 15m high, standing on this rock. When this light is extinguished, a light is shown from a structure, 2m high, standing on the S end of the dangers around Hrid Porer.

Medulinski Zaljev, entered between Rt Marlera and Rt Kamenjak, is divided into inner and outer bays by Rt Kasteja, the extremity of a low peninsula which projects S from the NE side. The outer bay contains several islets and rocks. Otopic Finera, the outermost islet, is marked by a beacon. Small vessels, with local knowledge, can anchor, in a depth of 16m, mud, about 0.2 mile NNW of this islet.

The coast between Rt Kamenjak and Rt Kumpar, 8 miles NW, consists of an irregular and hilly shoreline which is indented by many small coves. Rt Verudica, located 5.5 miles NW of Rt Kamenjak, is surmounted by a hotel and a ruined convent. A light is shown from the point.

A conspicuous signal station is situated at a fort surmounting a hill, 0.7 mile SSE of Rt Kumpar.

Luka Pula (44°53'N., 13°48'E.)

World Port Index No. 40960

20.10 Luka Pula, which is essentially a naval base, is an almost landlocked basin surrounded by hills. It is entered between Rt Kumpar and Rt Kristo, 0.9 mile N.

Depths—Limitations.—The entrance is narrowed to a width of about 450m by a breakwater which extends NNW

from Rt Kumpar. The harbor is divided into outer and inner part by two islets, Otopic Sveta Katarina and Otopic Sveti Andrija, and by Poluotopic Sveti Petar, a low projection surmounted by a cement factory. The inner harbor is divided into two parts by Otopic Uljanic and has a marina, a naval base, and several commercial facilities.

Depths in the outer harbor vary from 37m at the entrance to 22m close S of Otopic Sveti Andrija. The passage for large vessels leads S and E of the above island and has depths of over 18m. Depths in the middle of the inner harbor decrease from 27 to 9m.

An oil pier is situated on the E side of the outer harbor, 1 mile SE of Rt Kristo. It is 100m long and has a depth of 8.5m at the head. Several oil storage tanks are situated near the root of the pier.

Poluotopic Sveti Petar, Rijeka, and Ugljan Quays have 900m of total berthing space, with depths of 4 to 9m alongside.

The quayed berths fronting the town have depths of 3 to 6.1m alongside and are used by ferries, fishing vessels, and coasters.

Vessels up to 18,000 dwt and 7m draft have been accommodated.

Aspect.—The land in the vicinity of Luka Pula is not high and the only prominent points near the entrance are Rt Kumpar and a steep point, 81m high, located 1 mile SSE. Conspicuous forts stand on the summits of the hills which surround the harbor. The Roman amphitheater, having high and preserved walls, is conspicuous on the close approach to the harbor.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 9 or 12 and board vessels near the breakwater entrance. Vessels should send an ETA 48 hours and 24 hours in advance. Pilot services should be requested 24 hours in advance.

Anchorage.—The harbor is of sufficient size to afford several anchorage berths, in depths of 11 to 35m, mud. A large number of small ships can also be accommodated. There are several mooring buoys situated in the outer and inner harbors. Permission for anchorage should be obtained from the naval authorities.

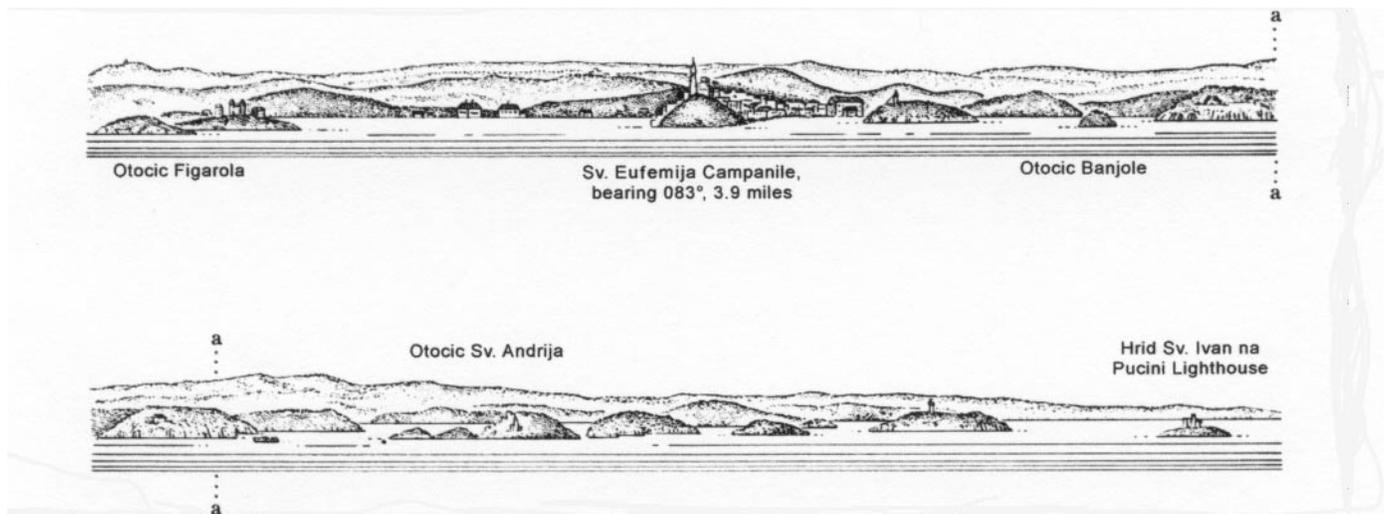
Caution.—Anchorage is prohibited in an area, which may best be seen on the chart, lying between Otok Veli Brijun and the mainland and in the outer part of Luka Pula.

Several submarine cables are laid in the vicinity of the harbor and may best be seen on the chart.

A restricted area, which may best be seen on the chart, lies centered 3 miles SW of Rt Kumpar. Anchoring and fishing are prohibited within the restricted area due to the presence of explosives scattered on the bottom.

20.11 Brionski Otoci (44°55'N., 13°45'E.) is separated from the coast by Fazanski Kanal and consists of a group of islands which are composed of marble and covered with thick bush and low trees. Numerous islets, rocks, and reefs extend up to 1.5 miles W and NW of the two principal islands, Otok Veliki Brijun and Otok Mali Brioni.

Otok Veliki Brjun, the S island, is 58m high and has a conspicuous fort situated on its summit. A light is shown from a structure, 15m high, standing on Rt Peneda, the S extremity of the island.



View, in two parts, of the coast in the vicinity of Luka Rovinj

Otok Mali Brioi, the N island, has a prominent stone quarry situated on it. Reefs extend up to 1.3 miles NW of the NW extremity of this island and are marked by a lighted beacon.

Caution.—A prohibited area, which may best be seen on the chart, extends up to 1.6 miles seaward of the W side of Brionski Otoci.

20.12 Fazanski Kanal (44°53'N., 13°48'E.), a channel, lies between the mainland and Brionski Otoci and extends between Rt Kristo and Rt Barbariga, 6.4 miles NE. Otok Sveti Jerolim, Otok Kozada, and Plicina Kozada lie in mid-channel at the S part of the passage. The best route leads to the W of these three islands.

A least depth of 10.4m exists in the fairway of the narrowest part of the channel, which is about 300m wide, but with extreme care a least depth of 11.9m can be maintained.

The E side of the channel is bordered by a narrow, shallow reef and indented by a number of small and shallow coves. Otok Sveti Jerolim consists mainly of two hills, the higher and NW one being 17m high. A conspicuous quarry, with steep sides, is situated on the island. A short pier, with a depth of 40m at its head, projects from the NW side of the island.

Otok Kozada, 9m high, is surrounded by a narrow reef. A short pier, with a depth of 3m, projects from the NE side of this islet.

Luka Fazana, a small and shallow harbor, fronts the village of Fazana, 2.3 miles N of Rt Kristo. The prominent town of Vodnjan stands on a hill, 135m high, 3 miles NE of the harbor and serves as a good landmark. A reef borders the shore to the S of the harbor entrance and is marked by a buoy.

Rt Mrtulin is located 1.7 miles NNW of Fazana. A reef, with a depth of 3.2m, extends 0.5 mile W from this point and is marked by a buoy. Two conspicuous lime kilns stand about midway between Rt Mrtulin and Rt Barbariga, 3 miles NNW.

Caution.—Passage through Fazanski Kanal is prohibited to all vessels without prior permission.

Submarines exercise frequently in the N entrance to the channel.

Several submarine cables and pipelines cross the S and central parts of the channel.

20.13 Rt Korente (45°04'N., 13°38'E.) is located 6.5 miles NW of Rt Barbariga. The coast between is bordered by islets, rocks, and sunken dangers. The outer danger, Plicina Porer, lies about 2 miles offshore and has a least depth of 8.1m.

A chain of islets and rocks extends 1.5 miles SSW from Rt Korente. Hrid Sv Ivan na Pucini is a rocky islet, 9m high, which lies at the SW end of the chain. A light is shown from a structure, 15m high, standing on this rock.

A dangerous wreck is reported to lie about 2 miles NW of the light.

Rt Montauro, located 0.4 mile NNE of Rt Korente, is 34m high and the N extremity of a rounded promontory.

Luka Rovinj (45°05'N., 13°38'E.)

World Port Index No. 40940

20.14 Luka Rovinj, an industrial town, stands in a bight entered between Rt Montauro and Rt Mucja, 0.8 mile N. This bight is divided into two bays by a small peninsula which projects W and terminates in Rt Sveta Eufemija. The bay to the S of the peninsula contains two coves. The town stands partly on this peninsula and partly on the slopes of the surrounding hills.

Otok Sveta Katarina, an island, lies 0.4 mile S of Rt Sveta Eufemija and has a conspicuous red-colored building standing near its center. Two small islets lie 0.5 mile W of Rt Mucja. Otok Banjole, the outer island in the entrance, lies 1 mile SW of Rt Sveta Eufemija and is 15m high and steep-to.

Depths—Limitations.—Depths of 11 to 26m lie in the outer part of the bay, S of Otok Sveta Katarina. A harbor, protected by breakwaters, provides quays with depths of 2 to 7m along-

side. Vessels with drafts up to 6m can be accommodated. There are facilities for general cargo and passenger ferry vessels.

Aspect.—Turnina Vrh, 107m high and surmounted by ruins, stands 2 miles ENE of the town. Sveti Martin Vrh, 230m high, stands 5 miles NE of the town and is also prominent. Other prominent landmarks include a pointed campanile standing near Rt Sveta Eufemija; the ancient quarries on Rt Montauro; and a tower standing 0.7 mile N of Rt Mucja.

Pilotage.—Pilotage is compulsory. Pilots can be contacted by VHF and board close W of Otocic Sveta Katarina. Pilots are provided from Pula and must be requested 24 hours in advance.

Anchorage.—Vessels can anchor, in depths of 20 to 24m, about 300m NNW of the pointed campanile near Rt Sveta Eufemija. Anchorage can also be taken, in a depth of 31m, about 600m SW of Otocic Banjole.

20.15 Limski Kanal (45°07'N., 13°36'E.) is entered between Rt Kriz, located 2.4 miles NW of Rovinj, and Rt Sjole, 1 mile NNW. The canal is 5 miles long and has steep sides which vary from 61 to 152m in height. Trees and thick bush cover the banks and the canal is exposed to W winds and seas. The depths decrease gradually towards the head of the canal from 33m at the mouth. It has been declared a nature reserve and is only used by pleasure craft and yachts.

Rocky shoals extend up to 1.3 miles SW, W, and NW of Rt Sjole and are marked by buoys and beacons. Plicina Mramori, the outermost rocky shoal, lies about 1.8 miles NW of Rt Sjole and is marked by a lighted beacon.

Luka Porec lies 6 miles N of the entrance to Limski Kanal. The coast between is lower than that to the S and is fronted by islets, rocks, and shoals which extend up to 1.5 miles offshore.

Vessels, except those with local knowledge bound for the small harbors along this stretch of coast, should give this part of the coast a wide berth.

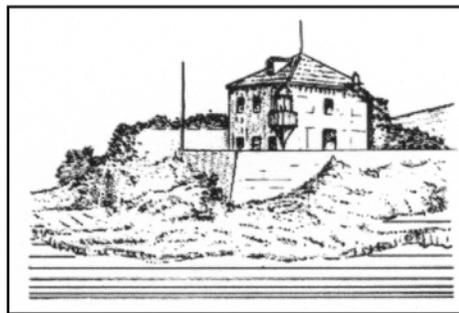
20.16 Luka Porec (45°14'N., 13°35'E.) (World Port Index No. 40920) lies between a small peninsula, on which stands the town of Porec, and a reef, on which lies the island Otocic Sveti Nikola. Hrid Barbaran, a low lying flat rock, lies on a reef directly N of the entrance. A conspicuous castle is situated on Otocic Sveti Nikola and the church tower and the cathedral, standing in the town, are conspicuous.

Depths of 5 to 8m lie in the middle of the harbor and a wharf and a pier, which front the town, have depths of 2 to 5.2m alongside. Pilots are provided from Pula and must be requested 24 hours in advance. Large vessels can anchor, as convenient, in a depth of 22m, good holding ground, WNW of Hrid Barbaran.

A dangerous wreck is reported to lie about 4 miles WSW of Luka Porec.

Rt Zub (Dente) (45°18'N., 13°34'E.), marked by a light, is located 4.3 miles NNE of Luka Porec. The coast between is irregular and is fronted by reefs which extend up to 1.7 miles offshore in places.

20.17 Luka Mirna (Porto Quietto) (45°18'N., 13°34'E.) (World Port Index No. 40900), a bay, is entered between Rt Zub and Rt Lameja, 1.2 miles NNW. Rt Lameja is the extremity of a short peninsula on which stands the town of Novigrad (Cittanova). Fiume Mirna discharges through a



Rt Zub Light

prominent valley into the NE part of the head of this bay. The S shore of the bay consists of hills and cliffs, whereas the N shore slopes gently, except at its E end where there are steep and reddish-colored cliffs.

Depths decrease gradually towards the head of the bay from 20m at the entrance. Plicina Val, lying 0.5 mile WSW of Rt Lameja, is the outer danger on the N side of the entrance and is marked by buoy.

The town of Novigrad, with the dark valley of the Fiume Mirna in the background, is very prominent. A conspicuous chimney stands at the brickworks situated on the N shore of the bay.

Good anchorage can be obtained by vessels of any size in Luka Mirna, sheltered from all but W winds. Vessels of 7,000 dwt and 7.9m draft anchor here and load bauxite from lighters. The best berth for large vessels, in depths of 16 to 18m, lies about 0.5 mile offshore; local knowledge is required.

20.18 Novigrad (Cittanova) (45°19'N., 13°34'E.) (World Port Index No. 40890), a small bay, lies close N of the N entrance point of Luka Mirna and is encumbered by shoals. The partially-walled town of Novigrad is built on the peninsula which forms the S side of this bay. A conspicuous campanile stands in the town. A small harbor, protected by a breakwater, fronts the town and is accessible to small vessels with drafts up to 3m.

Caution.—Several wrecks lie up to 8 miles W of Novigrad and may best be seen on the chart.

20.19 Rt Dajla (45°21'N., 13°32'E.) is located 2 miles NNW of Novigrad. The coast between is low and clear of dangers. Luka Dajla, entered between Rt Dajla and Rt Komun, is small in extent and suitable for small vessels. A conspicuous convent stands close E of the S entrance point. A reef extends about 0.3 mile NW from Rt Dajla and its outer extremity is marked by a buoy. A small pier, with a depth of 3.9m at its head, is situated on the NE shore of the bay. Small vessels, with local knowledge, can anchor, in depths of 6 to 8m, close N of the convent.

Luka Umag (45°26'N., 13°31'E.) (World Port Index No. 40880), a small bay, lies 5 miles NNW of Luka Dajla. The town of Umag, which is a resort, stands on the S entrance point of the bay, which is suitable for small light-draft vessels. A curved breakwater extends NW from the town and forms a

small harbor with a depth of 4m. Pilots are available from Pula with 24 hours notice. The pilot boards about 1 mile SW of the breakwater. Anchorage can be taken, in a depth of 18m, mud, W of the campanile in the town.

Rt Gornja Savudrija (Capo Salvore) (45°30'N., 13°30'E.), low and dark, is located 3.8 miles N of Luka Umag. The coast between is low and fronted by dangers which extend up to 1.3 miles offshore. This cape is the NW extremity of the Istrian peninsula and has a face, 1.5 miles long. Rt Savudrija Light is shown from a prominent structure, 29m high, standing on Rt Far, which is the SW headland of the face.

A dangerous wreck is reported to lie about 5 miles NW of the light. A wreck, with a depth of 5.5m, lies about 5.2 miles NNW of the light.

Caution.—Large vessels, with drafts greater than 15m and speeds greater than 12 knots, should remain at least 2 miles from the coast between Rt Savudrija and Luka Koper.

20.20 Piranski Zaliv (Baia di Pirano) (45°30'N., 13°34'E.) is entered between Rt Savudrija and Rt Madona, 3 miles NE. Rt Madona is marked by a light and a tower. The NE shore of this inlet is backed by hills, which are cultivated with olive and cypress trees, whereas the SW shore is low and has sparse growth.

Piran (Pirano) (45°32'N., 13°34'E.) (World Port Index No. 40870), a small town, is situated on Rt Madona and is fronted by a small craft harbor which is protected by two moles and has depths of 1.5 to 5.5m. Conspicuous from seaward are the ruins of an old castle, situated on the heights to the E of the town, and the high steeple of a church which stands near the edge of a high wall. Portoroz, a village, is situated on the NE side of the inlet and is fronted by a quay and a pier with a depth of 4.9m alongside.

Large vessels can anchor, in a depth of 14m, mud and clay, in the outer part of the inlet about 1.3 miles SW of Rt Madona.

Caution.—A prohibited anchorage area lies in the inner part of Piranski Zaliv and may best be seen on the chart.

An outfall pipeline extends 2 miles NW from Piran and its seaward end is marked by a lighted buoy. Anchoring and fishing are prohibited in the vicinity of this pipeline.

A wreck, with a depth of 11m, lies about 5 miles NNW of Rt Madona.

20.21 Koperski Zaliv (Baia di Capodistria) (45°33'N., 13°40'E.) is entered between Rt Ronco and Rt Debeli, 5 miles NE. The NE and SW shores of the bay are hilly, but the shore at the head of the bay, through which the Fiume Risano flows, is low. Monte Sermino, surrounded by salt beds, rises isolated in the river valley.

A prominent convent stands on the NE shore of the bay. Antignano, a town, is situated 5.7 miles ESE of Rt Debeli and is also prominent. Rt Debeli is fronted by a shoal which is marked by a lighted beacon.

Izola (45°32'N., 13°39'E.) (World Port Index No. 40865), a small town, stands in the SW part of the bay and completely occupies a small peninsula. A small craft harbor, protected by two moles, lies on the W side of the town.

Note.—All vessels calling at harbors in Slovenia should send their ETA and draft 24 hours before arrival. Vessels carrying dangerous goods should send their ETA and draft 48 hours

before arrival through any coast radio station to the Slovenian Maritime Directorate. Pilotage is compulsory for vessels over 500 gross tons entering or leaving Slovenian ports.

Koper (45°33'N., 13°44'E.)

World Port Index No. 40860

20.22 Koper (Capodistria), a small town, stands in the NE part of Koperski Zaliv. It is built on gently sloping rocky terrain which appears as an island. A small craft harbor, formed by two moles, lies on the W side of the town and is used by fishing vessels and small craft. A new commercial harbor extends along the E shore of the bay to the N of the town.

Depths—Limitations.—The new harbor has 1,900m of total berthing space with depths of 6 to 13.5m alongside. There are facilities for bulk, container, ro-ro, and tank vessels. Vessels up to 317,800 dwt and 303m in length have been handled. Generally, vessels are limited to a draft of 13m, with no restrictions on length.

Pilotage.—Pilotage is compulsory for vessels over 500 gross tons. Pilotage is normally available 24 hours, but is only available during daylight hours for vessels entering the coal terminal in Basin III and for oil and chemical tankers when visibility is less than 400m or the wind is greater than force 4 on the Beaufort scale. The pilot may be contacted on VHF channel 8 or 16. The pilot boards 0.4 mile W of the Fairway Lighted Buoy.

Anchorage.—The recommended anchorage, in a depth of 18m, mud, lies about 1.2 miles SSE of Rt Debeli.

Caution.—Vessels may encounter fishing nets which extend up to 3 miles from the shore of the Gulf of Trieste. Care should be taken to avoid the pilings supporting these nets as they are not always visible above the sea surface.

Numerous fishing vessels may be encountered in the approaches to the port.

Baia di Muggia (45°36'N., 13°46'E.)

World Port Index No. 40830

20.23 Baia di Muggia, entered on the S side of the port of Trieste, is backed by hills which are mostly cultivated and have numerous villages, farms, and villas situated on them. The land is low and level at the head of the bay. The small town of Muggia, with a castle, stands on the S side of the bay. The facilities on the N shore of the bay are included with the port of Trieste.

The main SIOT oil terminal, which is connected to the Trans-Alpine pipeline, is situated in Baia di Muggia and consists of two jetties.

Depths—Limitations.—Canale Sud, for use by tankers bound for berths in Vallone di Muggia and by those vessels whose draft does not allow them to use the Canale Nord approach to Trieste, leads to Baia di Muggia.

A dredged channel, with a depth of 16.5m, leads to the berths. The terminal has six berths, with depths of 11 to 17m alongside. Tankers up to 160,000 dwt and 16.4m draft, and partially-laden tankers of 250,000 dwt, can be handled.

Aspect.—The dredged entrance channel is marked by lighted buoys. An outer approach lighted buoy is moored about 1 mile W of the S end of the S detached breakwater. For further information, see Porto di Trieste in paragraph 20.24.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted by VHF and board tankers about 1.5 miles W of the S end of Diga Luigi Rizzo, the S detached breakwater.

Vessels should send an ETA 48 hours in advance and report any changes if more than 1 hour.

Regulations.—Canale Sud can only be used by one vessel at a time. Priority is given to outbound vessels.

Anchorage.—A designated anchorage area for tankers, which may best be seen on the chart, lies in the W approaches and extends up to 3.0 miles W of Diga Luigi Rizzo, the S detached breakwater. Vessels should contact the pilot station before anchoring.

Caution.—Numerous fishing vessels may be encountered in the approaches to the port.

Porto di Trieste (45°39'N., 13°46'E.)

World Port Index No. 40820

20.24 Porto di Trieste is one of the largest and most important ports in the Adriatic Sea and includes a Free Zone.

Porto di Trieste Home Page

<http://www.porto.trieste.it>

Winds—Weather.—During the winter and late autumn, the bora, a strong NE wind, blows in the Gulf of Trieste with its greatest strength near the port.

The current at the entrance of the port is generally negligible, seldom exceeding a velocity of 1 knot.

Tides—Currents.—Tides rise about 0.6m at springs and 0.5m at neaps. During a bora, the water level can be reduced by as much as 1.2 to 1.5m.

Depths—Limitations.—There is a depth of 18m in the approach to the port.

Canale Nord has been established for vessels entering Porto Franco Vecchio, the Arsenale Triestino, the Scalo Legnami, and Banchini Terma. In adverse weather, the pilot may allow vessels to use Canale Sud, the approach to Baia di Muggia.

Porto Franco Vecchio is the N part of the port and a free zone. It has several basins and moles and is protected by a detached breakwater. This section of the port extends 0.7 mile S to Mole IV.

Porto Doganale, the original harbor of Trieste, lies along the NW side of the city. It extends 0.6 mile SW between Mole IV and Mole Fratelli Bandiera and is used by passenger liners, fishing vessels, and pleasure craft.

Porto Franco Nuovo, a free zone, extends SSW from Mole Fratelli Bandiera to Mole V, and then ESE to the N part of Baia di Muggia. This section of the port contains the main commercial facilities and is protected by three detached breakwaters. There are also extensive repair facilities with several drydocks, the largest being 295m long and 56m wide.

There are facilities for general cargo, bulk, timber, livestock, passenger, reefer, container, and ro-ro vessels. The port has 12,128m of total berthing space, with depths of 6 to 18m alongside. Vessels up to 15.8m draft can be accommodated.

Aspect.—Haze frequently obscures the landmarks in the approach to the port until vessels are fairly close-to, but in clear weather, the mountains backing the shoreline are prominent. Monte Nanos, 1,300m high and the highest peak, stands 14 miles NE of the city.

Faro della Vittoria is a conspicuous stone tower, 68m high, which is surmounted by a bronze statue and stands 0.5 mile N of the N end of the port. A light is shown from this tower.

Radio masts, in two prominent groups of four, stand 0.4 mile ESE of the light. A prominent television mast, 110m high, stands 1.6 miles E of the light on the summit of Monte Concanello.

Tempio Mariano, a prominent temple, stands 1 miles NNW of the light on the summit of Monte Grisa. This temple is shaped like a pyramid and illuminated at night in summer.



Porto Franco Nuovo

Castelle di Miramare, a conspicuous castle, is situated 2.5 miles NW of the light.

A racon is situated at the light structure standing on the N end of the central detached breakwater.

A racon is also located at the S end of the N detached breakwater.

Pilotage.—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channel 10, 14, or 16 and generally board vessels, except tankers, about 1.5 miles W of the N end of Diga Luigi Rizzo. Vessels should send an ETA 48 hours before arrival and report any changes to it of more than 1 hour. The assistance of tugs is required for tankers of greater than 3,000 gross tons.

Regulations.—Canale Nord can only be crossed from the N or S when a pilot is on board or after consulting with the pilotage authority. Vessels with a draft greater than 14m must not cross the channel.

Regulations for inbound vessels are, as follows:

1. Vessels directed to an anchorage must contact the pilot on VHF channel 14 to report their ETA in the roads and request a berth.

2. When settled at a berth vessels must contact the Operations Center on VHF channel 16 and report their berth number.

3. Vessels at anchor must maintain a continuous listening watch on VHF channel 16.

Regulations for outbound vessels are, as follows:

1. Vessels not subject to compulsory pilotage must agree with the pilot station as to procedures and times of movement within the harbor and in both N and S canals.

2. Vessels subject to compulsory pilotage must embark the pilot in the N or S canal.

3. Vessels must contact the Operations Center on VHF channel 16 once the departure maneuvers are complete and the pilot disembarked and report the following information:

- a. Type of vessel.
- b. Route.
- c. Speed.
- d. Destination.
- e. Date and time of arrival at destination.
- f. Number of passengers.
- g. Quantity of cargo.
- h. Quality of cargo.

Anchorage.—Designated anchorage areas, for vessels carrying dangerous or non-dangerous cargo, are located N of Canale Nord and are best seen on the chart. All vessels should contact the pilot station before anchoring.

There is also sufficient room for large vessels to anchor within the harbor and there are several mooring buoys.

Caution.—A submarine water pipeline, which stands 2m above the sea bottom and constitutes a permanent obstruction, extends NW between Porto di Trieste and Duino and may best be seen on the chart. Anchoring and fishing are prohibited in its vicinity.

An outfall pipeline, which may best be seen on the chart, lies in the harbor and extends 2.5 miles WNW from the vicinity of the N end of the S detached breakwater. Anchoring and fishing are prohibited in its vicinity.

Numerous fishing vessels are often encountered in the approaches to the port.

A disused explosives dumping ground area, which may best be seen on the chart, lies centered 1.2 miles SW of Faro della Vittoria.

A wreck, with a depth of 16m, lies about 0.5 mile NW of the N end of the N detached breakwater.

Spanish

SPANISH	English	SPANISH	English
A			
abrigo	shelter	concha	a shell
aduana	customhouse	contrastes	winds blowing from opposite directions
aguas muertas	neap tides	cubierta	deck
aguas vivas	spring tides	cueva	cave
D			
aguja	needle	darsena	dock or basin
albufera	tidal lake	dique	dock, dike
aldea	small village, a hamlet	dique seco	drydock
alfaque	sandbank, bar	E	
almadraba	tunny fishery	ensenada	bay or creek
alto	height	ermita	hermitage
amarillo	yellow	escollo	rock
arena	sand	espigon	a kind of wharf or pier
arrabal	suburb	estero	small creek
arrecife	reef	estrecho	strait
arroyo	rivulet	estribor	starboard
astillero	dockyard	F	
atalaya ... an elevated place from which a considerable view may be obtained		fanal	lighthouse
B			
babor	port	fango	mud
bahia	bay	faro	lighthouse
bajamar	low water	ferrocarril	railway
bajo	shoal	fondeadero	anchorage
banco	bank	fraile	friar
barra	bar at the mouth of a river or harbor	freo	strait
barrio	suburb, district of a town	fuelle	fountain; spring of water
blanco	white	fuerte	fort
bote salvavidas	lifeboat	G	
boya	buoy	garita	lookout house
brujula	compass	golfo	gulf
bruma	fog, haze	grande	great
C			
cabezo	summit of a hill	gris	gray
cabo	cape or headland	grao	strand, shore
cala	creek or small bay	I	
caleta	cove	iglesia	church
camino de hierro	railway	isla	island
campanario	steeple, belfry	isleta	islet
canal	channel or strait	L	
capilla	chapel	lago	lake
carabineros	a post of military coast guards	laguna	lagoon
carbon de piedra	coal	laja	flat rock
carta de sanidad	bill of health	limo	mud
casa	house	lugar	par village or small town
cascajo	gravel	luz	light
caserio	series of houses	M	
caseta	small house	malecon	dike
castillo	castle	marea	tide
carrazon	dark, cloudy weather	marea menguante	ebb tide
cerro	hill	marea menguante	ebb tide
chica	small		

SPANISH English
 meridional southern
 mesa tableland
 molino mill
 montana mountain
 monte mount
 muelle mole or jetty

N

negro black
 niebla fog
 norte north

O

ola wave
 oriente east

P

pardo gray
 pena rock or large stone
 penon rock or rocky mountain
 pequena small
 picacho summit
 pico peak
 piedra rock
 piloto pilot
 piloto practico ..a harbor pilot (practico is often used alone)
 placer sandbank, cay
 playa beach
 pleamar high water
 poniente west
 promontorio headland, promontory
 pueblo town; a village
 puente bridge
 puerto port
 punta point

Q

quinta country house

SPANISH English

R

reclada making the land
 restinga reef
 ria the mouth of a river
 ribera the shore; the bank of a river
 rio river
 roca rock
 rojo red

S

saco bay
 salina saltpan
 sanidad health
 seno gulf or bay
 septentrional northern
 sierra mountain ridge
 sud, sur south

T

temporal storm
 terral land wind
 tiempo weather
 torre tower

V

variacion variation
 vela sail
 vendaval strong sea wind
 verde green
 viejo old
 viento wind
 vigia a lookout; doubtful shoals
 villa town
 virazon sea breeze

French

FRENCH	English	FRENCH	English
A			
aiguille	needle	courant de jusant	ebb tidal stream
aimante	magnetic	crique	creek
anse	bay, creek	crue	freshet or flood
appontement	wharf, pier, quay	D	
atterrissage	making the land	darse	basin
avant port	outer port	digue	breakwater, mole
azur	blue	douane	customhouse
B			
babord	port	E	
baie	bay, gulf	echelle	scale
balisage	beaconage	echelle de maree	tide gauge
balise	beacon	ecluse	lock of a canal or basin
banc	bank, sandbank	ecueil	rock, breaker
barre	bar	eglise	church
basse	shoal	encablure	cable's length, about 200 yards
base mer	low water	entree	entrance, mouth of a river
bassin	basin, dock	epi	small jetty, groin
bassin a flot	wet basin or dock	escarpe	bluff
bassin d'echouage	tidal basin where vessels ground	etale	(Of tide) slack; (of wind) settled
bateau de sauvetage	lifeboat	etang	lake
blanc, he	white	etiage	low-water mark of a river
blue	blue	etier	a creek which can receive small vessels; a conduit by which salt water enters a saline
bouche	mouth of a river	F	
bouee	buoy	falaise	cliff
bouee a cloche	bell buoy	fanal	harbor lighthouse
bouee a sifflet	whistle buoy	feu	light
bouee lumineuse	light buoy	feu permanent	a light constantly burning and unwatched
boussole	compass	fin	fine
brouillard	fog, mist	fleche	spire
brume	fog	fleuve	river, stream
C			
caboteur	coaster	flot	flood
cale de radoub	marine railway	foc	jib (sail)
cap	cape, headland	fond	bottom
chapelle	chapel	forme de radoub	drydock
charbon	coal	fosse	ditch, a deep
chasse	a rapid discharge of water from a reservoir in order to clear out a channel	G	
chateau	castle	gare	station
chaussee	bank, causeway	golfe	gulf
chemin de fer	railroad	goulet	narrow entrance
cheminee	chimney	gravier	gravel
chenal	channel	gril de carenage	gridiron
clocher	steeple	gros	coarse
coffre	mooring buoy	H	
colline	hill	haut-fond	a shoal
compas	compass	haute mer	high water
coquilles	shells	houle	swell
cote	coast	I	
courant	current, stream	ile	island, isle
courant de flot	flood tidal stream	ilot	islet

FRENCH	English
J	
jaune.....	yellow
jusant.....	ebb
L	
lac.....	lake
M	
madrague.....	tunny net
marais.....	swamp, marsh
maree.....	tide
maree descendante.....	falling tide
maree montante.....	rising tide
massif.....	main group of mountains
mat.....	mast
molle.....	soft
mortes eaux.....	neap tides
mouillage.....	anchorage
niveau.....	level
noeud.....	knot
noir.....	black
O	
occidental.....	western
onde.....	wave
oriental.....	eastern
ouest.....	west
P	
passé.....	channel
patente de sante.....	bill of health
pertuis.....	opening or strait
petit.....	small
phare.....	lighthouse
pic.....	peak
piere.....	stone
pignon.....	gable
pin.....	pine or fir tree
plage.....	shore, beach
plateau.....	tableland, or flat below water

FRENCH	English
pleine mer.....	high water
pointe.....	point
pont.....	bridge, deck
presqu'île.....	peninsula
Q	
quai.....	quay, wharf
R	
rade.....	road, roadstead
rafale.....	squall
raz (bas breton).....	a name given to a violent tidal stream in a narrow passage
recif.....	reef
roche.....	rock
rocher.....	rock
rouge.....	red
S	
sable.....	sand
salines.....	salt-water lagoons, salt works
seche.....	dry shelf, flat
seuil.....	sill (as of a dock)
sud.....	south
T	
temps.....	time, weather
tour.....	tower
tourelle.....	small tower, turret
tribord.....	starboard
U	
usine.....	factory
V	
vase.....	mud
vent.....	wind
vergue.....	yard
vert.....	par green
vieux, vieil, vieille.....	old, ancient
ville.....	town
vives eaux.....	spring tides

Arabic

ARABIC	English	ARABIC	English
A			
ab, abu	father, chief	birka, birkah.....	pool, pond, small lake
abar, abyar.....	wells	boghaz.....	entrance channel, strait
abyadh, abyad	white	borg, bordj, burj	fort, tower, castle
adel, aleb	sloping hill	bu	chief
aghbar.....	gray	buhaira, buheira	lake
aghbas	dark (color)	bussla	compass
ahmar	red	buz.....	cape
aich, aik.....	hard bank	D	
ain, oyun	spring, well, fountain	dahr	promontory
akaba, acol	wilderness	daiyaq.....	narrow
akbar.....	bigger, biggest, older (of two)	dar	house, mansion, settlement. Note: "Dar" is sometimes used to designate a promontory or hill where there is a settlement nearby
akhal.....	black	darb, derb	desert road or track
akhdhar, akhdar.....	green	dohat, duhat	bay, cove, port
al.....	the	duar	an encampment
anak	cliff	E	
aqabar.....	wilderness	egeidet.....	sand hill
araja, arish.....	sand dune	el	the
ard	land, earth, ground	ezba.....	village
ard malaq.....	open land	F	
asfal, asafil	lower	fanar	beacon, lighthouse
asfar.....	yellow	faregh	broad, level, wide
asifah.....	gale	farsh	plain (noun)
asmar.....	brown	fasht	rocky reef
aswad	black	filuka, fulk.....	small boat
atiq	old	G	
auwil.....	first, beginning	gara, garrat	lake
azim.....	great	garf.....	cliff
azraq.....	blue	gedid	new
B			
bab.....	strait, gate, door	ghamiq	deep
bahr	canal, sea, river, lake	gharb, gharba, gharbi	west
bahr shaban	deep water	ghubbat, ghubbet	gulf
bahraya.....	pool, pond, lake	gisr, gusur	bank, embankment
baida.....	desert	goz, gowaz	high sand hill
balad.....	country, region, village, town	gumruk.....	customhouse
balam.....	boat	H	
bandar.....	chief town of a province, coastal town with an anchorage off it, bight, open	hadd	boundary, border, limit, sandspit
bandera.....	flag	hagar, hajar.....	stone, rubble
basta	tower	haggag.....	long projecting ridge
batbit, batbyt	whirlpool	hait, hitan	wall
baybarr	headland, land, earth; ground	hajari	stony
beida.....	white	halat	sandbank, islet
beit	house	hamra	red
beiyat.....	shoal that dries	haram, ahram	pyramid
beni.....	sons of; prefix to tribal names; it sometimes is used in connection with local names such as those of hills, promontories	hassar, hissar	rock
berriyah	desert	haswa	gravel, small pebbles
biar, bir.....	well (noun)	hisar	fort, castle
bilad	country	hod	pool, pond, small lake
birba, baraby	ancient temple	hor	bay, creek, channel

ARABIC	English
I	
ilwat, ilwet.....	region
iswid.....	black
izbit, izbet.....	village
J	
jam, jamia.....	mosque
janub.....	south
jebel, jabal, gebel, jibal.....	mountain, hill
jezirat, jezira, jazirat.....	island, peninsula
jisr, jusur.....	bridge
jorf.....	cliff
junub.....	south
K	
kabat.....	rocky shoal, group of rocks
kabir, kebir.....	large
kad.....	shoal, spit
kafr, kufur, kefr.....	village
karm.....	artificial mound
kasba.....	citadel, fortified town
kasim.....	political division, department, territory
kassar.....	rock
katah, katat.....	rocky shoal, group of rocks
katib.....	paint
kef, kaf.....	mountain
keruky.....	sketch, plan
keshem.....	water course
khadra.....	green
khala.....	country
khalig, khalij.....	gulf, valley, water course
khan.....	inn, hotel, bazaar
khashm.....	mouth, entrance
khijem.....	encampment (tents)
khirs.....	par barren land
khod.....	shallow, ford
khorr creek, ravine, valley (usually dry), cove, bay, channel, river, river channel	
kibli.....	south
kidwa.....	small mound
kinar.....	boundary, border, limit
kinisa, kinis.....	church
kinisat, kinizat.....	sandbank
kita.....	rocky shoal, group of rocks
kom.....	mound
kothon, liman.....	port, anchorage
kubry, kabary.....	bridge
kusbat.....	citadel, fortified town
L	
liman.....	port or harbor
M	
ma.....	water
maghreb.....	west
mahatta.....	station
mahgar.....	stone quarry

ARABIC	English
majaz.....	pass, marine channel
mal, malih.....	salt, brackish
manfad, manafid.....	pass (defile)
manzal.....	settlement
maqam.....	tomb
marabut.....	monument or tomb of a saint or prophet
marakat.....	soft bottom shoal
marsa, marza, mers, mersa.....	bay, cove, harbor, gulf
masafa, masafah.....	range
masgid, masjid, masjed.....	mosque
masura.....	water pipe, pipe
maten.....	plateau
matla.....	east
medina.....	city, town
merj.....	meadow
mina.....	port, harbor
minar, manar.....	minaret
minqar, mengar.....	nose, head, point
mirjan.....	coral
mirsa.....	port
miyah.....	water
muaskar.....	camp, especially a military camp
muhasan.....	fortified
mukhaijan.....	encampment
murgan.....	coral
mustanqa.....	marsh

N

nahiyah, nanahi.....	district
nahr, anhar.....	river
najwa.....	shoal, spit
nakhl, nakhil, nikhl.....	palm tree, date grove
natur.....	tower
nebi.....	tomb of a saint or prophet

Q

qabr.....	tomb
qadim, qadima.....	old
qala.....	prominent peak, fort
qanaya.....	rivulet
qantara, qanatir.....	bridge
qara.....	small dark hill
qarn.....	point
qasr, qusur.....	port, large house

R

rais, reis.....	captain of a vessel
rais el marsa.....	captain of the port
rakat.....	shoal, hard bank (not dangerous)
raml.....	sand
ramla.....	sandy ground
ras, rus.....	cape, point
rasif.....	pier, quay
rif.....	coast
rig.....	shallow bank, flat
rod.....	small water course
rud.....	river

ARABIC	English	ARABIC	English
S			
sabakha.....	salt marsh, bog	sifi	low
safra.....	yellow	sikha.....	road
saghir, seghir	small	sirih	tall, slim
sahil.....	coast, shore, beach	T	
sahra, sahary.....	desert, plain	taht	under, below, beneath
sakh, sakhr	rock	tall, tell, tulu	hill
sanjaq	flag	tarf.....	cape
saqya, saqiye, saqyat.....	canal	tarsana	arsenal
saraya	palace	tawil	long
sarwe	cypress	tell	hill
sath	plateau	tiligraf	telegraph
sauwana.....	gravel mound	tira	channel
sawahil	coast guard	turah	canal, channel
sebkhat, sebkha, sabkhet.....	salt lake	turiq.....	road, highway
seil.....	water course	U	
shab, shib	rocky shoal, reef	umm.....	mother
shakhis	par stake, pole	ust.....	middle, center
shamal	north	W	
shard.....	sirocco, simoon, hot wind	wad, wadi, uad	valley, water course, channel
shari.....	street, boulevard, main road	wast.....	middle, center
sharq.....	east	welled.....	a tribe of arabs
sharqi, sharqiya	east (adj.)	Z	
shatt.....	coast, shore, river, river bank	zarqa.....	blue
shatt ramli	sandbank	zawia, zawiya.....	monastery, house
sheikh	chief, chieftain, elder	zeitun	olives
sherm.....	cove, creek		
shur.....	low clay hill		
sidi.....	tomb		

Italian

ITALIAN	English	ITALIAN	English
A		G	
acquitrino	swamp	golfo	gulf, bay
altezza	height	grande	great
alto	high, lofty	greco	northeast
alzata	embankment	I	
ancoraggio	anchorage	imboccatura	mouth of river
arcipelago	archipelago	insensatura	cove
azzurro	blue	isola	island
B		isolotto	islet
bacino	basin, dock	istmo	isthmus
baia	bay	L	
balza	rock, cliff, precipice	lago	lake
banchina	quay, wharf	lanterna	harbor light
banco, banchi	bank, banks	lazzaretto	quarantine hospital
barra	bar	levante	east
bassofondo	shoal, shallow	M	
bianco	white	maestro	northwest
bocca, bocche	mouth or entrance to a river, bay, or strait	mare	sea
bosco	wood, forest	marina	beach, landing place
C		meridionale	southern
cala, calanca	creek or little bay	mezzogiorno	south
calata	wharf	molo	mole
campanile	belfry, steeple	montagna	mountain
canale	canal, channel	montemount	mountain, hill
capitaneria	harbormaster's office	N	
capo	cape, headland	nero	black
casa	house	nuovo	new
castel, castello	castle	O	
cima	summit	occidentale	western
citta	city, town	orientale	eastern
collina	hill	P	
corallo	coral	palude	swamp, marsh
D		passo	pass, channel
darsena	wet dock or basin, dockyard	penisola	peninsula
diga	breakwater, mole	pericolo	danger
doa d'ormeggio	mooring buoy	piano	plain, flat
dogana	customhouse	pianura	plain
E		picco	peak
entrata	entrance	piccolo, picciolo	small, little
F		pietra	stone
faro	lighthouse	pila	pile
fiumara	river	pilastro	pillar, pile
fiume	river	poggio	mound, little hill
fiumicino	rivulet	ponte	bridge
fondo	bottom	pontile	pier
foresta	forest, wood	porto	port, harbor
forte	fort	promontorio	promontory
fortino	small fort	punta	point

ITALIAN	English	ITALIAN	English
R			
rada.....	road	settentrionale.....	northern
rafo (local dialect).....	shoal, sandbank	settentrione.....	north
riva	coast, bank	spalla.....	shoulder, back, summit
rocca.....	rock	sponda.....	bank, border, edge
roccia.....	rock, precipice	stagno.....	lake, pond
roccioso.....	rocky	strada.....	road
rondo.....	round	stretto.....	strait
rosa.....	pink	T	
rosso.....	par >red	tavola.....	table, list
rotondo.....	round	testa, testata.....	head
rovina.....	ruin	tondo.....	round
rupe.....	rock, crag, cliff	torre.....	tower
S		torrente.....	stream, torrent
sabbia.....	sand	tramontana.....	north
salina.....	salt water lagoon	V	
sanita.....	health office	valle.....	valley
santo.....	holy, sacred	vecchio.....	old
sasso.....	stone, pebble, rock	verde.....	green
sbarcatoio.....	landing place, quay	vetta.....	summit
scirocco, sirocco.....	southeast	via.....	road, street
scoglio.....	rock, reef	villa.....	villa
scogliera.....	ridge of rocks	villaggio.....	village
secca.....	shoal, sandbank	vulcano.....	volcano
segnale.....	signal, mark	Z	
semafori.....	signal station	zona vietata.....	prohibited area
seno.....	small bay, creek		

How to use the Index—Gazetteer

Geographic names of navigational features are generally those used by the nation having sovereignty and are listed alphabetically. Diacritical marks, such as accents, cedillas, and circumflexes, which are related to specific letters in certain foreign languages, are not used in the interest of typographical simplicity.

Geographic names or their spellings do not necessarily reflect recognition of the political status of an area by the United States Government. Positions are approximate and are intended merely as locators to facilitate reference to the charts.

To use as a Gazetteer note the position and Sector number of the feature and refer to the Chart Information diagram for the Sector. Plot the approximate position of the feature on this diagram and note the approximate chart number.

To use as an Index of features described in the text note the paragraph number at the right. To locate this feature on the best scale chart use the Gazetteer procedure above.

Index—Gazetteer

	Position			Sec. Para		Position			Sec. Para		
A											
ACCIARELLO	38	13 N	15	39 E	13.77	BAIA DI PIRANO	45	30 N	13	34 E	20.20
ADRA	36	44 N	3	02 W	2.18	BAIA DI SANTA PANAGIA	37	08 N	15	16 E	15.55
ADVENTURE BANK	37	30 N	12	00 E	14.39	BAIA DI TALAMONE	42	33 N	11	09 E	13.7
AFORTUNADA OIL COMPLEX	40	42 N	1	20 E	3.31	BAIE D'AL HOCEIMA	35	14 N	3	52 W	5.7
AGIP-ESSO OIL TERMINAL	38	06 N	13	25 E	15.12	BAIE DAL MUNASTIR	35	43 N	10	54 E	8.23
AGNONE	40	13 N	15	00 E	13.49	BAIE DE BANDOL	43	08 N	5	46 E	9.30
AGROPOLI	40	21 N	14	59 E	13.47	BAIE DE BANZART	37	18 N	9	56 E	8.4
AGUILAS	37	24 N	1	34 W	2.27	BAIE DE BIZERTE	37	18 N	9	56 E	8.4
AIN BENIAN	36	48 N	2	56 E	6.23	BAIE DE BOUGNON	43	20 N	6	41 E	9.50
AJACCIO	41	55 N	8	45 E	11.28	BAIE DE CAVLAIRE	43	10 N	6	34 E	9.44
AL HAMMAMAT	36	24 N	10	37 E	8.19	BAIE DE CROVANI	42	28 N	8	29 E	11.34
AL HOCEIMA	35	15 N	3	55 W	5.8	BAIE DE MONASTIR	35	43 N	10	54 E	8.23
ALBISSOLA MARINA	44	20 N	8	30 E	10.15	BAIE DE SAN CIPRIANU	41	38 N	9	21 E	11.10
ALFAQUES DE TORTOSA	40	40 N	0	40 E	3.29	BAIE DE TANGER	35	48 N	5	47 W	1.15
ALGAR DE LA ALMADRABA	38	55 N	0	02 E	3.15	BAIE DES BENI HAOUAS	36	32 N	1	35 E	6.20
ALGECIRAS	36	08 N	5	27 W	1.9	BAJO ACEITERA	36	10 N	6	04 W	1.2
ALGER	36	46 N	3	04 E	6.26	BAJO DE LOS CABEZOS	36	01 N	5	42 W	1.1
ALGHERO	40	34 N	8	19 E	12.58	BAJO ISABEL	35	55 N	5	17 W	1.20
ALICANTE	38	20 N	0	29 W	3.8	BALESTRATE	38	03 N	13	00 E	15.6
ALMERIA	36	50 N	2	28 W	2.21	BALLS BANK	36	00 N	14	24 E	14.11
ALMERIMAR	36	42 N	2	48 W	2.19	BANC DE MATIFOU	36	51 N	3	14 E	7.3
ALTEA	38	36 N	0	03 W	3.11	BANC EL HAOUARIA	37	20 N	11	02 E	8.14
AMALFI	40	38 N	14	36 E	13.42	BANCO DE FENIX	35	52 N	5	43 W	1.14
AMANTEA	39	08 N	16	05 E	13.63	BANCO DE TRAFALGAR	36	08 N	6	07 W	1.2
ANCORAGGIO DELLA MOLPA	40	01 N	15	19 E	13.52	BANCO DEL EMILE BAUDOT	38	43 N	2	30 E	4.5
ANCORAGGIO DI PARADISO	38	13 N	15	34 E	15.43	BANCO DEL HOYO	36	05 N	6	15 W	1.2
ANNABA	36	55 N	7	46 E	7.20	BANCO MAJUAN	35	55 N	5	59 W	1.14
ANTIBES	43	35 N	7	08 E	9.61	BANCQ QARQANNAH	35	00 N	11	30 E	8.25
ANZIO	41	27 N	12	38 E	13.17	BANDOL	43	08 N	5	45 E	9.31
API OIL TERMINAL	43	38 N	13	23 E	18.19	BANZART	37	17 N	9	53 E	8.5
AR RAS AL ABYAD	37	20 N	9	50 E	8.3	BARCELONA	41	21 N	0	10 E	3.36
ARANCI GULF HARBOR	41	00 N	9	37 E	12.17	BARCO VERCILLO	38	55 N	16	59 E	16.7
ARBANE MILLIA	36	54 N	4	03 E	7.6	BASTIA	42	42 N	9	27 E	11.5
ARBATAX	39	56 N	9	42 E	12.27	BAY DE CEUTA	35	55 N	5	19 W	1.20
ARCHIPEL LAVEZZI	41	20 N	9	15 E	11.15	BAY OF GIBRALTAR	36	08 N	5	24 W	1.8
ARZEW	35	51 N	0	18 W	6.14	BEC DE L'AIGLE	43	10 N	5	36 E	9.28
AS SUKHAYRAH	34	17 N	10	06 E	8.30	BEJAIA	36	45 N	5	05 E	7.9
ASHTART OIL TERMINAL	34	17 N	11	23 E	8.26	BELLARIA	44	09 N	12	28 E	18.25
ATRANI	40	38 N	14	36 E	13.43	BENI SAF	35	18 N	1	23 W	6.6
AUGUSTA	37	13 N	15	14 E	15.53	BENIDORM	38	32 N	0	08 W	3.9
B											
BAGHERIA	38	05 N	13	30 E	15.12	BISCEGLIE	41	15 N	16	31 E	17.15
BAGNOLI	40	49 N	14	10 E	13.31	BIZERTE	37	17 N	9	53 E	8.5
BAHIA DE ALCUDIA	39	49 N	3	08 E	4.24	BLANES	41	40 N	2	48 E	3.40
BAHIA DE ALICANTE	38	20 N	0	28 W	3.7	BOCA PICCOLA	40	34 N	14	18 E	13.37
BAHIA DE PALMA	39	30 N	2	38 E	4.16	BONE	36	55 N	7	46 E	7.20
BAHIA DE POLLENSA	39	54 N	3	10 E	4.23	BONIFACIO	41	23 N	9	09 E	11.19
BAHIA DE SANTA POLA	38	07 N	0	37 W	3.6	BORDJ DJELLIDJ	33	53 N	10	45 E	8.33
BAIA	40	49 N	14	04 E	13.29	BOSA MARINA	40	16 N	8	32 E	12.58
BAIA DI ALIMINI	40	12 N	18	28 E	17.5	BOURDJ EL BAIRI	36	49 N	3	14 E	6.0, 6.25, 7.0, 7.3
BAIA DI CAPODISTRIA	45	33 N	13	40 E	20.21	BOVA MARINA	37	55 N	15	55 E	13.81
BAIA DI CARINI	38	11 N	13	11 E	15.8	BRIATCO	38	43 N	16	01 E	13.67
BAIA DI MUGGIA	45	36 N	13	46 E	20.22	BRIONSKI OTOCI	44	55 N	13	45 E	20.11
BAIA DI OGNINA	37	00 N	15	18 E	15.59	BROLO	38	09 N	14	50 E	15.35
						BRUCCOLI	37	17 N	15	11 E	15.52
						BURJ JILLIJ	33	53 N	10	45 E	8.33
						BURJ QUALAYBIYAH	36	50 N	11	07 E	8.17
						BURRIANA	39	53 N	0	03 W	3.22

	Position			Sec. Para		Position			Sec. Para		
C											
CAB ZEBIB	37	16 N	10	04 E	8.6	CAP BLANC	36	37 N	2	14 E	6.22
CABEZO DEL TOSAL	38	31 N	0	10 W	3.9	CAP BLANC	37	20 N	9	50 E	8.3
CABO BABA	35	12 N	4	17 W	5.6	CAP BON	37	05 N	11	03 E	8.14
CABO BERBERIA	38	38 N	1	23 E	4.4	CAP BOUGARONI	37	05 N	6	28 E	7.1,
CABO BINICOUS	40	00 N	3	48 E	4.32						7.12
CABO BLANCO	38	40 N	0	07 E	3.12	CAP BOUGAROUN	37	05 N	6	28 E	7.1,
CABO BLANCO	39	22 N	2	47 E	4.16						7.12
CABO CABALLERIA	40	05 N	4	05 E	4.32	CAP CAMARAT	43	12 N	6	41 E	9.45
CABO CANET	39	40 N	0	12 W	3.21	CAP CARBON	36	47 N	5	07 E	7.7
CABO CERVERA	38	00 N	0	39 W	3.5	CAP CARTHAGE	36	52 N	10	22 E	8.9
CABO COPE	37	25 N	1	28 W	2.28	CAP CASTELL	42	30 N	3	08 E	9.4
CABO CREUS	42	19 N	3	18 E	9.2	CAP CAXINE	36	49 N	2	57 E	6.24
CABO CREUS	42	19 N	3	19 E	3.49	CAP CEPET	43	04 N	5	57 E	9.34
CABO CULLERA	39	11 N	0	13 W	3.17	CAP CERBERE	42	26 N	3	11 E	3.50,
CABO DARTUCH	39	55 N	3	49 E	4.30						9.0, 9.2
CABO DE BAGUR	41	57 N	3	14 E	3.45	CAP COLLO	37	01 N	6	35 E	7.12
CABO DE FORMENTOR	39	58 N	3	12 E	4.22	CAP CORBELIN	36	55 N	4	26 E	7.6
CABO DE GATA	36	43 N	2	12 W	2.22	CAP COURONNE	43	20 N	5	03 E	9.15
CABO DE LA NAO	38	44 N	0	14 E	3.12	CAP D'ACRA	35	19 N	1	28 W	6.5
CABO DE LAS HUERTAS	38	21 N	0	24 W	3.9	CAP D'AGDE	43	16 N	3	31 E	9.9
CABO DE OROPESA	40	05 N	0	09 E	3.2,	CAP D'AIL	43	43 N	7	25 E	9.68
					3.25	CAP DE BREGANCON	43	06 N	6	19 E	9.41
CABO DE PALOS	37	38 N	0	41 W	2.0,	CAP DE CALA FIGUERA	39	28 N	2	31 E	4.18
					2.35,	CAP DE DRAMMONT	43	25 N	6	51 E	9.52
					3.0, 3.3	CAP DE FENO	41	23 N	9	06 E	11.20
CABO DE SALOU	41	03 N	1	10 E	3.33	CAP DE FER	37	05 N	7	10 E	7.1,
CABO DE SAN ANTONIO	38	40 N	0	12 E	3.13						7.17
CABO DE SAN ANTONIO	38	48 N	0	12 E	3.2	CAP DE GARDE	36	58 N	7	48 E	7.19
CABO DE SAN JORGE	40	55 N	0	50 E	3.33	CAP DE L'AIGUILLE	35	53 N	0	29 W	6.12
CABO DE SAN SEBASTIAN	41	54 N	3	12 E	3.44	CAP DE L'EAU	35	09 N	2	25 W	5.13
CABO DE SANTO POLA	38	13 N	0	30 W	3.7	CAP DE SAINT-TROPEZ	43	16 N	6	42 E	9.46
CABO DE TOSSA	41	43 N	2	56 E	3.40	CAP DES TROIS FOURCHES	35	26 N	2	58 W	5.1,
CABO DEL AGUA	37	33 N	0	56 W	2.35						5.10
CABO DEL FREU	39	45 N	3	28 E	4.26	CAP DOSNE	42	29 N	3	08 E	9.3
CABO FALCO	42	26 N	3	11 E	3.0	CAP ESPARTEL	35	47 N	5	56 W	1.14
CABO FAVARITX	40	00 N	4	16 E	4.34	CAP FALCON	35	46 N	0	48 W	6.8
CABO GROSS	41	08 N	1	24 E	3.35	CAP FEGALO	35	34 N	1	12 W	6.8
CABO GROSS	41	51 N	3	09 E	3.44	CAP FERRAT	35	55 N	0	23 W	6.12
CABO LLENTRISCA	38	51 N	1	15 E	4.7	CAP FIGALO	35	34 N	1	12 W	6.8
CABO MALGRATS	39	30 N	2	27 E	4.19	CAP GROSS	43	33 N	7	09 E	9.60
CABO MAZARI	35	33 N	5	13 W	5.5	CAP GROSS	42	32 N	3	06 E	9.6
CABO MENKAL	35	29 N	5	06 W	5.5	CAP IVI	36	07 N	0	13 E	6.13
CABO MENORCA	39	52 N	3	12 E	4.24	CAP IVI	36	07 N	0	14 E	6.17
CABO MORRO NUEVO	35	15 N	3	55 W	5.7	CAP KALAH	36	20 N	0	40 E	6.17
CABO NEGRO	35	41 N	5	16 W	5.4	CAP KAVANSUR	37	08 N	9	02 E	7.25
CABO NONO	39	02 N	1	18 E	4.9	CAP KRAMIS	36	20 N	0	40 E	6.17
CABO NORFEO	42	14 N	3	16 E	3.48	CAP LEUCATE	42	55 N	3	04 E	9.6
CABO PERA	39	43 N	3	28 E	4.26	CAP MATIFOU	36	49 N	3	14 E	6.0, 7.0
CABO PINO	36	29 N	4	44 W	2.8	CAP MEJEAN	43	20 N	5	14 E	9.22
CABO QUILATES	35	17 N	3	41 W	5.9	CAP MILONIA	35	06 N	2	09 W	6.3
CABO ROIG	37	54 N	0	43 W	3.4	CAP NEGRE	43	09 N	6	27 E	9.43
CABO SACRATIF	36	42 N	3	28 E	2.16	CAP PERTUSATO	41	22 N	9	11 E	11.17
CABO SALINAS	39	16 N	3	03 E	4.15	CAP ROSA	36	57 N	8	14 E	7.21
CABO TINOSO	37	32 N	1	06 W	2.30	CAP ROSSU	42	14 N	8	32 E	11.32
CABO TORTOSA	40	43 N	0	54 E	3.31	CAP ROUX	36	57 N	8	37 E	7.23
CABO TRAFALGAR	36	11 N	6	02 W	1.0, 1.3	CAP ROUX	43	27 N	6	55 E	9.54
CADAQUES	42	17 N	3	17 E	3.48	CAP ROUX	43	43 N	7	21 E	9.68
CAGLIARI	39	13 N	9	07 E	12.35	CAP SAGRO	42	48 N	9	30 E	11.4
CALA BARDINA	37	26 N	1	31 W	2.28	CAP SARDINAUX	43	19 N	6	40 E	9.48
CALA DE ADDAYA	40	41 N	4	12 E	4.34	CAP SERRAT	37	14 N	9	13 E	7.0,
CALA DE SAN POL	41	47 N	3	03 E	3.42						7.2,
CALA DELL INNAMORATA	42	43 N	10	22 E	10.49	CAP SICIP	43	03 N	5	52 E	9.33
CALA DI VOLPE	41	05 N	9	32 E	12.15	CAP SIDI FERRUCH	36	46 N	2	51 E	6.23,
CALA ROSSA	38	25 N	14	59 E	15.29						6.24
CALA SALITRONA	37	33 N	1	07 W	2.31	CAP SIGLI	36	54 N	4	46 E	7.4, 7.7
CALA TRAMONTANA	35	24 N	3	00 W	5.10	CAP SPARTEL	35	37 N	5	56 W	1.0
CALASETTA	39	06 N	8	22 E	12.44	CAP SPARTEL	35	47 N	5	56 W	1.14
CALDETAS	41	34 N	2	32 E	3.39	CAP SPARTEL AND CEUTA	35	54 N	5	19 W	1.16
CALVI	42	34 N	8	46 E	11.36	CAP TABARKA	36	58 N	8	45 E	7.23
CAMOGLI	44	21 N	9	09 E	10.18	CAP TAKOUCH	37	05 N	7	24 E	7.18
CAMPO DE DALIAS	36	45 N	2	43 W	2.1	CAP TARCA	35	08 N	1	48 W	6.5
CANALE D'ISCHIA	40	44 N	13	59 E	13.26	CAP TEDLES	36	55 N	4	10 E	7.6
CANALE DI PIOMBINO	42	54 N	10	29 E	13.2	CAP TENES	36	33 N	1	22 E	6.19
CANALE DI PROCIDA	40	46 N	14	03 E	13.26	CAPE CARBON	35	55 N	0	20 W	6.12
CANNES	43	33 N	7	01 E	9.56	CAPE DELL' ARMA	43	49 N	7	50 E	10.5
CAP AFRIQUE	35	31 N	11	05 E	8.23	CAPE MATIFOU	36	49 N	3	14 E	6.25,
CAP BEAR	42	31 N	3	08 E	9.4						7.3
CAP BENAT	43	05 N	6	22 E	9.42	CAPO ALTANO	39	14 N	8	22 E	12.50
CAP BENGUT	36	55 N	3	54 E	7.4	CAPO BELLA VISTA	39	56 N	9	43 E	12.28
CAP BIZERTE	37	20 N	9	52 E	8.4	CAPO BERTA	43	54 N	8	05 E	10.8

	Position				Sec. Para		Position				Sec. Para
	°	'	°	'			°	'	°	'	
CAPO BIANCO	43	00 N	9	21 E	11.2, 11.43	CAPO SANTA CROCE	37	15 N	15	15 E	15.52
CAPO BOEO	37	48 N	12	25 E	14.20	CAPO SANTA CROCE	44	01 N	8	12 E	10.9
CAPO BONIFATI	39	33 N	15	52 E	13.61	CAPO SANTA MARIA DI LEUCA	39	48 N	18	22 E	16.0, 17.0, 17.2
CAPO BRUZZANO	38	02 N	16	09 E	16.2						
CAPO CACCIA	40	34 N	8	10 E	12.60	CAPO SANTA PANAGIA	37	06 N	15	18 E	15.57
CAPO CALAVA	38	11 N	14	55 E	15.36	CAPO SCALEA	39	50 N	15	46 E	13.59
CAPO CARBONARA	39	06 N	9	31 E	12.32	CAPO SCALETTA	38	03 N	15	29 E	15.45
CAPO CAVALLO	40	38 N	18	01 E	17.7	CAPO SCARAMIA	36	47 N	14	30 E	14.35
CAPO CEFALU	38	02 N	14	02 E	15.17	CAPO SCHISO	37	49 N	15	17 E	15.47
CAPO CERASO	40	55 N	9	39 E	12.18	CAPO SENETOSA	41	34 N	8	47 E	11.21
CAPO CIRCEO	41	14 N	13	04 E	13.18	CAPO SOTTILE	40	36 N	14	32 E	13.41
CAPO CODA CAVALLO	40	50 N	9	44 E	12.22	CAPO SPARTIVENTO	37	55 N	16	04 E	13.82, 16.2
CAPO COLONNE	39	02 N	17	12 E	16.9						
CAPO COMINO	40	32 N	9	50 E	12.24	CAPO SPARTIVENTO	38	53 N	8	51 E	12.39
CAPO CORBO	40	36 N	14	20 E	13.37	CAPO SPERONE	38	57 N	8	25 E	12.43
CAPO D'OTRANTO	40	06 N	18	31 E	17.3	CAPO SPULICO	39	58 N	16	38 E	16.16
CAPO D'ALI	38	01 N	15	26 E	15.46	CAPO SUVERO	38	57 N	16	10 E	13.63
CAPO D'ANZIO	41	27 N	12	37 E	13.16	CAPO TESTA	41	14 N	9	08 E	12.66
CAPO D'ENFOLA	42	50 N	10	16 E	10.51	CAPO TEULADA	38	52 N	8	39 E	12.40
CAPO D'ORLANDO	38	10 N	14	45 E	15.35	CAPO TINDARO	38	09 N	15	03 E	15.36
CAPO D'ORSO	40	38 N	14	41 E	13.44	CAPO TIRONE	39	38 N	15	51 E	13.60
CAPO DEL FALCONE	40	58 N	8	12 E	12.61	CAPO TRIARI	38	22 N	15	51 E	13.72
CAPO DELL' ARGENTIERA	40	44 N	8	08 E	12.60	CAPO TRIONTO	39	37 N	16	46 E	16.13
CAPO DELL' ARMI	37	57 N	15	41 E	13.80	CAPO VATICANO	38	37 N	15	50 E	13.68
CAPO DELLA FRASCA	39	46 N	8	27 E	12.52	CAPO VERDE	43	49 N	7	50 E	10.5
CAPO DELLA VITA	42	52 N	10	25 E	10.45	CAPO ZAFFERANO	38	07 N	13	32 E	15.13
CAPO DI CAPRAZOPPA	44	10 N	8	20 E	10.12	CAPU DI MURU	41	44 N	8	40 E	11.25
CAPO DI FENO	41	58 N	8	36 E	11.30	CAPU DI ZIVIA	41	31 N	8	50 E	11.21
CAPO DI MONTE SANTU	40	05 N	9	44 E	12.26	CARGADERO DE ALCANAR	40	40 N	0	40 E	3.28
CAPO DI NOLI	44	12 N	8	25 E	10.11, 10.12	CARLOFORTE	39	08 N	8	19 E	12.47
						CARTAGENA	37	35 N	0	59 W	2.33
CAPO DI PULA	38	59 N	9	01 E	12.38	CASSIS	43	13 N	5	32 E	9.27
CAPO DI RAMA	38	08 N	13	03 E	15.7	CASTEL DEL MONTE	41	05 N	16	16 E	17.16
CAPO DI SORRENTO	40	38 N	14	21 E	13.36	CASTEL DI TUSA	38	00 N	14	15 E	15.17
CAPO DI TORRE CAVALLO	40	38 N	18	01 E	17.7	CASTELDACCIA	38	03 N	13	32 E	15.14
CAPO DI VADO	44	15 N	8	27 E	10.12	CASTELLAMMARE DEL GOLFO	38	02 N	12	52 E	15.5
CAPO FALCONARA	38	43 N	13	12 E	15.4	CASTELLAMMARE DI STABIA	40	42 N	14	29 E	13.34
CAPO FARO	38	35 N	14	52 E	15.23	CASTIGLIONE DELLA PESCAIA	42	46 N	10	53 E	13.6
CAPO FERRATO	39	18 N	9	38 E	12.30	CATANIA	37	30 N	15	06 E	15.51
CAPO FERRO	41	09 N	9	32 E	12.4	CATTOLICA	43	58 N	12	45 E	18.23
CAPO FETO	37	40 N	12	31 E	14.22	CEPSA OIL TERMINALS	36	11 N	5	24 W	1.11
CAPO FIGARI	41	00 N	9	40 E	12.16	CERRO DEL CABEZO GORDO	37	48 N	0	54 W	3.4
CAPO GALLO	38	13 N	13	19 E	15.9	CERVIA	44	16 N	12	21 E	18.26
CAPO GRANITOLA	37	34 N	12	40 E	14.29	CEUTA	35	54 N	5	19 W	1.21
CAPO LENA	44	03 N	8	14 E	10.10	CHAPELLE DES GRECS	41	54 N	8	43 E	11.29
CAPO LILIBEO	37	48 N	12	25 E	14.20	CHELLA BANK	36	31 N	2	51 W	2.2
CAPO LINARO	42	02 N	11	50 E	13.13	CHERCHEL	36	37 N	2	11 E	6.21
CAPO MANNU	40	02 N	8	23 E	12.56	CHIAVARI	44	19 N	9	19 E	10.24
CAPO MARARGIU	40	20 N	8	23 E	12.58	CITTANOVA	45	19 N	13	34 E	20.18
CAPO MELE	43	57 N	8	10 E	10.9	CIVITAVECCHIA	42	06 N	11	47 E	13.12
CAPO MILAZZESE	38	37 N	15	04 E	15.30	COLLO	37	00 N	6	35 E	7.13
CAPO MILAZZO	38	16 N	15	14 E	15.37	COMINO	36	01 N	14	20 E	14.9
CAPO MISENO	40	47 N	14	05 E	13.28	CROS S. A. AMMONIA TERMINAL	36	40 N	4	26 W	2.11
CAPO MOLINI	37	35 N	15	11 E	15.49						
CAPO MONGERBINO	38	07 N	13	31 E	15.12						
CAPO MORTOLA	43	47 N	7	33 E	10.2	D					
CAPO MURRO DI PORCO	37	00 N	15	20 E	15.59	DATTILO	38	38 N	15	06 E	15.32
CAPO NERO	43	48 N	7	44 E	10.3	DELLYS	36	55 N	3	55 E	7.5
CAPO PACI	38	15 N	15	42 E	13.73	DENIA	38	50 N	0	07 E	3.14
CAPO PALINURO	40	02 N	15	16 E	13.51	DENTE	45	18 N	13	34 E	20.16
CAPO PASSERO	36	41 N	15	10 E	14.38, 15.62	DJAMOUR EL KEBIR	37	08 N	10	48 E	8.13
						DJIDJELLI	36	50 N	5	47 E	7.10
CAPO PECORA	39	27 N	8	23 E	12.52						
CAPO PELORO	38	16 N	15	39 E	15.40, 15.42	E					
CAPO RASOCOLMO	38	18 N	15	32 E	15.39	ECUEILS DES SORELLES	37	24 N	8	36 E	7.2
CAPO RIZZUTO	38	53 N	17	06 E	16.4, 16.8	EL ACHAICHI	36	47 N	3	31 E	7.4
						EL GRAO	39	58 N	0	01 E	3.24
CAPO ROSSELLO	37	18 N	13	27 E	14.30	EL HADJRA	36	52 N	6	04 E	7.11
CAPO ROSSU	42	14 N	8	32 E	11.32	EL JUNQUET	37	37 N	0	43 W	2.35
CAPO SALVORE	45	30 N	13	30 E	20.19	ENSENADA DE CEUTA	35	51 N	5	19 W	5.3
CAPO SAN LORENZO	39	29 N	9	39 E	12.29	ENSENADA DE VALDEVAQUEROS	36	04 N	5	41 W	1.5
CAPO SAN LORENZO	43	51 N	7	58 E	10.6	ENSENADA DE ZAHARA	36	07 N	5	51 W	1.4
CAPO SAN MARCO	37	30 N	13	01 E	14.30	ENSENADA SA COSTERA	39	50 N	2	45 E	4.22
CAPO SAN MARCO	39	52 N	8	26 E	12.55	ESPIGON DE LA CENTRAL TERMICA	36	41 N	4	26 W	2.11
CAPO SAN VITO	38	11 N	12	44 E	14.18, 15.2	ETANG DE BIGUGLIA	42	40 N	9	27 E	11.6
						EUROPA POINT	36	06 N	5	21 W	1.1
CAPO SAN VITO	40	24 N	17	12 E	16.22						
CAPO SANDALO	39	09 N	8	13 E	12.46						
CAPO SANT' ELIA	39	11 N	9	10 E	12.34						

	Position				Sec. Para		Position				Sec. Para
	°	'	°	'			°	'	°	'	
ILES HABIBAS	35	43 N	1	08 W	6.2	ISOLA SANT ANDREA	40	03 N	17	57 E	16.25
ILES KERKENNAH	34	40 N	11	10 E	8.25	ISOLA SANTA EUFEMIA	41	53 N	16	11 E	18.2
ILES ROUSSES	42	39 N	8	56 E	11.38	ISOLA SANTA MARIA	41	18 N	9	22 E	12.6
ILES SANGUINAIRES	41	53 N	8	36 E	11.29	ISOLA SANTO STEFANO	40	47 N	13	27 E	13.20
ILOT ARAGNON	43	19 N	5	05 E	9.22	ISOLA SANTO STEFANO	41	12 N	9	25 E	12.10
ILOT TAZEROUT	36	52 N	6	04 E	7.11	ISOLA SERPENTARA	39	08 N	9	36 E	12.31
ILOT TOKIKT INDICH	36	36 N	1	51 E	6.2	ISOLA SPARGI	41	15 N	9	21 E	12.6
					6.20	ISOLA STROMBOLI	38	47 N	15	13 E	15.33
IMPERIA	43	53 N	8	02 E	10.7	ISOLA VENTOTENE	40	48 N	13	26 E	13.20
ISLA AHORCADOS	38	49 N	1	25 E	4.13	ISOLA VULCANO	38	23 N	14	58 E	15.28
ISLA DE AIRE	39	48 N	4	18 E	4.36	ISOLA ZANNONE	40	58 N	13	03 E	13.20
ISLA DE ALBORAN	35	56 N	3	02 W	2.2	ISOLE DI PONZA	40	50 N	12	58 E	13.19
ISLA DE CABRERA	39	09 N	2	56 E	4.29	ISOLE DI TREMITI	42	07 N	15	30 E	18.3
ISLA DE FORMENTERA	38	42 N	1	26 E	4.2	ISOLE EGADI	37	58 N	12	10 E	14.24
ISLA DE TABARCA	38	10 N	0	28 W	3.6	ISOLE EOLIE	38	30 N	14	55 E	15.20
ISLA DE TAGOMAGO	39	02 N	1	39 E	4.14	ISOLE LIPARI	38	30 N	4	55 E	15.20
ISLA DE TARIFA	36	00 N	5	37 W	1.1, 1.5	ISOLE PELAGIE	35	52 N	12	52 E	14.4
ISLA DEL ESPARTO	38	57 N	1	11 E	4.14	ISOLE PONTINE	40	50 N	12	58 E	13.19
ISLA DRAGONERA	39	35 N	2	19 E	4.20	ISOLOTTI MONACI	41	13 N	9	31 E	12.12
ISLA ESPALMADOR	38	47 N	1	26 E	4.5	ISOLOTTO CERBOLI	42	52 N	10	33 E	10.53
ISLA ESPARDELL	38	48 N	1	29 E	4.5	ISOLOTTO DI CIRELLA	39	42 N	15	48 E	13.60
ISLA GROSA	37	44 N	0	42 W	3.4	ISOLOTTO IL TORO	38	52 N	8	25 E	12.43
ISLA IRIS	35	10 N	4	22 W	5.6	ISOLOTTO PORRI	36	41 N	14	56 E	14.37
ISLA SABINA	38	44 N	1	25 E	4.2	ISOLTE DE BENIDORM	38	30 N	0	48 W	3.9
ISLAS BALEARES	38	38 N	0	23 E	3.2	IZOLA	45	32 N	13	39 E	20.21
ISLAS CHAFARINAS	35	11 N	2	26 W	5.2						
ISLAS COLUMBRETES	39	54 N	0	41 E	3.2,						
					3.18						
ISLES LAVEZZI	41	20 N	9	15 E	11.15						
ISLOTE BOTAFOCH	38	54 N	1	27 E	4.10	JARROS	43	12 N	5	22 E	9.26
ISLOTE VEDRA	38	52 N	1	11 E	4.14	JAVEA	38	48 N	0	11 E	3.12
ISLOTES LOS DADOS	38	53 N	1	27 E	4.14	JAZIRAT JALITAH	37	32 N	8	56 E	7.2
ISO CICLOPI	37	34 N	15	10 E	15.50	JAZIRAT JERBAH	33	50 N	10	50 E	8.32
ISOLA ALICUDI	38	33 N	14	21 E	15.21	JEBEL QUILATES	35	17 N	3	41 W	5.9
ISOLA ASINARA	41	04 N	8	16 E	12.62	JEN JEN	36	49 N	5	53 E	7.11
ISOLA ASINELLI	38	04 N	12	32 E	14.18	JENNDJENE	36	49 N	5	53 E	7.11
ISOLA BASILUZZO	38	40 N	15	07 E	15.32	JIJEL	36	50 N	5	47 E	7.10
ISOLA BUDELLI	41	17 N	9	21 E	12.5	JUNCO GRANDE	37	36 N	0	46 W	2.35
ISOLA CAPRAIA	43	02 N	9	39 E	10.43						
ISOLA CAPRERA	41	13 N	9	28 E	12.11						
ISOLA D'ELBA	42	46 N	10	18 E	10.44						
ISOLA D'ISCHIA	40	43 N	13	55 E	13.25						
ISOLA D'USTICA	38	42 N	13	10 E	15.3	KALA	36	54 N	8	27 E	7.22
ISOLA DEI CAVOLI	39	05 N	9	32 E	12.32	KEF EL MENZAH	35	47 N	0	33 W	6.12
ISOLA DEL GIGLIO	42	21 N	10	54 E	10.57	KELIBIA BAY	36	50 N	11	07 E	8.17
ISOLA DEL TINO	44	01 N	9	51 E	10.29	KEMMUNA	36	01 N	14	20 E	14.9
ISOLA DELLE BISCE	41	10 N	9	31 E	12.12	KERKENNAH BANKS	35	00 N	11	30 E	8.25
ISOLA DELLE CORRENTI	36	39 N	15	05 E	14.38	KHALIJ AL HAMMAMAT	36	10 N	10	40 E	8.19
ISOLA DI CAPRI	40	33 N	14	14 E	13.38	KHALIJ QABIS	33	54 N	10	07 E	8.28
ISOLA DI DINO	39	52 N	15	46 E	13.58	KHARRAS	36	58 N	6	38 E	7.14
ISOLA DI GIANNUTRI	42	15 N	11	06 E	10.58	KOPER	45	33 N	13	44 E	20.22
ISOLA DI GORGONA	43	26 N	9	54 E	10.41,	KOPERSKI ZALIV	45	33 N	13	40 E	20.21
					10.42	KSAR ES SRHIR	35	51 N	5	34 W	1.18
ISOLA DI LAMPEDUSA	35	30 N	12	36 E	14.5						
ISOLA DI LAMPIONE	35	33 N	12	19 E	14.5						
ISOLA DI LEVANZO	38	01 N	12	20 E	14.26						
ISOLA DI MAL DI VENTRE	39	59 N	8	18 E	12.56						
ISOLA DI MONTECRISTO	42	20 N	10	19 E	10.55	L'ARCHIPELAGO DELLA MADDAL.	41	15 N	9	24 E	12.5
ISOLA DI PANTELLARIA	36	48 N	12	00 E	14.2	L'ILE ROUSSE	42	38 N	8	56 E	11.39
ISOLA DI PONZA	40	54 N	12	57 E	13.19	LA ALBUFERA DE VALENCIA	39	20 N	0	21 W	3.17
ISOLA DI SAN PIETRO	39	09 N	8	17 E	12.45	LA BARRA	38	17 N	13	23 E	15.9
ISOLA DI SANT' ANTIOCO	39	04 N	8	24 E	12.44	LA CALETTA	40	37 N	9	45 E	12.23
ISOLA DI VIVARA	40	45 N	14	00 E	13.24	LA CALLE	36	54 N	8	27 E	7.22
ISOLA FAVIGNANA	37	57 N	12	19 E	14.27	LA CIOTAT	43	10 N	5	37 E	9.29
ISOLA FILICUDI	38	35 N	14	33 E	15.22	LA FOURMIGUE	43	32 N	7	06 E	9.59
ISOLA FLEGREE	40	43 N	13	55 E	13.24	LA GAROUE	43	34 N	7	08 E	9.58
ISOLA LINOSA	35	52 N	12	52 E	14.4	LA GOULETTE	36	48 N	10	18 E	8.10
ISOLA LIPARI	38	29 N	14	56 E	15.25	LA LINEA DE LA CONCEPTION	36	10 N	5	21 W	1.12
ISOLA MADDALENA	41	14 N	9	25 E	12.7	LA PERLA	36	03 N	5	26 W	1.2
ISOLA MARETTIMO	37	58 N	12	03 E	14.25	LA SKHIRRA	34	17 N	10	06 E	8.30
ISOLA MOLARA	40	52 N	9	44 E	12.21	LA VINYETA	39	04 N	0	11 W	3.17
ISOLA PALMAIOLA	42	52 N	10	28 E	10.53	LAGUNA VENETA	45	20 N	12	20 E	19.7
ISOLA PALMARIA	44	02 N	9	51 E	10.29	LAMPEDUSA	35	30 N	12	36 E	14.6
ISOLA PALMAROLA	40	56 N	12	51 E	13.19	LAS HORMIGAS	37	39 N	0	39 W	3.3
ISOLA PANAREA	38	38 N	15	04 E	15.30	LAS HORMIGAS	41	52 N	3	11 E	3.44
ISOLA PIANOSA	42	13 N	15	45 E	18.3	LE KISS	35	05 N	2	11 W	6.3
ISOLA PIANOSA	42	35 N	10	05 E	10.54	LE LAVANDOU	43	08 N	6	22 E	9.43
ISOLA PROCIDA	40	45 N	14	01 E	13.24	LES FRATELLI	37	18 N	9	25 E	8.2
ISOLA RAZZOLI	41	18 N	9	21 E	11.18,	LES MOINES	41	27 N	8	54 E	11.21
					12.5	LES MOULES	35	42 N	1	01 W	6.2, 6.8
ISOLA ROSSA	40	17 N	8	28 E	12.57	LEVANTO	44	10 N	9	37 E	10.27
ISOLA SALINA	38	34 N	14	51 E	15.23	LI GALLI	40	38 N	14	26 E	13.40

	Position				Sec. Para		Position				Sec. Para
	°	'	°	'			°	'	°	'	
POINTE MINERVIO	42	54 N	9	19 E	11.43	POZZILLO	37	39 N	15	12 E	15.49
POINTE MORTELLA	42	43 N	9	16 E	11.40	POZZUOLI	40	49 N	14	07 E	13.30
POINTE OMARA	35	29 N	5	06 W	5.5	PRA	44	26 N	8	47 E	10.16
POINTE SENETOSE	41	34 N	8	47 E	11.21	PREMIA	41	29 N	2	21 E	3.38
POINTE SPERONE	41	22 N	9	16 E	11.15	PRESQU'ILE DE SAINT HOSPICE	43	41 N	7	21 E	9.67
POINTE TOGA	42	42 N	9	28 E	11.4	PRESQU'ILE DE SAINT MANDRIER	43	05 N	5	56 E	9.34
POLIGNANO A MARE	41	00 N	17	13 E	17.10	PROMONTORIO ARGENTARIO	42	24 N	11	08 E	13.8
PONTA TA BENGHISA	35	49 N	14	33 E	14.16	PROMONTORIO DI ANCONA	43	38 N	13	31 E	18.17
PONTA TA DELIMARA	35	49 N	14	34 E	14.14	PROMONTORIO DI MONTE D'ELIO	41	55 N	14	38 E	18.4
PONTA TAC CIRKEWWA	35	59 N	14	20 E	14.10	PROMONTORIO DI PORTOFINO	44	19 N	9	11 E	10.19
PONTA TAL MARFA	35	59 N	14	20 E	14.10	PROPRIANO	41	41 N	8	54 E	11.23
PONTA TAL ZONKOR	35	52 N	14	35 E	14.14	PUENTE MAYORAGA TERMINAL	36	11 N	5	23 W	1.11
PONZA	40	54 N	12	58 E	13.20	PUENTE MAYORAGA	36	11 N	5	23 W	1.11
PORT DE BETHIOUA	35	48 N	0	15 W	6.15	PUERTO ACERINOX	36	10 N	5	25 W	1.10
PORT DE PECHE DE FRONTIGNAN	43	25 N	3	45 E	9.11	PUERTO COLOM	39	25 N	3	16 E	4.26
PORT DE SAINT LAURENT DU VAR	43	39 N	7	11 E	9.63	PUERTO DE ALCUDIA	39	50 N	3	08 E	4.25
PORT DI CESENATICO	44	12 N	12	24 E	18.25	PUERTO DE ANDRAITX	39	33 N	2	23 E	4.20
PORT DU BRUSC	43	05 N	5	48 E	9.32	PUERTO DE BENALMADENA	36	36 N	4	31 W	2.9
PORT MARINA BAIE DES ANGES	43	38 N	7	08 E	9.62	PUERTO DE CARBONERAS	36	58 N	1	53 W	2.25
PORT NADOR	35	17 N	2	56 W	5.12	PUERTO DE CIUDADELA	40	00 N	3	50 E	4.31
PORT PETROLIER DE LA MEDE	43	24 N	5	06 E	9.20	PUERTO DE ESTEPONA	36	25 N	5	09 W	2.6
PORT PETROLIER DE LA POINTE	43	28 N	5	09 E	9.20	PUERTO DE FORNELLS	40	04 N	4	08 E	4.33
PORT POTHUAU	43	07 N	6	12 E	9.41	PUERTO DE GARRUCHA	37	10 N	1	50 W	2.26
PORT-DE-BOUC	43	24 N	4	59 E	9.18	PUERTO DE HORNOS IBERICOS	36	59 N	1	53 W	2.25
PORTICELLO	38	31 N	14	58 E	15.26	PUERTO DE IBIZA	38	54 N	1	27 E	4.11
PORT-LA-NOUVELLE	43	01 N	3	04 E	9.7	PUERTO DE LOS ALFAQUES	40	37 N	0	36 E	3.29
PORTO BARATTI	43	00 N	10	30 E	10.40	PUERTO DE MAHON	39	53 N	4	16 E	4.35
PORTO BUSO	45	43 N	13	15 E	20.3	PUERTO DE SAN ANTONIO	38	58 N	1	18 E	4.8
PORTO CALERI	45	12 N	12	20 E	19.6	PUERTO DE SOLLER	39	48 N	2	41 E	4.21
PORTO CERVO	41	08 N	9	32 E	12.13	PUERTO DEL GRAO	39	58 N	0	01 E	3.24
PORTO CESARIO	40	15 N	17	54 E	16.23	PUERTO DEL GRAO DE CASTELLON	39	56 N	0	03 E	3.23
PORTO CIVITANOVA	43	19 N	13	44 E	18.16	PUERTO DEPORTIVO JOSE BANUS	36	29 N	4	57 W	2.7
PORTO CORSINI	44	30 N	12	17 E	18.27	PUNTA AFRAU	35	12 N	3	27 W	5.9
PORTO D'ISCHIA	40	45 N	13	57 E	13.25	PUNTA ALA	42	48 N	10	44 E	13.5
PORTO DI ALASSIO	44	00 N	8	10 E	10.10	PUNTA ALICE	39	24 N	17	09 E	16.12
PORTO DI ANCONA	43	37 N	13	30 E	18.18	PUNTA ALMINA	35	54 N	5	17 W	1.0,
PORTO DI BARI	41	08 N	16	52 E	17.12						1.1,
PORTO DI BARLETTA	41	19 N	16	17 E	17.17						1.20,
PORTO DI BRINDISI	40	39 N	17	59 E	17.8						5.0, 5.3
PORTO DI CASTRO	40	00 N	18	26 E	17.3	PUNTA ALTARES	35	50 N	5	43 W	1.17
PORTO DI CHIOGGIA	45	14 N	12	18 E	19.8	PUNTA ANSEDONIA	42	24 N	11	17 E	13.11
PORTO DI CROTONE	39	05 N	17	08 E	16.10	PUNTA ARENELLA	38	09 N	13	23 E	15.10
PORTO DI GALLIPOLI	40	03 N	17	59 E	16.24	PUNTA BENZUS	35	55 N	5	23 W	1.19
PORTO DI GOLFO ARANCI	41	00 N	9	37 E	12.17	PUNTA BERMEJA	35	54 N	5	21 W	1.19
PORTO DI LEVANTE	38	25 N	14	58 E	15.28	PUNTA BIANCA	44	02 N	9	59 E	10.32
PORTO DI LIDOPORTO DI VENEZIA	45	25 N	12	26 E	19.10	PUNTA BLANCA	35	55 N	5	22 W	1.19
PORTO DI MALAMOCCO	45	20 N	12	19 E	19.9	PUNTA CALABERNADO	36	52 N	15	08 E	15.61
PORTO DI MONFALCONE	45	47 N	13	33 E	20.6	PUNTA CALAMIZZI	38	06 N	15	38 E	13.79
PORTO DI MONOPOLI	40	57 N	17	18 E	17.9	PUNTA CAMARINAL	36	05 N	5	48 W	1.1, 1.4
PORTO DI ORISTANO	39	52 N	8	33 E	12.54	PUNTA CAMORRO	36	01 N	5	35 W	1.7
PORTO DI OTRANTO	40	09 N	18	30 E	17.4	PUNTA CAMPANELLA	40	34 N	14	20 E	13.35,
PORTO DI PALERMO	38	08 N	13	22 E	15.11						13.40
PORTO DI PIAVE VECCHIA	45	29 N	12	35 E	19.11	PUNTA CANAI	38	58 N	8	27 E	12.43
PORTO DI PUNTA PENNA	42	10 N	14	43 E	18.7	PUNTA CAPRARA	41	07 N	8	19 E	12.62
PORTO DI RIMINI	44	04 N	12	35 E	18.24	PUNTA CARENA	40	32 N	14	12 E	13.39
PORTO DI SIBARI MARINA	39	44 N	16	31 E	16.15	PUNTA CARNERO	36	04 N	5	26 W	1.8
PORTO DI TARANTO	40	27 N	17	12 E	16.21	PUNTA CARONIA	38	02 N	14	25 E	15.18
PORTO DI TRANI	41	17 N	16	25 E	17.16	PUNTA CASTIGLIONCELLO	43	24 N	10	24 E	10.38
PORTO DI TRICASE	39	56 N	18	24 E	17.2	PUNTA CERVO	41	08 N	9	32 E	12.13
PORTO DI TRIESTE	45	39 N	13	46 E	20.24	PUNTA CHINCHO	38	58 N	1	17 E	4.8
PORTO DI VASTO	42	10 N	14	43 E	18.7	PUNTA CIRES	35	55 N	5	29 W	1.18
PORTO DI VOLANO	44	49 N	12	16 E	19.2	PUNTA CORPMARI	38	51 N	1	24 E	4.12
PORTO EMPEDOCLE	37	17 N	13	32 E	14.31	PUNTA COSCIO	39	43 N	16	31 E	16.15
PORTO ERCOLE	42	23 N	11	13 E	13.10	PUNTA DE ALCAZAR	35	51 N	5	34 W	1.18
PORTO FOXI	39	05 N	9	02 E	12.37	PUNTA DE BANOS	36	28 N	5	00 W	2.7
PORTO GARIBALDI	44	41 N	12	15 E	18.28	PUNTA DE CALA ARENAS	36	03 N	5	27 W	1.1
PORTO ISOLA	37	04 N	4	15 E	14.34	PUNTA DE CALABURRAS	36	31 N	4	38 W	2.8
PORTO LIGNANO	45	42 N	13	09 E	20.2	PUNTA DE CALNEGRE	37	40 N	0	43 W	3.4
PORTO PONTE ROMANO	39	03 N	8	28 E	12.42	PUNTA DE FAUTEA	41	43 N	9	25 E	11.10
PORTO QUIETO,	45	18 N	13	34 E	20.17	PUNTA DE GARBI	41	46 N	3	02 E	3.40
PORTO SAN STEFANO	42	26 N	11	07 E	13.9	PUNTA DE LA AZOHIA	37	33 N	1	10 W	2.29
PORTO SANTA MARGHERITA	45	35 N	12	52 E	19.13	PUNTA DE LA BANA	40	34 N	0	40 E	3.31
PORTO TORRES	40	50 N	8	24 E	12.64	PUNTA DE LA CHAPA	37	35 N	0	51 W	2.35
PORTO VECCHIO	41	35 N	9	17 E	11.12	PUNTA DE LA CHIAPPA	41	37 N	9	20 E	11.11
PORTO VESME	39	12 N	8	24 E	12.49	PUNTA DE LA CHULLERA	36	19 N	5	15 W	2.4
PORTOFERRAIO	42	49 N	10	20 E	10.52	PUNTA DE LA ESPADA	37	36 N	0	44 W	2.35
PORTOFINO	44	18 N	9	13 E	10.21	PUNTA DE LA FAROLA	39	25 N	3	16 E	4.27
PORTOVECCHIO DI PIOMBINO	42	56 N	10	33 E	13.3	PUNTA DE LA PODADERA	37	35 N	0	59 W	2.32
PORT-SAINT-LOUIS-DU-RHONE	43	23 N	4	49 E	9.16	PUNTA DE LA POLACRA	36	50 N	2	00 W	2.24
PORT-VENDRES	42	31 N	3	07 E	9.5	PUNTA DE LA SAL VIEJA	36	25 N	5	10 W	2.5
POSITANO	40	38 N	14	29 E	13.41	PUNTA DE LOS AGUILONES	37	34 N	0	58 W	2.32
POZZALLO	36	43 N	14	51 E	14.36	PUNTA DE LOS BANOS	36	42 N	2	51 W	2.19

	Position			Sec. Para		Position			Sec. Para
	°	'	"			°	'	"	
RASS EL AHMAR	37	03 N	10 54 E	8.12	SFERRACAVALLO	38	12 N	13 16 E	15.8
RASS TESKA	36	35 N	1 55 E	6.20	SICILIA	37	50 N	13 30 E	15.2
RCHADET EL KROUAT	37	18 N	9 25 E	8.2	SICILY	37	50 N	13 30 E	15.2
RECANATI	43	26 N	13 40 E	18.16	SIDERNO MARINA	38	16 N	16 18 E	16.3
REGGIO DI CALABRIA	38	07 N	15 39 E	13.78	SIDI ABDALLAH	37	17 N	9 53 E	8.5
RESTINGA DE TOFINO	35	09 N	2 47 W	5.13	SIERRA BERMEJA	36	29 N	5 12 W	2.5
RICCIONE	44	00 N	12 40 E	18.24	SIERRA CABRERA	37	05 N	1 56 W	2.26
RIERA DE ARGENTONA	41	31 N	2 25 E	3.39	SIERRA DE CALLOSA	38	07 N	0 54 W	3.5
RINCON EL MEDIK	35	41 N	5 19 W	5.4	SIERRA DE GADOR	36	54 N	2 50 W	2.20
RIO BESOS	41	25 N	2 14 E	3.37	SIERRA DE MARBELLA	36	34 N	4 54 W	2.7
RIO LLOBREGAT	41	20 N	2 09 E	3.35	SIERRA DE MIJAS	36	37 N	4 40 W	2.8
RIO MARINA	42	49 N	10 26 E	10.46	SIERRA DE SAN BARTOLOME	36	05 N	5 43 W	1.5
RIO TORDERA	41	39 N	2 47 E	3.39	SIERRA HELADA	38	33 N	0 05 W	3.10
RIPOSTO	37	44 N	15 13 E	15.48	SIERRA MORERA	37	35 N	1 20 W	2.28
RIVIERE DE TRAVO	41	54 N	9 24 E	11.10	SIKKA IL-BAJDA	36	00 N	14 24 E	14.11
ROCCELLA IONICA	38	19 N	16 24 E	16.3	SILVI	42	34 N	14 06 E	18.11
ROCHER ST. PIERRE	43	11 N	3 11 E	9.8	SIRACUSA	37	03 N	15 17 E	15.58
RODI GARGANICO	41	56 N	15 53 E	18.4	SISTIANA	45	46 N	13 38 E	20.7
ROSAS	42	16 N	3 11 E	3.47	SITGES	41	14 N	1 48 E	3.35
RT DAJLA	45	21 N	13 32 E	20.19	SKERKI BANK	37	50 N	10 55 E	14.1
RT KAMENJAK	44	46 N	13 55 E	20.9	SKHIRRA KHEDEMA	34	20 N	10 10 E	8.29
RT KORENTE	45	04 N	13 38 E	20.13	SKIKDA	36	53 N	6 55 E	7.15
RT MARLERA	44	48 N	14 00 E	20.8	SOLENZARA OIL TERMINAL	41	55 N	9 25 E	11.9
RT SAVUDRIJA	45	30 N	13 30 E	20.19	SORRENTO	40	38 N	14 23 E	13.35
RT ZUB	45	18 N	13 34 E	20.16	SOUSSE	35	50 N	10 39 E	8.21
RUISSEAU SAINT-LOUIS	43	47 N	7 32 E	9.0, 10.2	SOUTH BASTIA GAS TERMINAL	42	40 N	9 28 E	11.6
					SOVERATO MARINA	38	42 N	16 33 E	16.5
					SPADAFORA	38	13 N	15 23 E	15.39
					STINTINO	39	56 N	8 14 E	12.63
					STRETTO DI MESSINA	38	12 N	15 36 E	15.41
					STROMBOLICCHIO	38	49 N	15 15 E	15.34
					SUSAH	35	50 N	0 39 E	8.21
S									
SACCA DI GORO	44	50 N	12 18 E	19.3					
SAGUNTO	39	39 N	0 13 W	3.20					
SAIDA	35	05 N	2 13 W	5.13					
SAINT GEORGE'S POINT	36	56 N	14 29 E	14.12					
SAINT RAPHAEL	43	25 N	6 46 E	9.51					
SAINTES-MARIE-DE-LA-MER	43	27 N	4 26 E	9.13	TABARKA	36	58 N	8 46 E	7.24
SAINT-TROPEZ	43	16 N	6 38 E	9.49	TABARQAH	36	58 N	8 46 E	7.24
SALERNO	40	41 N	14 45 E	13.45	TALBOT SHOAL	37	30 N	11 41 E	14.39
SALINE DI MONTEBELLO JONICHE	37	56 N	15 43 E	13.80	TANGER	35	47 N	5 48 W	1.1
SAN ANGELO DI ROSSANO	39	37 N	16 38 E	16.14	TANGER	35	47 N	5 49 W	1.16
SAN BENEDETTO DEL TRONTO	42	57 N	13 53 E	18.14	TANGIER	35	47 N	5 49 W	1.16
SAN CARLOS DE LA RAPITA	40	37 N	0 36 E	3.30	TANGIER BAY	35	48 N	5 47 W	1.15
SAN FELIU DE GUIXOLS	41	47 N	3 02 E	3.41	TARIFA	36	01 N	5 36 W	1.6
SAN NICOLE L'ARENA	38	01 N	13 37 E	15.14	TARRAGONA	41	06 N	0 15 E	3.34
SAN PANTALEO	44	20 N	9 15 E	10.23	TARSA	35	08 N	1 48 W	6.5
SAN PEDRO DEL PINATAR	37	49 N	0 45 W	3.4	TENES	36	32 N	1 19 E	6.18
SAN REMO	43	49 N	7 47 E	10.4	TERMINI IMERESE	37	59 N	13 42 E	15.15
SANTA AGATA DI MILITELLO	38	04 N	14 39 E	15.19	TERMOLI	42	00 N	15 00 E	18.5
SANTA MARGHERITA LIGURE	44	20 N	9 13 E	10.22	TERRACINA	41	17 N	13 15 E	13.21
SANTA MARINA SALINA	38	33 N	14 22 E	15.24	TERRIBLE BANK	37	09 N	12 53 E	14.40
SANTA POLA	38	11 N	0 34 W	3.6	TESTA DEL GARGANO	41	50 N	16 12 E	17.0, 17.22, 18.2
SANTA SEVERA	42	01 N	11 58 E	13.14					
SANTA TECLA	38	38 N	15 11 E	15.49					
SANTO SPIRITO	41	10 N	16 45 E	17.13	THE TOWN OF SALOBRENA	36	45 N	3 35 W	2.14
SAPRI	40	04 N	15 38 E	13.56	TIPASA	36	36 N	2 27 E	6.23
SARROCH OIL TERMINAL	39	05 N	9 02 E	12.37	TORRE ANGELLARA	40	39 N	14 49 E	13.46
SAVONA	44	19 N	8 30 E	10.14	TORRE ANNUNZIATA	40	45 N	14 27 E	13.33
SCALAMBRI	36	47 N	14 30 E	14.35	TORRE BATTILAMANO	37	59 N	13 49 E	15.16
SCARIO	40	03 N	15 29 E	13.55	TORRE CALDERINO	41	14 N	16 33 E	17.15
SCHIAVONEA	39	39 N	16 32 E	16.15	TORRE DE ALMADUN	40	19 N	0 22 E	3.26
SCIACCA	37	30 N	13 05 E	14.30	TORRE DE BENICASIM	40	03 N	0 04 E	3.25
SCILLA	38	15 N	15 43 E	13.73	TORRE DE MANFRIA	37	06 N	14 08 E	14.33
SCOGLIO AFRICA	42	21 N	10 04 E	10.41	TORRE DE PUIG	39	35 N	0 17 W	3.19
SCOGLIO AFRICA	42	21 N	10 04 E	10.56	TORRE DEL BOCCAILE	43	29 N	10 20 E	10.38
SCOGLIO CERVARO	40	04 N	16 36 E	16.17	TORRE DEL CROCCHIO	38	55 N	16 50 E	16.6
SCOGLIO DELLA BOTTE	40	51 N	13 06 E	13.20	TORRE DEL MAR	36	44 N	4 05 W	2.13
SCOGLIO FERALE	44	04 N	9 47 E	10.28	TORRE DEL PENON	37	04 N	1 51 W	2.26
SCOGLIO ISCA	39	09 N	16 04 E	13.63	TORRE DELL OVO	40	18 N	17 30 E	16.22
SCOGLIO ISCA	40	35 N	14 23 E	13.40	TORRE DI CAINO	39	57 N	15 44 E	13.58
SCOGLIO LAMPIONE	35	33 N	12 19 E	14.5	TORRE DI PIETRI NERE	38	23 N	15 52 E	13.71
SCOGLIO PAN DI ZUCCHERO	39	20 N	8 24 E	12.51	TORRE DI ROCCHETTA	38	44 N	16 00 E	13.67
SCOGLITTI	36	53 N	14 26 E	14.35	TORRE LATO	40	30 N	16 59 E	16.19
SECCA DEI MONACI	41	13 N	9 33 E	12.12	TORRE MOZZA	37	55 N	16 00 E	13.82
SECCA DEL TORO	37	53 N	12 19 E	14.28	TORRE PETACCIATO	42	01 N	14 53 E	18.6
SECCA DELLE BISCE	41	11 N	9 32 E	12.12	TORRE POLICARETTO	39	29 N	17 01 E	16.13
SECHE DELLA MELORIA	43	34 N	10 13 E	10.36	TORRE PROPOSTI	41	47 N	16 12 E	17.22
SECHE DI VADA	43	19 N	10 22 E	10.39	TORRE ROSCI	38	18 N	15 49 E	13.72
SENGALLIA	43	43 N	13 13 E	18.20	TORRE SAN ANDREA	40	15 N	18 27 E	17.5
SESTRI LEVANTE	44	16 N	9 23 E	10.25	TORRE SAN GIOVANNI	39	53 N	18 07 E	16.26
SETE	43	24 N	3 42 E	9.10	TORRE SANTA VENERE	40	00 N	15 42 E	13.57
SFAX	34	44 N	10 46 E	8.27	TORRE SCANZANO	40	15 N	16 45 E	16.18

